ACCIDENT PREVENTION PLAN for the Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York

Prepared for:
United States Army Corps of Engineers – Buffalo District

Under Contract No: W912P4-07-D-0001
Task Order No. 0005

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Deliverable No. 12

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List of Acronyms

APP	Accident Prevention Plan
BCRP	Backfill, compaction and Restoration Plan
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulation
CHP	Certified Health Physicist
CO/COR	Contracting Officer/Representative
COC	Contaminates of Concern
CPR	Cardio Pulmonary Resuscitation
CQCP	Contractor Quality Control Plan
CSP	Certified Safety Professional
DoD	Department of Defense
EM	Engineering Manual
EPI	Epinephrine
ERP	Emergency Response Plan
ES&H	Environmental Safety and Health
FSP	Field Sampling Plan
FSS	Final Status Survey
FUSRAP	Formerly Utilized Sites Remedial Action Program
HAZWOPER	Hazardous Waste Operations and Emergency Response
HSPP	Health and Safety Program Plan
HTRW	Hazardous, Toxic, and Radioactive Waste
ISMS	Integrated Safety Management System
LATA	Los Alamos Technical Associates, Inc.
LSRS	LATA-Sharp Remediation Services, LLC
MARC	Multiple Award Remediation Contract (MARC)
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
O&M	Operations and Maintenance
OEW	Ordnance and Explosive Waste
OSHA	Occupational Safety and Health Administration
PDT	Project Delivery Team
POC	Point of Contact
PPE	personal protective equipment
QMSD	Quality Management Systems Description
RA	Remedial Action
RCP	Regulatory Compliance Plan
REMG	Resident Engineer Management Guide
ROD	Record of Decision
RPP	Radiation Protection Plan
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SOP	Site Operations Plan
SOPs	Standard Operating Procedures
SSHO	Site Safety Health Officer

SSHP	Site Safety and Health Plan
T&D	transportation and disposal
UFP-QAPP	Uniform Federal Policy Quality Assurance Project Plan
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
WMTDP	Waste Management, Transportation and Disposal Plan
WWPPP	Waste Water Pollution Prevention Plan

REVISION LOG

Accident Prevention Plan for Remediation of the Seaway FUSRAP Site, Northside and Southside Areas

Revision Number/Date	Description of Changes	Pages Affected
0	Original Issue	N/A
0-A 5/1/15	Incorporation of USACE comments	Various

CERTIFICATE OF INDEPENDENT TECHNICAL REVIEW COMPLETION

LATA-Sharp Remediation Services, LLC (LSRS) has completed the Accident Prevention Plan for the Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York. Notice is hereby given that an independent technical review has been conducted by staff of LSRS that is appropriate to the level of risk and complexity inherent in the project, as defined in the Contractor Quality Control Plan (CQCP).

During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing USACE policy. The document/plans were accomplished by [redacted] CSP and the independent technical review was accomplished by [redacted] as indicated by signatures below. All reviews are documented via red line track changes in associated text files. Red line edited documents are available upon request.

[redacted] _____

Plan/Report Preparer / Date

[redacted] _____

Project Manager / Date

[redacted] _____

[redacted] _____

Independent Technical Reviewer / Date

1.0 INTRODUCTION

LATA-Sharp Remediation Services, LLC (LSRS) is providing supplies and services for task order No. 0005 issued under the Multiple Award Remediation Contract (MARC) contract No. W912P4-07-D-0001 with the United States Army Corps of Engineers (USACE), Buffalo District to remediate the Seaway Site in accordance with the *Record of Decision (ROD) for the Seaway Site, Town of Tonawanda, New York* (USACE 2009). The project scope includes the excavation, transportation and disposal (T&D) of Formerly Utilized Sites Remedial Action Program (FUSRAP) contaminated soils/sediments/debris from the Northside and Southside areas outside of the landfill. This work is being conducted by USACE under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA). Work performed will follow the requirements of the National Oil and Hazardous Substances Contingency Plan and other applicable portion of title 40 of the Code of Federal Regulations.

Work plans produced for this project include a Site Operations Plan (SOP); Accident Prevention Plan (APP)/Site Safety and Health Plan (SSHP) (which includes an Air Monitoring Plan [AMP] and Radiation Protection Plan [RPP]); Sampling and Analysis Plan (SAP) (which includes a Field Sampling Plan [FSP], Uniform Federal Policy Quality Assurance Project Plan [UFP-QAPP] and Final Status Survey [FSS] Plan); Water Management Plan (WMP) (which includes a Storm Water Pollution Prevention Plan [SWPPP] and Waste Water Pollution Prevention Plan [WWPPP]); Waste Management, Transportation and Disposal Plan (WMTDP); Backfill, Compaction and Restoration Plan (BCRP); Contractor Quality Control Plan (CQCP); and Regulatory Compliance Plan (RCP).

2.0 BACKGROUND

USACE is the lead agency for implementing FUSRAP, which was established to identify, investigate, and if necessary cleanup or control contaminated sites. The Seaway Site is a closed landfill in Tonawanda, New York, that is included on the list of FUSRAP sites. The Seaway Site is an inactive hazardous waste disposal site pursuant to Title 6 of the New York Code of Rules and Regulations (NYCRR) Part 375. The site is listed in the Registry of Inactive Hazardous Waste Sites that is maintained by New York State Department of Environmental Conservation (NYSDEC 2003). Under 6NYCRR 375-2.7(B)(3), inactive hazardous waste disposal sites are classified with respect to the threats they pose to the environment, with a Class 1 posing the greatest threat and Class 5 indicating that a site is properly closed and does not require continued operation, maintenance, or monitoring. The Seaway Site is a Class 4 inactive hazardous waste disposal site.

2.1 SITE LOCATION

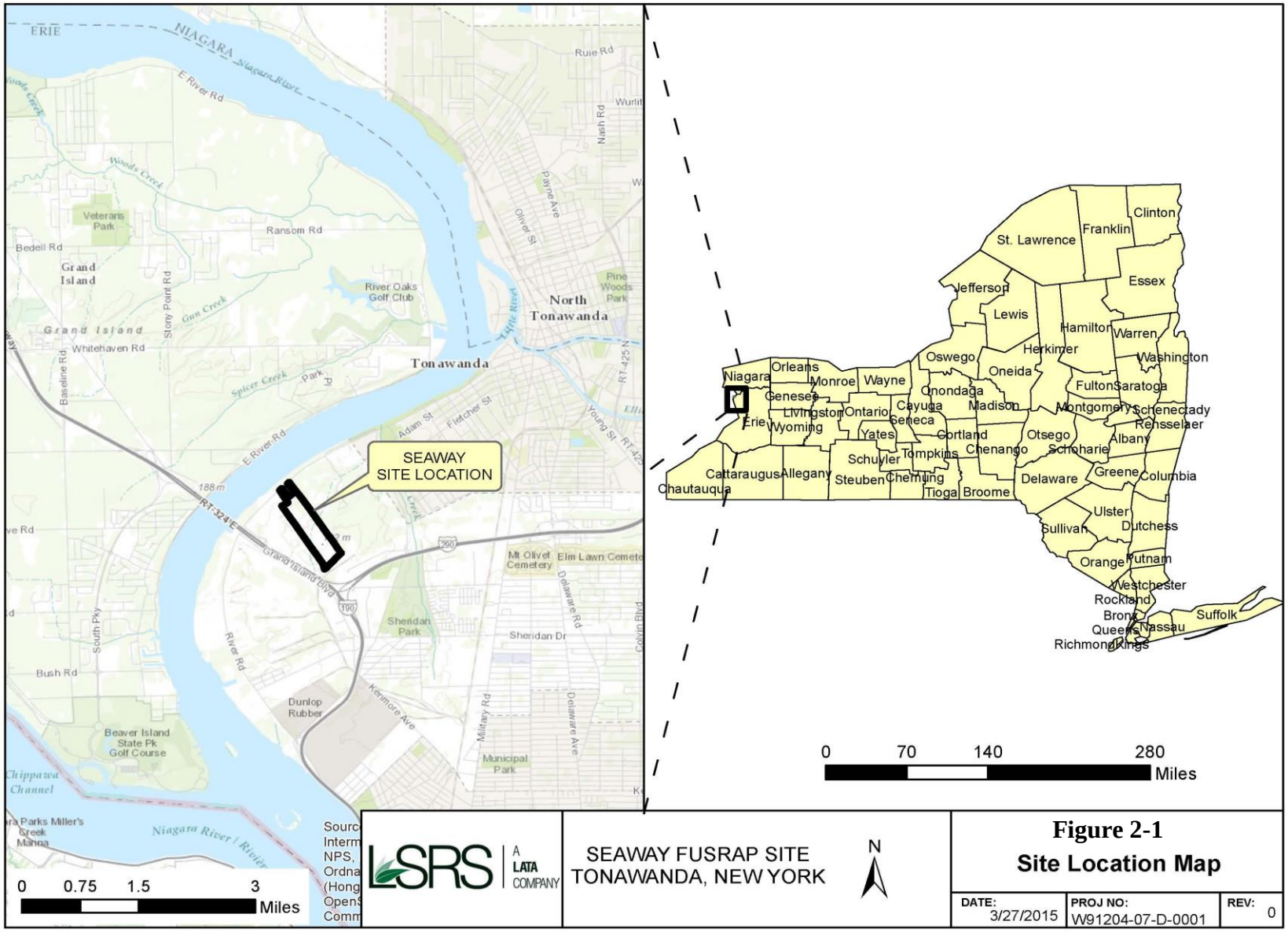
The Seaway Site is located in the Town of Tonawanda, New York approximately 10 miles north of the City of Buffalo. It is situated northeast of the intersection of State Road 266 (River Road) and Interstate 190 and is approximately ¾ mile southeast of River Road. Figure 2-1 provides a Site Location Map. Ashland Oil & Refining Company owns properties to the east and west; primarily using these areas for industrial purposes. Other industrial facilities are located nearby along River Road. The nearest residences are located to the northwest across the Niagara River

on Grand Island and to the east in the Town of Tonawanda. A Niagara Mohawk right of way runs along the eastern fence line.

2.2 SITE HISTORY

The Seaway property is approximately 100 acres and is referred to as the Seaway Industrial Park. It is currently owned by the Benderson Development/Sands Mobile Park Corporation, which is the successor by merger to the Seaway Industrial Park Development Company, Inc. Since the late 1980's, Browning-Ferris Industries, Inc. followed by Allied Waste operated the landfill on the property (also referred to as the Niagara Landfill).

The source of the FUSRAP contaminants of concern (COCs) at the site are residues from uranium processing that was conducted at the nearby Linde Site. Various types of wastes were disposed in the landfill starting in 1930 and ending in 1993. These included municipal, commercial, industrial (including hazardous substances), and construction wastes from nearby communities. Approximately 90 percent of the property (90 acres) has been used as a landfill; approximately 69 acres have been capped. The Site contains Seaway Southside (Seaway Area D Adjacent Property and Area Northwest of Seaway Area D) and Seaway North side (property line surface runoff area).



SEAWAY FUSRAP SITE
TONAWANDA, NEW YORK

N

Figure 2-1
Site Location Map

DATE:	PROJ NO:	REV:
3/27/2015	W91204-07-D-0001	0

3.0 OBJECTIVE AND SCOPE

The overall objective of the project is to remediate FUSRAP contaminated soils/sediment from the Seaway Southside and North side areas. Site operations include activities associated with the Remedial Action (RA) to include but not limited to water management, Operation and Maintenance (O&M) of the air monitoring system, O&M of the meteorological station, equipment decontamination, worker health and safety monitoring, maintenance and radiological monitoring of roads and support areas, utility services, civil surveys, equipment decontamination, dust control, site security, daily reporting and any other daily site activities. Site operations will occur after mobilization and before demobilization. LSRS will provide all labor, material, equipment, tools, supplies, sanitary facilities, and off-site laboratory facilities necessary to perform the services required to complete the tasks specified under the statement of work.

Work to be performed includes the following:

- Preparation of Project Work Plans.
- Assisting USACE with a Preconstruction Community Outreach Meeting.
- Mobilization and Demobilization activities.
- Site health, safety and environmental monitoring.
- Field verification of actual conditions and location of each work area.
- Verifying the location of the current Landfill Cut-off Wall.
- Sampling and Analysis.
- Excavation of clean overburden for storage and possible reuse.
- Excavation of FUSRAP contaminated materials from areas that are outside of the landfill's Leachate Collection System and Cut-off Wall.
- On-site Waste Management and Packaging.
- Transportation and off-site disposal.
- Radiation survey.
- Final Status Surveys.
- Backfilling the excavated areas and Site Restoration.
- Final status survey Technical Data Packages for each survey unit.
- Project Construction Report and Lessons Learned Report.
- Close-out documentation.

This APP has been designed to address worker safety and hazard avoidance while completing site mitigation activities. Physical hazards on site include; slips/trips/fall hazards, open excavations, stuck by heavy equipment/vehicles, pinch points, heat/cold stress, noise, electrical, sprains/strains, severe weather and fire. Biological hazards on site include; poison ivy/plants, bees, ticks, snakes, and potential stray/wild animals. Chemical hazards expected on site are; gasoline/diesel, lubricating oils/grease, hydraulic oil, motor oil, hydrochloric acid – for sample preservation, nitric acid – for sample preservation.

3.1 REGULATORY COMPLIANCE

The remediation criteria for the radionuclide COCs (Ra-226, Th-230, U total, Pa-231, and Ac-227) were developed and are provided in the ROD (USACE 2009). The applicable laws, rules, regulations, standards, permits and codes and LSRS's methods for compliance are provided in the Regulatory Compliance Plan (RCP).

4.0 PROJECT ORGANIZATION

The Seaway project organization in Figure 5-1 presents the lines of authority and reporting relationships of the project key personnel involved in the Seaway project.

4.1 PROJECT DELIVERY TEAM (PDT)

The PDT is responsible for developing project documents and performing project field activities. The PDT will perform ongoing interdisciplinary quality control checks during product development to insure that portions of the products developed by different team members do not conflict.

4.2 PROGRAM MANAGER

[redacted] is the Program Manager for the MARC contract and will be the primary Point of Contact (POC) for all contractual issues. [redacted] is responsible for assuring that the project is properly staffed and for overall technical direction and quality of the work performed. The Program Manager establishes budgets and schedules, assures that personnel have appropriate training, and monitors staff performance. In addition, the Program Manager is responsible for monitoring and implementation of the Quality Assurance/Quality Control (QA/QC) program. Specific responsibilities include:

- Assure that labor, equipment, personnel, and funding are available for required tasks; and
- Project technical direction.

4.3 PROJECT MANAGER

[redacted] is the Project Manager for this task order. [redacted] will be the primary POC for execution of this work. [redacted] will be responsible for overall administration of the project, coordination of field efforts, attendance at project progress meetings and regular reporting activities. He will coordinate the day-to-day activities and will be responsible for maintaining schedule. The Project Manager will interface with the Project Delivery Team (PDT) to verify that the goals of the project are being met and will conduct the senior technical review of all deliverables. A brief summary of duties includes:

- Coordinate preparation, review, and approval of reports, plans and procedures;
- Provide QC support in matters involving quality of work;
- Assure response to corrective action requirements identified by the project team;
- Maintain and track project budget and schedule; and
- Coordinate personnel and field activities, including subcontractors.

4.4 CERTIFIED HEALTH PHYSICIST

The Seaway project Certified Health Physicist is [redacted], CHP, CIH. [redacted] will provide complete and expert health physics, radiation protection safety, and radiation risk assessment direction and guidance. He will develop the RPP, which is an attachment to the APP/SSHP, conduct the site radiation risk evaluation and recommend radiation monitoring equipment.

4.5 HEALTH AND SAFETY MANAGER

The Seaway project Health and Safety Manager is [redacted], CSP. [redacted] will provide guidance to project personnel who are responsible for implementation of the corporate LSRS Health and Safety Program Plan. Mr. Emery is responsible for investigating health and safety incidents/occurrences, working with the Project Manager to identify corrective actions, and making recommendations on policy changes needed to prevent or minimize future occurrences. The Health and Safety Manager is the final LSRS employee or contractor with the authority to determine the suitability of an employee to perform job duties on the basis of health or fulfillment of health and safety training as required by law or regulation. The Health and Safety Manager is also responsible for directing annual or periodic reviews of LSRS health and safety plans, as appropriate.

Specific responsibilities of the Health and Safety Manager include:

- Review and approve the Site Health & Safety Plans;
- Evaluate the qualifications of the Site Safety & Health Officer;
- Review proposed corrective action and assess them once implemented to evaluate effectiveness;
- Approve significant changes in personal protective equipment (PPE) or protective procedures;
- Conduct accident investigations and prepare reports; and
- Approve changes to the Site Health & Safety Plans, engineering controls, work practices and PPE.

4.6 CONTRACTOR QUALITY CONTROL SYSTEM MANAGER

[redacted] will serve as the Contractor Quality Control System Manager. Specific responsibilities of the Contractor Quality Control System Manager include:

- Develop, document, and implement activities to verify that appropriate QC measures are being conducted and documented;
- Verify that records related to QC are documented and maintained in a manner that assures they are secure and retrievable;
- Prepare periodic quality reports as required;
- Provide personnel training as required;
- Conduct periodic performance audits and/or surveillance to measure conformance to specifications and requirements;
- Verify that corrective actions are conducted and documented in a manner that minimizes or precludes future occurrences;
- Review and approve Standard Operating Procedures (SOPs) and training records; and

- Provide oversight and guidance to the construction quality manager to ensure project QC requirements are effectively implemented.

4.7 SITE SUPERINTENDENT

The Project Site Superintendent is [redacted] will be on-site at all times and oversee subcontractors and all field personnel performing the various tasks to ensure that the acceptability and performance criteria are met. He is also responsible for the day-to-day conduct of work, including communication with the Project Manager, USACE, and subcontractors to verify that the goals of the project are being met. [redacted] will monitor and enforce the implementation of the required Site work plans and will report any deviations from prescribed practice to the Project Manager or stop work, as appropriate.

Specific responsibilities of the Site Superintendent may include:

- Direct project activities;
- Ensure that qualified technical personnel are assigned to various tasks, including subcontractors;
- Identify and fulfill equipment and other resource requirements;
- Monitor project activities to ensure compliance with established scopes, schedules, and budgets;
- Ensure overall technical quality and consistency of all project activities;
- Review activities to verify that appropriate QC measures are being conducted and documented;
- Verify that records related to QC are documented and maintained in a manner that assures they are secure and retrievable;
- Verify that corrective actions are conducted and documented in a manner that minimizes or precludes future occurrences; and
- Produce and issue the Daily Project CQC Report.

4.8 PROJECT CHEMIST

The Project Chemist is [redacted] is responsible for the following;

- Developing the project QAPP, document coordination, coordinating with the analytical laboratory, data management, data evaluation and validation, and preparation of the chemistry- and data-related portions of the work plans and data report(s).

4.9 SITE SAFETY & HEALTH OFFICER

The project Site Safety & Health Officer (SSHO) is [redacted] In this role [redacted] will be responsible for the following:

- Provide Health & Safety training as required;
- Remain on-site at all times that work is being performed;
- Implementation and maintenance of site-specific health and safety plans and procedures; and

- Recognize and mitigate the potential site hazards.

4.10 CONTRACTOR PERSONNEL

Other site personnel will include field technicians, operators and laborers.

Note: All up to date Health & Safety Training Certificates and proof of medical certifications for all LSRS employees and its subcontractors will be provided to USACE upon request or before mobilization.

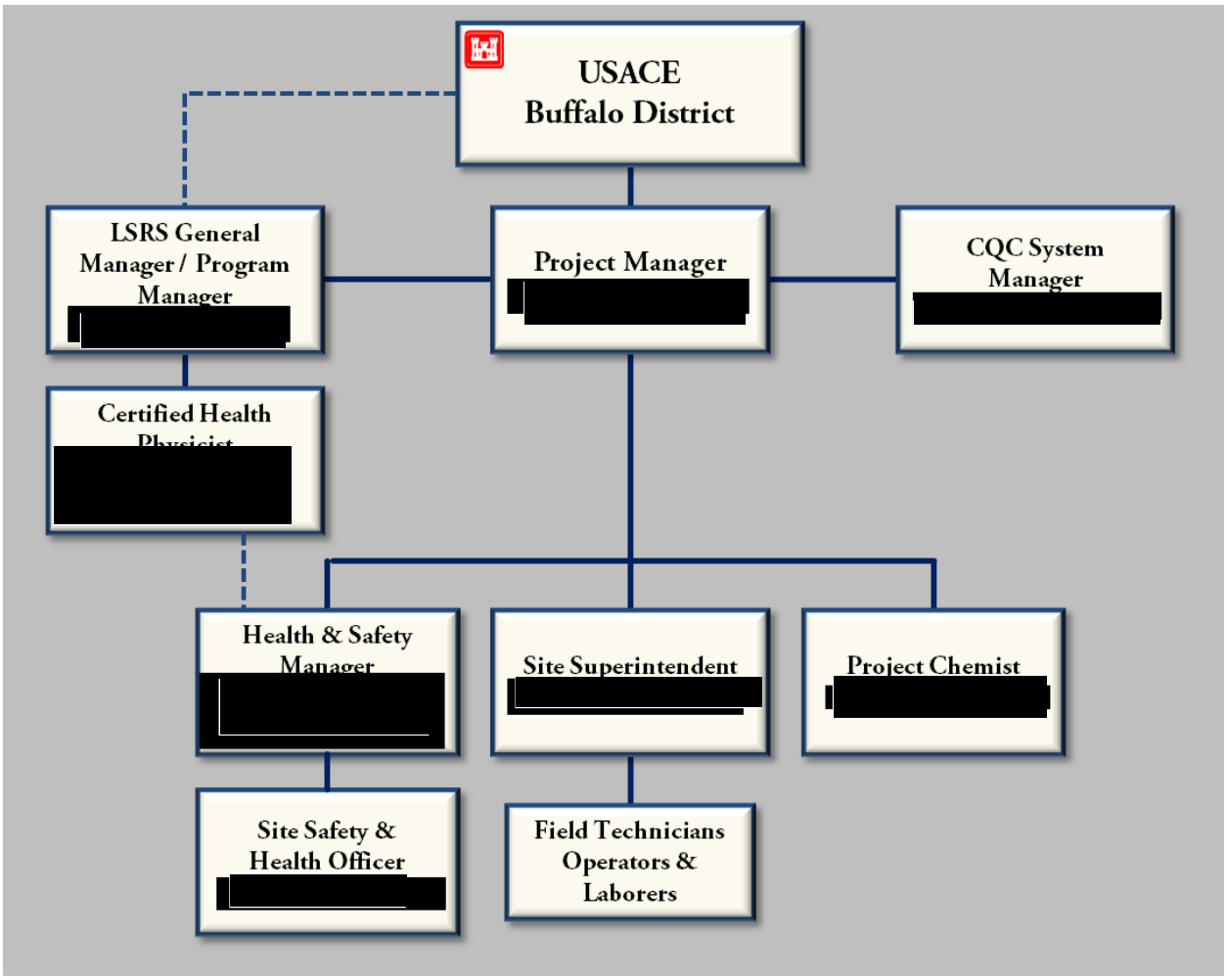


Figure 4-1. Seaway Project Organization

5.0 SAFETY AND HEALTH

5.1 STATEMENT OF SAFETY AND HEALTH POLICY

The LSRS safety goal for the Seaway project is to complete the project with zero accidents and injuries to LSRS and subcontracted personnel working on the project. This goal is consistent with our corporate experience and past performance for our project work. The LSRS Safety and Health Commitment Statement is presented below.

LSRS and its Seaway Site Management are committed to providing safe and healthful working conditions for all site employees. This commitment is implemented through an effective Environmental Safety and Health (ES&H) program that builds upon the LSRS Integrated Safety Management System (ISMS) core functions and guiding principles. As such, LATA will implement practices that afford optimal protection of its employees, the public, and the environment.

The Seaway *Site ES&H program is designed to be 'owned' and implemented by all managers, employees and subcontractors of the project. The project's success depends upon open and honest communication between employees and management. It is LSRS's policy that all personnel assigned to the project become involved in seeking and suggesting ways to improve the effectiveness of our processes and procedures, and in applying safety principles to all work activities. This team approach facilitates the recognition of existing and emerging environmental, safety, and health concerns and the timely use of appropriate actions when required.*

LSRS considers the well-being of workers and protection of the environment to be its highest priority. LSRS believes in the implementation of an effective ES&H program as a matter of doing business conscientiously and as a condition of employment. Our goal in this effort is for each individual to return home to their family at the end of each workday without an injury, illness or exposure.

The Los Alamos Technical Associates (LATA, the parent company to LSRS) corporate safety and health policies are included in the LATA Health and Safety Program Plan (HSPP) (Appendix A) and Integrated Safety Management Plan (Appendix B).

5.2 Responsibilities and Lines of Authorities

This section presents the lines of authority and responsibilities concerning the site safety and health program. Field work will be performed under the supervision of the LSRS Field Site Manager who will oversee normal operations and perform any required emergency notification and coordination of on-site personnel and activities in the event of an emergency. Table 5-1 lists the LSRS personnel and competent persons responsible for implementing the project safety and health program. Work will not be performed unless the designated competent person is present on the job Site.

Table 5-1 Project Personnel

Position	[redacted]	[redacted]
Program Manager	[redacted]	[redacted]
Certified Health Physicist	[redacted]	[redacted]
Safety and Health Manager	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]
Site Superintendent	[redacted]	[redacted]

Position	Name	Phone
Site Health & Safety Officer	[redacted]	
Competent Person – Equipment Operator		

Resumes for the personnel in Table 5-1 are included as Appendix C to this APP.

5.3 PROJECT SAFETY REQUIREMENTS AND POLICIES

5.3.1 LATA HSPP

The Seaway project will be conducted in accordance with the policies outlined in the LATA HSPP. The LATA HSPP defines corporate responsibilities, which are lines of authority and policies for noncompliance with safety requirements and safety accountability. General safety rules that apply to operations performed by LSRS and its subcontractors are provided in the LATA HSPP. These requirements are generic in the sense that they apply to all projects.

5.3.2 Site Specific Safety and Health Plan

In addition to the LATA HSPP, the project will follow the requirements of this APP and the project Site Safety and Health Plan (SSHP) (Appendix D) developed in accordance with 29 CFR 1910.120 and EM-385-1-1 (2008), Section 28. LSRS subcontractors shall work under the LSRS APP and SSHP unless specifically approved to work under a different safety program by LSRS and/or the USACE.

5.3.3 Emergency Response Plan

Pre-emergency planning tasks as outlined in the Emergency Response Plan (ERP) will be performed prior to starting field activities and will coordinate emergency response with subcontractor on-site parties and local emergency service providers (Appendix F).

5.4 SITE SAFETY RULES

All LSRS personnel and subcontractors are responsible for Site safety. As such they must follow the following rules during Site activities:

- Daily pre-start safety briefings will be conducted as needed by the Superintendent to inform personnel of new or existing hazards, concerns, or safety procedures. Field personnel will attend and sign a daily attendance log, maintained by the SSHO that also describes the content of the day's briefing.
- Personnel should perform only those tasks that they are qualified or trained to do and believe they can do safely. If a person feels they cannot perform an assigned task, they should immediately notify the Superintendent.
- No work shall be performed unless the SSHO and the designated Competent Person(s) (refer to Table 5-1) for that work task is present on the job site.
- Work will be performed in accordance with the SSHP and the Activity Hazard Analysis for the job task.

- Personnel shall not use any chemicals on Site that they have not been trained to use in accordance with the OSHA Hazard Communications Standard (sample preservatives, cleaning supplies, etc.).
- Personnel are encouraged to notify the SSHO of any medical conditions that require special consideration, such as, use of prescription medications or of special medical conditions (i.e severe allergic reaction to insect bites, limited muscle function, etc.).
- Personnel will maintain proper workplace housekeeping to minimize the potential for slips, trips, and falls, and other accidents.
- Contact with potentially contaminated surfaces or materials will be mitigated by avoidance or use of appropriate PPE as described in the SSHP and RPP.
- Spills will be prevented to the greatest extent possible. Plastic will be placed under equipment that is on Site to catch any spills from petroleum-based fluids. Spill kits will be made available in work areas and heavy equipment storage areas where spills/leaks may occur. In the event that a spill occurs, the material will be contained via the use of sorbent material.
- Eating, drinking, smoking, chewing gum or tobacco and other practices that increase the probability of hand-to-mouth transfer are prohibited in contaminated and potentially contaminated areas and only allowed in the designated support zone locations. Smoking may not be allowed due to fire safety considerations. These activities are allowed in designated areas only.
- Workers will wash their hands and face upon leaving work and prior to eating, drinking, smoking, chewing of gum or tobacco and other practices that involve hand-to-mouth contact.
- All injuries and accidents will be reported to the SSHO, project superintendent, and USACE Project Manager. The SSHO will immediately notify the LSRS Health and Safety Manager and Program Manager of any incident requiring more than first aid.
- On-Site workers must abide by a buddy system. Members of a buddy team will maintain verbal or visual contact at all times.
- The project work shall be conducted in accordance with LSRS Human Resource HR 05-03, Drug-Free Workplace (Appendix E). Being under the influence, possession, or use of alcohol or drugs is prohibited unless the drugs are prescription or over-the-counter medications used for the purpose of treating an illness or injury. In cases where a worker is taking or intending to take allowable medications they are encouraged to immediately notify the SSHO of their use or potential use for the protection of the worker and other Site personnel. This also includes such things as Epinephrine (EPI) pens for those with severe allergic reactions to insect bites or stings.

5.5 CONTROL ZONES

The SSHO will be responsible for establishing the Site control zones in accordance with 29 CFR 1910.120, as necessary, around LSRS controlled areas that present physical, biological, or chemical hazards. Implementation of the Site control zones will help to minimize the number of employees or individuals potentially exposed to such hazards. The superintendent will monitor and enforce the implementation of the required Site control work rules and will report any deviations from prescribed practice to the LSRS Project Manager or stop work, as appropriate. A log will be kept in the field book of personnel visiting, entering or working in a Site control zone. The log will include the date, name, agency or company, time-in and out, and PPE. No one without the appropriate training, medical surveillance, and need to be there will be allowed entry into exclusion zones while hazardous conditions exist. Any non-compliance will require an immediate stop work with workers in the exclusion zone placing equipment and operations into a safe mode as quickly as possible. The superintendent will immediately notify the LSRS Program Manager, USACE Program Manager, USACE COR, and the LSRS H&S Manager. All conditions of the incident will be noted in the field records including photo or video record as available. Work will not resume until approved by the USACE and SSHO.

6.0 SUBCONTRACTORS AND SUPPLIERS

The SSHO will be responsible to provide site specific training to on-site subcontractors performing work within a Site control zone. Subcontractors working on the Site will be responsible to follow the procedures and guidance provided in this APP and the LSRS SSHP.

7.0 TRAINING

Health and safety training is an integral part of LSRS's health and safety program. Under the Hazardous Waste Operations and Emergency Response (HAZWOPER) standard, LSRS employees will be trained by a Qualified Trainer (as required by 29 CFR 1910.120 (e)(5)) to meet their level of responsibility and to minimize exposure to potential hazards. Health and Safety Training will be conducted in accordance with the LATA HSPP and the LATA Quality Management Systems Description (QMSD) document.

LSRS employees involved in work at hazardous sites will be trained as required by 29 CFR 1910.120, 29 CFR 1926.65 and other applicable regulations. In addition, program/project managers, supervisors, and SSHOs for projects involving hazardous materials will be qualified and trained to safely supervise or manage work at hazardous waste sites (i.e., have had HAZWOPER Supervisor training, 29 CFR 1910.120(e)(4)). Site training will be provided by the superintendent and/or the SSHO which will enable employees to:

- Recognize and understand the potential site hazards and LSRS's planned mitigations;
- Supervise other site subcontractors as applicable;
- Become familiar with the safety programs and procedures applicable to the Site; including the Plan of the Day, work control procedures, the Site-Specific Health and Safety Plan, PPE and monitoring requirements, and Site control measures; and

- Work safely.

A matrix of training requirements for Site personnel will be maintained on Site along with the records of training and medical surveillance (e.g., fit-for-duty letter, respirator fit-test card) of Site personnel by the SSHO in accordance with 29 CFR 1910.120(b)(4)(ii)(B). Training records will confirm that each employee assigned to a task has had adequate and current training for that work. The LSRS Health and Safety Manager will maintain copies of the training and medical surveillance records as required by the LATA QMSD and HSPP.

Table 7-1 summarizes the training and qualification requirements for Project personnel.

Table 7-1 Safety and Health Training and Qualification Requirements for Project Personnel

Training /Qualification Requirement	Applicability
HAZWOPER 40-Hour and Current 8-Hour Refresher	Applies to all project personnel except Visitors under escort.
HAZWOPER Supervisor Training	Applies to the onsite Project Manager and Site Superintendent(s)
Hazard Communications Training	Applies to all project personnel except Visitors under escort.
First Aid/CPR Training/Bloodborne Pathogens Training	Applies to a minimum of two persons per shift.
Fall Protection Training	Applies to all project personnel working in the vicinity of unprotected sides or edges at a height of four feet or more.
Fire Extinguisher Training	Applies to all project personnel except Visitors under escort.
Project SSHP and applicable LSRS procedures	Applies to all project personnel except Visitors under escort.
Lock Out/Tag Out Training	Applies to all project personnel working on energized systems. See additional requirements for work on electrical systems.
Radiation Safety Training	Applies to all project personnel working in close proximity to potential radiation hazards.
Respiratory Protection	Applies to all persons wearing respiratory protection or prescribing the use of respiratory protection
Equipment operators	Required to meet the training and qualification requirements specified in EM 385-1-1, Section 18 for the equipment being operated.
Licensed Electrician	Required for all work performed on live electrical systems.
OSHA 30-Hour Construction Safety	Corporate Safety & Health/Project SSHO
Excavation Competent Person	Minimum of 1 Excavation Competent Person on site during excavation activities per OSHA 29 CFR Subpart P.
Hazardous Materials Safety and Security Awareness Training	Required for all project personnel involved in wash packaging and shipping phases per 49 CFR 172.704

8.0 SAFETY AND HEALTH INSPECTIONS

Safety and health inspections will be conducted throughout the project by the SSHO. A daily inspection of the Site will be performed and recorded in the SSHO log. A more extensive housekeeping and safety inspection will be conducted weekly by the SSHO and/or Project

Manager and documented on an inspection form. Issues found during safety inspections will be documented, tracked and closed as soon as possible.

9.0 ACCIDENT REPORTING

The SSHO will be responsible for reporting exposure data, accidents and injuries (including all investigation data, reports and logs) to the Contracting Officer/Representative CO/COR. Report all accidents as soon as possible but not more than 4 hours afterwards to the CO/COR. The contractor shall thoroughly investigate the accident and submit the findings of the investigation along with appropriate corrective actions to the CO/COR in the prescribed format as soon as possible but no later than five (5) working days following the accident.

The following require immediate accident notification:

- A fatal injury
- A permanent total disability;
- A permanent partial disability;
- The hospitalization of three or more people resulting from a single occurrence;
- Property damage of $200,000.00 or more.

Corrective actions for all accidents and injuries will be implemented as soon as possible following the investigation.

The Site Safety and Health Manager, or his designee, is responsible for investigating accidents and filling out USACE ENG FORM 3394 for submission to the USACE Safety Office within 5 days of accident.

10.0 PLANS (PROGRAMS, PROCEDURES) REQUIRED BY USACE EM-385-1-1

Table 10-1 identifies the Plans specified by EM-385-1-1 for APPs. The table indicates whether the Plan is applicable to this project and, for applicable Plans, where that information is located.

Table 10-1 EM-385-1-1 Plans

EM 385-1-1 Specified Plans	Applicable to Project (Y/N)	Location of Plan/Procedure
a. Layout Plans (04.A.01)	Y	Project Technical Work Plan
b. Emergency Response Plans:	Y	Appendix F of this APP
(1) Procedures & Test (01.E.01);	N	
(2) Spill Plans (01.E.01, 06.A.02);	Y	Spill Prevention and Waste Management Plan
(3) Firefighting Plan (01.E.01, Section 19);	N	
(4) Posting of Emergency Telephone Numbers (01.E.05);	Y	Project SSHP, Att. E
(5) Man overboard/abandon ship (19.A.04)	N	
(6) Medical Support (Section 03.A.02;03.D);	Y	Project SSHP, Sect. 17

Table 10-1 EM-385-1-1 Plans

EM 385-1-1 Specified Plans	Applicable to Project (Y/N)	Location of Plan/Procedure
c. Plan for prevention of alcohol and drug abuse (01.C.02);	Y	Appendix E of this APP
d. Site Sanitation plan (Section 02);	Y	Project SSHP, Sect. 18
e. Access and haul road plan (4.B);	Y	Spill Prevention and Waste Management Plan
f. Respiratory Protection Plan (05.G);	N	
g. Health Hazard Control Program (06.A);	Y	Project SSHP, SSHP ATT C AHA
h. Hazard communication program (06.B.01);	Y	Project SSHP, Att.B
i. Process Safety Management Plan (06.B.04);	N	
j. Lead Abatement Plan (06.B.05 & specifications)	N	
k. Asbestos Abatement Plan (06.B.05 & specifications)	N	
l. Radiation Safety Program (06.E.03.a);	Y	APP – APP-G
m. Abrasive Blasting (06.H.01)	N	
n. Heat/Cold Stress Monitoring Plan (06.I.02)	Y	Project SSHP, Sec. 11 & Att F
0. Crystalline Silica Monitoring Plan (Assessment) (06.M);	N	
p. Night operations lighting plan (07.A.08);	N	
q. Fire Prevention Plan (09.A);	N	
r. Wild Land Fire Management Plan (09.K);	N	
s. Hazardous energy control plan (12.A.01);	N	
t. Critical lift Plan (16.H);	N	
u. Contingency Plan for Severe Weather (19.A.03);	Y	Project SSHP, Sect. 17.4
v. Float Plan (19.F.04);	N	
w. Site-Specific Fall Protection & Prevention Plan (21.C);	N	
aa. Underground construction fire prevention and protection plan (26.D.01);	N	
bb. Compressed air plan (26.I.01);	N	
cc. Framework and shoring erection and removal plans (27.C);	N	
dd. Pre-Cast Concrete Plan (27.D);	N	
ee. Lift slab plans (27.E);	N	
ff. Steel erection plan (27.F.01);	N	
gg. Site Safety and Health Plan for HTRW work (28.B);	Y	Appendix D of this APP
hh. Blasting Safety Plan (29.A.01);	N	
ii. Diving plan (30.A.13)	N	

11.0 RISK MANAGEMENT PROCESSES

Project specific hazards and controls have been identified for each major work task. The Activity Hazard Analysis is included the SSHP.

12.0 REFERENCES

Los Alamos Technical Associates, Inc. *Health and Safety Program Plan*.

U.S. Army Corps of Engineers. 2007. Safety and Occupational Health Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) Activities and Ordnance and Explosive Waste (OEW) Activities, ER 385-1-92 (2007).

U.S. Army Corps of Engineers. 2008. Engineer Pamphlet (EP) 415-1-266 Resident Engineer Management Guide (REMG) for Hazardous, Toxic, and Radioactive Waste (HTRW) Projects.

U.S. Army Corps of Engineers. Safety and Health Requirements Manual, EM 385-1-1. September. 2008.

U.S. Occupational Safety and Health Administration; Hazard Communication, 29 C.F.R. § 1910.1200 (2006)

U.S. Occupational Safety and Health Administration; Excavations, 29 C.F.R. § 1926 Subpart P (2006).

U.S. Occupational Safety and Health Administration; Hazardous Waste Operations and Emergency Response, 29 C.F.R. § 1910.120 (2006).

Appendix A
LATA Health and Safety Program Plan

Health and Safety Program Plan

[redacted]	Date: 6/1/13	Title: Corporate Manager ES&H
	Date: 6/1/13	Title: President

The current approved version of this document can be found at the following intranet address: http://latanet under the links of "Policies and Procedures", then "Environment, Safety and Health", and finally "LATA Health and Safety Program Plan".

This document is effective for use on June 1, 2013 and will remain in effect until altered by an interim change notice, withdrawn, or replaced with a superseding version.

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1.0 INTRODUCTION

Los Alamos Technical Associates (LATA) considers the health and safety of its employees, consultants, subcontractors, and the public to be of primary importance in all aspects of operational activities. This commitment is re-enforced through implementation of this Health and Safety Program Plan (HSPP) and its companion documents; Management System Description, Quality Management System Description and Environmental Management System Description. All LATA employees, consultants and subcontractors are expected to cooperate in making the HSPP fully effective and compliant through conformance with applicable laws, rules, and regulations and by following procedures described in this document. Reference to "LATA" shall be understood to include LATA and its subsidiaries and affiliates. Reference to "LATA employees" or simply "employees" shall be understood to include consultants and subcontractors to LATA, as well as junior teaming partners where LATA has prime contract responsibility.

1.1 Purpose

The purpose of this document is to provide a detailed description of LATA's health and safety (H&S) program that defines employee rights and responsibilities, outlines the LATA H&S organization, and provides detailed descriptions of the program's elements.

1.2 Scope

LATA provides a variety of services for many different clients at numerous sites. The scope of this HSPP is to describe the H&S program in sufficient detail to provide all LATA employees with the information they need to conduct their work safely on a day-to-day basis. Additionally, this document is intended to meet the requirements for a safety and health program in 29 CFR 1910.120(b) and 29 CFR 1926.65(b). This HSPP does not provide the site-specific detail required for some of the operations conducted by LATA employees at certain work sites. LATA operations at hazardous waste sites, work locations with special hazards or client sites, may require that this document be supplemented with site-specific plans as described, in 29 CFR 1910.120(b)(4) and 29 CFR 1926.65(b)(4). Appendix A of this HSPP provides LATA's minimum requirements for hazardous waste site plans.

1.3 Health and Safety Organization, Roles, and Responsibilities

While it is the responsibility of all employees to cooperate in observing safety rules and in using safety equipment as required, it is the responsibility of LATA management to lead by example and implement the safety procedures necessary to protect the physical welfare of each employee.

Figure 1-1 provides the Health and Safety organizational structure for LATA.

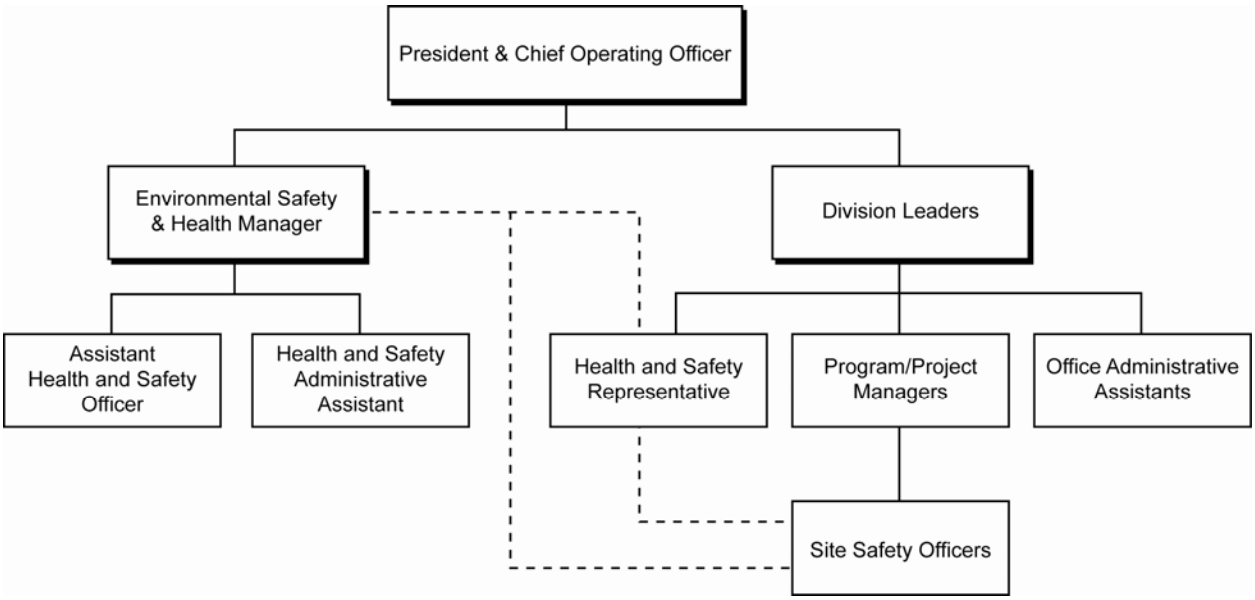

Figure 1-1. LATA Corporate Health and Safety Organization

The majority of the day-to-day health and safety issues are handled at the lowest level possible in the organization chart above. Interactions between the administrative and safety personnel at each level should be used to resolve routine H&S issues. Only those issues that cannot be resolved at a particular level or that require decisions to be made by a corporate officer are raised to higher levels.

Due to project tasking, all H&S support positions may not be filled at all times. At a minimum, each LATA office will have one employee who is responsible for implementing the health and safety program in their office.

The responsibilities of each position are described in the following paragraphs.

LATA Chief Operating Officer (COO) has overall authority and responsibility for the development and implementation of a comprehensive corporate health and safety program.

Corporate Environmental Safety & Health Manager (ES&H Manager) is responsible for overall implementation of the HSPP and delivery of safety training for LATA employees. The ES&H Manager reports directly to the COO, provides consultation to line management and is responsible for providing onsite health and safety evaluations as necessary to ensure the safety of LATA employees. He or she is also responsible for investigating health and safety incidents, initiating any necessary corrective actions, and making recommendations or policy changes needed to prevent or minimize future occurrences. The ES&H Manager has the authority to determine the suitability of any employee to perform job duties based on the fulfillment of required health and safety training. Additional responsibilities of the ES&H Manager are to make sure that work sites are evaluated to determine the need for a Site Specific Health and Safety Plan (SSHASP). Evaluations will be accomplished by working with clients and employees to evaluate site conditions and provide guidance regarding required SSHASPs. The

ES&H Manager is also responsible for directing an annual review of the LATA Health and Safety Program.

Assistant Health and Safety Officer is responsible for assisting the ES&H Manager in implementing the corporate health and safety program. This responsibility includes providing technical expertise in safety matters, assisting with health and safety training of employees, and working with the safety support staff in the development of appropriate H&S procedures and programs.

Division Manager is responsible for providing the project managers under his/her direction with the resources required to implement the health and safety program for their projects.

Health and Safety Representative (HSR) is responsible for assisting the ES&H Manager in implementation of LATA's health and safety program at the local level. This responsibility includes informing the ES&H Manager of any health and safety concerns in the office where the support staff is assigned, assisting in the H&S training of employees, and helping staff in the development of appropriate H&S procedures and plans.

Site Safety Officer (SSO) is responsible for the development, implementation, and maintenance of individual project site-specific health and safety, medical surveillance, and hazard communication programs in accordance with the respective corporate program plans. The SSO is also responsible for evaluating hazards, implementing hazard controls and ensuring that medical and training records for project employees are current.

Health and Safety Administrative Assistant (HSAA) is responsible for assisting the ES&H Manager and HSRs in maintaining health and safety records and facilitating the scheduling of medical examinations and training. The HSAA manages long-term training and medical records for LATA.

Office Administrative Assistants are responsible for handling all administrative tasks for the corporate health and safety program in their office. This includes, for example, notification regarding the hiring of new employees, changes in job functions for existing employees, and inter-office transfers or temporary re-locations.

Project Manager (PM) is responsible for implementing the H&S program on each project and for informing the local HSAA of employment status for all employees at the project level.

All employees, consultants, and subcontractors to LATA are responsible for participating in health and safety training and following all requirements in the LATA HSPP and any applicable site-specific plans. Employee participation involves not only following all of the rules, procedures, requirements, and guidance in the H&S program, but also providing feedback and constructive criticism of the program and its implementation.

2.0 GENERAL HEALTH AND SAFETY

This section provides the health and safety rights and responsibilities of all LATA employees. It also describes the plans and procedures that employees must follow in order to conduct their work safely. More detailed information on plans and procedures can be found in Appendices A through J of this HSPP and in other relevant LATA documents.

2.1 Employee Rights and Responsibilities

The employee rights and responsibilities listed in this section represent the agreement that LATA makes with employees to provide a safe and healthy work environment. The workplace must be free of known dangers that could harm employees.

2.1.1. RIGHTS

All LATA employees must be aware of their rights and responsibilities to fully implement this document. The following are employee rights as defined by the Occupational Safety and Health Administration (OSHA).

- Receive information and training about hazards, methods to prevent harm, and the OSHA standards that apply to the workplace.
- Review records of work-related injuries and illnesses.
- Receive results of testing to identify and measure hazards in the workplace.
- Receive copies of workplace medical records.
- Participate in OSHA inspections.
- File a complaint with OSHA if the situation warrants.

Employees shall not be required or allowed to:

- Perform work for which they have not been adequately trained;
- Work where appropriate safeguards have not been provided;
- Perform any action for which they have not been cleared medically; or
- Perform any task that they feel is unsafe.

2.1.2. RESPONSIBILITIES

All employees must strive to maintain a hazard free work area. Conditions or practices that are contrary to safety standards must be reported to a manager.

- Prior to beginning work, inspect your working place and equipment to make sure everything is safe.
- Be proactive about notifying safety personnel about potential problems and safety concerns.

- Report all work-related incidents (accidents, injuries, illnesses) to your PM or HSR as soon as possible but no later than the end of the shift in which the incident occurred (see Section 2.4, *Reporting Accidents*).
- Obey designated traffic patterns, speed limit and traffic control signs at all times. Do not operate vehicles and equipment in an unsafe manner.
- Personal Protective Equipment (PPE) necessary to perform special jobs will be provided. Employees must use PPE as required.
- Handle materials with care. Lift items properly and use gloves whenever practical.
- Practice good housekeeping. Keep work areas clean and return all equipment, tools, and unused supplies to their proper location.
- Do not tamper with or bypass equipment safety features.
- Possession, use, or working under the influence of alcohol or drugs on the job is strictly forbidden and is punishable by disciplinary action and/or dismissal (see LATA Procedure HR 05-03, *Drug Free Workplace*). If you are required by a physician to use any prescription or non-prescription drug(s), you must inform your PM and SSO before starting work.
- Employees shall not engage in any form of "horseplay" while working. All employees must comply with LATA Procedure HR 05-01, *Standards of Conduct*.
- Any employee who observes an unsafe condition or act that may pose an imminent danger or other safety hazard has the authority to pause or stop work without fear of reprisal.

2.1.3. GENERAL SAFETY PROCEDURES

All significant risks (based on injury frequency or severity potential) associated with LATA operations must be identified and controlled. The types of injuries that occur most frequently are as follows:

- repetitive stress trauma injuries;
- injuries involving manual handling of materials;
- injuries associated with the use of hand and power tools; and
- slip, trip, and fall related injuries

General safety procedures and preventive methods identified for these and other areas of concern for office work and field work are further described in this Plan and Appendices.

2.2 Site-Specific Health and Safety Plans

LATA's primary purpose as an organization is to provide technical support to clients. This support is normally provided in a variety of settings ranging from LATA offices to outdoor work conducted at client sites. Many of the work locations may have conditions, equipment,

materials, or required activities that could pose a hazard to the worker if proper health and safety procedures and rules are not followed. The ES&H Manager, local HSR or other designated H&S staff will evaluate each site where field work is conducted to determine if a site specific safety plan must be developed.

All work at hazardous waste sites requires the preparation of a SSHASP. Activity hazard analysis (AHAs) and standard operating procedures (SOPs) may be developed, as needed, to supplement SSHASPs. All H&S Plans and procedures must be reviewed by the ES&H Manager or his/her designee.

LATA conducts work at sites controlled or managed by LATA and sites controlled or managed by others. The sites controlled by others may have site specific safety plans written by entities other than LATA.

For sites controlled or managed by LATA the SSO, local H&S staff, or the ES&H Manager will evaluate the site for potential and existing hazards and develop an appropriate plan. The SSHASP will be evaluated periodically, and necessary modifications will be implemented. The LATA *Site Specific Health and Safety Plan* (see Appendix A) should be used as the base document for developing a site specific safety documents. The site-specific plan will, at a minimum, include:

- a review and written synopsis of available information;
- written and well-defined work objectives;
- written and well-defined methods and procedures for accomplishing objectives;
- an evaluation of personnel needs by job description and duties;
- a safety and health risk or hazard analysis for each site task and operation;
- an evaluation of additional training needs over and above those noted in Section 2.3, *Health and Safety Training*
- an evaluation of medical surveillance needs as discussed in Section 2.7, *Medical Surveillance*;
- environmental monitoring requirements (including the frequency and type of monitoring, the type of monitoring equipment, and the required maintenance and calibration of that equipment);
- a description of site control measures;
- decontamination procedures required;
- a site emergency action plan as discussed in Section 2.6, *Emergency Procedures*;
- a confined-space entry program (if required by site operations) as discussed in Section 2.10, *Confined Space Entry*;
- a spill containment plan (if required); and
- an evaluation of equipment, including PPE, needed to accomplish the tasks assigned to LATA personnel as discussed in Section 2.9, *Personal Protective Equipment*.

When LATA employees are working at sites operated or managed by others, they will read, understand, and comply with all site H&S plans and training requirements. If conflicts exist between the LATA HSPP and the non-LATA health and safety requirements, the employees will bring the conflict to the attention of the SSO or their LATA project manager. The SSO or manager, in coordination with the ES&H Manager, will advise the employees of the proper resolution. In general, the more stringent plan will apply for LATA employees.

2.3 Health and Safety Training

Complete and comprehensive training is an integral part of LATA's health and safety program. There is a strong relationship between an organization's training programs and its growth, safety record, and employee well-being. Below are several benefits of a robust safety training program.

- Reduces accidents and helps to protect employees from injuries and illness;
- Provides employees with the knowledge and tools to identify hazards and work safely;
- Assists in compliance with OSHA and other regulatory agencies;
- Increases employee job satisfaction, motivation, and morale;
- Helps to manage risk; and
- Contributes to development of a positive organizational culture in which knowledgeable and creative employees are able to provide superior customer service.

All LATA employees involved in work at hazardous sites will be trained as required by 29 CFR 1910.120 and 29 CFR 1926.65. In addition, all PMs and SSOs for projects involving hazardous materials will be trained to safely supervise or manage work at hazardous waste sites. Training will be conducted in accordance with Appendix B, *Training*.

LATA managers will work with the SSOs to develop site-specific training programs for employees that will fulfill regulatory, client, and LATA requirements. Training will be provided which will enable employees to:

- Recognize and understand the potential hazards to health and safety associated with the work;
- Understand the safety programs and procedures at the site, including the SSHASP, PPE, monitoring requirements, and site control measures;
- Implement controls to mitigate hazards; and
- Execute all work safely.

A record of training will be maintained onsite and in a LATA office for the duration of the project. Training records will confirm that each employee assigned to a task has adequate current training for that work. Training records will be submitted to the office administrative assistant, on a regular basis, for retention in the Corporate H&S training file. Records will be maintained, as required by 29 CFR 1904 and as described in Appendix B.

2.4 Reporting Accidents and Incidents

Employees are responsible for reporting all incidents, however minor, to the LATA SSO or ES&H Manager immediately following an incident. When an accident or incident occurs, the SSO will facilitate the following:

- Assure that the employees involved receive immediate medical attention, if necessary;
- Follow procedures in LATA's HS 01-04, *Incident Reporting*;
- Verbally notify the HSR, ES&H Manager, or HR Department on the day of the incident;
- Assure that all reporting procedures are followed including the completion of an Incident Report within 48 hours (Form 4.1-1 from LATA's *Incident Reporting* procedure or OSHA Form 301, *Injury and Illness Incident Report* may be used);
- Notify the ES&H Manager of any resulting lost work days and the follow-up condition of the employee's work status as soon as practical.

In the event of a serious injury that might affect a worker's ability to perform their job, a written release from a physician must be provided to the ES&H or Project Manager prior to returning to work. The release must include any limitations or restrictions involving the employee's ability to work.

The ES&H Manager must document planned and implemented corrective actions and is responsible for reviewing and approving the adequacy of any actions taken to correct the situation that led to the incident. The ES&H Manager will also ensure that copies of all documentation of the incident generated by the client or other organizations (e.g., hospitals, ambulance) are obtained for the corporate health and safety files.

Individuals working under a SSHASP need to implement the reporting requirements of that plan as well as those requirements described above.

2.5 Fire Safety

LATA employees are required to follow fire safety procedures at all times (see Appendix C, *Fire Safety*). Work areas must be kept uncluttered and free of accumulations of flammable materials. Work with open flames or work that has the potential to start fires should only be conducted in areas approved for such activities. Appropriate SOPs or AHAs shall be prepared for work involving fire risk.

In general, LATA personnel will not be expected to fight a fire. For those fires that are small and do not involve building structure(s), limited response may be taken by personnel trained in the proper use of portable fire extinguishers. If a fire is encountered, alert others in the area that may be affected by the fire, leave the area immediately, and contact the appropriate authorities to inform them of the fire.

2.6 Emergency Procedures

Preparations shall be made at all LATA locations for response to emergencies. In the event of an emergency (such as toxic chemical release or fire) the procedures in Appendix D, *Emergency Procedures*, will be followed. Site-specific emergency procedures, such as evacuation, will be detailed in the SSHASP. LATA personnel will also participate in fire drills and follow evacuation plans established for their respective locations.

2.7 Medical Surveillance

LATA has developed a comprehensive Medical Surveillance Program Plan (MSPP) based on the specific needs, locations, and potential exposures of its employees. All occupational medical monitoring examinations and procedures will be performed by a physician who is board-certified in occupational medicine or by a medical doctor who has had extensive experience providing occupational health services.

The MSPP applies to LATA employees who perform tasks that may expose them to potential hazards, including toxic chemicals, safety and biological hazards, and physical agents such as noise, heat/cold stress and ionizing/non-ionizing radiation. The medical program is essential for assessing and monitoring employee health, both prior to placement and during the course of work; for providing emergency and other treatment as needed; and for keeping accurate records for future reference. This comprehensive medical surveillance program is designed to comply with 29 CFR 1910.120(f), 29 CFR 1910.95, and 29 CFR 1926.65(f) of the OSHA regulations.

The MSPP includes monitoring for six groups of employees:

- Employees who are, or may be, exposed to hazardous substances or health hazards above the OSHA Permissible Exposure Limits (PELs) or other published exposure levels for these substances. This applies to exposures of 30 or more days per year, except for those substances covered by chemical-specific standards;
- Employees who wear a respirator during the performance of work;
- Employees who may be required to participate in an organized HAZMAT team;
- Employees who are or may be exposed to ionizing radiation and/or who wear a thermoluminescent detector (TLD);
- Employees who are injured or became ill as a result of overexposure to hazardous substances during site work; and
- Employees who show symptoms of illness that may have resulted from workplace exposure to hazardous substances or conditions.

2.8 Hazard Communication

Chemicals pose a wide range of health hazards (such as irritation, sensitization, and carcinogenicity) and physical hazards (such as flammability, corrosion, and reactivity). OSHA's Hazard Communication Standard (29 CFR 1910.1200) is designed to ensure that information

about these hazards and associated protective measures is disseminated. This is accomplished by requiring chemical manufacturers and importers to evaluate the hazards of the chemicals they produce or import, and to provide information about them through labels on shipped containers and more detailed information sheets called Safety Data Sheets (SDSs). All employers who use hazardous chemicals in their workplaces must prepare and implement a written hazard communication program.

The LATA *Hazard Communication Program Plan* (HCPP) covers the use of materials by employees to accomplish work related tasks. The HCPP provides the requirements for the use of hazardous materials by employees at all work locations except for chemical laboratories. Sites where LATA personnel work in a laboratory must be covered by a Chemical Hygiene Plan that incorporates aspects of chemical laboratory safety as required by OSHA. Refer to the HCPP for more details on the specific requirements of the Hazard Communication Standard.

2.9 Personal Protective Equipment

The safe and effective use of personal protective equipment (PPE) can help to mitigate hazards and protect employees in potentially hazardous work areas. Appendix E, *Personal Protective Equipment*, provides the requirements for the use of PPE by employees. Additional PPE requirements are described in the following LATA documents: *Respiratory Protection Program Plan*, and *Hearing Conservation Program Plan*. The purpose of PPE is to shield, isolate, or secure individuals from hazards that may be encountered when hazard control techniques are not feasible or cannot provide adequate protection. Accordingly, before the use of PPE, appropriate engineering and administrative controls (such as elimination, ventilation, shielding or work practice controls) shall be implemented as the first means of defense for mitigating hazards and protecting site personnel.

In accordance with applicable OSHA regulations (29 CFR 1910, Subpart I and 29 CFR 1926, Subpart E), personnel shall not be allowed to use PPE unless the hazards for which the PPE are intended to protect against have been assessed and the appropriate PPE has been specified by a qualified safety professional; typically the SSO, HSR, or ES&H Manager.

2.10 Confined Space Entry

Confined spaces have the potential to contain unusually high concentrations of contaminants, explosive atmospheres, limited visibility, restricted egress, and restricted movement. The requirements for confined space entry by LATA employees are described in Appendix F, *Confined Space Entry*. Only properly trained and qualified personnel are allowed to enter confined spaces. LATA employees whose jobs require entry into confined spaces must be familiar with and comply with either the requirements in Appendix F or site-specific requirements, whichever are more stringent.

All work in confined spaces must be evaluated by the ES&H Manager to determine if a confined space entry permit is required to conduct the work.

2.11 Electrical Safety

Electricity has long been recognized as a serious workplace hazard that has the potential for extreme consequences. Appendix G, *Electrical Safety*, provides the requirements for work with electrical equipment by LATA employees. Only properly trained and qualified LATA personnel are allowed to work on electrical equipment. LATA employees whose jobs require the repair or installation of electrical equipment must be familiar with and comply with the requirements in Appendix G and, if they are working on sites controlled by others, with the appropriate electrical safety procedures for the particular site. All electrical work must be in compliance with 29 CFR 1910 Subpart S and 29 CFR 1926 Subpart K.

2.12 Lockout/Tagout Program

Accidents involving energized equipment are common and have the potential to cause serious injuries and death. The procedures in Appendix H, *Lockout/Tagout* (LO/TO), are designed to protect employees from unintended machine motion or release of energy which could cause injuries to employees working in, on, and around equipment. Only properly trained and qualified LATA employees are allowed to conduct work activities that involve LO/TO. LATA employees whose jobs require them to work on, in, or around potentially hazardous energized machinery must be familiar with and comply with the requirements in Appendix H and, if they are working on sites controlled by others, with the appropriate LO/TO procedures for the particular site. All LO/TO work must be in compliance with 29 CFR 1910.146 and 29 CFR 1926.417.

2.13 Radiological Protection

At certain sites, the potential exists for LATA employees to work around radiological materials that can result in exposures which may produce adverse acute or chronic health effects. Sources of radiation exposure fall into two categories: non-ionizing (e.g., laser, microwave, radar, and ultraviolet radiation) and ionizing (e.g., alpha, beta, gamma, neutron, and X-ray radiation). Minimizing radiological exposure is a primary concern at any site that has radiation sources. Appendix I, *Radiological Protection*, provides LATA's requirements for work at sites where such exposure may occur.

Radiological safety methods and procedures shall be appropriate for the type of work being performed as specified by the SSHASP or the Radiation Work Permit. Training requirements for work at Department of Energy (DOE) sites shall conform to 10 CFR 835. For work within the DOE Complex, additional training requirements may also be required.

2.14 Bloodborne Pathogens

Typical work conducted by LATA employees does not involve the risk of occupational exposure to bloodborne pathogens (BBPs). Most instances where LATA employees could be exposed to blood and other infectious materials involve voluntarily providing first aid to a co-worker. Refer to Appendix J, *Bloodborne Pathogens* for guidance on eliminating or minimizing exposure to BBPs.

2.15 Ergonomics

Ergonomic injuries are common in both field and office environments and account for a substantial percentage of work related injuries. LATA strives to protect its employees from ergonomic injuries through evaluation of the activities conducted in the workplace to determine the potential impact of each activity. Supervisors and managers must evaluate the activities under their responsibility for ergonomic issues. Each employee must also evaluate the potential for injury or illness related to the activities that they perform on the job. Any concerns should be brought to the attention of the HSR or ES&H Manager for resolution.

3.0 ACRONYMS

Acronym	Full Title or Phrase
AHA	Activity Hazard Analysis
BBP	Bloodborne Pathogens
DOE	Department of Energy
EMSD	Environmental Management System Description
ES&H	Environmental Safety and Health
HCPP	Hazard Communication Program Plan
H&S	Health and Safety
HSAA	Health and Safety Administrative Assistant
HSPP	Health and Safety Program Plan
HSR	Health and Safety Representative
LO/TO	Lockout/Tagout
LANL	Los Alamos National Laboratory
MSPP	Medical Surveillance Program Plan
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
PM	Project Manager
QMSD	Quality Management System Description
RPP	Respiratory Protection Plan
SDS	Safety Data Sheet
SOP	Standard Operating Procedures
SSHASP	Site Specific Health and Safety Plan
SSO	Site Safety Officer
TLD	Thermoluminescent Detector
TWA	Time Weighted Average

Appendix B
LATA Integrated Safety Management System Description Document

Los Alamos Technical Associates, Inc.

INTEGRATED SAFETY MANAGEMENT SYSTEM DESCRIPTION DOCUMENT

Approved by:

[redacted] 7-28-03

Corporate Manager Environment, Safety and Health **Date**

July 2003
(Revision 1)

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I INTRODUCTION

Los Alamos Technical Associates (LATA) views the health and safety of its employees, consultants, subcontractors, and the public to be of primary importance in its field operations, laboratories, and offices (sites). This principle is exemplified by LATA's Integrated Safety Management System (ISMS). All LATA employees are expected to work safely and efficiently to effectively implement ISMS. This ISMS description document is designed to be provided to and used by all LATA employees who are responsible for the planning and safe accomplishment of work at all LATA sites.

ISMS is based on the philosophies, principles, and requirements of the Department of Energy (DOE) Safety Management System Policy (DOE P 450.4), Defense Nuclear Facilities Safety Board (DNFSB) Recommendations 95-2 and 98-1, DOE Acquisition Regulation (DEAR) clause 970.5204-2, and LATA's corporate Health and Safety Program Plan.

The DEAR clause states in part "… The contractor shall manage and perform work in accordance with a documented Safety Management System (System) that fulfills all conditions in paragraph (b) of this clause at a minimum." Paragraph (b) states in part "… The contractor shall perform work safely, in a manner that ensures adequate protection for employees, the public, and the environment, and shall be accountable for the safe performance of work."

This ISMS Plan is based on the five core functions and seven guiding principles described in DOE P 450.4. It also outlines an eighth guiding principle, Worker Involvement, which is an integral part of LATA's ISMS.

A. Purpose

Integrated Safety Management is the integration of safety into management – the management of projects and activities and the safe performance of work. Safety must be an integral part of the definition, planning, design, analyses, and execution of work from beginning to end. Safety must be the driving factor in the minds of people as they engage in actions that result in work being accomplished.

B. Scope

LATA provides a variety of services for many different clients at numerous sites. The scope of this description document is to communicate the LATA ISMS in sufficient detail to provide all LATA employees with the information they need to conduct their work safely on a day-to-day basis, in a manner tailored to the risk associated with their work environment. LATA works primarily at DOE and Department of Defense (DOD) facilities as a subcontractor or tenant. Therefore, LATA works in accordance with the respective department or contractor Health and Safety Programs and Safety Management Systems. However, LATA does take a proactive view of safety management and therefore takes the initiative to review the adequacy of those programs in protecting LATA and its subcontractor personnel. At a minimum this includes:

- review of safety documents and verification of their implementation,

- review of LATA personnel qualifications relative to program requirements,
- ensuring that LATA personnel receive all necessary medical surveillance to meet program requirements and ensure worker protection,
- appropriate interaction with facility and site health and safety (H&S) personnel,
- at least an annual review of LATA's program safety performance,
- conducting spot announced and unannounced site-visits,
- periodic interaction with project/site managers to check on the effectiveness of regular safety meetings/briefings and to evaluate program success and problems, and
- periodic interaction with field personnel to evaluate program success and problems.

This ISMS description document is not designed to replace the Safety Management Systems of our clients or customers, but should be integrated with other Safety Management Systems to enhance the overall safety of LATA employees. The LATA ISMS is to be used as guidance for the planning and safe accomplishment of projects and activities at all LATA sites including hazard reduction efforts, remediation, maintenance, engineering, research & development, experiments, construction, de-activation, decommissioning, and any other projects or activities that pose a potential hazard to the worker, the public, and the environment.

C. ISMS Roles and Responsibilities

While it is the responsibility of all employees to cooperate in observing safety rules and in using safety equipment as required, it is the responsibility of LATA management to lead by example and implement the safety programs and procedures necessary to protect the physical welfare of each employee. Safety encompasses all aspects of environment, safety and health including waste minimization and pollution prevention. In accordance with the instructions provided in Attachment A, each LATA employee shall address or report any unsafe condition, at risk behavior or an environmental or quality deficiency that requires a stop work action.

LATA is organized to satisfy the Guiding Principle that Line Management is responsible for safety. Unambiguous lines of responsibility across LATA are paramount to effective safety management. However, LATA understands that in order for the work to be performed safely, all aspects of line management must focus on providing the worker will the proper tools, training and equipment. LATA's workers are the backbone to an effective ISMS culture. To emphasize the critical importance of the work force and worker involvement, an inverted organization chart (Figure 1) has been developed.

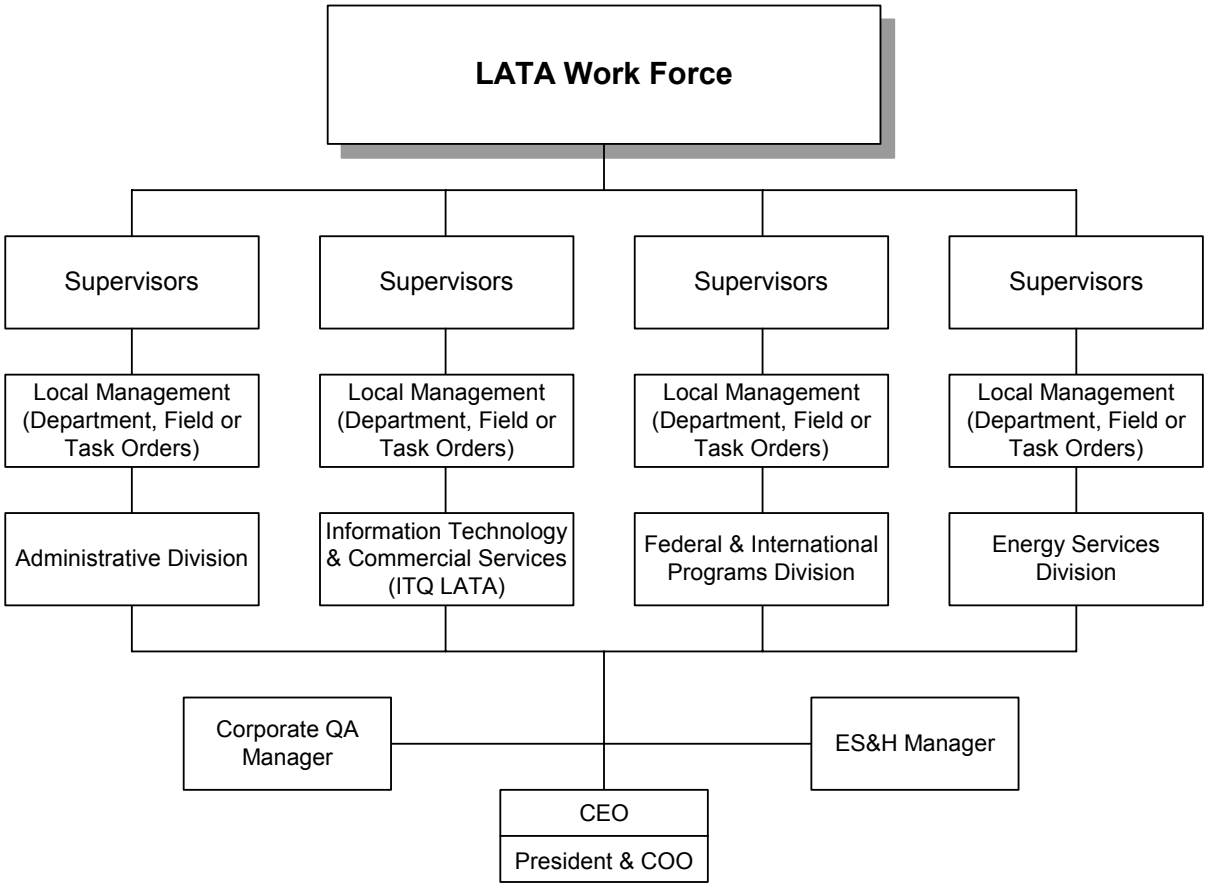

Figure I. LATA Inverted Oganization Structure

President. The President has overall responsibility for the development and implementation of the Safety Management System.

ES&H and QA Managers. The Corporate ES&H and QA managers are responsible for ensuring the company standards are established and implemented to meet company objectives and customer expectations for executing work in a safe, proper, and efficient manner. They are accountable for:

- Defining company standards for safety, environmental protection, quality, and efficiency
- Ensuring division and department managers understand their role in implementing these standards as an integral part of meeting company objectives and customer expectations
- Routinely communicating with division and department managers in all areas of the company activities to identify barriers to successful application of work execution standards that meet company objectives and customer expectations
- Taking corrective actions to remove these barriers
- Initiating, communicating, and implementing changes in company standards as necessary to continually improve achievement of company objectives and customer expectations

- Providing all employees a work environment that encourages feedback and continuous improvement.

Managers (Division, Department, Office, Field or Task Order). Division, Department, Office, Field or Task Order Managers are responsible for ISMS implementation and ensuring that the work environments created by supervisors are producing results that support and advance company and customer objectives. These managers are accountable for:

- Implementing established company standards for safety, environmental protection, quality, and efficiency
- Ensuring lower-tier managers, supervisors and workers understand their expected role in the implementation of these standards
- Routinely communicating with lower-tier managers, supervisors and workers in all areas of the company in order to identify barriers to successful application of work execution standards that meet company objectives and customer expectations
- Taking corrective actions to remove these barriers
- Measuring and monitoring work results to assess the effectiveness of company standards implementation in achieving anticipated results
- Providing all employees a work environment that encourages feedback and continuous improvement.

Supervisors. Supervisors are responsible for managing the environment in which workers perform work. They are accountable for:

- Identifying the work scope and briefing the employees
- Implementing established company standards for safety, environmental protection, quality, and efficiency
- Ensuring workers understand their expected role in the implementation of these standards
- Routinely communicating with workers and providing them the opportunity to identify barriers to achieving these standards
- Taking corrective actions to remove these barriers
- Performing field observations to independently assess the implementation of these standards
- Providing all employees a work environment that encourages feedback and continuous improvement.

Workers. Workers are responsible for performing work in a safe, proper, and efficient manner. They are accountable for:

- Understanding established company standards for safety, environmental protection, quality, and efficiency
- Identifying conditions that impede implementation of these standards
- Initiating actions to correct these conditions, including stopping work, if necessary
- Identifying changes to the work environment that potentially may affect the safety and risk to themselves and to co-workers
- Providing feedback to supervisors and management to ensure continuous improvement of the work process.

II ISMS CORE FUNCTIONS & GUIDING PRINCIPLES

Section II describes the five core functions and eight guiding principles necessary for implementation of the LATA ISMS.

A. Core Functions

These five core safety management functions provide the necessary structure for any work activity that could potentially affect the public, the workers, and the environment. The functions are applied as a continuous cycle with the degree of rigor appropriate to address the type of work activity and the hazards involved. Figure 2 illustrates the core functions in a continuous cycle.

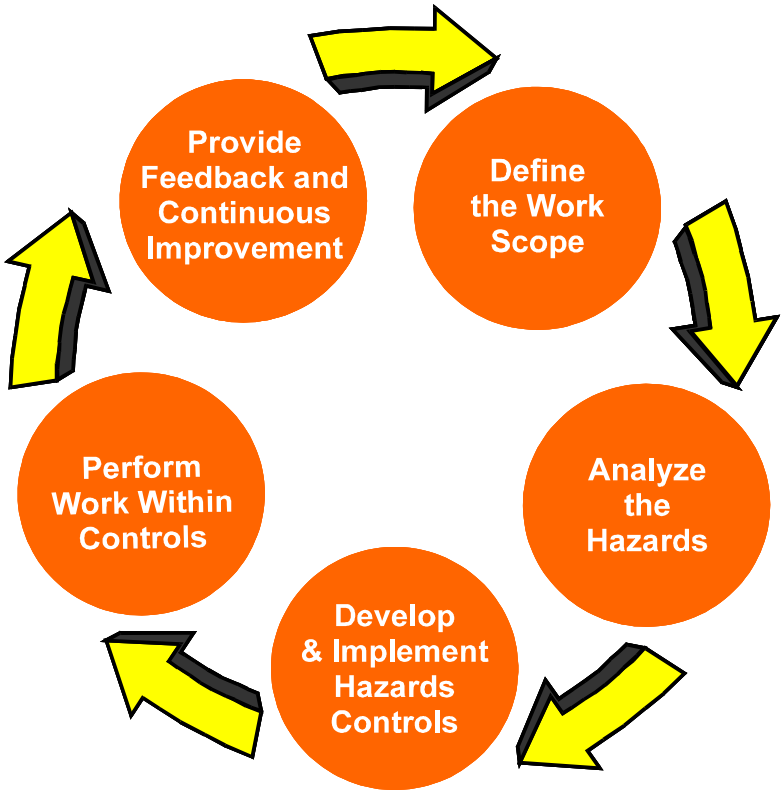

Figure 2, ISMS Core Functions

1. **Define the Scope of Work.** Missions are translated into work, expectations are set, tasks are identified and prioritized, and resources are allocated. The work scope is defined sufficiently to allow identification of the hazards associated with the work.

2. **Analyze the Hazards.** Hazards associated with the work are identified, analyzed, and categorized. The activity has been developed in enough detail that the hazards are known and well understood. Analyses graded to the complexity or uncertainty of the hazard scenarios have been performed, where required. The results of the analyses are adequate to develop controls

to prevent or mitigate the hazards.

3. **Develop and Implement the Controls.** Applicable standards and requirements are identified and agreed upon, controls to prevent/mitigate hazards are identified, the safety envelope is established, and controls are implemented. The controls are developed and graded to the consequence of each hazard so that the public, the environment, the co-located worker, and the immediate worker are protected from the hazard. Where the formality of a control set requires approval by the customer, that approval has been obtained.

4. **Perform Work Within the Controls.** Readiness is confirmed just before work starts, and work is performed safely and efficiently. If and when unplanned events occur or unanticipated conditions arise, the work force and supervision deal with them safely and in a careful, controlled manner. LATA employees have been given "STOP WORK" authority (see Attachment A).

5. **Provide Feedback and Continuous Improvement.** Feedback information on the adequacy of work controls and safety environment is gathered, opportunities for improving the definition and planning of work are identified and implemented. By whatever method it is acquired, feedback provides information that is then used to improve the work processes and validates the parts that work well. Individuals generating feedback are able to see positive changes that result from their feedback through a variety of mechanisms.

B. Guiding Principles

The guiding principles are the fundamental policies that guide actions from development of safety directives to performance of work. LATA has added an eighth guiding principle, in addition to those outlined in DOE P 450.4. This eighth guiding principle, Worker Involvement, is imperative to the effective implementation of ISMS.

1. **Line Management Responsibility for Safety.** Line management is directly responsible for the protection of the public, the workers, and the environment and committed to the implementation and sustained execution of all elements of the system.

2. **Clear Roles and Responsibilities.** Clear and unambiguous lines of authority and responsibility for ensuring safety is established and maintained at all organizational and divisional levels.

3. **Competence Commensurate with Responsibilities.** Personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities safely.

4. **Balanced Priorities.** Resources are effectively allocated to address safety, programmatic, and operational considerations. Protecting the public, the workers, and the environment is a priority whenever activities are planned and executed.

5. **Identification of Safety Standards and Requirements.** Before work is performed, the associated hazards are evaluated, and standards and requirements are established that, when properly implemented, provide adequate assurance that the public, the workers, and the environment are protected from adverse consequences.

6. **Hazard Controls Tailored to Work Being Performed.** Administrative and engineering controls to prevent and mitigate hazards are integrated and tailored to the work and associated hazards.

7. **Operations Authorization.** The conditions and requirements to be satisfied for operations to be initiated and conducted are clearly established and agreed upon.

8. **Worker Involvement.** Execution is focused where work is performed. Line management direction and ownership, worker input and support, and effective processes must be present to ensure success of the ISMS.

C. Roll-Down Requirements

The ISMS infrastructure includes company-level ESH&QA programs that have existed for many years. This ISMS description document serves to integrate existing LATA policies and procedures with customer expectations and requirements. The ISMS focuses on integrating the programs using the line manager as the focal point through which all work activity is planned and authorized. The integration of the ESH&QA programs with the work planning process exists at the core of the ISMS implementation of a compliant management program.

Programmatic requirements flow down from DOE, DOD and Contractor requirements and regulations and from applicable industry standards. Company level programs that implement these requirements are institutionalized through company level procedures. Figure 3 depicts this flow-down of standards and requirements into company level implementing procedures. These procedures and policies define the roles and responsibilities for implementing the ESH&QA program requirements, with a strong focus on the responsibilities of line management for program performance.

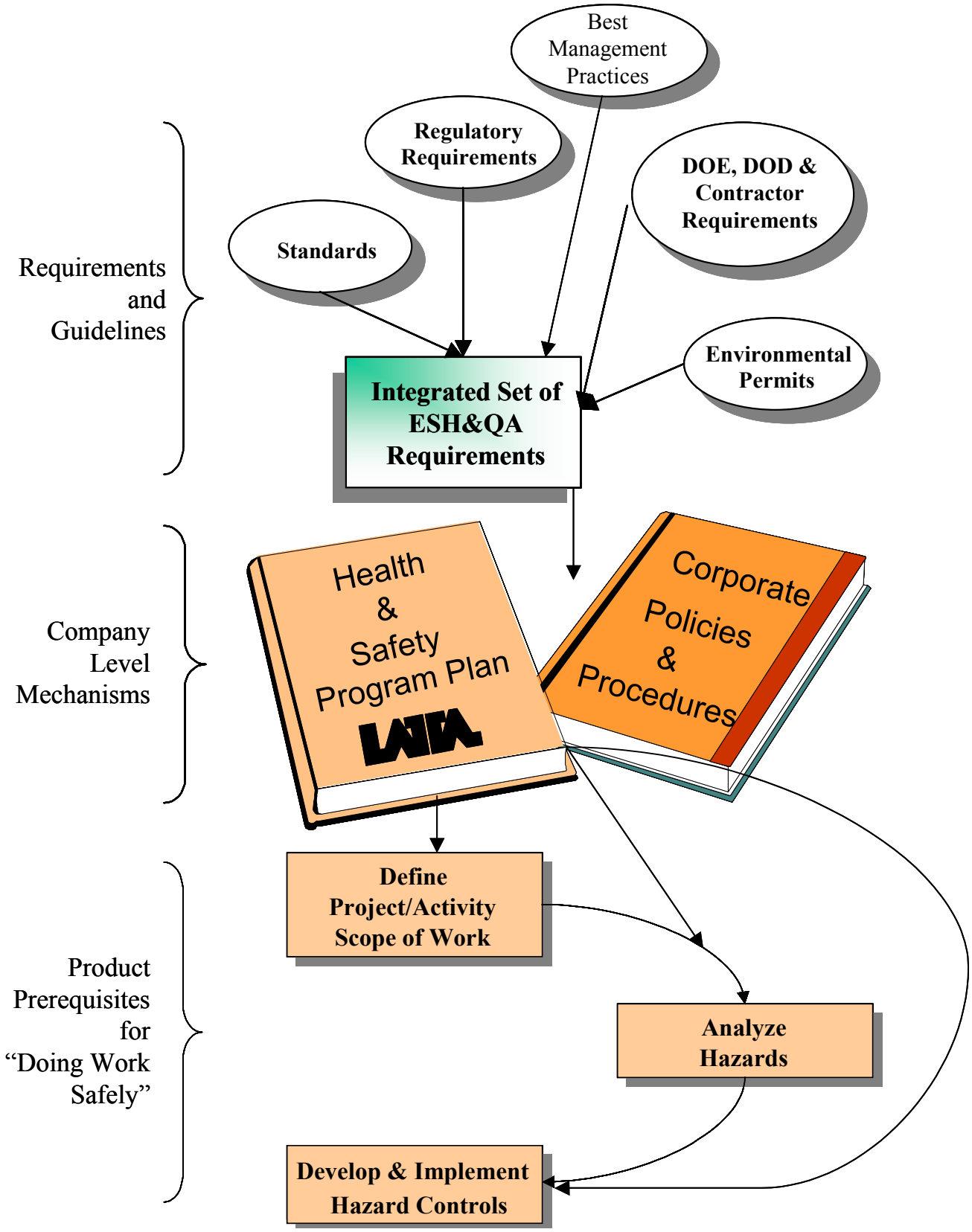

Figure 3, Flow-Down of Requirements

ATTACHMENT A

STOP WORK AUTHORITY INSTRUCTIONS

I. Purpose

To establish a process for stopping work and its subsequent restart whenever an unsafe condition, at risk behavior, or an environmental or quality deficiency is noted which warrants stop work action.

II. Scope

The "Stop Work Authority" applies to all LATA employees and subcontract employees. Every employee has the obligation to recognize hazards and unsafe conditions and is authorized by this procedure to stop work when necessary.

III. Instructions

A. **All Employees and Line Management.** Honor a stop work declaration by an employee and perform the necessary recovery steps prior to resumption of work.

B. **Employee.** Address or report any unsafe condition, at risk behavior or an environmental or quality deficiency that requires stop work action.

1. Determine whether an unsafe condition, at risk behavior, or an environmental or quality deficiency is readily fixable and within the employee's work scope and authorization.

2. If the situation is within your work scope and authorization, perform the following steps:

   a) Immediately stop your work and inform other workers in the area who may be affected by the situation to also stop work.

   b) Inform the other workers to the reason for the work stoppage.

   c) If a continuing hazard exists, clear personnel from the area and post personnel to watch for and warn others not to enter.

   d) Without undue delay, provide a verbal notification to the supervisor or manager of the affected stop work action describing the situation that necessitated the work stoppage.

   e) Ensure that the situation causing the work stoppage is corrected in accordance with relevant governing policies and procedures, and concurrence from the work supervisor.

   f) When the situation has been corrected, and at the work supervisors' instruction, notify personnel involved that work may resume.

ATTACHMENT A

STOP WORK AUTHORITY INSTRUCTIONS

3. If an unsafe condition would result in an undesirable situation, at risk behavior, or an environmental or quality deficiency, and is NOT within your work scope and authorization, do the following:

   a) Notify workers and the person in charge of the work who are or may be affected by the situation to stop work.

   b) Inform the workers of the reason for the work stoppage.

   c) If a continuing hazard exists, clear personnel from the area and post personnel to watch for and warn others not to enter.

   d) Without undue delay, provide a verbal notification to the supervisor or manager of the affected stop work action describing the situation that necessitated the work stoppage.

   e) Request that the person in charge and the work supervisor take over the situation in accordance with governing policies and procedures. If they accept the responsibility then you are through.

   f) If for any reasons they are unable to correct the situation then stay involved. Ensure that the situation causing the work stoppage is corrected in accordance with relevant governing policies and procedures, and concurrence from the work supervisor.

   g) When the situation has been corrected, and at the work supervisors' instruction, notify personnel involved that work may resume.

Appendix C
Safety and Health and Competent Persons Resumes

[redacted]

PROGRAM MANAGER

Experience Summary:

[redacted] has nearly 25 years' project management and business operations leadership experience in environmental management, nuclear engineering, utilities and energy, public sector, and public affairs industry sectors. She has been responsible for budgets up to $1.2 billion and organizations of up to 800 employees. [redacted] is currently LATA' Vice President and General Manager of LATA subsidiary LSRS. She is providing oversight and key leadership and mentoring to LSRS and LATA personnel serving our clients to enhance contract performance, integration and overall business management practices. She has oversight of LATA's DOE portfolio, which currently represents over $400M in contract value. She is supporting LATA using her expertise in cost and change control, cash flow projections, funding scenario impact analysis, general government accounting and finance, human resources, and government contracting activities.

Education/Training:

- BBA Management, Kennesaw State University, 1990
- Strong working knowledge of CAS, FAR, GAAP, DOE Order 413.3B
- Expertise in all contract mechanisms including prime contract management and change control
- Project controls and earned value management

Specific Qualifications and Experience Relevant to this Project:

[redacted] was advanced to lead LSRS, a wholly owned subsidiary of LATA with full P&L and business development responsibility. This includes responsibility for all financial and operational management including long-range planning, cost control, strategic business development, and the implementation of project-specific teaming plans. She oversees a portfolio of projects including USACE in multiple districts, Department of Energy and commercial projects across the country.

Prior to her current role, [redacted] was also responsible for providing strategic business solutions for contracts including serving in concurrent roles as Business Manager for both the Portsmouth Environmental Remediation and the Uranium Disposition Services contracts. As Business Manager, [redacted] directed business management and operations including financial, accounting, project controls, change control, contracts, procurement, human resources, public affairs, public relations, records management, information technology, training, and legal. [redacted] was responsible for overseeing milestone development for $118M in ARRA funding, ensuring compliance with operational and capital programs and orders. She managed the development of Spend Plan scenarios, strategic staffing, proposals, REAs and overall prime contract management.

Her responsibilities included (1) providing leadership to the business operations staff, including the project controls group consisting of one manager and five project control engineers to ensure schedule and cost compliance, (2) analyzing cost control account performance and providing recommendations to project managers, (3) managing the monthly project and variance reporting process, (4) and performing cost estimating and new work scope budget preparation.

Following contract award at Portsmouth, she served on the contract transition team where she developed and led implementation of a customized plan which transitioned 256 employees to LATA in less than 60 days. Following contract start, she established compliant processes and procedures for project controls, and led the development of an integrated site-wide baseline and project baseline. In addition, under Ms. Kobel's leadership, the project achieved EVMS certification.

[redacted]

PROJECT MANAGER

Experience Summary:

[redacted] has more than 30 years of experience in construction with expertise in demolition, decontamination, welded piping installation, excavation, grading, mixed waste tank closure, utility construction, sheeting and shoring, jacking and boring, tunneling, drill rig operation and well installation and blasting. He has over 23 years of hazardous, toxic and radioactive waste site removal action experience including time critical removal actions requiring soil remediation, underground and above ground storage tank removal, demolition of radiological contaminated buildings and groundwater treatment system construction.

Education/Training:

- USACE Construction Quality Management for Contractors
- 40 Hour HAZWOPER w/refreshers
- 8 Hour OSHA 1910-120 Supervisor Training
- 30 Hour OSHA Construction Health and Safety
- CPR and First Aid Certified
- Confined Space Entry Certified
- Factory Certified HDPE Fusion Welding Equipment
- Excavation Competent Person
- Hoisting & Rigging Qualified Person

Specific Qualifications and Experience Relevant to this Project:

[redacted] has over three decades of experience as a Site Superintendent on large scale construction remediation projects conducted on USACE, DOE, and commercial CERCLA sites. He has over 23 years of experience including soil remediation, soil excavation, underground and above ground storage tank removal, demolition of radiologically contaminated buildings, treatment system construction, grading, utility construction, sheeting and shoring, jacking and boring, tunneling, drill rig operation, well installation and blasting. [redacted] has selected, calibrated and used field screening instrumentation to evaluate jobsite hazards, efficiently execute work, and segregate wastes for cost-effective disposal. He has developed and executed AAP/SSHPs in accordance with USACE and OSHA regulations, policies and procedures. He has extensive experience working with and supervising craft labor work forces and is respected by team members in all levels of the organization.

[redacted] was the Senior Site Superintendent/Project Manager for the removal of a former Wastewater Treatment Plant at the Lake Ontario Ordnance Works (LOOW) site for the USACE, Buffalo District. Activities included preparation of work plans for USACE approval; mobilization, demobilization, site setup, clearing/grubbing; demolition; excavation, backfill; continuous industrial hygiene and health physics support; and transportation and disposal/recycling of debris. [redacted] supervised the demolition of deteriorated structures, foundations, steel railings, and wooden tanks; backfilled excavations; and disposed of demolition debris and water. He also oversaw the sampling and analysis for a full suite of radiological and chemical parameters for characterization and disposal. [redacted]. [redacted] oversaw air monitoring, radiological monitoring, and gamma radiation walkover surveys to verify the presence/absence of radioactive contaminants throughout project activities.

[redacted] also served as the Lead Site Superintendent/ Project Manager for the $27M final closure of the RMI Uranium Extrusion Plant site at Ashtabula, Ohio. Major scope items included completing demolition and contaminated soils removal at this 32-acre site. He supervised the field effort for the precise excavation of more than 500 CY of radiologically-contaminated soils from a grid-sectioned area encompassing a drainage swale on a steep hill side. He supervised the resizing of the material for shipment and acceptance at the Envirocare facility in UT. This project was regulated by CERCLA closure procedures and required detailed safety planning to address work at elevated heights.

[redacted] CONTRACTOR QUALITY CONTROL SYSTEM MANAGER

Experience Summary:

[redacted] is an experienced Quality Assurance and work control professional with 20 years of field and office experience in the execution of nuclear, environmental, and industrial projects at government regulated facilities. Experience includes implementation of quality systems, direct field oversight of projects, procedure/plan development, inspection, training, assessment performance, verification of project readiness, reporting, and interfacing with project management. As a Quality Assurance professional, [redacted] has successfully implemented Quality Assurance Programs for various regulators including USACE, DOE, Nuclear Regulatory Commission, and USEPA.

[redacted] currently heads the LATA corporate Quality Assurance group. He is responsible for implementing and maintaining the corporate quality management system which is based on national standards. He recently completed development of the Construction Quality Management Plan (CQMP) for the Naval Facilities Engineering Command Southwest (NAVFAC SW) environmental remediation project. He also has written and is involved in the development of environmental and engineering standard operating procedures for LATA. [redacted] provides Independent Assessment support to LATA projects and provides written reports to management.

Education/Training:

- B.S., Environmental Management
- USACE Construction Quality Management for Contractors
- Certified Quality Auditor, American Society for Quality
- ASME NQA-1, Lead Auditor
- RCRA Hazardous Waste Regulations
- 40 hour HAZWOPER with current refreshers
- US Naval Nuclear Propulsion Program, 1991
- DOE Certified Radiological Worker II

Specific Qualifications and Experience Relevant to this Project:

[redacted] is the QA/QC Manager for the environmental remediation activities at 77 sites on 6 Air Force Bases. He is responsible for ensuring the overall project quality, specifically the outgoing project plans and reports, and ensuring each project deliverable meets the quality standards established in the LATA corporate quality program and in the contract. The QA/QC Manager coordinates with the technical members of the project team to evaluate status, procedures, and non-conformances from a quality program standpoint. The QA/QC Manager gathers and coordinates corporate resources and references in the areas of quality improvement, corrective action control, and quality systems auditing for the project. [redacted] serves as primary contact for project quality matters and actively identifies and responds to QA/QC needs, resolves problems, and answers requests for guidance or assistance.

[redacted] managed and implemented work quality control programs for the Portsmouth Remediation Project including environmental remediation, D&D, and environmental systems operations contract for LATA for four years. He reviewed work plans, developed quality control documents, inspected sites, oversaw work activities for quality control of a broad range of site activities. The remedial actions included: hazardous and radiological waste characterization and management; groundwater treatment; building D&D; transportation of waste; remedial investigations and studies; monitoring well installation and sampling; facility surveillance and monitoring; environmental data collection, management and interpretation; ground-water modeling; air monitoring; NPDES monitoring; engineering and design; well abandonment; facility operation and maintenance; short and long-term monitoring and remedial action plans/actions. He provided QC inspections and oversight of LATA and subcontractor personnel in their compliance with QC plans and work procedures.

[redacted] **HEALTH & SAFETY MANAGER**

Experience Summary:

[redacted] has 24 years of experience working in progressively challenging safety positions in the HTRW remediation and construction fields. This expertise is enhanced by 14 years of experience working and managing crews in the HTRW remediation industry. He also has a strong background in chemistry and industrial hygiene, including selection and use of air monitoring instruments, air sampling methods, PPE and development and implementation of respiratory protection programs. He has significant experience providing ES&H oversight and direction on federal government environmental remediation projects. He is currently providing safety and health support to LATA's $400M fence-to-fence environmental remediation project at the Paducah Gaseous Diffusion Site. The Paducah Scope includes soil and groundwater remediation as well as contaminated facility D&D with radiological, chemical and beryllium as contaminants of concern.

Education/Training:

- B.S., Wright State University, Environmental Science, 2001
- Certified Safety Professional
- Hazardous Waste Site Safety Officer
- 40-Hour HAZWOPER w/current refreshers
- OSHA 10 and 30-hour Construction
- USEPA AHERA Asbestos Certification for Bldg Inspector Mgmt Planner
- USEPA AHERA Asbestos Certification for Supervisor/Contractor
- Radiological Worker II
- Confined Space Entry Supervisor
- Hoisting and Rigging
- Excavation Competent Person
- Gas Cylinder Specialist
- First Aid/CPR
- OSHA Beryllium and Cadmium Hazards Training
- Capabilities and Limitations of the Technologies Commonly Used in Portable Gas Detectors

Specific Qualifications and Experience Relevant to this Project:

[redacted] was the Site Safety and Health Officer for the K-33 Project which encompassed D&D of a former gaseous diffusion uranium enrichment facility. The project was guided by CERCLA for building demolition and RCRA for slab and soil removal. With a 32-acre footprint encompassing 2.8M ft2 of floor space, precision building deconstruction in carefully planned sequences was enabled by detailed safety planning and structural analyses. [redacted] developed the safety and health Plans and SOPs for the project scope which included characterizing radioactive and hazardous waste materials; transporting, treating, and disposing of radioactive and hazardous materials; radiological field operations; and identifying and mitigating safety risks to the safe execution of D&D. He established a productive, safety-driven work culture that facilitated successfully completing the project with zero lost time accidents, no violations of waste facility acceptance criteria and no off-site environmental releases or non-compliances.

At the Portsmouth Remediation Project, [redacted] monitored contractor integrated safety, QA, radiation protection, and nuclear safety programs and performed project surveillances, walk-downs, and worker health and safety analyses. As Health and Safety Manager, [redacted] played a key role in the planning and implementation of X-701B TCE remediation project - beryllium, a groundwater treatment project requiring soils excavation to depths of 30 feet.

[redacted] was the Site Health and Safety Officer for the Ashtabula Closure Project which included remediation of radiologically-contaminated soils and groundwater requiring precise, large-scale construction/excavation, groundwater and surface water management, and waste management and shipping. It also involved extensive interface with Federal, State and local regulatory agencies.

[redacted]

SITE SUPERINTENDENT

Experience Summary:

[redacted] has 38 years of total site experience with emphasis in heavy civil and concrete construction, installation of leachate collection systems, installation of sheet pile and shoring systems, building demolition, radiological D&D, waste packaging, soils excavation, construction surveying, solid waste landfill construction, UST removal / remediation, and heavy equipment operation. He has been responsible for supervision and quality control for diverse projects involving specialized excavations for the remediation of petroleum-contaminated soils and other types of hazardous, non-hazardous, and radioactive materials and has served as emergency response team member. He has overseen the packing and preparation of hazardous and radioactive materials for transportation and disposal, the solidification and excavation of more than 7K tons of sludge disposed of at an EPA-approved landfill, and an emergency removal project to excavate and dispose of soils that had been contaminated with gasoline and were close to university campus buildings requiring 24/7 operations. Mr. Richard's experience includes demanding projects with unique quality, health, and safety considerations including the dismantlement and decommissioning of 10 facilities contaminated with Uranium-235 andTechnicium-99 at the Ashtabula Closure Project. He is experienced in the use of field screening instrumentation for radioactive and hazardous materials, in field sampling techniques, and in on-site laboratory operation.

Education/Training:

- USACE Construction Quality Management for Contractors
- Certified UST Installer/Remover
- FEMA ICS 100 Level
- 40-Hour HAZWOPER w/ current refreshers
- OSHA 1910.120 Supervisor Trained
- US DOE Radworker II
- LATA Corporate QC Training
- CPR and First Aid Certified
- Confined Space Entry and Supervisor Certified

Specific Qualifications and Experience Relevant to this Project:

[redacted] was Site Superintendent for the USACE Former LOOW WWTP. The scope primarily included the demolition of deteriorated structures, foundations, steel railings, and wooden tanks; backfilling excavations; and disposing of demolition debris, collected water, and miscellaneous hazardous, radioactive, and asbestos contaminated materials. Additionally, sampling and analysis for a full suite of radiological and chemical parameters was performed to characterize the water and sludge within WWTP structures that were to remain intact.

T&D of radioactive Slag at the Niacet Facility Project included development of work plans, regulatory interface, excavation of subsurface radioactive materials, radiation safety support, T&D of impacted materials and debris. [redacted] supervised field personnel to ensure performance criteria were met and to provide guidance to project personnel responsible for implementation of the approved HASP. This includes the management of field personnel to ensure they were performing their required duties efficiently and safely. He was responsible for investigating health and safety occurrences, working with the Project Manager to identify corrective actions, and making recommendations on policy changes needed to prevent or minimize future occurrences.

[redacted] managed the field activities of the lead environmental contractor, the radiation controls subcontractor and three separate construction contractors at Greenpac Mill Remediation Project. The project included working in strict accordance with the quality assurance plan as well as analysis and maintenance of the project schedule. He oversaw remediation of various source areas over the 10+ acres of radioactive slag/rock sub-base with concentrations of Ra-226 up to approximately 120 pCi/g, total U up to approximately 80 pCi/g, and Th isotopes up to approximately 50 pCi/g.

[redacted]

CERTIFIED HEALTH PHYSICIST

Experience Summary:

[redacted] has more than 30 years of diversified experience in Industrial Hygiene and Health Physics for USACE, DOE and USEPA. Primary practice areas include environmental risk and decision analysis; accident analysis/consequence assessments; radiation protection operations; environmental monitoring and reporting; waste management; and environmental restoration technologies. [redacted] has extensive experience Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) consulting, oil and gas NORM, radiation surveys, geographic information systems, and GPS-based radiation surveys. [redacted] is an active member of both American Board of Health Physics and the American Industrial Hygiene Association serving in a number of capacities for the past 25 years.

Education/Training:

- M.S., Chemistry, Texas A&M 1978
- B.S., Biochemistry, Texas A&M 1975
- Certified Health Physicist
- Certified Industrial Hygienist
- 40-hour HAZWOPER w/ current refreshers
- 8-Hour Supervisor
- Supervisor/Contractor Asbestos

Specific Qualifications and Experience Relevant to this Project:

[redacted] was the Health Physicist for a pathway-by-pathway comparison of the models underlying RESRAD, RESRAD-Build, and D&D computer codes for the NRC. The comparison was published as NUREG/CR-5512, Volume 4. He reviewed eight site decommissioning management plans and assessments and provided recommendations to NRC about whether radioactive materials license termination criteria are satisfied. He provided a comprehensive technical review of two license termination proposals submitted to NRC for properties where metallurgical slag (source material) had been disposed. He developed a screening model for estimating radon dose for a building occupant in support of the Greater Confinement Disposal Performance Assessment.

[redacted] also provided the Health Physicist/Industrial Hygienist assignment for a background study which demonstrated that elevated uranium concentrations in sediments below a waste outfall are naturally occurring. He provided industrial hygiene and safety support for the expedited removal of sludge from radioactive liquid waste from a series of storage tanks at the Los Alamos Neutron Scattering Center. This included writing a Site Specific Health and Safety Plan, a confined space entry procedure, as well as field support.

[redacted] provided program support to the SNL Waste Characterization Team Leader. He worked on obtaining a memorandum of understanding between the NM Environment Department and Waste Management, Inc. that would allow land disposal of non-oil field NORM wastes for their Subtitle D landfills in New Mexico. [redacted] authored a procedure for writing sampling and analysis plans based on SW-846 and MARSSIM guidance. He drafted a position paper on RCRA status of equipment containing circuit boards and performed an analysis of disposal options for tritiated wastewater.

[redacted]

PROJECT CHEMIST

Experience Summary:

[redacted] is a Project Chemist and QA/QC Manager with over 18 years' experience in analytical chemistry and the analysis of environmental samples including organics, inorganics, metals, and radiochemical in a variety of media. [redacted] performs the data QA/QC review and validation of all chemical data for LATA. He works closely with the corporate QA/QC Manager implementing the corporate QA program at the Westerville, OH office. He performs environmental analyses, data review and validation for LATA projects including industrial and military site investigations, assessments and closures. He recommends appropriate analytical methods, appropriate levels of QC sampling, conducts laboratory audits, and reviews data for regulatory compliance including validations using the USEPA National Functional Guidelines as well as the use of Automated Data Review (ADR) software reviews on USACE projects. [redacted] QA/QC experience also includes authoring standard operating procedures (SOPs) as well as QAPPS, QCPs, quality control summary reports for USACE environmental data, and analytical reporting for environmental permitting and environmental impact assessments. His project experience in RCRA and CERCLA includes site RI/FS, RA, long term monitoring, and RCRA permit evaluation. [redacted] also has direct experience with chemical warfare including the chemical analysis of chemical warfare and chemical warfare constituents, including nerve and vesicant agents.

Education/Training:

- B.S., Biology, West Virginia State, 1996
- Agilent 5890 and 6890 FPD/FID GC using Thermo Atlas software
- Agilent Micro GC using EZChrom software
- Varian Micro GC using Cerity software
- DoD Certification in Chemical Personnel Reliability Program
- UFP QAPP

Specific Qualifications and Experience Relevant to this Project:

[redacted] serves as the lead analytical data validator for the Paducah Gaseous Diffusion Site, a radiological contaminated site located in Paducah, Ky. In this role, [redacted] provides an independent review and validation of routine, non-routine, and radiochemical samples for multiple matrices, including but not limited to data generated for soil, water, waste, air and tissue samples for Paducah. [redacted] has also helped to revise Paducah's environmental data validation SOPs for the review and validation of inorganics, organics, and radiochemistry samples.

[redacted] is also responsible for compiling and comparing the analytical data for all field related activities during the life of LATA's projects. He also supervises compiling the final results into report form and performs QA/QC on the final product before it is sent to the client.

Before joining LATA, [redacted] worked on a variety of projects as an analytical chemist with Battelle. His position was directly regulated by the DoD, and involved Homeland Security directed research and development. [redacted] was also responsible for achieving and maintaining a DoD Secret level security clearance, and maintaining status in the Chemical Personnel Reliability Program with the DoD.

While employed with CT&E Environmental Services, [redacted] was directly responsible for maintaining a high sample throughput as well as performing the QA/QC peer review of junior level staff, and authoring and implementing SOPs. For example, as lead analyst for mercury analysis [redacted] was directly responsible for the digestion and analysis of approximately 175,000 samples annually and successfully met a 24 hour turnaround time on 120,000 samples. [redacted] has been recognized on multiple occasions with outstanding performance awards for his ability to maintain a high sample throughput with a decreased turnaround time leading to on time delivery of client data.

Years of Experience: 25

Education & Registrations:	Professional Qualifications:
Chattanooga State Technical CC, AS Nuclear Technology, 1987 40-hour HAZWOPER Training 8-hour HAZWOPER Refresher HAZWOPER Supervisor Training DOE Radiological Control Technician Training Industrial Hygiene Qualified Confined Space Attendant Respiratory Protection Training First-Aid and CPR Training	25 years of remediation field services support including the following USACE FUSRAP Sites: ○ Niagara Falls Storage Site ○ Colonie ○ Luckey ○ Aliquippa ○ Hazelwood Interim Storage Site ○ St. Louis Airport Site & Downtown Site ○ Shpack Landfill

Relevant Professional Experience

Project ES&H/Health Physicist	Environmental Dimensions, inc. 1996 – Present

Responsible for managing and technical support for the U.S. Army Corps of Engineers (USACE) Shpack Formerly Utilized Site Remedial Action Program (FUSRAP) site. The Shpack Landfill Superfund site contains both chemically and radiologically impacted soils, including Special Nuclear Materials (enriched U-235). The intent of this remedial action, conducted as part of the FUSRAP, is to remove the radiologically impacted soils from the site. As Project ES&H/Health Physicist, [redacted] is responsible for all aspects of the project Safety Program and the Radiation Protection Plan, managing a field staff of industrial hygiene/health physics technicians, directing day-to-day operations, interpretation of all radiological data, planning, reports, cost and schedule, and interface with USACE technical staff.

Project Manager/ Field Team Leader	Environmental Dimensions, inc.

Responsible for managing and technical support for the Port Arthur Remedial Investigation/Feasibility Study (RI/FS). As Field Team Leader, [redacted] was responsible for the implementation of all field sampling and analysis plans, cost and schedule, data interpretation and reports, site coordination, and client interface. Also responsible for managing EDi's Maintenance & Operations contract. [redacted] was responsible for waste water treatment plant operations, facility maintenance, piping installation, solid waste management, and management of all subcontractors.

Project Health Physicist	Environmental Dimensions, inc.

Responsible for managing and technical support to ongoing USACE FUSRAP projects across the country. As Project Health Physicist, [redacted] is responsible for hiring and placement of qualified field staff and Health Physics technicians, implementation of project Radiation Protection Plans and Procedures, management of individual project budgets, data review, daily technical assistance, guidance to radiological and chemical characterizations, and remedial action projects.

Team Leader, Health Physics, and Industrial Hygiene	Eberline Services 1986 – 1996

As Team Leader of Radiological and Industrial Hygiene Support Services to Bechtel National for FUSRAP, [redacted] was responsible for providing front-line technical support to the active sites and projects located within the purview of the New York team. This included assisting in the development and implementation of environmental sampling plans, including surface and subsurface soil sampling, sediment sampling, groundwater monitoring, and surface water sampling.

Performed as the Site Team Leader for various New York FUSRAP field sites. This position required the oversight of

environmental sampling activities. This included reviewing radiological and chemical characterization data, conducting environmental sampling of a broad spectrum of media, and supporting various radiological and chemical environmental restorations.

Appendix D
LSRS Site Safety and Health Plan

SITE SAFETY & HEALTH PLAN for the Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York

Prepared for:
United States Army Corps of Engineers – Buffalo District

Under Contract No: W912P4-07-D-0001
Task Order No. 0005

Prepared by:

LATA-Sharp Remediation Services, LLC
756 Park Meadow Road
Westerville, OH 43081

Deliverable No. 12

May 1, 2015

[redacted]

Date: 5/1/15	**Title:** Health & Safety Manager
Date: 5/1/15	**Title:** Project Manager
Date: 5/1/15	**Title:** Corporate Health & Safety Manager

SITE SAFETY & HEALTH PLAN
for the
Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York

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List of Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
AHA	Activity Hazard Analysis
AMP	Air Monitoring Plan
ANSI	American National Standards Institute
APP	Accident Prevention Plan
BCRP	Backfill, Compaction and Restoration Plan
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CGI	Combustible Gas Indicator
CHP	Certified Heath Physicist
COC	Contaminant of Concern
CQCP	Contractor Quality Control Plan
CRZ	Contamination Reduction Zone
CSP	Certified Safety Professional
dB	Decibels
DOT	Department of Transportation
EMS	Emergency Medical Services
EZ	Exclusion Zone
FSS	Final Status Survey
FUDS	Formerly Used Defense Sites
FUSRAP	Formerly Utilized Sites Remedial Action Program
GFCI	Ground Fault Circuit Interrupters
HSPP	Health and Safety Program Plan
LATA	Los Alamos Technical Associates
LEL	Lower Explosive Limit
LSRS	LATA-Sharp Remediation Services, LLC
MARC	Multiple Award Remediation Contract
NCP	National Oil and Hazardous Substances Contingency Plan
NFSS	Niagara Falls Storage Site
NIOSH	National Institute for Occupational Safety and Health
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
OSHA	Occupational Safety & Health Association
OVA	Organic Vapor Analyzer
PDT	Project Delivery Team
PID	Photoionization detector
PM	Project Manager
POC	Point of Contact

PPE	Personal Protective Equipment
PVC	Polyvinyl Chloride
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QMSD	Quality Management Systems Description
RCP	Regulatory Compliance Plan
RMSF	Rocky Mountain spotted fever
ROD	Record of Decision
RPP	Radiation Protection Program
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SDS	Safety Data Sheets
SHM	Safety and Health Manager
SOP	Site Operations Plan
SOW	Scope of Work
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SWPPP	Storm Water Pollution Prevention Plan
T&D	Transportation and Disposal
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
WMP	Water Management Plan
WMTPD	Waste Management, Transportation and Disposal Plan
WWPPP	Waste Water Pollution Prevention Plan

REVISION LOG

Site Safety & Health Plan for the Remediation of the Seaway FUSRAP Site, Northside and Southside Areas

Revision Number/Date	Description of Changes	Pages Affected
0	Original Issue	N/A
0-A 5/1/15	Incorporation of USACE Comments	Various

CERTIFICATE OF INDEPENDENT TECHNICAL REVIEW COMPLETION

LATA-Sharp Remediation Services, LLC (LSRS) has completed the Site Safety and Health Plan for the Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York. Notice is hereby given that an independent technical review has been conducted by staff of LSRS that is appropriate to the level of risk and complexity inherent in the project, as defined in the Contractor Quality Control Plan (CQCP).

During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing USACE policy. The document/plans were accomplished by [redacted], CSP and the independent technical review was accomplished by Patricia Dentler, CPG, CHMM, CSP as indicated by signatures below. All reviews are documented via red line track changes in associated text files. Red line edited documents are available upon request.

[redacted]

[redacted]

Independent Technical Reviewer / Date

1.0 INTRODUCTION

LATA-Sharp Remediation Services, LLC (LSRS) is providing supplies and services for task order No. 0005 issued under the Multiple Award Remediation Contract (MARC) contract No. W912P4-07-D-0001 with the United States Army Corps of Engineers (USACE), Buffalo District to remediate the Seaway Site in accordance with the *Record of Decision (ROD) for the Seaway Site, Town of Tonawanda, New York* (USACE 2009). The project scope primarily includes the excavation, transportation and disposal (T&D) of Formerly Utilized Sites Remedial Action Program (FUSRAP) contaminated soils/sediments/debris from the Northside and Southside areas outside of the landfill. This work is being conducted by USACE under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and as amended by the Superfund Amendments and Reauthorization Act (SARA). Work performed will follow the requirements of the National Oil and Hazardous Substances Contingency Plan (NCP) and other applicable portions of title 40 of the Code of Federal Regulations.

Work plans produced for this project include a Site Operations Plan (SOP); Accident Prevention Plan (APP)/Site Safety and Health Plan (SSHP) (which includes an Air Monitoring Plan [AMP] and Radiation Protection Plan [RPP]); Sampling and Analysis Plan (SAP) (which includes a Field Sampling Plan [FSP], Uniform Federal Policy Quality Assurance Project Plan [UFP-QAPP] and Final Status Survey [FSS] Plan); Water Management Plan (WMP) (which includes a Storm Water Pollution Prevention Plan [SWPPP] and Waste Water Pollution Prevention Plan [WWPPP]); Waste Management, Transportation and Disposal Plan (WMTDP); Backfill, Compaction and Restoration Plan (BCRP); Contractor Quality Control Plan (CQCP); and Regulatory Compliance Plan (RCP).

2.0 BACKGROUND

USACE is the lead agency for implementing FUSRAP, which was established to identify, investigate, and if necessary cleanup or control contaminated sites. The Seaway Site is a closed landfill in Tonawanda, New York, that is included on the list of FUSRAP sites. The Seaway Site is an inactive hazardous waste disposal site pursuant to Title 6 of the New York Code of Rules and Regulations (NYCRR) Part 375. The site is listed in the Registry of Inactive Hazardous Waste Sites that is maintained by New York State Department of Environmental Conservation (NYSDEC 2003). Under 6NYCRR 375-2.7(b)(3), inactive hazardous waste disposal sites are classified with respect to the threats they pose to the environment, with a Class 1 posing the greatest threat and Class 5 indicating that a site is properly closed and does not require continued operation, maintenance, or monitoring. The Seaway Site is a Class 4 inactive hazardous waste disposal site.

2.1 SITE LOCATION

The Seaway Site is located in the Town of Tonawanda, New York approximately 10 miles north of the City of Buffalo. It is situated northeast of the intersection of State Road 266 (River Road) and Interstate 190 and is approximately ¾ mile southeast of River Road. Figure 2-1 located as an attachment, provides a Site Location Map. Ashland Oil & Refining Company owns properties to the east and west; primarily using these areas for industrial purposes. Other industrial facilities are located nearby along River Road. The nearest residences are located to the northwest across

the Niagara River on Grand Island and to the east in the Town of Tonawanda. A Niagara Mohawk right of way runs along the eastern fence line.

2.2 SITE HISTORY

The Seaway property is approximately 100 acres and is referred to as the Seaway Industrial Park. It is currently owned by the Benderson Development/Sands Mobile Park Corporation, which is the successor by merger to the Seaway Industrial Park Development Company, Inc. Since the late 1980's, Browning-Ferris Industries, Inc. followed by Allied Waste operated the landfill on the property (also referred to as the Niagara Landfill).

The source of FUSRAP contaminants of concern (COCs) at the site are residues from uranium processing that was conducted at the nearby Linde Site. Various types of wastes were disposed in the landfill starting in 1930 and ending in 1993. These included municipal, commercial, industrial (including hazardous substances), and construction wastes from nearby communities. Approximately 90 percent of the property (90 acres) has been used as a landfill; approximately 69 acres have been capped. The Site contains Seaway Southside (Seaway Area D Adjacent Property and Area Northwest of Seaway Area D) and Seaway Northside (property line surface runoff area).

3.0 OBJECTIVE AND SCOPE

The overall objective of the project is to remediate FUSRAP contaminated soils/sediment from the Seaway Southside and North side areas. Site operations include activities associated with the remedial action to include but not limited to water management, operation and maintenance of the air monitoring system and meteorological station, equipment decontamination, worker health and safety monitoring, maintenance and radiological monitoring of roads and support areas, utility services, civil surveys, weekly conference calls, on-site meetings, dust control, site security, daily reporting and any other daily site activities. Site operations will occur after mobilization and before demobilization. LSRS will provide all labor, material, equipment, tools, supplies, sanitary facilities, and off-site laboratory facilities necessary to perform the services required to complete the tasks specified under the statement of work.

Work to be performed includes the following:

- Preparation of Project Work Plans.
- Assisting USACE with a Preconstruction Community Outreach Meeting.
- Mobilization and Demobilization activities.
- Site health, safety and environmental monitoring.
- Field verification of actual conditions and location of each work area.
- Verifying the location of the current Landfill Cut-off Wall.
- Sampling and Analysis.
- Excavation of clean overburden for storage and possible reuse.
- Excavation of FUSRAP contaminated materials from areas that are outside of the landfill's Leachate Collection System and Cut-off Wall.
- On-site Waste Management and Packaging.

- Transportation and off-site disposal.
- Radiation survey.
- Final Status Surveys.
- Backfilling the excavated areas and Site Restoration.
- Final status survey Technical Data Packages for each survey unit.
- Project Construction Report and Lessons Learned Report.

3.1 REGULATORY COMPLIANCE

The remediation criteria for the radionuclide COCs (Ra-226, Th-230, U-total, Pa-231, and Ac-227) were developed and are provided in the ROD (USACE2009). The applicable laws, rules, regulations, standards, permits and codes and LSRS's methods for compliance are provided in the RCP.

4.0 PROJECT ORGANIZATION

The Seaway project organization in Figure 1 presents the lines of authority and reporting relationships of the project key personnel involved in the Seaway project.

4.1 PROJECT DELIVERY TEAM (PDT)

The PDT is responsible for developing project documents and performing project field activities. The PDT will perform ongoing interdisciplinary quality control checks during product development to insure that portions of the products developed by different team members do not conflict.

4.2 PROGRAM MANAGER

[redacted] is the Program Manager for the MARC contract and will be the primary Point of Contact (POC) for all contractual issues. [redacted] is responsible for assuring that the project is properly staffed and for overall technical direction and quality of the work performed. The Program Manager establishes budgets and schedules, assures that personnel have appropriate training, and monitors staff performance. In addition, the Program Manager is responsible for monitoring and implementation of the Quality Assurance/Quality Control (QA/QC) program. Specific responsibilities include:

- Assure that labor, equipment, personnel, and funding are available for required tasks; and
- Project technical direction.

4.3 PROJECT MANAGER

[redacted] is the Project Manager for this task order. [redacted] will be the primary POC for execution of this work. [redacted] will be responsible for overall administration of the project, coordination of field efforts, attendance at project progress meetings and regular reporting activities. He will coordinate the day-to-day activities and will be responsible for maintaining schedule. The Project Manager will interface with the Project Delivery Team (PDT) to verify that the goals of the project are being met and will conduct the senior technical review of all deliverables. A brief summary of duties includes:

- Coordinate preparation, review, and approval of reports, plans and procedures;

- Provide QC support in matters involving quality of work;
- Assure response to corrective action requirements identified by the project team;
- Maintain and track project budget and schedule; and
- Coordinate personnel and field activities, including subcontractors.

4.4 CERTIFIED HEALTH PHYSICIST

The Seaway project Certified Health Physicist is [redacted], CHP, CIH. [redacted] will provide complete and expert health physics, radiation protection safety, and radiation risk assessment direction and guidance. He will develop the RPP, which is an attachment to the APP, conduct the site radiation risk evaluation and recommend radiation monitoring equipment.

4.5 HEALTH AND SAFETY MANAGER

The Seaway project Health and Safety Manager is [redacted], CSP. [redacted] will provide guidance to project personnel who are responsible for implementation of the corporate LSRS Health and Safety Program Plan (HSPP). [redacted] is responsible for investigating health and safety incidents/occurrences, working with the Project Manager to identify corrective actions, and making recommendations on policy changes needed to prevent or minimize future occurrences. The Health and Safety Manager is the final LSRS employee or contractor with the authority to determine the suitability of an employee to perform job duties on the basis of health or fulfillment of health and safety training as required by law or regulation. The Health and Safety Manager is also responsible for directing annual or periodic reviews of LSRS health and safety plans, as appropriate.

Specific responsibilities of the Health and Safety Manager include:

- Review and approve the Site Health & Safety Plans;
- Evaluate the qualifications of the Site Safety & Health Officer;
- Review proposed corrective action and assess them once implemented to evaluate effectiveness;
- Approve significant changes in Personal Protective Equipment (PPE) or protective procedures;
- development, implementation and maintenance of site-specific health and safety plans and procedures in accordance with all applicable regulations;
- Develop and provide Health & Safety training as required;
- Conduct accident investigations and prepare reports; and
- Approve changes to the Site Health & Safety Plans, engineering controls, work practices and PPE.

4.6 CONTRACTOR QUALITY CONTROL SYSTEM MANAGER

[redacted] will serve as the QA Manager. Specific responsibilities of the QA Manager include:

- Develop, document, and implement activities to verify that appropriate QC measures are being conducted and documented;

- Verify that records related to QC are documented and maintained in a manner that assures they are secure and retrievable;
- Prepare periodic quality reports as required;
- Provide personnel training as required;
- Conduct periodic performance audits and/or surveillance to measure conformance to specifications and requirements;
- Verify that corrective actions are conducted and documented in a manner that minimizes or precludes future occurrences;
- Review and approve Standard Operating Procedures (SOPs) and training records; and
- Provide oversight and guidance to the construction quality manager to ensure project QC requirements are effectively implemented.

4.7 SITE SUPERINTENDENT

The Project Site Superintendent is [redacted] will be on-site at all times and oversee subcontractors and all field personnel performing the various tasks to ensure that the acceptability and performance criteria are met. He is also responsible for the day-to-day conduct of work, including communication with the Project Manager, USACE, and subcontractors to verify that the goals of the project are being met. [redacted] will monitor and enforce the implementation of the required Site work plans and will report any deviations from prescribed practice to the Project Manager or stop work, as appropriate.

Specific responsibilities of the Site Superintendent may include:

- Direct project activities;
- Ensure that qualified technical personnel are assigned to various tasks, including subcontractors;
- Identify and fulfill equipment and other resource requirements;
- Monitor project activities to ensure compliance with established scopes, schedules, and budgets;
- Ensure overall technical quality and consistency of all project activities;
- Review activities to verify that appropriate QC measures are being conducted and documented;
- Verify that records related to QC are documented and maintained in a manner that assures they are secure and retrievable;
- Verify that corrective actions are conducted and documented in a manner that minimizes or precludes future occurrences; and
- Produce and issue the Daily Project CQC report.

4.8 PROJECT CHEMIST

The Project Chemist is [redacted] is responsible for the following:

- Developing the project QAPP, document coordination, coordinating with the analytical laboratory, data management, data evaluation and validation, and preparation of the chemistry- and data-related portions of the work plans and data report(s).

4.9 SITE SAFETY & HEALTH OFFICER

The project Site Safety & Health Officer (SSHO) is [redacted]. In this role [redacted] will be responsible for the following:

- Provide Health & Safety training as required;
- Remain on-site at all times that work is being performed;
- Implementation and maintenance of site-specific health and safety plans and procedures; and
- Recognize and mitigate the potential site hazards.

4.10 CONTRACTOR PERSONNEL

Other site personnel will include field technicians, operators and laborers.

Note: All up to date Health & Safety Training Certificates and proof of medical certifications for all LSRS employees and its subcontractors will be provided to USACE upon request or before mobilization.

Table 4-1 identifies the individuals who will fill key roles for project activities.

Table 4-1 Project Personnel

Position	[redacted]
Program Manager	
Certified Health Physicist	
Safety and Health Manager	
Project Manager	
Site Superintendent	
Site Health & Safety Officer	
Competent Person – Equipment Operator	

Resumes for the personnel in Table 4-1 are included in Appendix C of the Accident Prevention Plan.

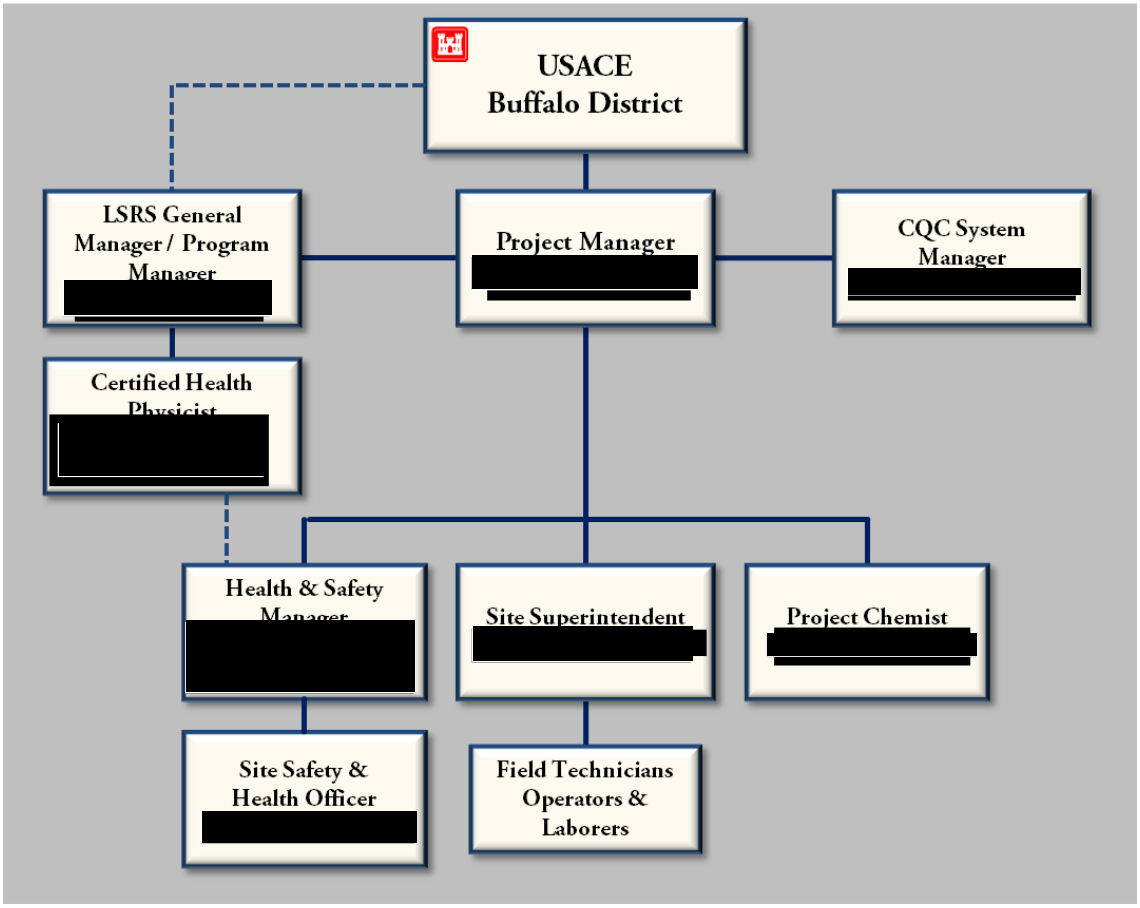


Figure 4-1. Seaway Project Organization

5.0 HAZARD/RISK ANALYSIS

LSRS performed a preliminary Activity Hazard Analysis (AHA) based on the planned SOW presented in Section 3. The AHAs are included as Attachment C. The AHAs for the work tasks identify safety, mobilization, excavation, physical, chemical and/or biological hazards of concern associated with planned tasks. Table 5-1 is a summary checklist of hazards that have been identified in the AHAs for the project, and also identifies hazards that are not expected based upon existing site information. The AHAs will be reviewed and revised, as necessary, as the project work plans are finalized and throughout the project to address changing conditions. If additional tasks or significant hazards are encountered during the work, the SSHO, with the Project Safety and Health Manager's approval, will modify the AHAs by addendum to include the additional information as agreed to by the USACE Project Manager. Changes to this plan will be documented with addenda.

Table 5-1 Hazard Inventory

Yes	No	Hazard
X		Biological hazards
	X	Confined space entry
	X	Demolition hazards
	X	Drowning
X		Electrical shock
X		Excavation hazards
X		Exposure to chemicals
X		Fire
	X	Unexploded ordnance
X		Heavy equipment
X		Noise
	X	Chemical
X		Radiation
X		Temperature extremes
X		Lifting
X		Slips, Trips and Falls

Physical hazards and controls including the general safety hazards and temperature extremes are described in Section 11.0. The potential for exposure to chemical hazards, the analysis of those hazards, and the controls are described in Section 12.0. Biological hazards and controls are described in Section 13.0.

6.0 TRAINING

Health and safety training is an integral part of LATA's health and safety program. Under the HAZWOPER standard, all LSRS employees will be trained by a Qualified Trainer [as required by 29 Code of Federal Regulations (CFR) 1910.120 (e)(5)] to meet their level of responsibility and to minimize exposure to potential hazards. Health and Safety Training will be conducted in accordance with the LATA HSPP and the LATA Quality Management Systems Description document (QMSD).

All LSRS employees involved in work at hazardous sites will be trained as required by CFR 1910.120, 29 CFR 1926.65 and all other applicable regulations. In addition, all program/project managers, supervisors, and SSHOs for projects involving hazardous materials will be qualified and trained to safely supervise or manage work at hazardous waste sites [i.e., have had HAZWOPER Supervisor training, 29 CFR 1910.120(e)(4)]. Site training will be provided by the Project Manager, Site Superintendent and/or the SSHO which will enable employees to:

- Recognize and understand the potential site hazards and LATA's planned mitigations;
- Supervise other site-subcontractors as applicable,

- Become familiar with the safety programs and procedures applicable to the site, including, but not limited to, the Plan of the Day, work control procedures, this SSHP, site control measures, PPE and monitoring requirements; and
- Work safely.

The SSHO will be responsible for ensuring Visitor Site Specific Safety Briefings to include the SSHP, proper PPE, plan of the day, and applicable AHA's. Visitors must be escorted while on-site by trained project personnel.

A matrix of training requirements for all site personnel will be maintained by the SSHO on site along with the records of training and medical surveillance (e.g., fit-for-duty letter, respirator fit-test card). Training records will confirm that each employee assigned to a task has had adequate and current training for that work. LATA will also maintain copies of the training and medical surveillance records as required by the LATA QMSD and HSPP.

Table 6-1 summarizes the training and qualification requirements for Project personnel.

Table 6-1 Training and Qualifications

Training /Qualification Requirement	Applicability
HAZWOPER 40-Hour and Current 8-Hour Refresher	Applies to all project personnel except Visitors under escort.
HAZWOPER Supervisor Training	Applies to the onsite Project Manager and Site Superintendent(s)
Hazard Communications Training	Applies to all project personnel except Visitors under escort.
First Aid/CPR Training/Bloodborne Pathogens Training	Applies to a minimum of 1 persons per shift.
Fall Protection Training	Applies to all project personnel working in the vicinity of unprotected sides or edges at a height of four feet or more.
Fire Extinguisher Training	Applies to all project personnel except Visitors under escort.
Project SSHP and applicable LSRS procedures	Applies to all project personnel except Visitors under escort.
Lock Out/Tag Out Training	Applies to all project personnel working on energized systems. See additional requirements for work on electrical systems.
Radiation Safety Training	Applies to all project personnel working in close proximity to potential radiation hazards.
Respiratory Protection	Applies to all persons wearing respiratory protection or prescribing the use of respiratory protection
Equipment operators	Required to meet the training and qualification requirements specified in EM 385-1-1, Section

Training /Qualification Requirement	Applicability
	18 for the equipment being operated.
Licensed Electrician	Required for all work performed on live electrical systems.
OSHA 30-Hour Outreach	Corporate Safety & Health/Project SSHO
Excavation Competent Person	Minimum of 1 Excavation Competent Person on site during excavation activities per OSHA 29 CFR Subpart P.
Hazardous Materials Safety and Security Awareness Training	Required for all project personnel involved in waste packaging and shipping phases per 49 CFR 172.704

7.0 MEDICAL SURVEILLANCE

Employees performing on-site work in and around any exclusion zones will be enrolled in a medical surveillance program to meet the requirements of 29 CFR 1910.120(f), 1910.134, 1910.1200, and the LSRS Medical Surveillance Program Plan to assess and monitor worker's health and fitness for duty in the field.

The frequency of employee medical exams shall be as follows:

- A project baseline examination and thereafter once every 12 months for each employee covered unless the attending physician believes a shorter or longer interval (not to exceed 2 years) is appropriate. The LSRS Health & Safety Manager will make a determination if a prior company physical is acceptable for the project baseline based on the identified COCs.
- At termination of employment or reassignment to an area where the employee would not be covered, if the employee has performed field work since his/her last examination and has not had an examination within the last 6 months; and
- As soon as possible upon notification from an employee that he/she has developed signs or symptoms indicating possible expose to hazardous substances or health hazards, or that the employee has been injured or exposed above permissible exposure limit or published exposure levels in an emergency situation.

8.0 STANDARD OPERATING SAFETY PROCEDURES

The general safety rules that apply to all operations performed by LSRS and its subcontractors are provided in the LATA HSPP and the Accident Prevention Plan (APP). These requirements are generic in the sense that they apply to all projects. The Activity Hazard Analyses for specific site tasks are included in Attachment C.

The following rules apply to all site activities:

- Daily pre-start safety briefings will be conducted as needed by the Site Superintendent and/or SSHO to inform personnel of new or existing hazards, concerns, or safety

procedures. All field personnel will attend and sign a daily attendance log (Attachment A) that will be maintained by the SSHO that also describes the content of the days' briefing.

- Personnel should perform only those tasks that they are qualified or trained to do and believe they can do safely.
- No work shall be performed unless the SSHO AND the designated Competent Person(s) for that work task is present on the job site.
- Work will be performed in accordance with the SSHP and the Activity Hazard Analysis for the job task.
- Personnel shall not use any chemicals on site that they have not been trained to use in accordance with the Occupational Safety & Health Association (OSHA) Hazard Communications Standard (e.g. welding rods, bags of cement, or bentonite clay).
- Personnel are encouraged to notify the SSHO of any medical conditions that require special consideration, such as, the taking of prescription medications or of special medical conditions like severe allergic reaction to insect bites.
- Personnel will maintain proper workplace housekeeping to minimize the potential for slips, trips, and falls and other accidents.
- Contact with potentially contaminated surfaces or materials will be mitigated by the wearing of appropriate PPE or by avoidance.
- Spills will be prevented to the greatest extent possible and the SSHO will assess the potential prior to work initiation to ensure that spill kits or other measures for mitigation are available. In the event that a spill occurs, the material will be contained. Plastic will be placed under all equipment that is on-site to catch any spills from petroleum-based fluids. Spill kits will be made available to address readily foreseen spill potentials.
- Eating, drinking, smoking, chewing gum or tobacco and other practices that increase the probability of hand-to-mouth transfer are prohibited in contaminated and potentially contaminated areas and only allowed in the designated support zone locations. Workers will wash their hands and face upon leaving work and prior to eating, drinking, smoking, chewing of gum or tobacco and other practices that involve hand-to-mouth contact.
- All on-site workers must abide by a buddy system. Members of a buddy team will maintain verbal or visual contact at all times.
- The project work shall be conducted in accordance with LATA Human Resource HR 05-03, Drug-Free Workplace (Appendix E of the APP). Worker's taking or intending to take allowable medications, that may affect their ability to work in a safe manner, shall notify the SSHO of their use or potential use for the protection of the worker and other site personnel. This also includes such things as Epinephrine pens for those with severe allergic reactions to insect bites or stings.

9.0 HAZARD COMMUNICATION STANDARD

The LATA Hazard Communication Plan will be implemented for the project. The LATA Plan is included as Attachment B to the SSHP. Project personnel will be trained in accordance with the Plan requirements at the start of work and annually thereafter.

10.0 SITE CONTROL MEASURES

The SSHO will be responsible for establishing and maintaining the site control zones in accordance with 29 CFR 1910.120, as necessary, around LSRS controlled areas that present physical, biological, or chemical hazards. Implementation of the site control zones will help to minimize the number of employees or individuals potentially exposed to such hazards. The Exclusion Zone (EZ) will include an area at least 10 feet in diameter greater than the excavation or other intrusive activity. The Contamination Reduction Zone (CRZ) will be at the edge of the EZ and Support zones will be located upwind of EZ.

The Site Superintendent will monitor and enforce the implementation of the required site control work rules and will report any deviations from prescribed practice to the Project Manager or stop work, as appropriate. A log will be kept in the field book of all personnel visiting, entering or working on site. The log will include the date, name, agency or company, time-in and out, and PPE. No one without the appropriate training, medical surveillance, and need to be there will be allowed entry into the EZ or CRZ.

Any non-compliance will require an immediate Stop Work for workers in the EZ with equipment and operations placed into a safe mode as quickly as possible. The Site Superintendent will immediately notify the Program Manager, USACE Program Manager, and the LSRS H&S Manager. All conditions of the incident will be noted in the field records including photo or video record as available. Work will not resume until approved by the Site Superintendent/SSHO.

Protective boundaries and control zones will be established by the SSHO in the area around the work activities using road cones, caution tape, and signage where there is a potential for workers to be exposed above permissible exposure levels, [as established by the American Conference of Governmental Industrial Hygienists (ACGIH), OSHA, or National Institute for Occupational Safety and Health (NIOSH)] as appropriate to ensure contaminants are contained within a limited area. Communications between site workers performing work in the EZ, CRZ and Support zone will be facilitated by hand held radios. However, in all cases a general site control perimeter will be established and maintained to discourage non-essential personnel in the active work area and to ensure personnel within this perimeter are attired in the correct PPE and trained according to all site safety documents. The specific design of the site perimeter and control zones will be documented and implemented once the field teams have mobilized to the site and evaluated the site conditions.

11.0 PHYSICAL HAZARDS

General information on the types of physical hazards and the associated controls is presented in the LATA HSPP, AHA's and APP and are not repeated here. Table 11-1 lists a summary the project specific physical hazards along with the hazard controls to be applied on the project.

Table11-1 Physical Hazards

Physical Hazard	Hazard Controls
Slips, trips and falls	1. Housekeeping with daily and weekly safety inspections 2. Barricading of trip and fall hazards if the hazard cannot be removed.
Sprains and strains from lifting	1. SSHO instruction on proper lifting techniques in safety meetings 2. Requirement for 2 people to lift if over 50 lbs.
Caught between injuries	1. Hazard awareness during pre-work briefings 2. Use of work gloves 3. Use of safety shoes
Heat Stress	1. Hazard awareness during pre-work briefings 2. Availability of fluids and shaded break areas for workers in the support zone when temperatures exceed 70 degrees F. 3. Monitoring of temperature and application of forced breaks based on Temperature Extremes (Attachment F). 4. Monitoring of workers by the SSHO.
Cold Stress	1. Use of cold weather gear for personnel. 2. Monitoring of temperature and wind chill factors and limiting exposure times in accordance with Temperature Extremes (Attachment F). 3. Monitoring of workers by the SSHO.
Noise	1. Use of hearing protection. 2. Monitoring of noise levels.
Severe Weather	3. Monitoring of the internet and radio for storm warnings. 4. Suspension of site operations for 30 minutes when thunder and lightning strikes are less than 30 sec. apart. 5. Suspension of site operations for tornado warnings or other severe weather as determined by the SSHO or the Project Manager.

12.0 CHEMICAL HAZARDS

The chemical hazards identified for the project include chemicals present in the water and sludge and chemicals LSRS will use during the project. The chemicals currently identified are:

<u>Chemicals Present in Water and Sludge</u>
1. None anticipated

<u>Chemicals Used During the Project</u>
1. Unleaded gasoline
2. Diesel Fuel
3. Lubricating Oils/Grease
4. Hydraulic Oil
5. Motor Oil

6. Hydrochloric Acid – for sample preservation
7. Nitric Acid – for sample preservation

The SDS's for the chemicals that will be used by LSRS on the project will be posted at the project site and included in project record files. Toxicological information is for acute exposures to pure product.

The following sections outline the chemical control measures for specific project tasks.

12.1 Excavation Activities

While not expected, chemical hazards are possible during this phase of work. PPE including protective eyewear, protective clothing, steel toed shoes, and work gloves shall be worn during excavation activities to protect personnel against exposure to potential harm. Dust control methods will be used during excavation.

12.2 Water and Sludge Sampling

Water and sludge samples will be collected from the bucket of the excavator when possible. The alternative method for sample collection from within the excavation will be with a long handled sampling device or similar remote sampling method. PPE including protective eyewear, protective clothing, steel toed shoes, and nitrile gloves shall be worn during sampling activities to protect personnel against exposure to potentially contaminated water and sludge found within the excavation.

12.3 Backfill Excavations

No chemical hazards are anticipated during this phase of work. PPE including protective eyewear, protective clothing, steel toed shoes, high visibility reflective vests, hearing protection and work gloves shall be worn during backfilling activities to protect personnel against exposure to potential harm.

12.4 Investigation Derived Waste

All waste generated during the performance of this work will be properly containerized, placed in the waste storage area and, as required, tested prior to disposal. Solid waste generated outside the work zone (i.e. paper, trash, packaging, etc.) will be placed in the appropriate waste receptacle for off-site disposal.

Waste piles of soil will be monitored for VOC off-gassing. If off-gassing is detected, the soil will be covered and/or containerized in order to minimize VOC exposures to the general public and site workers.

12.5 Site Chemical Hazard Analysis

No chemicals contamination is expected within the excavation. However, air monitoring will be conducted in the breathing zone to confirm that occupational exposure levels are not exceeded as described in the Chemical Exposure Monitoring section. A PID using with a 10.6 or 10.2 eV lamp sensitive to the ionization potential for airborne contamination will be used if VOC's are suspected. Real time aerosol dust monitors will be used for downwind perimeter monitoring and may also be used in the breathing zone to confirm that occupational exposure levels are not exceeded as described in the Chemical Exposure Monitoring section

13.0 BIOLOGICAL HAZARDS

General information on the types of biological hazards and the associated controls is presented in the LATA HSPP and are not repeated here. During warm weather, ticks, snakes, and poison ivy can be a concern. The following provides a discussion of some potential biological hazards associated with the groundwater sampling activities.

13.1 INSECTS

Bees and other stinging insects may be encountered almost anywhere and may present a serious hazard, particularly to people who are allergic. Watch for and avoid nests. Keep exposed skin to a minimum. Carry a kit if you have had allergic reactions in the past, and inform the SSHO and/or buddy. If a stinger is present, remove it carefully with tweezers. Wash and disinfect the wound, cover it, and apply ice. Watch for allergic reaction; contact DeGraff Memorial Hospital at (716) 694-4500 immediately if a reaction develops or 911 if the reaction is severe.

Every year employees are exposed to tick bites at work and at home putting them at risk of illness. Ticks typically are in wooded areas, bushes, tall grass, and brush. Ticks are black, black and red, or brown and can be up to one-quarter inch in size. Wear tightly woven light-colored clothing with long sleeves and pant legs tucked into boots; spray only outside of clothing with permethrin or permanone and spray skin with only DEET; and check your-self frequently for ticks. Where site conditions warrant (i.e. vegetation above knee height, tick endemic area, etc) or when tasks warrant (e.g., having to sit/kneel in vegetation) that diminish the effectiveness of the other controls mentioned above, bug-out suits/Tyvek shall be used. Bug-out suits are more breathable than Tyvek.

Use the buddy system and perform tick inspections prior to entering the field vehicle. If ticks were not planned to be encountered and are observed, do not continue field work until these controls can be implemented.

Be aware of the symptoms of Lyme disease or Rocky Mountain spotted fever (RMSF). Lyme: a rash might appear that looks like a bull’s-eye with a small welt in the center. RMSF: a rash of red spots under the skin 3 to 10 days after the tick bite. In both RMSF and Lyme disease, chills, fever, headache, fatigue, stiff neck, and bone pain may develop. If symptoms appear, contact DeGraff Memorial Hospital at (716) 694-4500.

13.2 SNAKES

Snakes typically are found in underbrush and tall grassy areas. If you encounter a snake, stay calm and look around; there may be other snakes. Turn around and walk away on the same path you used to approach the area. If a person is bitten by a snake, wash and immobilize the injured area, keeping it lower than the heart if possible and call DeGraff Memorial Hospital at (716) 694-4500. DO NOT apply ice, cut the wound, or apply a pressure bandage. Try to identify the type of snake: note color, size, patterns, and markings.

13.3 PLANTS

Poison ivy, poison oak, and poison sumac typically are found in brush or wooded areas. They are more commonly found in moist areas or along the edges of wooded areas. Shrubs are usually

12 to 30 inches high, or can also be a tree-climbing vine, with triple leaflets and short, smooth hair underneath. Plants are red and dark green in spring and summer, with yellowing leaves anytime especially in dry areas. Leaves may achieve bright reds in fall, but plants lose their (yellowed, then brown) leaves in winter, leaving toxic stems. All parts of the plant remain toxic throughout the seasons. These plants contain urushiol (you-ROO-shee-ol), a colorless or pale yellow oil that oozes from any cut or crushed part of the plant, including the roots, stems and leaves and causes allergic skin reactions when contacted. The oil is active year round.

Become familiar with the identity of these plants (see below). Wear protective clothing that covers exposed skin and clothes. Avoid contact with plants and the outside of protective clothing. If skin contacts a plant, wash the area with soap and water immediately. If the reaction is severe or worsens, seek medical attention.

Poison Ivy

Poison Sumac

Poison Oak

Contamination with poison ivy, sumac or oak can happen through several pathways, including:

- Direct skin contact with any part of the plant (even roots once above ground foliage has been removed).
- Contact with clothing that has been contaminated with the oil.
- Contact from removing shoes that have been contaminated (shoes are coated with urushiol oil).
- Sitting in a vehicle that has become contaminated.
- Contact with any objects or tools that have become contaminated.
- Inhalation of particles generated by weed whacking, chipping, vegetation clearing.

If you must work on a site with poison ivy, sumac or oak the following precautions are necessary:

- All tools used in the poison ivy, sumac or oak area, including those used to cut back poison oak, surveying instruments used in the area, air monitoring equipment or other test apparatus must be decontaminated before they are placed back into the site vehicle. If on-site decontamination is not possible, use plastic to wrap any tools or equipment until they can be decontaminated.
- Personal protective equipment, including Tyvek coveralls, gloves, and boot covers must be worn. PPE must be removed carefully so as not to have skin contact with the outside

of the PPE. PPE will then be placed into plastic bags and sealed if they are not disposed immediately into a trash receptacle.

As soon as possible following the work, personnel will shower to remove any potential contamination. Any body part with suspected or actual exposure should be washed with "Tecnu" or other product designed for removing urushiol. If you do not have Tecnu wash with cold water. Do not take a bath, as the oils can form and invisible film on top of the water and contaminate your entire body upon exiting the bath. Tecnu may also be used to decontaminate equipment.

Use IvyBlock or similar products to prevent poison oak, ivy and sumac contamination.

If personnel do come into contact with one of these poisonous plants and a severe reaction develops, contact the SSHO and DeGraff Memorial Hospital at (716) 694-4500. Refer to Attachment E for detailed driving instructions for getting to the hospital to the site and related contact information.

14.0 ELECTRICAL HAZARDS

Work on an energized circuit or equipment must be performed in accordance with an electrical safety program that is compliant with NFPA 70 and 70E and approved by the SSHO.

The following general guidelines must be followed during all site work activities:

- Do not tamper with electrical wiring and equipment unless qualified to do so. All electrical wiring and equipment must be considered energized until lockout/tagout procedures are implemented.
- Inspect electrical equipment, power tools, and extension cords for damage prior to use. Do not use defective electrical equipment, remove from service.
- Operate and maintain electric power tools and equipment according to manufacturers' instructions.
- Maintain at least 10 feet from overhead power lines for voltages of 50 kV or less, and 10 feet plus 4-inchs for every 10 kV over 50 kV.
- Suspend temporary lights appropriately and not by their electric cord unless designed for suspension. Lights shall be protected from accidental contact or breakage.

14.1 GROUND FAULT CIRCUIT INTERRUPTERS (GFCI)

LSRS has selected GFCIs as the standard method for protecting employees from the hazards associated with electric shock.

- GFCIs shall be used on all 120-volt, single phase 15 and 20-ampere receptacle outlets which are not part of the permanent wiring of the building or structure.
- Extension cords must be equipped with third-wire grounding. Cords passing through work areas must be covered, elevated or protected from damage. Cords should not be routed through doorways unless protected from pinching. Cords should not be fastened with staples, hung from nails, or suspended with wire. Cords are not temporary wiring and cannot be "daisy-chained" together. Cords must have their UL labeling. Damaged cords will be replaced and not repaired.

- Electrical power tools and equipment must be effectively grounded or double-insulated UL approved.
- Electrical equipment, tools, switches, and outlets shall be protected from environmental elements.

14.2 LOCKOUT/TAGOUT FOR HAZARDOUS ENERGY CONTROL

Since the presence of energized systems is not anticipated there should not be a need for Lockout/Tagout. Should an energized system or part thereof be discovered during the field work, all work will be halted and the procedures re-evaluated.

15.0 PERSONNEL PROTECTIVE EQUIPMENT

The LATA HSPP, the associated appendices, and ancillary plans address PPE in accordance with 29 CFR 1910 Subpart I. PPE requirements for respiratory protection are specified in the LATA Respiratory Protection Program Plan in accordance with 29 CFR 1910.134 and for hearing protection in the LATA Hearing Conservation Program (in accordance with 29 CFR 1910.95 (c), 29 CFR 1926.101, and 20 CFR 1926.52).

The safe and effective use of PPE can help to mitigate hazards and protect employees in potentially hazardous work areas. The AHAs define minimum PPE for work on the project. All permanent changes (upgrades or downgrades) in PPE require prior approval of the SHM. Upgrades to PPE may be done on a short term temporary basis by the Project Manager and SSHO if the SHM is unavailable. The determination of respiratory protection requirements can only be made by the SHM.

PPE requirements will be posted at the entrance to all controlled work zones. Each site-worker is responsible for inspecting their PPE prior to use and identifying any problems which will be reported immediately to the SSHO. The SSHO will also inspect all PPE during the initial site entry and at any time later that he/she deems appropriate.

Anyone in the work zone must wear the posted PPE while in the zone. If downgrades of PPE (for example no noise hazard) are appropriate the work zone posting must be modified. The purpose of PPE is to shield, isolate, or secure individuals from hazards that may be encountered when avoidance, administrative, or engineering controls are not feasible or cannot provide adequate protection. Accordingly, before requiring field team personnel to use PPE, appropriate measures including possible mechanisms for avoidance, and administrative or engineering controls (such as ventilation, shielding or work practice controls) shall be implemented as the first means of defense for mitigating hazards and protecting site personnel.

Unused PPE shall be stored in a clean dry location separated from any contamination, and to the extent possible from sun light. Each site-worker shall be responsible for properly storing and using required protective equipment assigned to them.

Whenever PPE is utilized the SSHO shall monitor to ensure the PPE continues to protect employees adequately. The SSHO will ensure that the correct PPE is made available, that site-workers are trained to use it properly, and that they are using it as trained. Site-workers are

responsible for using the assigned PPE in accordance with the LATA HSPP and this SSHSP, and as directed by the SSHO.

15.1 Hearing Protection

All personnel are required to wear hearing protection whenever the continuous sound level exceeds 85 decibels (dB) (on the A-weighted scale) for a time-weighted average of 8-hours per day as determined by the SSHO. No exposures of the unprotected ear are allowed for impact sound in excess of a C-weighted peak sound pressure level of 140 dB (ACGIH, 2009). For these site activities, the hazard assessment shows that hearing protection is not expected to be necessary. The SSHO will periodically monitor noise levels, post hearing protection requirements as necessary, and ensure that the appropriate hearing protection is made available when and if necessary.

15.2 Chemical Resistant Gloves

The project hazard assessment has shown that chemical protective disposable powder-free nitrile gloves will be appropriate to reduce the potential for chemical exposure through the skin from expected site contaminants. All workers involved in sampling will wear these gloves at a minimum for hand protection.

15.3 Foot Protection

Puncture resistant, preferably containing a steel or composite shank and toe, foot protection will be used by all field personnel and visitors allowed on site. The foot protection will have a sole with deep treads in order to help increase traction. Safety shoes will comply with American National Standards Institute (ANSI) Z41-1991 (in accordance with 29 CFR 1910.136).

15.4 Eye And Face Protection

Personnel working onsite shall utilize safety glasses that meet requirements of ANSI Z87+ (in accordance with 29 CFR 1910.6, *Incorporated by Reference*). Where potential splash hazards exist, i.e. during decontamination operations, acid use, etc. safety goggles or safety glasses with a face shield will be employed to protect the eyes and face. Where splash protection from acids is required the worker will wear a face shield in addition to eye protection.

15.5 Hard Hats

Whenever site workers are exposed to overhead, electrical, or fall hazards, hard hats that comply with ANSI Z89.1-1986 will be required (in accordance with 29 CFR 1910.135(b)). Drilling holes or in any other way changing the integrity of the hard hat, including painting, is prohibited. The internal webbing of the hat suspension must be intact and in working order. Hard hats may not be worn backwards nor are “cowboy” or other non-standard style hard hats allowed.

The hazard assessment in accordance with 29 CFR 1910.132(d) demonstrated that the use of hardhats is required for mobilization, excavation and demobilization activities and wherever heavy machinery is in operation.

15.6 Levels Of Protection

Based upon the Hazard Assessment conducted for this project and the Chemical Hazard analysis (Section 10.0), Level D will be the primary level of protection used during field work. The use of additional PPE such as Tyvek™ coveralls, gloves, safety glasses, and face shields will reduce

the potential for direct-contact exposures (i.e., skin and eye contact). A high visibility vest or shirt will be worn by all personnel.

The SSHO shall be responsible for ensuring that the appropriate level of protection is properly utilized. Table 15.1 provides summary guidance on the use of PPE. The SSHO will contact the SHM if any questions arise concerning the adequacy of PPE. Workers willfully not complying with proper PPE use will be subject to disciplinary action up to and including removal from the site or dismissal.

Level D protection includes the following:

- Work clothing consisting of long-sleeved shirts, and full length pants are required (no shorts or cut-offs are allowed for any operations.)
- Safety (steel or composite toe) foot protection
- Hard hat (as required by control zone posting for hazard conditions)
- Hearing protection (as required by control zone posting for noise in excess of ACGIH TLVs)
- Safety glasses during work activities (as required by control zone posting and activity)
- Nitrile powder-free chemical-protective gloves appropriate for the suspected site chemicals.

Table 15-1 Summary PPE Guidance

	Site Access	**Work Area General Entry**	**Working With or Near* Excavation Areas**	**Working with newly Discovered Contaminants**
Safety Shoes	X	X	X	X
Hard Hat	X	X	X	X
Safety Glasses	X	X	X	X
Hearing Protection	X**	X**	X**	X**
Nitrile Gloves			X*	X*
Tyvek			X*	
Tychem QC				X
PVC Gloves			X	X

	Site Access	Work Area General Entry	Working With or Near* Excavation Areas	Working with newly Discovered Contaminants
Over Boots			X	X
Face Shield			X*	X*
Leather Gloves			X	

*Individuals who are likely to come in contact with chemicals shall wear the appropriate PPE per SSHO direction.

**The need for Hearing Protection will be determined by the SSHO based on operations.

15.7 RESPIRATORY PROTECTION

Respiratory protection is not anticipated to be required for this project. In the event there are airborne levels detected which would require the use of respiratory protection, all work will be halted, the SSHO will be notified, and all procedures/plans will be re-evaluated.

16.0 CHEMICAL EXPOSURE MONITORING

Exposure to chemical contaminants is not anticipated to occur during execution of this scope of work. Real-time air monitoring devices will be used to analyze airborne contaminant concentrations in the workers' breathing zones while workers are in the designated work areas.

The potential for on-site worker exposure to airborne contaminants will be monitored during site work activities. The SSHO will perform routine monitoring during site operations to evaluate presence of VOCs in employee breathing zones and downwind of the general work area. If VOCs are detected above predetermined specified action levels, the Project Manager, Program Director, and USACE PM will be notified and the appropriate upgrade in PPE will be initiated.

16.1 COMBUSTIBLE GAS AND ORGANIC VAPOR DETECTION

During site operations, a calibrated Organic Vapor Analyzer/Photoionization Detector (OVA/PID) and CGI shall be used to periodically screen the breathing space of all workers near the excavation. Downwind of the general work area will also be monitored during excavation activities. If the OVA/PID reading in the worker's breathing zone exceeds 1 ppm over background sustained for 1 minute or 10 ppm over background sustained for 5 seconds, then suspend excavation activities and investigate. Verify that workers and PID are not downwind

from equipment exhaust. Allow area to ventilate until the OVA/PID reads less than 1 ppm above background in the breathing zone. The SSHO will conduct measurements to determine that no sustained levels in excess of 1 ppm above background are found at or around the exclusion zone where field personnel are working.

If natural ventilation is not adequate to reduce the OVA/PID reading to below 1 ppm above background then the SSHO will stop work in the exaction area and consult with the SHM and Project Manager on the need for respiratory protection equipment use. If it is determined that airborne concentrations are not above occupational exposure limits then work will continue in Level D. The SSHO will continue (in Level D) to measure with the OVA/PID and detector tubes (periodically) to monitor conditions and ensure conditions are safe.

Table 16-1 Monitoring Instrument Action Levels

Instrument	Action Levels	Action to be Taken when Action Level reached	Frequency	Calibration
PID: with 10.6 or 10.2eV	0 To 1 ppm over background Above 1 ppm	Level D If VOC above 1 ppm is detected then stop work, exit area – let ventilate After 5 mins., VOC below 1 ppm detected then : Resume work After 5 mins., VOC still above 1 ppm detected then : Suspend work and consult with the SHM prior to proceeding	Initially and periodically during task	Daily
CGI:	0-10% : 10-20% LEL: >20% LEL:	No explosion hazard Potential explosion hazard; let ventilate Explosion hazard; Stop work, evacuate and vent	Continuous during intrusive work	Daily
O_2Meter	>23.5%[c] O_2: 20.9%[c] O_2: <19.5%[c] O_2:	Explosion hazard; evacuate or vent Normal O_2 O_2 deficient; vent or use SCBA	Continuous during intrusive work	Daily
Nose-Level Monitor	<85 dB(A) 85-120 dB(A) 120 dB(A)	No action required Hearing protection required Stop; re-evaluate	Initially and periodically during task	Daily

16.2 Instrumentation And Calibration

Monitoring for hazardous atmospheres and toxic airborne chemicals for the site will be accomplished with a CGI and a OVA/PID which will be calibrated daily, prior to and after each day's use, following manufacturers' specifications. The CGI's LEL alarm will be set to an action level based upon 20% of the LEL. The process will follow the QAPP requirements for calibrations and documentation.

17.0 EMERGENCY RESPONSE PROCEDURES AND EQUIPMENT

This section of the SSHP provides documentation for the emergency response plan as required by 29 CFR 10910.120(l)(2). The plan identifies the roles, lines of authority, and communication. In addition to this section, there is an in-depth separate Emergency Response and Notification Plan (SWY-PLA-WP-014) for this project.

This plan also identifies emergency recognition and prevention, safe distances and places of refuge, site security and control, evacuation routes and procedures, decontamination (other than that described elsewhere in Section 13.0), emergency medical treatment and first aid, emergency alerting and response procedures, critique of response and follow-up, and PPE and emergency equipment. Procedures for handling emergency incidents are also described (29 CFR 1910.120l)(3)) including rehearsal of plans and employee alarm system. Refer to Attachment E for detailed driving instructions for getting to the hospital from the site and related contact information.

The Site Superintendent will remain in charge of all site-workers during an emergency event. The Site Superintendent will perform emergency notification of emergency medical services, fire department, LSRS Project Manager, Project H&S Manager, the USACE Project Manager or other appropriate USACE personnel, etc. The Site Superintendent will also escort or assign an escort to offsite emergency responders in the event that hazardous conditions exist, if the escorts are qualified to do so and if emergency responders allow it. The Site Safety and Health Manager, or his designee, is responsible for investigating accidents and filling out USACE ENG FORM 3394 for submission to the USACE Safety Office within 5 days of accident.

It is the SSHO's duty to evaluate the seriousness of the situation and to notify appropriate authorities. In order to minimize the potential for accidents and injuries, daily safety and health inspections will be conducted by the SSHO. If an emergency event occurs, the SSHO and all site-workers will participate in a briefing to discuss the event, collect information that might help in identifying the cause(s) or contributing factors, help identify potential corrective measures, and assist in evaluating LSRS actions.

Personnel should contact local emergency services in the event of an emergency. After emergency services are notified, the Project Manager and USACE PM will be notified of the situation as soon as possible. If personal injury, property damage, or equipment damage occurs, the Project Manager and USACE PM will be contacted as soon as practicable.

If an exposure or injury occurs, work will be temporarily halted until an assessment can be made of whether it is safe to continue work. The SSHO, in consultation with the SHM, will make the decision regarding the safety of continuing work. The SSHO will conduct an investigation to determine the cause of the incident and outline steps to be taken to prevent recurrence. All accidents will be investigated and reported within 24 hours as specified in EM 385-1-1. Due to time/work constraints it may be necessary for personnel other than the Project H&S Manager to conduct the investigation such as the LSRS Quality Assurance Manager who is qualified in accident investigation and root cause analysis. The following types of injuries/accidents require immediate accident notification to the USACE:

- Fatal injury
- Permanent total disability
- Permanent partial disability
- Hospitalization of three or more people resulting from a single occurrence
- Property damage of $200,000 or more.

17.1 EMERGENCY MEDICAL

Prior to the start of work on site, arrangement will be made for medical facilities and personnel to provide medical attention to injured personnel. Actions prior to the start of work include:

- Communication with access to 911 or other emergency numbers. If the work site is without hard wired telephone service, the mobile phone service or other means shall be tested across the work site to ensure coverage.
- Telephone numbers for medical services (ambulance, hospital, physician, etc.) shall be posted in the project office near phone systems. Emergency phone numbers and directions to DeGraff Memorial Hospital at (716) 694-4500 are provided in Attachment E to this SSHP.
- A map showing the best route to the nearest medical facility shall be posted in the project office.

When a medical facility or physician is not accessible within five (5) minutes of an injury to a group of two (2) or more employees, at least two (2) employees on each shift shall be qualified to administer first-aid and CPR.

In the event of an injury, the extent and nature of the victim's injuries will be assessed and first aid will be rendered as appropriate. If necessary, the individual may be transported to the nearby medical center. The mode of transportation and the eventual destination will be based on the nature and extent of the injury.

In the event of a life-threatening emergency, the injured person will be given immediate first aid and emergency medical services will be contacted by dialing the emergency telephone number. The individual rendering first aid will follow directions given by emergency medical personnel via telephone and will wear appropriate PPE to prevent direct contact with potential blood-borne pathogens. When working in areas where medical services are not readily available, a person trained in first aid/CPR techniques will be present during field activities.

In the event of fire, personnel should contact the local fire department immediately by dialing 911 or the appropriate emergency number. When representatives of the fire department arrive, the SSHO, or designated representative, will advise the commanding officer of the location, nature, and identification of hazardous materials on site. Only trained, experienced fire fighters should attempt to extinguish substantial fires at the Site. Site personnel should not attempt to fight fires, unless it is safe to do so, and they are properly trained and appropriately equipped to do so.

All personnel working on site will be trained in the requirements set forth in this site safety and health plan and the LATA HSPP.

Table 17-1 EM 385-1-1 First Aid Kit Minimum Content

REQUIREMENTS FOR BASIC UNIT PACKAGES

Unit first aid item	Minimum Size or Volume (metric)	Minimum Size or Volume (US)	Item quantity per unit package	Unit package size
*Absorbent Compress	206 cm^2	32 in^2	1	1
* Adhesive Bandage	2.5 x 7.5 cm	1 x 3 in	16	1
Antibiotic Treatment	0.9 g	1/32 oz	6	1
* Adhesive Tape	457.2 cm	5 yd (total)	1 or 2	1 or 2
* Antiseptic Swab	0.5 g	0.14 fl. oz.	10	1
Antiseptic Wipe	2.5 x 2.5 cm	1 x 1 in.	10	1
Antiseptic Towelette	157 cm^2	24 in^2	10	1
Aspirin, Individually Wrapped	325 mg		2	2
Bandage Compress (2 in.)	5 x 91 cm	2 x 36 in.	4	1
Bandage Compress (3 in.)	7.5 x 152 cm	3 x 60 in.	2	1
Bandage Compress (4 in.)	10 x 183 cm	4 x 72 in.	1	1
Burn Dressing	10 x 10 cm	4 x 4 in	1	1-2
* Burn Treatment	0.9	1/32 fl. oz.	6	1
CPR Barrier			1	1
Cold Pack	10 x 12.5 cm	4 x 5 in	1	1-2
Eye Covering, with means of attachment	19 cm^2	2.9 in^2	2	1
Eye Wash	30 ml	1 fl. oz total	1	2
Eye Wash & Covering, with means of attachment	30 ml total 19 cm^2	1 fl oz. Total 2.9 in^2	1 2	2
Gloves, latex free	XL	XL	1 pair	1
Gloves, latex free	L	L	1 pair	1
Roller Bandage (4 in.)	10 x 550 cm	4 in. x 6 yd.	1	1
Roller Bandage (2 in.)	5 x 550 cm	2 in. x 6 yd.	2	1
* Sterile pad	7.5 x 7.5 cm	3 x 3 in.	4	1
* Triangular Bandage	101 x 101 x 142 cm	40 x 40 x 56 in.	1	1

* Minimum mandatory contents for basic fill kit

17.2 EMERGENCY PROCEDURES/SIGNALS

In most cases, word of mouth will be sufficient to relay instruction during an emergency situation. If this cannot safely be done, a thirty-second (30 second) horn blast is the emergency signal to indicate that all personnel will evacuate to a pre-determined evacuation area. If a horn is not functioning or the site is too large, the SSHO may identify a "runner" to notify site personnel. The SSHO will be responsible for accounting for all site-workers and visitors to the work site. Detailed emergency signals are contained in section 7.0 of the Emergency Response and Notification Plan, SWY-PLA-WP-014.

17.3 EMERGENCY EQUIPMENT

A first aid kit meeting the requirements of 29 CFR 1910.151(b) which incorporates by reference ANSI Z308.1-2003 *Minimum Requirements for Workplace First Aid Kits*, a Blood borne Pathogens kit (29 CFR 1910.1030(d)(3)), an approved emergency eyewash (29 CFR 1910.151(c)

and ANSI Z358.1), and a fire extinguisher shall be available onsite. At least two individuals on-site must be trained to provide these services at all times of operation. The contents of first-aid kit and supplies shall be checked prior to use on site and at least every 3 months when work is in progress to ensure the kits are complete and have no expired items. The minimum content for the first aid kit is specified in EM 385-1-1, Table 3-1 and shown below in Table 17-1.

17.4 SEVERE WEATHER

If severe weather is encountered during fieldwork, appropriate protective measures will be evaluated and implemented by the SSHO. If shelter is unavailable, evacuation of the site should be evaluated as appropriate. Avoid working during thunderstorms. Use the 30-30 rule for judging when to stop work: When there is less than 30 seconds between the flash of lightning and thunder, stop work and take cover. Wait at least 30 minutes without additional thunder and lightning 30 seconds apart. Seek shelter in low lying areas, nearby buildings or your car. Do not touch anything metal. Do not congregate under topographically elevated objects such as trees, power line towers, or transmission towers during a lightening event. The SSHO should monitor potential threatening weather via a vehicle radio or equivalent.

If outdoors:

- If possible, get inside a building or vehicle.
- If shelter is not available or there is no time to get indoors, lie in a ditch or low-lying area or crouch near a strong building. Be aware of the potential for flooding.
- Use arms to protect head and neck.

If in a car:

- Never try to out run a tornado in a vehicle.
- Get out of the car immediately and take shelter in a nearby building.
- If there is no time to get indoors, get out of the car and lie in a ditch or low-lying area away from the vehicle. Be aware of the potential for flash flooding.

If a storm event occurs with lightning:

Outdoor activities will be suspended when the potential for lightning occurs. The following measures, offered by the National Lightning Safety Institute of Louisville, Colorado shall be taken to minimize the possibility of injury to personnel by lightning:

- The Site Manager, or SSHO, is responsible to monitor weather conditions.
- Upon seeing lightning or hearing thunder, outdoor activities shall be suspended and personnel shall be evacuated to safe areas (i.e., inside vehicles or buildings). When clouds with dark bases and wind speeds pick up, anticipate thunderstorms. Those who have been struck by lightning did not seek cover in a timely fashion.
- The Site Manager, or SSHO, will continue to monitor weather conditions.
- Outdoor activities may resume 30-minutes after the last bolt of lightning was observed and the last clap of thunder was heard.

- People who have been struck by lightning do not carry an electrical charge and are safe to handle.
- Apply first aid immediately, if you are qualified to do so.
- Get emergency help promptly.
- SAFE AREAS INCLUDE:
  - Fully enclosed metal-topped vehicles with windows up
  - Substantial and permanent buildings
- UNSAFE AREAS INCLUDE:
  - Small structures including huts and rain shelters
  - Nearby metallic objects like fences, gates, instrumentation and electrical equipment, wires, and power poles
- The following shall be avoided when lightning is in the area:
  - Trees
  - Water
  - Open fields
  - Using hard-wired telephones and headsets
  - If hopelessly isolated from shelter during close-in lightning, adopt a low crouching position with feet together (up on toes, if possible) and hands on ears.
- If hair stands on end or rises on back of neck, a lightning strike is imminent.
- Remember the warning phrase from the National Lightning Safety Institute: "If you can see it (lightning), flee it; if you can hear it (thunder), clear it."

Any other types of severe weather events will be evaluated by Site Superintendent/SSHO on an as needed basis.

18.0 PERSONAL HYGIENE AND DECONTAMINATION

18.1 SITE SANITATION

Site facilities will be maintained clean, dry and free of hazards.

An adequate supply of drinking water shall be available for drinking and personal hygiene. If the water supply is not through a public drinking water supply, drinking water shall be provided from commercially purchased bottled water. Portable drinking water containers shall be capable of being closed, have a tap, marked “DRINKING WATER” and may not be used for any other purposes. Disposable cups shall be provided for drinking water. Use of common drinking containers is prohibited. Non-potable water shall be clearly labeled “CAUTION – WATER UNSAFE FOR DRINKING, WASHING, OR COOKING.” There shall not be any cross connections between potable and non-potable water sources.

If the job site does not have an established toilet facility, chemical toilet facilities shall be provided and maintained for use. A minimum of one toilet for every 20 workers shall be

provided. Toilets shall be routinely serviced, cleaned and maintained in good condition. A notice of the service dates shall be posted on the outside of each portable toilet. Washing facilities shall be provided at toilet facilities with soap, water and a means of drying. Hand sanitizers must be provided and used where running water is not available.

Showers are not anticipated to be required for the Seaway project site.

Change areas will be set up in the site work trailers or a separate change trailer will be provided.

Waste receptacles will be provided and maintained during project work.

18.2 DECONTAMINATION

Standard procedures will be used to control the spread of contamination and to ensure that workers are sufficiently free of contamination to preclude adverse health effects. PPE doffing and personnel decontamination are part of this system. This section presents basic requirements for personnel decontamination keyed to the level of protection. These requirements may be modified by the SSHO if upgraded PPE levels are needed.

Level D Protection Doffing/Decontamination

Station 1: Equipment drop
Place potentially contaminated equipment in a clearly labeled drum or waste container. Remove leather gloves and place in safe location for re-donning when personnel re-enter perimeter control zone.

Station 2: PPE removal
Sequential removal of disposable Tyvek® outer boot covers (if worn), Tyvek® overalls (if worn), and finally disposable gloves. Deposit disposable PPE in a designated container.

Station 3: Field wash
Wash face and hands prior to taking anything by mouth, touching face, or using sanitary facilities. Washing may be done with soap and water or disposable disinfectant towels.

19.0 SPILL CONTROL AND CONTAINMENT

It is not anticipated that a Spill Control and Containment Plan will be required for this task order. Any chemicals in sample containers will be maintained in a manner that minimizes the chances of spills and leaks into unwanted locations.

20.0 LOGS, REPORTS, AND RECORD KEEPING

A system of reports and logs will be used to document activities related to site health and safety. These reports will be recorded in the site field book and will include injuries, accidents, near accidents, interpretations of the SSHP or regulations, interactions with auditors/regulators/USACE personnel, and any off normal events. All medical surveillance and exposures safety records will be maintained by the LSRS H&S Manager and in relevant project

files for a minimum period of 30 years following the conclusion of field activities unless otherwise specified by USACE requirements.

21.0 REFERENCES

American Conference of Governmental Industrial Hygienists. 2009. Guide to Occupational Exposure Values.

American Conference of Governmental Industrial Hygienists. 2009. TLVs and BEIs Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices.

American National Standards Institute; Personal Protection-Protective Footwear, ANSI Z41.1 (1991).

American National Standards Institute; Emergency Eyewash, ANSI Z358.1 (2009).

Los Alamos Technical Associates, Inc.; *Health and Safety Program Plan 2013, Medical Surveillance 2014, Respiratory Protection 2015, Hearing Conservation 2013, Hazard Communication Program Plans 2013*.

National Institute for Occupational Safety, 2007, Ergonomic Guidelines for Manual Material Handling, NIOSH Publication No. 2007-131.

National Institute for Occupational Safety and Health. 2009. Pocket Guide to Chemical Hazards.

Practice for Occupational and Educational Eye and Face Protection, ANSI Z87+ (1998).

U.S. Army Corps of Engineers. 2007. Safety and Occupational Health Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) Activities and Ordnance and Explosive Waste (OEW) Activities, ER 385-1-92 (2007).

U.S. Army Corps of Engineers. 2008. Engineer Pamphlet (EP) 415-1-266 Resident Engineer Management Guide (REMG) for Hazardous, Toxic, and Radioactive Waste (HTRW) Projects.

U.S. Army Corps of Engineers. Safety and Health Requirements Manual, EM 385-1-1. September. 2008

U.S. Environmental Protection Agency, Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual, EPA/540/1-89/002, December 1989

U.S. Environmental Protection Agency, *Health Consultation, Jet Gas Spill Site, Lowell, Henry County, Iowa*, October 21, 2004.

U.S. Occupational Safety and Health Administration; Occupational Noise Exposure, 20 C.F.R. §1926.52 (2009).

U.S. Occupational Safety and Health Administration; Occupational Noise Exposure, 29 C.F.R. §1910.95(c) (2009).

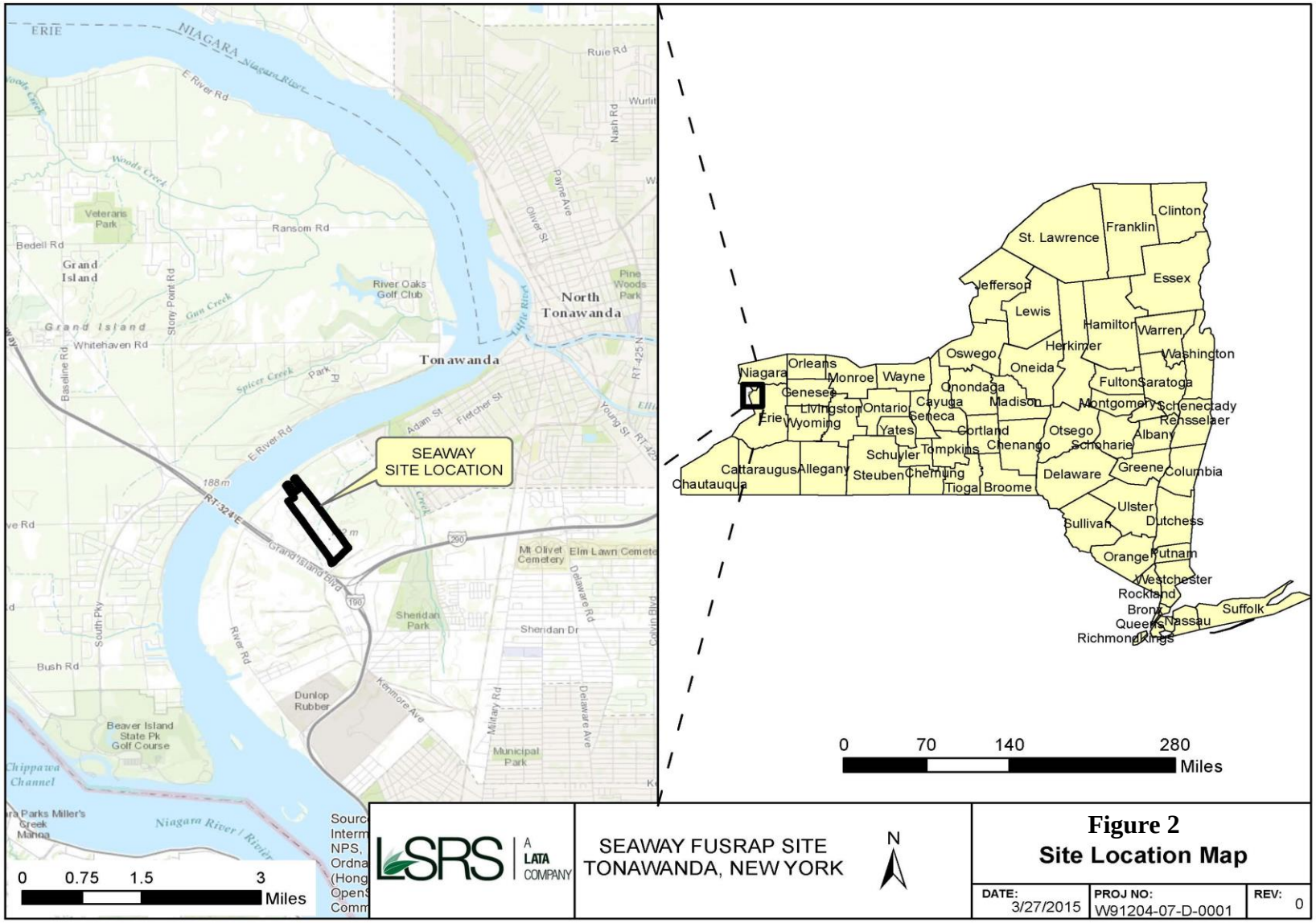
U.S. Occupational Safety and Health Administration; Hazard Communication, 29 C.F.R. §1910.1200 (2006/2012).

U.S. Occupational Safety and Health Administration; Hazardous Waste Operations and Emergency Response, 29 C.F.R. § 1910.120 (2006).

U.S. Occupational Safety and Health Administration; Hazardous Waste Operations and Emergency Response, 29 C.F.R. § 1926.65 (1996).

U.S. Occupational Safety and Health Administration; Hearing Protection, 29 C.F.R. § 1926.101 (2005).

U.S. Occupational Safety and Health Administration; Respiratory Protection, 29 C.F.R. § 1910.134 (2009).



SEAWAY FUSRAP SITE
TONAWANDA, NEW YORK

N

Figure 2
Site Location Map

DATE:	PROJ NO:	REV:
3/27/2015	W91204-07-D-0001	0

Attachment A
Employee Sign Off Form

EMPLOYEE SIGNOFF FORM
Site Safety and Health Plan

The LATA project employees and subcontractors listed below have been provided with a copy of this SSHP, have read and understood it, and agree to abide by its provisions.

Project Name: **Project Number:**

EMPLOYEE NAME (Please print)	**SIGNATURE**	**COMPANY**	**DATE**

Attachment B
LATA Hazard Communication Plan

Hazard Communication Program Plan

	Date:	Title:
[redacted]	09/09/13	Corporate Manager, ES&H
	Date: 9/10/13	Title: President/CEO

The current approved version of this document can be found at the following intranet address: http://latanet under the links of "Policies and Procedures", then "Environment, Safety and Health", and finally "LATA Hazard Communication Program Plan".

This document is effective for use on September 9, 2013 and will remain in effect until altered by an interim change notice, withdrawn, or replaced with a superseding version.

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1.0 PURPOSE

The purpose of this *Hazard Communication Program Plan* (HCPP) is to ensure that the potential hazards of chemicals used by Los Alamos Technical Associates, Inc. (LATA) and its subcontractors are communicated to employees.

This HCPP meets the requirements of Occupational Safety and Health Administration (OSHA) Code of Federal Regulations (CFR), Title 29, Part 1910.1200, *Hazard Communication* (HazCom).

2.0 SCOPE

The HCPP is intended to evaluate the potential hazards of chemicals in the workplace and to communicate information concerning hazards and appropriate protective measures to workers. Activities involved in the evaluation and communication of hazardous chemicals include, but are not limited to: development, implementation and maintenance of a written hazard communication program; compilation of lists of hazardous chemicals in the work place; correct labeling of chemical containers; distribution of Safety Data Sheets (SDSs) to workers; and worker training programs.

Employees assigned to workplaces at locations owned/operated by entities other than LATA will work under the HCPP for that workplace.

2.1 Scope Of The Hazardous Communication Standard As It Applies To LATA

The HazCom standard applies to work areas where employees may be exposed to hazardous chemicals under normal conditions of use, or in a foreseeable emergency. This includes hazardous chemicals procured for use in the workplace and consumer products used in quantities that exceed those of an average consumer. Employers who do not produce or import chemicals need only focus on those parts of the HazCom standard that deal with establishing a workplace program and communicating information to their workers.

The HazCom standard applies to chemical laboratories only as follows: “Employers shall ensure that labels on incoming containers of hazardous chemicals are not removed or defaced; and employers shall maintain any safety data sheets that are received with incoming shipments of hazardous chemicals, and ensure that they are readily accessible during each work shift to laboratory employees when they are in their work areas”. All other work involving chemicals in laboratories is regulated under 29 CFR 1910.1450.

2.2 What The Hazardous Communication Standard Does Not Apply To

The following are examples of exclusions from the HazCom standard.

- Any hazardous waste as covered by the Resource Conservation and Recovery Act when subject to regulations issued under that Act by the United States Environmental Protection Agency;
- Any hazardous substance as defined by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) when the hazardous substance is the focus of remedial or removal action being conducted under CERCLA.
- Tobacco or tobacco products;
- Most wood and wood products;
- Food or alcoholic beverages which are sold, used, or prepared in a retail establishment and foods intended for personal consumption by employees while in the workplace;
- Any drug, as that term is defined in the Federal Food, Drug and Cosmetic Act;
- Cosmetics which are packaged for sale to consumers in a retail establishment;
- Ionizing and nonionizing radiation; and,
- Biological hazards.

For additional information about specific exclusions from this plan, see 29 CFR 1910.1200(b).

3.0 RESPONSIBILITIES

The responsibility for implementation of this procedure may be shared, in whole or in part, between the individuals who hold positions cited in this procedure and others designated to act on their behalf.

The President/Chief Operating Officer, or designee, is responsible for approving this plan and for authorizing the use of LATA resources necessary to develop, implement, and maintain this HCPP.

The Corporate Manager Environment, Safety and Health (ES&H), is the primary management representative responsible for identifying and disseminating ES&H requirements to staff at all levels and for development and implementation of LATA's HCPP. The Corporate Manager ES&H is responsible for facilitating employee involvement in implementation of this HCPP.

The Division/Office Managers play a key role in shaping, implementing, and promoting continuous improvement of this HCPP.

The Project Managers play a central role in identifying the resources necessary to implement and improve this HCPP and in directing the implementation of the HCPP activities.

The Health and Safety Representatives (HSR) have overall responsibility for implementation of this HCPP at the workplace. The HSR is also responsible for the development of a site-specific HCPP for the workplace, as appropriate.

The Field Supervisors are responsible for informing employees of the hazards involved with the chemicals they use or may be exposed to.

All LATA Employees are responsible for completing the training as described in the HCPP to make sure they are prepared to perform their work safely and properly.

3.1 LATA Operations

All LATA Employees are responsible for:

- Following the requirements of this HCPP,
- Consulting their immediate supervisor for information about hazardous chemicals in the workplace,
- Obtaining training about the proper handling of chemicals prior to the start of work,
- Contacting their immediate supervisor for guidance if they suspect that information on a label or in the SDS is inaccurate,
- Safely handling, using, storing, and disposing of chemicals.

The Project Manager and the HSR are responsible for:

- Consulting with the Corporate Manager ES&H for assistance in identifying and evaluating potential exposure to chemicals,
- Providing technical guidance as well as regulatory interpretations to Field Supervisors to assist with implementation of the HCPP,
- Performing periodic reviews of workplace implementation of the HCPP on LATA managed projects,
- Timely updating of the workplace “Hazardous Chemical List” (Figure 8-1),
- Ensuring that employees receive appropriate training,
- Completing and maintaining all documentations required for HazCom training.

3.2 Subcontractor Operations

The Project Manager and HSR are responsible for the following activities related to subcontractor operations:

- Ensuring that the contract agreement requires subcontractors to maintain chemical inventories and have SDSs for all chemicals they bring to the workplace,
- Verifying subcontractors have required HazCom training,
- Providing subcontract oversight to ensure implementation of the HCPP,
- Ensuring that the list of hazardous chemicals and location of applicable SDSs are communicated to subcontractors.

3.3 Procurement Activities

The Project Manager and the HSR are responsible for the following procurement activities:

- Reviewing and approving the procurement of chemicals by LATA and its subcontractors,
- Contacting the Corporate Manager ES&H for guidance whenever questions exist about procuring hazardous chemicals.

4.0 LABELING AND OTHER FORMS OF WARNING

All hazardous chemical containers used at the workplace will have either the original manufacturer's label which includes a product identifier, an appropriate signal word, hazard statement(s), pictogram(s), precautionary statement(s) and the name, address, and telephone number of the chemical manufacturer, importer, or other responsible party as stipulated in 1910.1200(f)(6); OR signs, placards, process sheets, batch tickets, operating procedures, or other such written materials in lieu of affixing labels to individual containers, as long as the alternative method identifies the containers as per 1910.1200(f)(7).

The HSR will ensure that all containers are appropriately labeled. No container will be released for use until this information is verified. Workplace labels must be legible and in English. Other languages will be made available as needed.

5.0 SAFETY DATA SHEETS

Safety Data Sheets provide specific hazard information for chemicals purchased from the manufacturer and chemicals produced as by-products or manufactured in the workplace. If more than one manufacturer supplies the same hazardous chemical, an SDS is maintained for each manufacturer of the chemical.

SDSs must be readily available to all employees during their work shifts. Employees can review SDSs, as needed, for all hazardous chemicals used in the workplace. SDSs are stored at the individual office locations and will be available in the field as attachments to SSHASPs.

Copies of SDSs (paper and electronic) are updated and managed by the HSR. If a SDS is not available for a hazardous chemical, the HSR will immediately contact the manufacturer or vendor for a copy.

The Project Manager and the HSR are responsible for requesting SDSs for hazardous chemicals and ensuring that a current SDS for each hazardous chemical present in the workplace is maintained in the project files at the workplace. Before the start of work with hazardous chemicals, verify that SDSs for the hazardous chemicals handled, used, stored, and/or disposed of in workplaces are readily available to employees for review.

Every SDS must be written in English and include the following section numbers and headings:

- Section 1, Identification

- Section 2, Hazard(s) identification
- Section 3, Composition/information on ingredients
- Section 4, First-aid measures
- Section 5, Fire-fighting measures
- Section 6, Accidental release measures
- Section 7, Handling and storage
- Section 8, Exposure controls/personal protection
- Section 9, Physical and chemical properties
- Section 10, Stability and reactivity
- Section 11, Toxicological information
- *Section 12, Ecological information**
- *Section 13, Disposal considerations**
- *Section 14, Transport information**
- *Section 15, Regulatory information**
- Section 16, Other information, including date of preparation or last revision

*OSHA will not be enforcing information requirements in Sections 12 through 15, as these areas are not under its jurisdiction.

6.0 EMPLOYEE INFORMATION AND TRAINING

LATA provides HazCom training to employees whose work involves the potential for exposure to hazardous chemicals. The content of this training will provide employees with effective information and training on hazardous chemicals in the work area at the time of initial assignment, and whenever a new chemical hazard is introduced into the work area. Information and training is designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and SDSs.

6.1 Hazard Communication Information

Hazard communication information will include at least the following:

- The requirements of 29 CFR 1910.1200;
- Any operations in work areas where hazardous chemicals are present; and,
- The location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and SDSs.

6.2 Hazard Communication Training

HazCom training will include at least the following:

- Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (monitoring conducted by the employer, visual appearance or odor of hazardous chemicals, etc.);
- The physical, health, simple asphyxiation, combustible dust, and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area;
- The measures employees can take to protect themselves from these hazards, including specific procedures LATA has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment (PPE) to be used; and,
- The details of this hazard communication program developed by LATA, including an explanation of the labels received on shipped containers and the workplace labeling system; the safety data sheet, and how employees can obtain and use the appropriate hazard information.

6.3 Site Specific Training

The HSR, Project Manager, or the Corporate Manager ES&H will provide site specific training to employees who work with hazardous chemicals and maintain written documentation of the training provided to employees. When an employee is first assigned to a site and before the employee works with any hazardous chemicals, workplace training must be completed. Whenever a new chemical hazard is introduced into the workplace, the training must be updated. Site specific HazCom training covers the following information, as applicable:

- Proper labeling and hazards of the chemicals, including secondary containers
- Where to get SDSs and inventory lists for the hazardous chemicals
- Hazards associated with the chemicals in the SDSs and inventory lists
- Physical effects of the hazardous chemicals (e.g., flammability or corrosiveness)
- Short-term and long-term effects, including target organs, of the hazardous chemicals
- Processes or operations involved with the hazardous chemicals
- Hazards associated with chemicals in unlabeled pipes in the workplace
- Environmental monitoring performed by LATA
- General and specific workplace control measures for handling hazardous chemicals
- General and specific PPE required when working with hazardous chemicals
- Emergency procedures for a spill or release of hazardous chemicals
- The location of this HCPP and any existing site-specific HCPP.

LATA will make the written HCPP available, upon request, to employees and their designated representatives. Where employees must travel between workplaces during a work shift (i.e., their work is carried out at more than one geographical location) the written HCPP will be kept at the primary workplace facility.

6.4 Non-Routine Tasks and Unlabeled Pipes

Before employees perform special (non-routine) tasks that may expose them to hazardous chemicals, the HSR will inform them about the chemicals' hazards, how to control exposure and what to do in an emergency. LATA will evaluate the hazards of these tasks and provide appropriate controls including PPE and all additional training, as required.

LATA does not usually conduct work in areas with unlabeled pipes. If such work were to occur the appropriate information and training, as required by 1910.1200, would be provided to employees.

7.0 MULTI-EMPLOYER WORKPLACES

At LATA job sites that produce, use, or store hazardous chemicals at a workplace where other contractors may be exposed (for example, employees of a construction contractor working on-site) the HSR will ensure that the other contractors:

- Receive adequate HazCom training as described in this Program;
- Have on-site access to SDS for each hazardous chemical they may be exposed to while working;
- Have information regarding any precautionary measures that need to be taken to protect employees during the workplace's normal operating conditions and in foreseeable emergencies; and;
- Are informed about the labeling system used in the workplace.

8.0 LIST OF HAZARDOUS CHEMICALS

LATA work locations where hazardous chemicals are used must have a list of the hazardous chemicals known to be present at that location. This list can be generated using Figure 8-1, Hazardous Chemical List (HCL) or a document with the same content. The HCL identifies all hazardous chemicals with a potential for employee exposure at a given workplace. The product identifier for each chemical on the HCL must match and be easily cross-referenced with the product identifier on the chemical's container label and on its Safety Data Sheet.

9.0 RECORDS

Records generated or received as a result of this plan are maintained in accordance with the Quality Management System Description, Section 6.0.

10.0 DEFINITIONS

chemical. Any substance, or mixture of substances.

container. A bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical.

hazard class. The nature of the physical or health hazards, e.g., flammable solid, carcinogen, oral acute toxicity.

hazard not otherwise classified. An adverse physical or health effect identified through evaluation of scientific evidence during the classification process that does not meet the specified criteria for the physical and health hazards addressed in this section.

hazard statement. A statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

hazardous chemical. Any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

health hazard. A chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard.

label. An appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.

label elements. The specified pictogram, hazard statement, signal word and precautionary statement for each hazard class and category.

physical hazard. A chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas.

pictogram. A composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under the HazCom standard for application to a hazard category.

precautionary statement. A phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.

safety data sheet (SDS). Written or printed material concerning a hazardous chemical that is prepared in accordance with 1910.1200 (g).

signal word. A word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in the HazCom standard are “danger” and “warning.” “Danger” is used for the more severe hazards, while “warning” is used for the less severe.

work area. A room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

workplace. An establishment, job site, or project, at one geographical location containing one or more work areas.

11.0 ACRONYMS

Acronym	Full Title or Phrase
CFR	Code of Federal Regulations
ES&H	Environment, Safety and Health
HazCom	Hazardous Communication
HCL	Hazardous Chemical List
HSR	Health and Safety Representative
HCPP	Hazard Communication Program Plan
LATA	Los Alamos Technical Associates, Inc.
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
QMSD	Quality Management System Description
SDS	Safety Data Sheet

APPENDIX A

FIGURES/FORMS

Figure 8-1, Hazardous Chemical List

Product Name	Manufacturer/Vendor	Product ID (From Safety Data Sheet)	Quantity

Attachment C
Activity Hazard Analysis

ACTIVITY HAZARDS ANALYSIS

Overall Risk Assessment Code (RAC)
(Use highest code)

M

Date: 27 March 2015 Project: Remedial Action

Activity: Site Mobilization, Trailer, Sanitary, Electrical and General Site Prep

Activity Location: Seaway FUSRAP Site

[redacted]

Risk Assessment Code Matrix

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

Severity	Probability: Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Utilities	Utility identification will be requested prior to work. New York One Call (811) will be contacted before mobilization. Other local utility providers must be called directly for identification purposes. Visual inspection and review of utility plans should be used to determine locations of underground and overhead utilities prior to the start of site mobilization and work. Observe visible overhead utilities; contact the NY One Call (811) Underground Utilities Service, hand clear in areas with potential unknown underground utilities. Utilities must be marked prior to utilizing a hand auger or post hole digger. Extra caution must be taken when penetrating five to ten feet below ground level. The use of a Qualified Electrician with training on energized circuits in accordance with EM 385-1-1, Section 11 and training on NFPA 70E may be required when establishing electrical service to site trailers.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Physical injuries - slips, trips and falls	The work area shall be visually inspected. Slip, trip and fall hazards shall be either removed, marked and barricaded. Daily inspections should be conducted to look for tripping hazards resulting from poor housekeeping or changing work conditions. All site personnel should be attentive to the conditions of their work locations and correct or identify hazards as they occur.	M
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Housekeeping	Housekeeping issues are a top cause of workplace injury. Everyone is responsible for housekeeping on site. If you see an issue, fix it. Use the buddy system to mitigate these hazards. Don't ignore the potential for injury, however unlikely you think it may be. If there is a potential for injury, take the opportunity to improve the work area. Materials will be stored to prevent intrusion into the work and traffic areas. Work areas will be kept organized and free of debris in order to reduce slip, trip and fall hazards. Construction materials will be stored in a separate staging area to prevent congestion in the work areas. Materials will be stored in a designated staging area to prevent traffic congestion and unnecessary site workers out of the injection areas. The work areas will be kept organized and free of debris in order to reduce slip, trip and fall hazards.	L
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Muscle injury - Strains and sprains from manually lifting and moving	Proper lifting techniques will be used such as keeping a straight back, lifting with the legs; personnel will avoid twisting back while lifting , will use mechanical equipment, or get help from others. Any equipment/supplies over 50 lbs will require two (or more) field team members to lift or follow the ACGIH Lifting TLV.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Lacerations and Abrasions (Hands/Fingers/Feet)	Personnel shall be made aware of the hazard and asked to coordinate carefully the handling and placement of heavy objects. Materials and objects being handled will be inspected for rough or sharp edges, and appropriate precautions shall be taken to avoid contact. Personnel shall wear work gloves when handling these items. Avoid placing hands between objects. Be aware of pinch points and objects that can unexpectedly shift. Appropriate footwear shall be worn.	M
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Heat / Cold Stress	Employees will be trained in the recognition of heat and cold stress symptoms and appropriate actions to take. Heat stress conditions include heat rash, heat cramps, heat exhaustion and heat stroke. Workers should avoid exposure to extreme heat, sun exposure and high humidity when possible. Other preventions include: wearing light-colored, loose fitting clothing such as cotton; gradually build up to heavy work, schedule heavy work during the coolest time of the day; take frequent breaks in the shade or a cool area; drink plenty of fluids, and be aware that some PPE may increase the risk of heat stress. Heat exhaustion can be recognized by excessive sweating, weakness, dizziness, nausea, clammy skin, muscle cramps and fast breathing. Workers should be moved to a cool shaded or air-conditioned area, made to drink plenty of water or other non-alcoholic beverages and made to takes a shower or another method to lower the body temperature. A more serious condition is known as Heat Stroke. Heat Stroke can be fatal if medical attention is not immediately obtained. The signs of Heat Stroke that cannot be ignored is when you stop perspiring and your skin is red and flushed. Light-headedness and fainting are likely. If you suspect heat stroke, call 911 immediately. Use of cold weather gear will be directed by the SSHO as appropriate. Temperature and wind chill factors will be monitored and exposure times limited as necessary to eliminate cold-type injuries such as frostbite and hypothermia. Fluids will be available to workers at all times. Work rest periods will be established according to ACGIH and NIOSH guidelines.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Weather	Weather will be monitored by a combination of visual inspection, an on site weather station, and use of internet for radar and storm tracking. All workers will be informed of possible severe weather conditions. A designated safe shelter will be identified on site when weather conditions warrant taking cover. Efforts shall be made to leave the work area in a safe configuration before leaving to take cover when time permits. Any lightening followed by thunder less than 30 seconds apart will stop all site work for 30 minutes or until the last lightening strike with thunder less than 30 seconds apart.	L
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities.	Traffic Safety/Public Safety	Physical access restrictions such as traffic cones and caution tape shall be used to prevent traffic from driving into/over open areas or trenches. Personnel should also be aware of nearby traffic and stay behind traffic cones and caution tape to prevent injury from being struck by equipment/vehicles. Limit access to these work areas to only site personnel. All personnel working around high traffic areas must wear high visibility vests. Ground personnel should also be aware of nearby traffic and stay behind traffic cones and caution tape to prevent personal injury caused by collision with a vehicle. Should use of a flagman be necessary in order to control traffic on public roads during work activities, the individual will be trained in accordance with the New York DOT requirements. All personnel working around heavy equipment must wear high visibility vests.	M

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Biological Hazards - poisonous plants and animals	Personnel will review recognition of poisonous plants, insects, snakes, spiders or other animals typical of this area and use appropriate measures as required. When conditions warrant or as directed by the SSHO, PPE will be worn to protect workers. Use the buddy system to perform tick inspections prior to leaving the work site and entering vehicles. Be aware of the symptoms of tick-borne diseases (Lyme Disease and Rocky Mountain Spotted Fever). Back away slowly from snakes in the direction of approach, being aware of the possibility of other snakes in the area. If bitten, wash and immobilize the injured area, keeping it lower than the heart if possible. DO NOT APPLY ICE, CUT THE WOUND, OR APPLY A TOURNIQUET. If you identify the snake as venomous, dial 911. Depending on the condition of the site, an ivy-blocking ointment or lotion should be available for use by site personnel potentially exposed to poison ivy. Care should be taken and gloves worn when moving brush or materials where spiders may be hiding. Long pants and coverings on the arms will provide a minor protection, but personnel must aware during certain activities to watch	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Heavy Equipment Operation	All safety guidelines specified in EM 385-1-1, Section 18G shall be followed. Equipment must be inspected on a daily and / or shift basis. If equipment is found to be unsuitable for planned work purposes, it shall be removed from service. Inspection records must be kept on site. Equipment operators shall be observant of ground personnel and potential driving hazards while operating heavy equipment and a spotter shall be used during backing operations of any vehicle. Ground personnel shall be aware of heavy equipment operations and make eye contact with either the equipment operator or the spotter before approaching or crossing the path of any vehicle. Personnel working around traffic or heavy equipment are required to wear high visibility shirts or vests at all time. Equipment will only be operated by qualified personnel and in accordance with the manufacturer's instructions. Heavy equipment that is not designed for personnel transportation shall not be used for that purpose.	M
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Eye Hazards	Protective eye wear with side shields that meet the ANSI Z-87.1 standards shall be worn at all times when work is in progress at the site. If face shields are required, protective eye meeting ANZI Z-87.1 shall be worn underneath as well.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Noise	Noise levels will be monitored and hearing protection will be required for noise in excess of 85 dBA TWA.	L
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Chemical Hazards- Hazard Communication	During all site activities that involve the operation of any heavy equipment or motor vehicles, personnel will wear the proper PPE when handling hydraulic fluid, lubricating oils or greases, or motor oils. PPE at the minimum shall include protective eye wear, nitrile or work gloves, safety toed boots, a hard hat, and a high visibility vest. MSDS's will be available to personnel for all chemicals on site.	L
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Fall Hazards	The work area shall be inspected daily, at a minimum, for open areas hazards. All identified hazards shall be remedied or marked and barricaded to prevent injury. Access will be controlled in these areas. Fall protection, such as the use of a harness and lanyard, will be required for elevated work greater than 6 feet above the work surface. Inspect ladders before use. Defective ladders shall be placed out of service and tagged "Do Not Use". Contact the SSHO for guidance. Hardhats are required while in work areas.	M

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Electrical Shock / Electrocution	Electrical tools / equipment shall be inspected for damage or wear prior to use. Tools with damage that cannot be repaired will be made inoperable by cutting off the cord. Portable electric tools / equipment that are unsafe due to faulty plugs, damaged cords, or other reason and are repairable shall be clearly marked and removed from service. A ground fault circuit interrupter (GFCI) device shall be used with all cord and plug-connected equipment. Cords shall be protected from damage from sharp edges, projections, pinch points (doorways), and vehicular traffic. Cords shall be suspended with a non-conductive support (rope, plastic, ties, etc.). Check batteries on any cordless tools. Batteries that are unsafe due to leaking or damage of any kind will be removed from service. Electrical safety measures will be implemented in accordance with NFPA 70 & 70E during all site activities when working with energized equipment.	
X	1. Mobilize personnel and equipment to site 2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 8. Install project sign 9. Install grounding rods for generators 10. Install site fence 11. Set up site trailer 12. Hookup Electric to trailer 13. Set up bathroom facilities	Fire	Smoke in designated areas only. Do not refuel equipment while hot. Fire extinguishers of proper size and classification will be available in the work area. Inspect Fire extinguishers on a monthly basis. Ensure flammables are stored properly. All Hot Work requires a permit. Contact SSHO for Hot Work Permit.	
X	2. Set up of the work zone and staging areas. 3. Conduct site prep (clearing/grubbing/mowing). 4. Install a lay down area. 5. Establish sample prep and equipment storage areas. 6. Set up decontamination area. 7. Install silt fence for erosion control. 9. Install grounding rods for generators 10. Install site fence	Radiological	Radiological Control Technicians (RCT's) to complete radiological surveys per the Radiation Protection Plan. Follow instructions of Radiological Work Permits and RCT's.	

ACTIVITY HAZARDS ANALYSIS

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Roller/Compactor	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.).
X	Skid steer with bucket and rotary mower	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.).
X	Dump Trucks	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.).
X	Bulldozer	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.).
X	Equipment	State License/ Permit, Company certified and Operator Equipment Certification Record.	Per manufacturer/subcontractor's requirements. The competent Person shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.).
X	Power Tools	Follow manufacturer's cut sheets and procedures.	Electrical tools / equipment shall be inspected daily for damage or wear prior to use. Tools with damage that cannot be repaired will be made inoperable by cutting off the cord.
X	Training	40 Hour HAZWOPER Training 8-hour Refresher Company Orientation Hazard Communications Training Specific Task Training Rad Worker II Training	All training records and certifications will be available in Appendix C of the Accident Prevention Plan and QCP.

ACTIVITY HAZARDS ANALYSIS

	EQUIPMENT	TRAINING	INSPECTION
X		Qualified Electrician with training on energized circuits in accordance with EM 385-1-1, Section 11 and training on NFPA 70E. Verifiable credentials of electrician who is familiar with applicable code requirements. Credentials will consist of State, National and/or local Certifications and Licenses.	Local inspection may be required.

Involved Personnel:

Competent Person for Safety: [redacted]

Acceptance Authority (digital signature): _____

ACTIVITY HAZARDS ANALYSIS

Overall Risk Assessment Code (RAC)
(Use highest code)

M

Date: 27 March 2015 Project: Remedial Action

Activity: Site Ops; Install/maintain roads, walkways, air monitoring equipment, weather station, silt fence, portable rest rooms and hand wash faciliti

Activity Location: Seaway FUSRAP Site

Prepared By: [redacted]

Risk Assessment Code Matrix

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

Severity	Probability: Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Strip topsoil and grade.	Utilities	Utility identification will be requested prior to work. New York One Call (811) will be contacted before mobilization. Other local utility providers must be called directly for identification purposes. Visual inspection and review of utility plans should be used to determine locations of underground and overhead utilities prior to the start of site mobilization and work. Observe visible overhead utilities; contact the Underground Utilities Service, hand clear in areas with potential unknown underground utilities.	L
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Physical injuries - slips, trips and falls	The work area shall be visually inspected. Slip, trip and fall hazards shall be either removed or marked and barricaded. Daily inspections should be conducted to look for tripping hazards resulting from poor housekeeping or changing work conditions. All site personnel should be attentive to the conditions of their work locations and correct or identify hazards as they occur.	M

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Housekeeping	Housekeeping issues are a top cause of workplace injury. Everyone is responsible for housekeeping on site. If you see an issue, fix it. Use the buddy system proactively to mitigate these hazards. Don't ignore the potential for injury, however unlikely you think it may be. If there is a potential for injury, take the opportunity to improve the work area. Materials will be stored to prevent intrusion into the work and traffic areas. Work areas will be kept organized and free of debris in order to reduce slip, trip and fall hazards. Construction materials will be stored in a separate staging area to prevent congestion in the work areas. Materials will be stored in a designated staging area to prevent traffic congestion and unnecessary site workers out of the injection areas. The injection areas will be kept organized and free of debris in order to reduce slip, trip and fall hazards.	L
X	2. Lay non-woven geotextile fabric.	Muscle injury - Strains and sprains from manually lifting and moving	Proper lifting techniques will be used such as keeping a straight back, lifting with the legs; personnel will avoid twisting back while lifting , will use mechanical equipment, or get help from others. Any equipment/supplies over 50 lbs will require two (or more) field team members to lift or follow the ACGIH Lifting TLV.	L
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Lacerations and Abrasions (Hands/Fingers/Feet)	Personnel shall be made aware of the hazard and asked to coordinate carefully the handling and placement of heavy objects. Materials and objects being handled will be inspected for rough or sharp edges, and appropriate precautions shall be taken to avoid contact. Personnel shall wear work gloves when handling these items. Avoid placing hands between objects. Be aware of pinch points and objects that can unexpectedly shift. Safety-Toed boots shall be worn.	M

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Heat / Cold Stress	Employees will be trained in the recognition of heat and cold stress symptoms and appropriate actions to take. Heat stress conditions include heat rash, heat cramps, heat exhaustion and heat stroke. Workers should avoid exposure to extreme heat, sun exposure and high humidity when possible. Other preventions include: wearing light-colored, loose fitting clothing such as cotton; gradually build up to heavy work, schedule heavy work during the coolest time of the day; take frequent breaks in the shade or a cool area; drink plenty of fluids, and be aware that some PPE may increase the risk of heat stress. Heat exhaustion can be recognized by excessive sweating, weakness, dizziness, nausea, clammy skin, muscle cramps and fast breathing. Workers should be moved to a cool shaded or air-conditioned area, made to drink plenty of water or other non-alcoholic beverages and made to takes a shower or another method to lower the body temperature. A more serious condition is known as Heat Stroke. Heat Stroke can be fatal if medical attention is not immediately obtained. The signs of Heat Stroke that cannot be ignored is when you stop perspiring and your skin is red and flushed. Light-headedness and fainting are likely. If you suspect heat stroke, call 911 immediately. Use of cold weather gear will be directed by the SSHO as appropriate. Temperature and wind chill factors will be monitored and exposure times limited as necessary to eliminate cold-type injuries such as frostbite and hypothermia. Fluids will be available to workers at all times. Work rest periods will be established according to ACGIH and NIOSH guidelines.	L
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Weather	Weather will be monitored by a combination of visual inspection, an on site weather station, and use of internet for radar and storm tracking. All workers will be informed of possible severe weather conditions. A designated safe shelter will be identified on site when weather conditions warrant taking cover. Efforts shall be made to leave the work area in a safe configuration before leaving to take cover when time permits. Any lightening followed by thunder less than 30 seconds apart will stop all site work for 30 minutes or until the last lightening strike with thunder less than 30 seconds apart.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Traffic Safety/Public Safety	Physical access restrictions such as traffic cones and caution tape shall be used to prevent traffic from driving into/over open areas or trenches. Personnel should also be aware of nearby traffic and stay behind traffic cones and caution tape to prevent injury from being struck by equipment/vehicles. Limit access to these work areas to only site personnel. All personnel working around high traffic areas must wear high visibility vests. Ground personnel should also be aware of nearby traffic and stay behind traffic cones and caution tape to prevent personal injury caused by collision with a vehicle. Should use of a flagman be necessary in order to control traffic on public roads during work activities, the individual will be trained in accordance with the NY DOT requirements. All personnel working around heavy equipment must wear high visibility vests.	M

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Biological Hazards - poisonous plants and animals	Personnel will review recognition of poisonous plants, insects, snakes, spiders or other animals typical of this area and use appropriate measures as required. When conditions warrant or as directed by the SSHO, PPE will be worn to protect workers. Use the buddy system to perform tick inspections prior to leaving the work site and entering vehicles. Be aware of the symptoms of tick-borne diseases (Lyme Disease and Rocky Mountain Spotted Fever). Back away slowly from snakes in the direction of approach, being aware of the possibility of other snakes in the area. If bitten, wash and immobilize the injured area, keeping it lower than the heart if possible. DO NOT APPLY ICE, CUT THE WOUND, OR APPLY A TOURNIQUET. If you identify the snake as venomous, dial 911. Depending on the condition of the site, an ivy-blocking ointment or lotion should be available for use by site personnel potentially exposed to poison ivy. Care should be taken and gloves worn when moving brush or materials where spiders may be hiding. Long pants and coverings on the arms will provide a minor protection, but personnel must aware during certain activities to watch for these hazards. PPE may be recommended during certain activities.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Heavy Equipment Operation	Equipment shall be inspected upon arrival. Equipment must be inspected on a daily and / or shift basis. If equipment is found to be unsuitable for planned work purposes, it shall be removed from service. Inspection records must be kept on site. Equipment operators shall be observant of ground personnel and potential driving hazards while operating heavy equipment and a spotter shall be used during backing operations of any vehicle. Ground personnel shall be aware of heavy equipment operations and make eye contact with either the equipment operator or the spotter before approaching or crossing the path of any vehicle. Personnel working around traffic or heavy equipment are required to wear high visibility shirts or vests at all time. Equipment will only be operated by qualified personnel and in accordance with the manufacturer's instructions. Heavy equipment that is not designed for personnel transportation shall not be used for that purpose.	M
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Eye Hazards	Protective eye wear with side shields that meet the ANSI Z-87.1 standards shall be worn at all times when work is in progress at the site. If face shields are required, protective eye meeting ANZI Z-87.1 shall be worn underneath as well.	L
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Noise	Noise levels will be monitored and hearing protection will be required for noise in excess of 85 dBA TWA.	L
X	1. Strip topsoil and grade. 3. Import base material. 4. Roll / compact base.	Chemical Hazards- Hazard Communication	During all site activities that involve the operation of any heavy equipment or motor vehicles, personnel will wear the proper PPE when handling hydraulic fluid, lubricating oils or greases, or motor oils. PPE at the minimum shall include protective eye wear, nitrile or work gloves, steel toe boots, a hard hat, and a high visibility vest. MSDS's will be available to personnel for all chemicals on site.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Fire	Smoke in designated areas only. Do not refuel equipment while hot. Fire extinguishers of proper size and classification will be available in the work area. Inspect Fire extinguishers on a monthly basis. Ensure flammables are stored properly. All Hot Work requires a permit. Contact SSHO for Hot Work Permit.	
X	1. Strip topsoil and grade. 2. Lay non-woven geotextile fabric. 3. Import base material. 4. Roll / compact base.	Radiological	Radiological Control Technicians (RCT's) to complete radiological surveys per the Radiation Protection Plan. Follow instructions of Radiological Work Permits and RCT's.	

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Roller/Compactor	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.).
X	Skid steer with bucket and rotary mower	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.).
X	Dump Trucks	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.).
X	Bulldozer	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.).

ACTIVITY HAZARDS ANALYSIS

	EQUIPMENT	TRAINING	INSPECTION
X	Equipment	State License / Permit, Company Certified, and Operator Equipment Certification Record.	
X		40 Hour HAZWOPER Training 8-hour Refresher Company Orientation Hazard Communications Training Task Specific Training Rad Worker II Training	All training records and certifications will be available in Appendix C of the Accident Prevention Plan and QCP.

Involved Personnel:

TBD

Competent Person for Safety: [redacted]

Acceptance Authority (digital signature): _____

ACTIVITY HAZARDS ANALYSIS

Overall Risk Assessment Code (RAC)
(Use highest code)

M

Date: 27 March 2015

Project: Removal Action

Activity: Excavation, Direct Load Soil into Trucks, and Backfill Excavation Area.

Activity Location: Seaway FUSRAP Site

Prepared By: [redacted]

Risk Assessment Code Matrix

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

Severity	Probability: Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Utilities	Utility identification will be requested prior to work. New York One Call (811) will be contacted during mobilization. Other local utility providers must be called directly for identification purposes. Visual inspection and review of utility plans should be used to determine locations of underground and overhead utilities prior to the start of site mobilization and work. Observe visible overhead utilities; contact the Underground Utilities Service, hand clear in areas with potential unknown underground utilities.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Physical injuries - slips, trips and falls	The work area shall be visually inspected. Slip, trip and fall hazards shall be either removed or marked and barricaded. Daily inspections should be conducted to look for tripping hazards resulting from poor housekeeping or changing work conditions. All site personnel should be attentive to the conditions of their work locations and correct or identify hazards as they occur. Housekeeping issues are a top cause of workplace injury. Everyone is responsible for housekeeping on site. If you see an issue, fix it. Use the buddy system to mitigate these hazards. Don't ignore the potential for injury, however unlikely you think it may be. If there is a potential for injury, take the opportunity to improve the work area. Backfill materials will be stored to prevent intrusion into the work and traffic areas. Work areas will be kept organized and free of debris in order to reduce slip, trip and fall hazards. Backfill materials will be stored in a separate staging area to prevent congestion in the work areas.	M
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Muscle injury - Strains and sprains from manually lifting and moving	Proper lifting techniques will be used such as keeping a straight back, lifting with the legs; personnel will avoid twisting back while lifting , will use mechanical equipment, or get help from others. Any equipment/supplies over 50 lbs will require two (or more) field team members to lift or follow the ACGIH Lifting TLV.	L
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Lacerations and Abrasions (Hands/Fingers/Feet)	Personnel shall be made aware of the hazard and asked to coordinate carefully the handling and placement of heavy objects. Materials and objects being handled will be inspected for rough or sharp edges, and appropriate precautions shall be taken to avoid contact. Personnel shall wear work gloves when handling these items. Avoid placing hands between objects. Be aware of pinch points and objects that can unexpectedly shift. Safety-Toed boots shall be worn.	M

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Heat / Cold Stress	Employees will be trained in the recognition of heat and cold stress symptoms and appropriate actions to take. Heat stress conditions include heat rash, heat cramps, heat exhaustion and heat stroke. Workers should avoid exposure to extreme heat, sun exposure and high humidity when possible. Other preventions include: wearing light-colored, loose fitting clothing such as cotton; gradually build up to heavy work, schedule heavy work during the coolest time of the day; take frequent breaks in the shade or a cool area; drink plenty of fluids, and be aware that some PPE may increase the risk of heat stress. Heat exhaustion can be recognized by excessive sweating, weakness, dizziness, nausea, clammy skin, muscle cramps and fast breathing. Workers should be moved to a cool shaded or air-conditioned area, made to drink plenty of water or other non-alcoholic beverages and made to takes a shower or another method to lower the body temperature. A more serious condition is known as Heat Stroke. Heat Stroke can be fatal if medical attention is not immediately obtained. The signs of Heat Stroke that cannot be ignored is when you stop perspiring and your skin is red and flushed. Light-headedness and fainting are likely. If you suspect heat stroke, call 911 immediately. Use of cold weather gear will be directed by the SSHO as appropriate. Temperature and wind chill factors will be monitored and exposure times limited as necessary to eliminate cold-type injuries such as frostbite and hypothermia. Fluids will be available to workers at all times. Work rest periods will be established according to ACGIH and NIOSH guidelines.	L
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Weather	Weather will be monitored by a combination of visual inspection, an on site weather station, and use of internet for radar and storm tracking. All workers will be informed of possible severe weather conditions. A designated safe shelter will be identified on site when weather conditions warrant taking cover. Efforts shall be made to leave the work area in a safe configuration before leaving to take cover when time permits. Any lightening followed by thunder less than 30 seconds apart will stop all site work for 30 minutes or until the last lightening strike with thunder less than 30 seconds apart.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Traffic Safety/Public Safety	Physical access restrictions such as traffic cones and caution tape shall be used to prevent traffic from driving into/over open areas or trenches. Personnel should also be aware of nearby traffic and stay behind traffic cones and caution tape to prevent injury by collision. Limit access to these work areas to only site personnel. All personnel working around high traffic areas must wear high visibility vests. Ground personnel should also be aware of nearby traffic and stay behind traffic cones and caution tape to prevent personal injury caused by collision with a vehicle. Should use of a flagman be necessary in order to control traffic on public roads during work activities, the individual will be trained in accordance with the NY DOT requirements. . All personnel working around heavy equipment must wear high visibility vests.	M
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Biological Hazards - insects, spiders, snakes and plants	Personnel will review recognition of poisonous plants, insects, snakes, spiders or other animals typical of this area and use appropriate measures as required. When conditions warrant or as directed by the SSHO, PPE will be worn to protect workers. Use the buddy system to perform tick inspections prior to leaving the work site and entering vehicles. Be aware of the symptoms of tick-borne diseases (Lyme Disease). Back away slowly from snakes in the direction of approach, being aware of the possibility of other snakes in the area. If bitten, wash and immobilize the injured area, keeping it lower than the heart if possible. DO NOT APPLY ICE, CUT THE WOUND, OR APPLY A TOURNIQUET. If you identify the snake as venomous, call 911. Depending on the condition of the site, an ivy-blocking ointment or lotion should be available for use by site personnel potentially exposed to poison ivy. Care should be taken and gloves worn when moving brush or materials where spiders may be hiding. Long pants and coverings on the arms will provide a minor protection, but personnel must aware during certain activities to watch for these hazards. PPE may be recommended during certain activities.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Heavy Equipment Operation	Equipment shall be inspected upon arrival. Equipment will be inspected on a daily and / or shift basis. If equipment is found to be unsuitable for planned work purposes, it will be removed from service. Inspection records will be kept on site. Equipment operators shall be observant of ground personnel and potential driving hazards while operating heavy equipment and a spotter shall be used during backing operations of any vehicle. Ground personnel shall be aware of heavy equipment operations and make eye contact with either the equipment operator or the spotter before approaching or crossing the path of any vehicle. Personnel working around traffic or heavy equipment are required to wear high visibility shirts or vests at all time. Equipment will only be operated by qualified personnel and in accordance with the manufacturer's instructions. Heavy equipment that is not designed for personnel transportation shall not be used for that purpose.	M
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Eye Hazards	Protective eye wear with side shields that meet the ANSI Z-87.1 standards shall be worn at all times when work is in progress at the site. If face shields are required, protective eye meeting ANZI Z-87.1 shall be worn underneath as well.	L
X	1. Excavate usurface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Noise	Noise exposures will be monitored and hearing protection will be required for a noise in excess of 85 dBA TWA.	L
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Chemical Hazards- Hazard Communication	During all prep and site activities that involve the operation of any heavy equipment or motor vehicles, personnel will wear the proper PPE when handling hydraulic fluid, lubricating oils or greases, or motor oils. PPE at the minimum shall include protective eye wear, nitrile or work gloves, safety toed boots, a hard hat, and a high visibility vest. MSDS's will be available to personnel for all chemicals on site.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Fall Hazards	The work area shall be inspected daily, at a minimum, for open areas hazards. All identified hazards shall be remedied or marked and barricaded to prevent injury. Access will be controlled in these areas. Fall protection, such as the use of a harness and lanyard, will be required for elevated work greater than 6 feet above the work surface. Inspect ladders before use. Defective ladders shall be placed out of service and tagged "Do Not Use". Contact the SSHO for guidance. Hardhats are required while in work areas.	M
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Heavy Equipment Loading and Unloading	The equipment operator should be trained on how to safely load or unload equipment off trailers. The trailer and ramp should be adequately sized for the equipment and in good condition. The heavy equipment should only be loaded or unloaded on level, stable ground. The flatbed truck should have the brake set, the wheels chocked, and the motor off. Loading near overhead power lines should be avoided. Access will be controlled in loading/unloading zones. Restrict on foot personnel from the loading/unloading zone during operations. Workers on foot should never be on either side of the trailer during loading/unloading. If necessary, a spotter can assist in positioning the equipment on the trailer. Once loaded, equipment will be secured to prevent shifting during transport.	M
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Open Excavations	Personnel are not allowed inside of excavations All trench spoils will be kept at least 2 ft. from edge of trench and equipment shall not be placed, stored, or operated on the edge of a trench Trenches will be appropriately marked with fencing, signs, cones, tape, etc. to warn and protect from entry Inspect excavation every shift and after rain events.	

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Fire	Smoke in designated areas only. Do not refuel equipment while hot. Fire extinguishers of proper size and classification will be available in the work area. Inspect Fire extinguishers on a monthly basis. Ensure flammables are stored properly.	
X	1. Excavate surface and subsurface impacted soil. 2. Direct load soil onto dump trucks or to staging area. 3. Backfill excavation.	Radiological	Radiological Control Technicians (RCT's) to complete radiological surveys per the Radiation Protection Plan. Follow instructions of Radiological Work Permits and RCT's.	

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Track mounted Excavator, Skid steer with bucket , Dump Trucks	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person or equipment operator shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.).
X	Equipment Operator Training	State License/ Permit, Company certified and Operator Equipment Certification Record	
X	Personnel Training	40 Hour HAZWOPER Training Company Orientation Hazard Communications Training Specific Task Training Heat/cold Stress Recognition Briefing Rad Worker II Training	All training records and certifications will be available in Appendix C of the Accident Prevention Plan and QCP.

Involved Personnel:

TBD

Competent Person for Safety: [redacted]

ACTIVITY HAZARDS ANALYSIS

Acceptance Authority (digital signature): _____

ACTIVITY HAZARDS ANALYSIS

Overall Risk Assessment Code (RAC)
(Use highest code)

M

Date: 27 March 2015

Project: Removal Action

Activity: Collect Confirmatory Soil Samples, Pack and Ship Soil Samples

Activity Location: Seaway FUSRAP Site

Prepared By: [redacted]

Risk Assessment Code Matrix

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

Severity	Probability: Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Utilities	Utility identification will be requested prior to work. New York One Call will be contacted before mobilization. Other local utility providers must be called directly for identification purposes. Visual inspection and review of utility plans should be used to determine locations of underground and overhead utilities prior to the start of site mobilization and work. Observe visible overhead utilities when moving excavator bucket from excavation area to soil sampling area.	L
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Physical injuries - slips, trips and falls	The work area shall be visually inspected. Slip, trip and fall hazards shall be either removed or marked and barricaded. Daily inspections should be conducted to look for tripping hazards resulting from poor housekeeping or changing work conditions. All site personnel should be attentive to the conditions of their work locations and correct or identify hazards as they occur. Housekeeping issues are a top cause of workplace injury. Everyone is responsible for housekeeping on site. If you see an issue, fix it. Use the buddy system proactively to mitigate these hazards. Don't ignore the potential for injury, however unlikely you think it may be. If there is a potential for injury, take the opportunity to improve the work area.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Muscle injury - Strains and sprains from manually lifting and moving	Proper lifting techniques will be used such as keeping a straight back, lifting with the legs; personnel will avoid twisting back while lifting , will use mechanical equipment, or get help from others. Any equipment/supplies over 50 lbs will require two (or more) field team members to lift or follow the ACGIH Lifting TLV.	L
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Lacerations and Abrasions (Hands/Fingers/Feet)	Personnel shall be made aware of the hazard and asked to coordinate carefully the handling and placement of heavy objects. Materials and objects being handled will be inspected for rough or sharp edges, and appropriate precautions shall be taken to avoid contact. Personnel shall wear work gloves when handling these items. Avoid placing hands between objects. Be aware of pinch points and objects that can unexpectedly shift. Safety-Toed boots shall be worn.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Heat / Cold Stress	Employees will be trained in the recognition of heat and cold stress symptoms and appropriate actions to take. Heat stress conditions include heat rash, heat cramps, heat exhaustion and heat stroke. Workers should avoid exposure to extreme heat, sun exposure and high humidity when possible. Other preventions include: wearing light-colored, loose fitting clothing such as cotton; gradually build up to heavy work, schedule heavy work during the coolest time of the day; take frequent breaks in the shade or a cool area; drink plenty of fluids, and be aware that some PPE may increase the risk of heat stress. Heat exhaustion can be recognized by excessive sweating, weakness, dizziness, nausea, clammy skin, muscle cramps and fast breathing. Workers should be moved to a cool shaded or air-conditioned area, made to drink plenty of water or other non-alcoholic beverages and made to takes a shower or another method to lower the body temperature. A more serious condition is known as Heat Stroke. Heat Stroke can be fatal if medical attention is not immediately obtained. The signs of Heat Stroke that cannot be ignored is when you stop perspiring and your skin is red and flushed. Light-headedness and fainting are likely. If you suspect heat stroke, call 911 immediately. Use of cold weather gear will be directed by the SSHO as appropriate. Temperature and wind chill factors will be monitored and exposure times limited as necessary to eliminate cold-type injuries such as frostbite and hypothermia. Fluids will be available to workers at all times. Work rest periods will be established according to ACGIH and NIOSH guidelines.	L
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Weather	Weather will be monitored by a combination of visual inspection, an on site weather station, and use of internet for radar and storm tracking. All workers will be informed of possible severe weather conditions. A designated safe shelter will be identified on site when weather conditions warrant taking cover. Efforts shall be made to leave the work area in a safe configuration before leaving to take cover when time permits. Any lightening followed by thunder less than 30 seconds apart will stop all site work for 30 minutes or until the last lightening strike with thunder less than 30 seconds apart.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Biological Hazards - insects, spiders, snakes and plants	Personnel will review recognition of poisonous plants, insects, snakes, spiders or other animals typical of this area and use appropriate measures as required. When conditions warrant or as directed by the SSHO, PPE will be worn to protect workers. Use the buddy system to perform tick inspections prior to leaving the work site and entering vehicles. Be aware of the symptoms of tick-borne diseases (Lyme Disease and Rocky Mountain Spotted Fever). Back away slowly from snakes in the direction of approach, being aware of the possibility of other snakes in the area. If bitten, wash and immobilize the injured area, keeping it lower than the heart if possible. DO NOT APPLY ICE, CUT THE WOUND, OR APPLY A TOURNIQUET. If you identify the snake as venomous, dial 911. Depending on the condition of the site, an ivy-blocking ointment or lotion should be available for use by site personnel potentially exposed to poison ivy. Care should be taken and gloves worn when moving brush or materials where spiders may be hiding. Long pants and coverings on the arms will provide a minor protection, but personnel must aware during certain activities to watch for these hazards. PPE may be recommended during certain activities.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Heavy Equipment Operation	All safety guidelines specified in EM 385-1-1, Section 18G shall be followed. Equipment shall be inspected upon arrival for leaks and tested in accordance with EM 385-1-1. Equipment will be inspected on a daily and / or shift basis. If equipment is found to be unsuitable for planned work purposes, it will be removed from service. Inspection records will be kept on site. Equipment operators shall be observant of ground personnel and potential driving hazards while operating heavy equipment and a spotter shall be used during backing operations of any vehicle. Ground personnel shall be aware of heavy equipment operations and make eye contact with either the equipment operator or the spotter before approaching or crossing the path of any vehicle. Personnel working around traffic or heavy equipment are required to wear high visibility shirts or vests at all time. Equipment will only be operated by qualified personnel and in accordance with the manufacturer's instructions. Heavy equipment that is not designed for personnel transportation shall not be used for that purpose.	M
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Eye Hazards	Protective eye wear with side shields that meet the ANSI Z-87.1 standards shall be worn at all times when work is in progress at the site. If face shields are required, protective eye meeting ANZI Z-87.1 shall be worn underneath as well.	L
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Noise	Noise exposures will be monitored and hearing protection will be required for a noise in excess of 85 dBA TWA.	L
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Chemical Hazards- Hazard Communication	During all prep and site activities that involve the operation of any heavy equipment or motor vehicles, personnel will wear the proper PPE when handling hydraulic fluid, lubricating oils or greases, or motor oils. PPE at the minimum shall include protective eye wear, nitrile or work gloves, steel toe boots, a hard hat, and a high visibility vest. MSDS's will be available to personnel for all chemicals on site.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Fire	Smoke in designated areas only. Do not refuel equipment while hot. Fire extinguishers of proper size and classification will be available in the work area. Inspect Fire extinguishers on a monthly basis. Ensure flammables are stored properly. All Hot Work requires a permit. Contact SSHO for Hot Work Permit.	
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Open Excavations	Personnel are not allowed inside of excavations All trench spoils will be kept at least 2 ft. from edge of trench and equipment shall not be placed, stored, or operated on the edge of a trench Trenches will be appropriately marked with fencing, signs, cones, tape, etc. to warn and protect from entry Inspect excavation every shift and after rain events.	
X	1. Collect confirmatory soil samples from excavation walls and floor using excavator bucket. 2. Pack and ship soil samples to lab.	Radiological	Radiological Control Technicians (RCT's) to complete radiological surveys per the Radiation Protection Plan. Follow instructions of Radiological Work Permits and RCT's.	

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Track mounted Excavator, Skid steer with bucket , Motor Vehicles	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person or equipment operator shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.). Procedures outlined in Attachment J (Construction Equipment Inspection) of the SSHP will be followed and copies of inspection forms kept on site by the SSHO or Competent Person.

ACTIVITY HAZARDS ANALYSIS

	EQUIPMENT	TRAINING	INSPECTION
X	Equipment Operator Training	State License/ Permit, Company certified and Operator Equipment Certification Record in accordance with EM 385-1-1, Section 18	
X	Personnel Training	40 Hour HAZWOPER Training Company Orientation Hazard Communications Training Specific Task Training Heat/cold Stress Recognition Briefing Rad Worker II Training	All training records and certifications will be available in Appendix C of the Accident Prevention Plan and QCP.

Involved Personnel:

Competent Person for Safety: [redacted]

Acceptance Authority (digital signature): _____

ACTIVITY HAZARDS ANALYSIS

Overall Risk Assessment Code (RAC)
(Use highest code)

M

Date: 24 March 2015

Project: Remedial Action

Activity: Transport and Disposal of Soil, Site Restoration and Demobilization

Activity Location: Seaway FUSRAP Site

Prepared By: [redacted]

Risk Assessment Code Matrix

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Physical injuries - slips, trips and falls	The work area shall be visually inspected. Slip, trip and fall hazards shall be either removed or marked and barricaded. Daily inspections should be conducted to look for tripping hazards resulting from poor housekeeping or changing work conditions. All site personnel should be attentive to the conditions of their work locations and correct or identify hazards as they occur. Housekeeping issues are a top cause of workplace injury. Everyone is responsible for housekeeping on site. If you see an issue, fix it. Use the buddy system proactively to mitigate these hazards. Don't ignore the potential for injury, however unlikely you think it may be. If there is a potential for injury, take the opportunity to improve the work area. Materials will be stored to prevent intrusion into the work and traffic areas. Work areas will be kept organized and free of debris in order to reduce slip, trip and fall hazards. Construction materials will be stored in a separate staging area to prevent congestion in the work areas.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 4. Demobilized heavy equipment and unused supplies. 5. Remove site trailer	Muscle injury - Strains and sprains from manually lifting and moving	Proper lifting techniques will be used such as keeping a straight back, lifting with the legs; personnel will avoid twisting back while lifting , will use mechanical equipment, or get help from others. Any equipment/supplies over 50 lbs will require two (or more) field team members to lift or follow the ACGIH Lifting TLV.	L
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 4. Demobilized heavy equipment and unused supplies. 5. Remove site trailer	Lacerations and Abrasions (Hands/Fingers/Feet)	Personnel shall be made aware of the hazard and asked to coordinate carefully the handling and placement of heavy objects. Materials and objects being handled will be inspected for rough or sharp edges, and appropriate precautions shall be taken to avoid contact. Personnel shall wear work gloves when handling these items. Avoid placing hands between objects. Be aware of pinch points and objects that can unexpectedly shift. Safety-toed boots shall be worn.	M

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Dry decontaminated heavy equipment and trucks. 2. Conduct transportation and disposal of soil. 3. Remove and dispose of roll-off boxes of soil/waste., if necessary. 4. Site restoration. 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Heat / Cold Stress	Employees will be trained in the recognition of heat and cold stress symptoms and appropriate actions to take. Heat stress conditions include heat rash, heat cramps, heat exhaustion and heat stroke. Workers should avoid exposure to extreme heat, sun exposure and high humidity when possible. Other preventions include: wearing light-colored, loose fitting clothing such as cotton; gradually build up to heavy work, schedule heavy work during the coolest time of the day; take frequent breaks in the shade or a cool area; drink plenty of fluids, and be aware that some PPE may increase the risk of heat stress. Heat exhaustion can be recognized by excessive sweating, weakness, dizziness, nausea, clammy skin, muscle cramps and fast breathing. Workers should be moved to a cool shaded or air-conditioned area, made to drink plenty of water or other non-alcoholic beverages and made to takes a shower or another method to lower the body temperature. A more serious condition is known as Heat Stroke. Heat Stroke can be fatal if medical attention is not immediately obtained. The signs of Heat Stroke that cannot be ignored is when you stop perspiring and your skin is red and flushed. Light-headedness and fainting are likely. If you suspect heat stroke, call 911 immediately. Use of cold weather gear will be directed by the SSHO as appropriate. Temperature and wind chill factors will be monitored and exposure times limited as necessary to eliminate cold-type injuries such as frostbite and hypothermia. Fluids will be available to workers at all times. Work rest periods will be established according to ACGIH and NIOSH guidelines.	L
X	1. Dry decontaminated heavy equipment and trucks. 2. Conduct transportation and disposal of soil. 3. Remove and dispose of roll-off boxes of soil/waste., if necessary. 4. Site restoration. 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Weather	Weather will be monitored by a combination of visual inspection, an on site weather station, and use of internet for radar and storm tracking. All workers will be informed of possible severe weather conditions. A designated safe shelter will be identified on site when weather conditions warrant taking cover. Efforts shall be made to leave the work area in a safe configuration before leaving to take cover when time permits. Any lightening followed by thunder less than 30 seconds apart will stop all site work for 30 minutes or until the last lightening strike with thunder less than 30 seconds apart.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Dry decontaminated heavy equipment and trucks. 2. Conduct transportation and disposal of soil. 3. Remove and dispose of roll-off boxes of soil/waste., if necessary. 4. Site restoration. 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Traffic Safety/Public Safety	Physical access restrictions such as traffic cones and caution tape shall be used to prevent traffic from driving into/over open areas or trenches. Personnel should also be aware of nearby traffic and stay behind traffic cones and caution tape to prevent injury by collision. Limit access to these work areas to only site personnel. All personnel working around high traffic areas must wear high visibility vests. Ground personnel should also be aware of nearby traffic and stay behind traffic cones and caution tape to prevent personal injury caused by collision with a vehicle. Should use of a flagman be necessary in order to control traffic on public roads during work activities, the individual will be trained in accordance with the New York DOT requirements. All personnel working around heavy equipment must wear high visibility vests.	M
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Biological Hazards - insects, spiders, snakes and plants	Personnel will review recognition of poisonous plants, insects, snakes, spiders or other animals typical of this area and use appropriate measures as required. When conditions warrant or as directed by the SSHO, PPE will be worn to protect workers. Use the buddy system to perform tick inspections prior to leaving the work site and entering vehicles. Be aware of the symptoms of tick-borne diseases (Lyme Disease and Rocky Mountain Spotted Fever). Back away slowly from snakes in the direction of approach, being aware of the possibility of other snakes in the area. If bitten, wash and immobilize the injured area, keeping it lower than the heart if possible. DO NOT APPLY ICE, CUT THE WOUND, OR APPLY A TOURNIQUET. If you identify the snake as venomous, dial 911. Depending on the condition of the site, an ivy-blocking ointment or lotion should be available for use by site personnel potentially exposed to poison ivy. Care should be taken and gloves worn when moving brush or materials where spiders may be hiding. Long pants and coverings on the arms will provide a minor protection, but personnel must aware during certain activities to watch for these hazards. PPE may be recommended during certain activities.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Heavy Equipment Operation	Equipment operators shall be observant of ground personnel and potential driving hazards while operating heavy equipment and a spotter shall be used during backing operations of any vehicle. Ground personnel shall be aware of heavy equipment operations and make eye contact with either the equipment operator or the spotter before approaching or crossing the path of any vehicle. Personnel working around traffic or heavy equipment are required to wear high visibility shirts or vests at all times and a hard hat if the equipment is in motion. Equipment will only be operated by qualified personnel and in accordance with the manufacturer's instructions. Heavy equipment that is not designed for personnel transportation shall not be used for that purpose.	M
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Eye Hazards	Protective eye wear with side shields that meet the ANSI Z-87.1 standards shall be worn at all times when work is in progress at the site. If face shields are required, protective eye meeting ANZI Z-87.1 shall be worn underneath as well.	L
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Noise	Noise exposures will be monitored and hearing protection will be required for a noise in excess of 85 dBA TWA.	L
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Chemical Hazards- Hazard Communication	During all site activities that involve the operation of any heavy equipment or motor vehicles, personnel will wear the proper PPE when handling hydraulic fluid, lubricating oils or greases, or motor oils. PPE at the minimum shall include protective eye wear, nitrile or work gloves, steel toe boots, a hard hat, and a high visibility vest. MSDS's will be available to personnel for all chemicals on site.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Weather	Weather will be monitored by a combination of visual inspection, an on site weather station, and use of internet for radar and storm tracking. All workers will be informed of possible severe weather conditions. A designated safe shelter will be identified on site when weather conditions warrant taking cover. Efforts shall be made to leave the work area in a safe configuration before leaving to take cover when time permits. Any lightening followed by thunder less than 30 seconds apart will stop all site work for 30 minutes or until the last lightening strike with thunder less than 30 seconds apart.	
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Fall Hazards	The work area shall be inspected daily, at a minimum, for open areas hazards. All identified hazards shall be remedied or marked and barricaded to prevent injury. Access will be controlled in these areas. Fall protection, such as the use of a harness and lanyard, will be required for elevated work greater than 6 feet above the work surface. Inspect ladders before use. Defective ladders shall be placed out of service and tagged "Do Not Use". Contact the SSHO for guidance. Hardhats are required while in work areas.	
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 5. Demobilized heavy equipment and unused supplies. 6. Remove site trailer	Fire	Smoke in designated areas only. Do not refuel equipment while hot. Fire extinguishers of proper size and classification will be available in the work area. Inspect Fire extinguishers on a monthly basis. Ensure flammables are stored properly. All Hot Work requires a permit. Contact SSHO for Hot Work Permit.	

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	6. Remove site trailer.	Electrical Shock / Electrocution	Electrical tools / equipment shall be inspected for damage or wear prior to use. Tools with damage that cannot be repaired will be made inoperable by cutting off the cord. Portable electric tools / equipment that are unsafe due to faulty plugs, damaged cords, or other reason and are repairable shall be clearly marked and removed from service. A ground fault circuit interrupter (GFCI) device shall be used with all cord and plug-connected equipment. Cords shall be protected from damage from sharp edges, projections, pinch points (doorways), and vehicular traffic. Cords shall be suspended with a non-conductive support (rope, plastic, ties, etc.). Check batteries on any cordless tools. Batteries that are unsafe due to leaking or damage of any kind will be removed from service. Electrical safety measures will be implemented in accordance with NFPA 70 & 70E during all site activities when working with energized equipment.	
X	1. Conduct transportation and disposal of soil. 2. Remove and dispose of roll-off boxes of soil/waste., as necessary. 3. Site restoration. 4. Equipment decontamination 5. Demobilized heavy equipment and unused supplies.	Radiological	Radiological Control Technicians (RCT's) to complete radiological surveys per the Radiation Protection Plan. Follow instructions of Radiological Work Permits and RCT's.	

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Excavator, Skid Steer , Commercial Truck (site trailer and roll off box pickup), Dump Trucks, Intermodal Containers	Follow manufacturer's cut sheets and procedures. Equipment will be operated by qualified personnel designated by the construction subcontractor.	Per manufacturer/subcontractor's requirements. The Competent Person shall inspect construction equipment daily for environmental impact (oil/fuel leaks, etc.). Procedures outlined in Attachment L (Heavy Equipment Inspection) of the SSHP will be followed. Copies of the inspection forms will be kept on site by the SSHO or the Competent Person.

ACTIVITY HAZARDS ANALYSIS

	EQUIPMENT	TRAINING	INSPECTION
X	Personnel Training	40 Hour HAZWOPER Training Company Orientation Hazard Communications Training Specific Task Training Heat/cold Stress Recognition Briefing	
X	Equipment Operators Training	State License / Permit, Company Certified, and Operator Equipment Certification Record in accordance with EM 385-1-1, Section 18	

Involved Personnel:

TBD

Competent Person for Safety: [redacted]

Acceptance Authority (digital signature): _____

Attachment D
Chemical Specific Training Form

CHEMICAL-SPECIFIC TRAINING FORM

Location:	Project # :
HCC:	Trainer:

TRAINING PARTICIPANTS:

NAME	SIGNATURE	NAME	SIGNATURE

REGULATED PRODUCTS/TASKS COVERED BY THIS TRAINING:

The HCC shall use the product SDS to provide the following information concerning each of the products listed above.

☐ Physical and health hazards

☐ Control measures that can be used to provide protection (including appropriate work practices, emergency procedures, and personal protective equipment to be used)

☐ Methods and observations used to detect the presence or release of the regulated product in the workplace (including periodic monitoring, continuous monitoring devices, visual appearance or odor of regulated product when being released, etc.)

All site workers shall have the opportunity to ask questions concerning these products and, upon completion of this training, will understand the product hazards and appropriate control measures available for their protection.
Copies of SDS's, chemical inventories, and LATA's written hazard communication program shall be made available for employee review in the facility/project hazard communication file.

Attachment E
Emergency Phone Numbers and Map to Hospital

Phone numbers and addresses for the local emergency response authorities and hospitals are as follows:

Tonawanda Town Police Department
169 Sheridan Parkside Dr. #2
Tonawanda, New York 14150
(716)874-8965

Tonawanda Fire Department
744 Sheridan Dr.
Tonawanda, New York 14150
(716) 837-1111

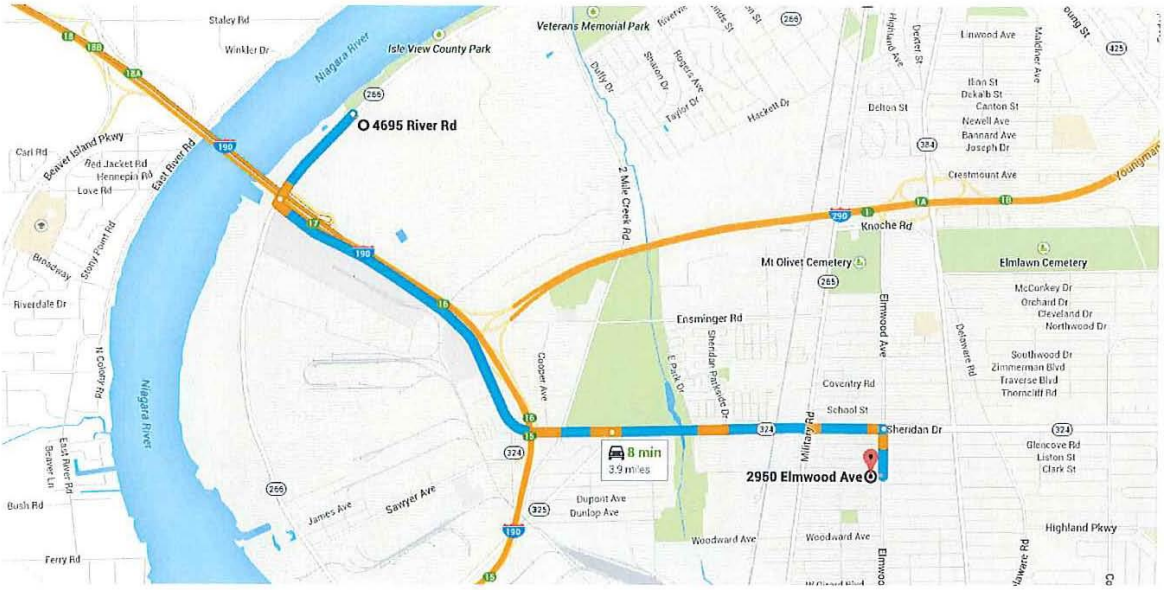
New York EPA
186 Exchange Street
Buffalo, NY 14204
To report an Emergency or Spill Call
1-800-282-9378

New York Dept. of Health
584 Delaware Avenue
Buffalo, NY 14202-1295
(716) 847-4302

Kenmore Mercy Hospital
2950 Elmwood Avenue
Tonawanda, NY 14120
(716) 447-6100

11.0 MAP TO HOSPITAL

Directions from 4695 River Rd to 2950 Elmwood Ave



4695 River Rd
Tonawanda, NY 14150

1. Head southwest on River Rd — 0.5 mi
2. Turn left onto Grand Island Blvd — 2.0 mi
3. Merge onto Sheridan Dr — 1.2 mi
4. Turn right onto Elmwood Ave — 0.2 mi

   Destination will be on the right

Kenmore Mercy Hospital
2950 Elmwood Ave
Kenmore, NY 14217
(716) 447-6100

Total Travel Distance = 3.9 miles
Total Travel Time = 8 minutes

Attachment F
Temperature Extremes

Temperature Extremes Procedure

[redacted]

Date:	Title:
6/12/14	Corporate Manager, ES&H
Date: 6/16/14	Title: President, CEO

The current approved version of this document can be found at the following intranet address: http://latanet under the links of "Policies and Procedures", then "Environment, Safety & Health", then "LATA Health and Safety Procedures", and finally "HS-01-10".

This document is effective for use on June 18, 2014 and will remain in effect until altered by an interim change notice, withdrawn or replaced with a superseding version.

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1.0 PURPOSE

Workplace exposure to hot or cold temperatures can result in occupational illnesses and injuries. Individuals who are exposed to extreme temperatures while working may be at risk of developing heat or cold stress. This procedure has been developed to provide Los Alamos Technical Associates (LATA) employees with the training and work practices necessary to protect them from heat/cold related exposures and illnesses. It is intended to provide guidance for identification and implementation of appropriate engineering controls, administrative controls, and/or use of personal protective equipment (PPE).

2.0 SCOPE

This procedure applies to all workplace operations and activities performed by LATA where the potential for work in hot or cold temperature extreme environment exists. Work conducted at project sites may be subject to additional client or government procedures and regulations.

3.0 RESPONSIBILITIES

The responsibility for implementation of this procedure may be shared, in whole or in part, between the individuals who hold positions cited in this procedure and others designated to act on their behalf.

The President/Chief Operating Officer, or designee, is responsible for approving this procedure and for authorizing the use of LATA resources necessary to develop, implement, and maintain this procedure.

The Corporate Manager, Environment, Safety and Health (ES&H) is the primary management representative responsible for identifying and disseminating ES&H requirements to staff at all levels and for development and implementation of this procedure. This manager is responsible for facilitating employee involvement in the implementation of this procedure. Also, the Corporate Manager ES&H will provide guidance and information to employees, as needed, to assist in identification, control and monitoring of hazards that may exist in temperature extreme environments.

Project Managers have the following responsibilities:

- Review, interpret, and implement this procedure.
- Provide direction, technical support and administrative assistance to management for programmatic issues involving temperature extremes.
- Review work activities for potential exposure to temperature extremes using Appendix A, *Guidelines for Implementing Temperature Extreme Work Requirements* and other applicable resources.

- Provide technical support to the Site Safety Officer (SSO) and other site managers to assure compliance with this procedure.

Site Safety Officers and Task Managers have the following responsibilities:

- Review, interpret, and implement this procedure.

- Review work activities for potential exposure to temperature extremes using Appendix A, *Guidelines for Implementing Temperature Extreme Work Requirements*, and other applicable resources.

- Evaluate work activities for variables such as air temperature, wind speed, humidity, clothing, PPE, and the acclimatization status of workers to determine the potential for heat or cold stress.

- Provide training to employees who are required to work in temperatures that may cause heat and cold stress.

- Ensure that workers acclimate to temperature extremes, through gradual increases in exposure to hot/cold environments over several days.

- Manage work-rest schedules based upon work conditions and the information provided in Appendix B, *Work/Rest Regimens for Heat Stress*, Appendix C, *Physiological Monitoring for Heat Stress*, and Appendix D, *Wind Chill Table*. Refer to the original documents cited in the Appendices for additional guidance.

- Request assistance, as needed, from the Corporate Manager ES&H to review, evaluate, monitor, or establish controls for working in temperature extremes.

Employees have the following responsibilities:

- Work in accordance with this procedure and other project safety plans and requirements.

- Be aware of the signs and symptoms of heat/cold stress and take precautions to avoid these conditions. Immediately report symptoms to supervisors.

- Allow the body to acclimate to temperature extremes over several days, with gradual increases in exposure to hot/cold environments.

- Follow work/rest schedules established by SSO and take work breaks when necessary to prevent heat/cold stress.

- Replenish fluids on a frequent basis; minimize consumption of alcohol and caffeine.

- Attend training as described in Section 5 of this procedure.

4.0 PROCEDURES

Workers who are exposed to temperature extremes are at risk for heat stress and cold stress that can result in occupational illnesses and injuries. There is not a specific OSHA standard for heat or cold stress; however, the General Duty Clause [Section 5(a)(1) of the Occupational Safety and Health Act (OSHA) of 1970] requires employers to provide employees with a place of employment that "is free from recognizable hazards that are causing or likely to cause death or serious harm to employees." The *OSHA Technical Manual*, Section III, Chapter 4, Heat Stress, provides excellent guidance. The American Conference of Governmental Industrial Hygienists (ACGIH), *Threshold Limit Values (TLVs) for Chemical Substances and Physical Agents and Biological Exposure Indices (BEIs)*, provides guidelines to assist in the control of health hazards related to heat and cold stress. Also, work conducted at project sites may be subject to specific client or government procedures and regulations.

Work activities that have a potential for heat/cold stress are identified by conducting an initial hazard analysis. As a first course of action, engineering and administrative controls will be implemented for prevention and abatement of heat/cold stress. PPE will be used only after engineering and administrative control options have been investigated and implemented.

The procedures described in this document are applicable for acclimated workers who are physically fit. Workers who are not acclimated or physically fit must use extra caution when working under heat/cold stress conditions. Individuals who believe they might not be physically able to work in extreme heat/cold conditions should notify their supervisor or SSO of their concerns.

4.1 Heat Stress

Work activities involving high air temperatures, radiant heat sources, high humidity or strenuous physical activities have a potential for inducing heat stress. Engineering controls such as air conditioning, fans, shade, or heat shielding may be implemented where feasible. Appropriate administrative controls such as work/rest cycles, hydration, acclimatization and work scheduling (to avoid hot times of day) may also be implemented. Where engineering and work controls are not adequate, use of appropriate PPE (such as cooling vests and evaporative cooling headbands) may be implemented.

Continuous/prolonged work in temperatures of 60° F or above will be conducted as follows.

- Environmental monitoring in accordance with Appendix B, *Work/Rest Regimens for Heat Stress*, should be utilized as a guide to establish work/rest regimens.

- Physiological monitoring may also be utilized to establish work/rest regimens. Monitoring should be conducted in accordance with Appendix C, *Physiological Monitoring for Heat Stress.* Work schedules established using physiological monitoring will be specific for each individual.

- All work must be conducted using the buddy system and workers will monitor each other for symptoms of heat stress (see Appendix E). The buddy system involves organizing employees into work groups in such a manner that each employee is designated to be observed by at least one other employee at all times.

- Personnel should monitor themselves and each other for the development of symptoms of heat stress such as sudden fatigue, nausea, dizziness, irritability and malaise. Common signs and symptoms of heat stress are provided in Appendix E, *Conditions Associated with Heat and Cold Stress*.

Personnel must be allowed to become acclimatized to the heat. For example, workers should get used to hot environments by gradually increasing exposure over at least a 5-day work period. Begin with 20% of the normal workload on the first day with a 20% increase in exposure each additional day up to 100% by the fifth day.

Additional guidance and information for work in hot weather can be found in the ACGIH, *TLVs and BEIs*.

4.2 Cold Stress

Cold temperatures, moisture and increased wind speed (wind chill) cause heat to leave the body quickly, putting workers at risk of cold stress. What is considered extreme cold can vary across different areas of the country. In regions that are not used to winter weather, near freezing temperatures may be considered "extreme cold”.

Engineering controls such heaters or wind shielding may be implemented where feasible. Appropriate administrative controls such as work/rest cycles, hydration, acclimatization and work scheduling (to avoid cold times of day) may also be implemented. Where engineering and work controls are not adequate, use of appropriate PPE (such as heating vests and pocket heat packs) may be implemented.

Provisions for additional total body protection will be evaluated if prolonged work is performed in an environment at an equivalent chill temperature at or below 40° F. The table in Appendix D, *Wind Chill Table*, should be used as guidance for work in cold weather. It is not anticipated that LATA employees will work in temperatures with a wind chill lower than 0° F.

Workers should dress in layers that are easily removable to afford adaptability to varying degrees of body heat production during different levels of work. External layers should be capable of being temporarily vented at the waist, neck, and wrist to reduce perspiration wetting. Garments should be protected from becoming wet on the job.

Continuous/prolonged work in wind chill temperatures of 40° F or below will comply with the following requirements.

- Workers will follow the buddy system and monitor each other for symptoms of cold stress (see Appendix E).

- A heated shelter for warming breaks will be established, as needed.

- For work that causes sweating, rest periods will be taken in heated shelters and the opportunity for changing into dry clothing will be provided.

- Work should be arranged in such a way that minimizes sitting or standing still for long periods in a cold environment.

- Personnel should monitor themselves and each other for the development of cold stress symptoms such as white skin, shivering, numbness, confusion and weakness. Signs and symptoms of cold stress are provided in Appendix E, *Conditions Associated with Heat and Cold Stress.*

Additional guidance and information for work in cold weather can be found in the ACGIH, *TLVs and BEIs*.

5.0 TRAINING

LATA will train workers to provide the knowledge needed to recognize hazards in order to minimize injuries and illness from work in temperature extremes. This training will enable workers to understand what heat and cold stress are, how it affects their health and safety, and how it can be prevented.

Employees required to work in hot or cold environments will be informed of signs, symptoms, and hazards of heat/cold stress. Topics for thermal stress awareness include, but are not limited to, the following: potential health effects; first aid measures; work precautions, control measures; and a description of the methods for environmental and physiological monitoring. Factors that may increase a workers susceptibility to heat/cold stress, such as age, weight, alcohol consumption, medications and physical condition will also be discussed.

Personnel will undergo initial training to this procedure from the SSO or other qualified individual. Thereafter, personnel will participate in site specific and periodic awareness briefings regarding the requirements of this procedure when the seasons change and at other times as is appropriate.

6.0 RECORDS

All records generated by this procedure will be maintained in accordance with Section 6.0 of the LATA *Quality Management System Description.*

7.0 REFERENCES

American Conference of Governmental Industrial Hygienists, *Threshold Limit Values (TLV) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEI)*, 2013.

OSHA Technical Manual, Section III, Chapter 4, *Heat Stress*.

8.0 DEFINITIONS

Administrative Controls. The use of safe work practices and other work control measures designed to reduce employee exposure to hazards. Examples of these measures include acclimatization, work scheduling, exercise breaks and rotation of workers. These types of controls are normally used in conjunction with engineering controls that more directly prevent or control exposure to the hazard.

Buddy System. The practice of organizing employees into work groups in such a manner that each employee is designated to be observed by at least one other employee at all times.

Cold Stress. A response of the body that arises from exposure to cold temperatures and wind resulting in heat loss from portions of the body such as the feet and hands. Cold stress can also result in a drop of the body's core temperature.

Contracted Occupational Physician. An occupationally-trained physician performing medical oversight of employees included in the LATA Medical Surveillance Program.

Diuretic. A substance or liquid that increases the discharge of urine.

Engineering Controls. Design of the work environment, facilities, equipment and processes to eliminate or reduce exposure to hazards. Examples of engineering controls include wind shielding, air conditioning, fans, shade and heat shielding.

Heat Stress. Occurs when the body's means of controlling its internal temperature starts to fail. It is an increase in heat absorbed by the body that arises from a variety of factors including ambient temperature, humidity, the level of effort required by work, and the clothing being worn by an exposed individual.

Wet Bulb Globe Temperature (WBGT). A composite temperature used to estimate the effect of temperature, humidity, wind speed, and solar radiation on humans. The WBGT is computed according to the following equations:

- WBGT Outdoors = $0.7\ NWB + 0.2\ GT + 0.1\ DB$
- WBGT Indoors = $0.7\ NWB + 0.3\ GT$

where:

WBGT	=	Wet Bulb Globe Temperature Index
NWB	=	Natural Wet-Bulb Temperature
DB	=	Dry-Bulb (air) Temperature
GT	=	Globe Thermometer Temperature

If work is distributed over more than one location then a time weighted average WBGT should be used.

9.0 ACRONYMS

Acronym	Full Title or Phrase
ACGIH	American Conference of Governmental Industrial Hygienists
AHA	Activity Hazard Analysis
BPM	beats per minute
ES&H	Environment, Safety and Health
LATA	Los Alamos Technical Associates Inc.
PPE	Personal Protective Equipment
SSO	Site Safety Officer
TLV®	Threshold Limit Values
WBGT	Wet Bulb Globe Temperature

10.0 APPENDICES

Appendix A, Guidelines for Implementing Temperature Extreme Work Requirements
Appendix B, Work/Rest Regimens for Heat Stress
Appendix C, Physiological Monitoring for Heat Stress
Appendix D, Wind Chill Table
Appendix E, Conditions Associated with Heat and Cold Stress

APPENDIX A

GUIDELINES FOR IMPLEMENTING TEMPERATURE EXTREME WORK REQUIREMENTS

APPENDIX A

GUIDELINES FOR IMPLEMENTING TEMPERATURE EXTREME WORK REQUIREMENTS

- Initial hazard screening for temperature extremes will be conducted and documented utilizing existing work scope, procedures, permits, activity hazard analyses (AHA), site safety plans, project safety briefings, and other applicable resources.

- Where there is a potential for heat/cold stress, task managers should consult with the Corporate Manager ES&H, SSO and other appropriate personnel for guidance in completing/updating AHAs, permits, site safety plans, procedures, and other safety documents.

- Task managers should consult with the Corporate Manager ES&H /SSO (as appropriate) for guidance regarding the use of hazard controls such as engineering, administrative and PPE controls.

- Task managers should consult with the Corporate Manager ES&H /SSO (as appropriate) for evaluation, monitoring, and recommendations regarding heat/cold stress controls including, but not limited to, temperature measurements, work/rest regimens and physiological monitoring (heart rate).

- Task managers and SSOs are responsible for implementation of recommended hazard controls as described in this procedure, AHAs, permits, etc.

- SSOs and task managers must ensure that individuals assigned to work in potential heat/cold stress environments understand the safety hazards and requirements for work in temperature extremes. Documented training sessions, such as safety meetings, tailgate sessions, and presentations, must be conducted.

- Employees are responsible for following all safety requirements and promptly informing supervisors of any signs or symptoms of heat/cold stress.

APPENDIX B

WORK/REST REGIMENS FOR HEAT STRESS

APPENDIX B

WORK/REST REGIMENS FOR HEAT STRESS

The tables in this Appendix identify guidance for heat stress limits while wearing various levels of clothing and PPE. Each table represents a different level of physical exertion required to perform an activity. Activities must be evaluated by using the following guide to determine the appropriate table to be used.

Light Work: Activities that involve sitting or standing with light hand or arm movement (i.e., controlling machine/equipment, inspections, taking inventory, etc.)

Moderate Work: Activities which involve consistent walking and/or moderate lifting or pushing (i.e., patrolling an area, hammering, mowing grass on flat surface, etc.)

Heavy Work: Activities that involve strenuous physical exertion (i.e., pick and shovel work, running, heavy lifting/carrying of materials, etc.)

Very Heavy Work: Very intense activity at fast to maximum pace. Very Heavy Work is not included in the tables in this procedure.

These tables are intended as guidance only and should be used as initial screening criteria to evaluate if a heat stress situation may exist. Use of screening criteria alone in certain 'Heavy Work' and 'Very Heavy Work' situations and when using impermeable clothing is not recommended and a detailed analysis and/or use of physiological monitoring should be used. Refer to ACGIH, *TLVs and BEIs – 2013* for additional information.

The heat stress limits listed in the following tables are measured in degree Fahrenheit (°F) by using a Wet Bulb Globe Thermometer (WBGT). Refer to the "Definitions" section of this procedure for more information on WBGT. The limits provided in the tables must be reduced by a minimum of 4.5 ^{o}F for employees not acclimated to the heat.

Allow workers to become acclimatized to the heat by slowly increasing their exposure over a period of time. For example, workers should get used to hot environments by gradually increasing exposure over at least a 5-day work period. Begin on day one with 50% of the normal workload and time spent in the hot environment and then gradually build up to 100% by the fifth day.

A "rest period" can include any break in work activities including unscheduled pauses and operational waiting periods during work. These pauses in work activities may be counted as rest time when additional break time must be given due to temperature extremes.

Consult the Corporate Manager ES&H /SSO (as applicable) for assistance in evaluating and monitoring work activities.

Table 1: Heat Stress Limits for Light Work*

	PPE (1)†	*PPE (2)*†	*PPE (3)*†	*PPE (4)*†
Work/ Rest	**WBGT °F**	**WBGT °F**	**WBGT °F**	**WBGT °F**
CONT.	87	81	75	68
75/25	88	82	76	69
50/50	89	83	77	70
25/75	90	84	78	71

Table 2: Heat Stress Limits for Moderate Work*

	PPE (1)†	*PPE (2)*†	*PPE (3)*†	*PPE (4)*†
Work/ Rest	**WBGT °F**	**WBGT °F**	**WBGT °F**	**WBGT °F**
CONT.	82	76	70	62
75/25	84	78	72	64
50/50	86	80	74	66
25/75	88	82	76	69

Table 3: Heat Stress Limits for Heavy Work*†

	PPE (1)†	*PPE (2)*†	*PPE (3)*†	*PPE (4)*†
Work/ Rest	**WBGT °F**	**WBGT °F**	**WBGT °F**	**WBGT °F**
CONT.	-**	-**	-**	-**
75/25	81	75	69	62
50/50	84	78	72	64
25/75	86	80	74	67

*** Tables adapted from interpretation of ACGIH, *TLVs and BEIs – 2013* and *OSHA Technical Manual*, Section 3, Chap. 4. Refer to these documents for additional guidance. These Tables are intended as initial screening criteria to evaluate whether a heat stress situation may exist.**

**** †Use of screening criteria alone in certain 'Heavy Work' situations and when using impermeable clothing is not recommended and a detailed analysis and/or use of physiological monitoring should be used.**

†Personal Protective Equipment (PPE) Categories:

(1) No PPE – Work clothes

(2) One pair of cloth coveralls over work cloths

(3) Two pair of cloth coveralls <u>OR</u> one pair of permeable polypropylene coveralls over work cloths

(4) Two pair of permeable polypropylene coveralls <u>OR</u> use of impermeable clothing**

NOTE: Physiological monitoring may be utilized by workers in lieu of the work/rest regimen provided above. Refer to Appendix C for physiological monitoring guidelines.

APPENDIX C

PHYSIOLOGICAL MONITORING FOR HEAT STRESS

APPENDIX C

PHYSIOLOGICAL MONITORING FOR HEAT STRESS

Not all individuals are affected by heat in the same way. An individual's response to working in a hot environment depends on a variety of factors (i.e., level of physical fitness, age, gender, level of acclimatization, use of alcohol and drugs, etc.). Physiological (heart rate) monitoring measures an individual's response to heat and can be utilized as a as a method of preventing overexposure.

Heart rate monitoring will be performed on individuals when the work/rest regimen provided in Attachment B is exceeded, during periods of very heavy work, when impermeable clothing is worn and at other times, as necessary. The monitoring will be performed by the SSO or other qualified individual.

Physiological monitoring will allow personnel to adjust the work/rest regimen according to individual tolerance for heat. Monitoring may result in a more restrictive work period for individuals with a low tolerance to heat stress. Individuals displaying a low tolerance to heat stress may need to receive further medical evaluation for fitness to work in high temperature conditions.

Physiological monitoring* will be conducted as follows:

Working Heart Rate - Measure radial pulse rate for a 30 second period** while working.

- **IF** the sustained working heart rate is greater than 180 beats per minute (bpm) minus the individuals age (e.g., 150 bpm for a 30 year old), **STOP WORK** and measure the recovery heart rate (below).

Recovery Heart Rate - Measure the radial pulse rate for a 30 second period** as early as possible (within 60 seconds) after going on break.

- **IF** the heart rate exceeds 110 bpm at the beginning of the rest period, **THEN** shorten the next work cycle by one third and keep the rest period the same.

- **IF** the heart rate still exceeds 110 bpm at the beginning of the next rest period, **THEN** shorten the following work cycle by one third again and keep the rest period the same.

- Continue this process until the heart rate is less than 110 bpm at one minute or less into the break period.

*Physiologic monitoring limits apply only to healthy adults taking no medications. For workers taking prescribed medications, specific recommendations should be provided by a contracted occupational physician.
**For beats per minute, multiply by 2.

APPENDIX D

WIND CHILL TABLE

APPENDIX D

WIND CHILL TABLE**

Table 2. Cooling Power of Wind on Exposed Flesh Expressed as Equivalent Temperature (under calm conditions)*

Estimated Wind Speed (in mph)	Actual Temperature Reading (F)											
	50	**40**	**30**	**20**	**10**	**0**	**-10**	**-20**	**-30**	**-40**	**-50**	**-60**
	Equivalent Chill Temperature (F)											
calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
(Wind speeds greater than 40 mph have little additional effect.)	*Little Danger* In < hr with dry skin. danger of Maximum false sense of security.				*Increasing Danger* from freezing of Danger exposed flesh within one minute.				*Great Danger* may freeze within 30 seconds.			Flesh
	Trenchfoot and immersion foot may occur at any point on this chart.											

* Devloped by the U.S. Army Research Institute of Environmental Medicine, Natick, MA.

Equivalent chill temperature requiring dry clothing to maintain core bod temperature above 36 C (96.8 F) per cold stress TLV.

** Table is from ACGIH, *TLVs and BEIs – 2013*

APPENDIX E

CONDITIONS ASSOCIATED WITH HEAT AND COLD STRESS

APPENDIX E

CONDITIONS ASSOCIATED WITH HEAT AND COLD STRESS

Heat Stress:

- Heat cramps are often caused by a combination of heat and exertion that cause the body to sweat and lose water and salt. The symptoms include painful spasms of the muscles in the arms, legs, stomach, and back. For relief seek rest and drink plenty of water. Electrolytic drinks may be used for salt replenishment unless the individual has a medical restriction, such as a low-sodium diet.

- Heat exhaustion symptoms include headache, nausea, vertigo, weakness, thirst, and giddiness. This condition responds readily to prompt treatment. Heat exhaustion should not be dismissed lightly as the signs and symptoms of heat exhaustion are often similar to those of heat stroke which is a medical emergency. Workers suffering from heat exhaustion should be removed from the hot environment and given fluid replacement. They should also be encouraged to get adequate rest. Seek medical attention as soon as possible.

- Heat stroke is a **medical emergency** that occurs when the body's system of temperature regulation fails and body temperature rises to critical levels. This condition is caused by a combination of highly variable factors, and its occurrence is difficult to predict. The primary signs and symptoms of heat stroke are confusion; irrational behavior; rapid pulse; lack of sweating; hot dry skin; high body temperature and convulsions. It can lead to unconsciousness, and if the body isn't cooled down, brain damage and death. **Heat stroke is a medical emergency - seek immediate medical assistance.** Affected workers should be removed from the hot environment and have clothing removed/loosened. The worker's skin should be wetted and air movement around the worker increased to improve evaporative cooling. Individuals with heat stroke should be transported to a medical facility as soon as possible .

Cold Stress:

- Frostbite refers to the freezing of body tissue (usually skin) that results when the blood vessels contract, reducing blood flow and oxygen to the affected body parts. The condition can lead to body tissue damage. The most vulnerable parts of the body are the nose, ears, cheeks, fingers, and toes. Symptoms of frostbite include white and numb body parts and skin may feel waxy or hard. The victim will not feel pain in the affected area. Treatment of frostbite requires that the victim be brought to a warm environment and the affected body areas be allowed to thaw and warm slowly. Seek medical attention as soon as possible.

- Hypothermia is a **medical emergency** that occurs when the body loses heat faster than it can produce heat, causing a dangerously low body temperature. Left untreated, hypothermia can eventually lead to complete failure of the heart and respiratory system and death. **Hypothermia is a medical emergency - seek immediate medical assistance**. Symptoms include shivering, teeth chattering, clumsiness, confusion, slurred speech, weak pulse and loss of coordination. Treatment for hypothermia is to move the individual to a warm environment and call 911. If a warm location is not immediately available, the victim should be sheltered from the wind and provided extra clothing such as coats or blankets. Individuals with hypothermia should be transported to a medical facility as soon as possible.

Attachment G
Construction Equipment Inspection Forms

LATA SHARP

HEAVY-EQUIPMENT PRE-USE INSPECTION CHECKLIST

Project:	* If a line item passes inspection place a check in the box
Project Number:	* If a line item is not applicable write "NA" in the box
Equipment Name / Number:	* If a line item needs attention write "FAIL" in the box
Serial Number:	
LSRS Operator/Date:	

The equipment operator shall perform a visual inspection of the heavy equipment for the following conditions and report any deficiencies to the LSRS safety representative or his / her designated representative prior to operating the equipment.

	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**
	Date:	Date:	Date:	Date:	Date:	Date:	Date:
	Hours:	Hours:	Hours:	Hours:	Hours:	Hours:	Hours:
Inspected By:							
DESCRIPTION							
Lights, horns, wipers, etc.							
Windows and mirrors							
Indicators, gauges, turn signals							
Fire extinguisher (charge/mount)							
Back-up alarm							
Seat belt							
Brakes, left/right steering controls							
Engine oil level							
Hydraulic oil level							
Grab irons and steps							
Tracks, Idlers and Drive sprockets							
Belly pan inspection (in place)							
Belts, water hoses, engine coolant level							
Hydrualic hoses, fittings, cylinders, pumps (leaks detected)							
Attachment pins and keepers							
Breaker, Hoses and Point							

Comments:

HEAVY-EQUIPMENT INBOUND / OUTBOUND INSPECTION CHECKLIST

Project:	**EQUIPMENT SUPPLIER/OWNER INFORMATION**
Project Number:	
Equipment Name / Number:	
Serial Number:	
LSRS Operator/Date:	

The equipment operator shall perform a visual and operational inspection of the heavy equipment for the following conditions and report any deficiencies to the LSRS safety representative or his / her Supervisor prior to operating the equipment. Equipment with dificiencies must be tagged out of service until repairs are made or the deficiency is determined that it will not result in injury or equipment damage if operated.

Inspected By:	**NOTES:**
Hours:	
Date:	

DESCRIPTION	PASS	FAIL	N/A	COMMENT
Lights, horns, wipers, etc.				
Windows and mirrors				
Indicators, gauges, turn signals				
Fire extinguisher (charge/mount)				
Back-up alarm				
Seat belt				
Brakes, left/right steering controls				
Engine oil level				
Hydraulic oil level				
Grab irons and steps				
Tires, Wheels				
Tracks, Idlers and Drive sprockets				
Belly pan inspection (in place)				
Belts, water hoses, engine coolant level				
Hydrualic hoses, fittings, cylinders, pumps (leaks detected)				
Attachment pins and keepers				
Breaker, Hoses and Point				

Attachment H
Site Specific Excavation Plan

Site Specific Excavation Plan

1. Identification and credentials of Competent Person:
    a. [redacted] will serve as the competent person for excavation work at the site.
    b. [redacted] credentials are enclosed as Attachment C of the APP.

2. Diagram or sketch of the area where the work is to be done:
    a. In Progress.

3. Projected depth of the excavation:
    a. From 2’-12’.

4. Projected water or sludge type and method of testing to determine disposition;
    a. Testing will be by as remotely as possible.
    b. May require confined space entry.

5. Planned method of shoring, sloping and/or benching;
    a. Sloping and benching will be used to prevent cave-in.

6. Planned method for excavation access and egress and atmospheric monitoring processes;
    a. Entry into excavations by personnel is not required and not expected.
    b. **No employee will be assigned to perform any task within the excavation**.
    c. All workers will have training to recognize the hazards of entering an unprotected excavation.
    d. A work rule prohibiting workers from entering an unprotected excavation will be established, effectively communicated and enforced.

e. Establishing and barricading areas around open excavations and controlling access to those areas.

7. Use of high visibility vest and spotters for equipment moves where the operator has blind spots.

   Plan for traffic control;

   a. There are no anticipated traffic control issues for the excavation work;

   b. Traffic control, if necessary, is detailed in Attachment I of the SSHP.

8. Digging permits (Excavation permits):

   a. The Call before you dig program will be utilized to locate and mark the locations and, if they so desire, direct or assist with protecting the underground installations;

   b. The Contractor shall obtain a "Digging Permit" (excavation permit) from USACE Civil Engineers or other authority having jurisdiction prior the initiation of any excavation work;

9. Access/egress; Evacuation procedures:

   a. Safe approach boundary will be established by the competent person.

North side excavation Summary

The North side excavation is located midway down the side of the landfill between a property fence and the access road that encompasses the landfill. An estimated 300 yd.^{3} could be excavated from this area. The material expected to be encountered in this area is close to the surface. Walkover scans will be done of the area prior to any excavation. Areas where the walkover survey indicates that elevated radiological levels of material exist will be excavated and loaded directly into lined Intermodal containers, sealed, weighed and transported to a rail transload facility where they were be loaded onto railcars for transportation to the disposal facility.

South side excavation Summary

On the south side of the landfill located between the collection system and the property fence are two areas of identified FUSRAP materials. Access to these materials will require stripping of uncontaminated soil overburden in order to access the materials beneath. The overburden will be

moved to the north west of the excavation area where it will be staged, sampled and analyzed in preparation for use as backfill material. A smaller area to the southeast contains some material that could be approximately 12 feet below ground surface. The soils above the contaminated material will be removed and staged to the Northwest of the excavation and also sampled to be used as backfill material. In order to maintain the integrity of an existing slurry wall, this area of excavation may need to be done in narrow sections with each section being excavated, surveyed, sampled and analyzed and then backfilled along the slurry wall in a two to one slope. When this section is been backfilled the next narrow section can be excavated to remove the affected waste. This area will be remediated in a stepwise fashion as described in order to protect the integrity of the slurry wall. Excavation methods will be modified based on the specific conditions of the slurry wall as it is uncovered to access the waste below.

Appendix E
LATA HR 05-03, Drug-Free Workplace

SECTION	RELEASE DATE	NUMBER
HUMAN RESOURCES 05 Employee Responsibilities	March 6, 2000	HR 05-03
TITLE Drug-Free Workplace	SUPERSEDES REVISION DATED: 09/01/95	Page 1 of 9

PREPARED BY:	APPROVED BY:
[redacted] Manager, Human Resources	[redacted] Corporate Policy Manager
Signature: _____	Signature: _____

A. PURPOSE

In response to recent federal legislation concerning drugs in the workplace and widespread abuse of drugs in our society, LATA has established this policy and related procedures.

The objective of this policy is to ensure a safe and healthy environment for all employees. Although LATA is confident that few, if any, of its employees suffer from substance abuse, this policy provides a framework within which the eventuality of drug problems can be dealt with in a constructive and confidential way that properly safeguards LATA's ability to conduct its business and the employee's opportunity for rehabilitation and right of due process. This policy is also established to comply with the Department of Defense (DoD) Interim Rule (FAC 84 43), 10 CFR Part 707, and the Drug-Free Workplace Act of 1988.

B. RESPONSIBILITY

The Human Resource Manager has overall responsibility for the development, implementation, quality assurance, and evaluation of LATA's Drug-Free Workplace Program.

C. POLICY

1. LATA is pledged to provide a drug-free work environment to all its employees. In support of that objective, this policy addresses:

   a. LATA's overall standards of conduct specifically related to drugs, including policy violation reporting requirements;

   b. Drug awareness training for employees and specialized training for supervisors;

   c. The employee assistance program (EAP) service;

   d. The drug testing program; and

   e. Consequence for failure to comply with the provisions of this policy.

   This policy applies to all LATA employees. Compliance with this policy is a condition of employment.

   Substance abuse in the workplace, or while on official LATA business, is prohibited and can result in disciplinary action, up to and including termination. Substance abuse is defined as "the use of controlled substances that are identified in Schedules I through V of Section 202 of the Controlled

Substances Act (21 USC 812), where the use is neither authorized by law nor a valid prescription".

The unlawful possession, use, manufacture, sale, transfer, or delivery of a controlled substance is not allowed on LATA premises or while on official LATA business. Substance abuse in the workplace or while on official LATA business includes the inability to successfully take and pass drug tests as provided in this policy.

Whenever a "suspected" controlled substance is found on company premises, it should be reported to the Human Resources Manager, who in turn will contact the appropriate law enforcement agency to seize the material and conduct an investigation.

2. PRESCRIBED MEDICATION

Legal drugs prescribed by a medical professional being taken as part of treatment may be taken on LATA premises as long as the drugs do not adversely affect the employee's ability to perform work safely and securely. While the employee is not required to reveal the specific medication being taken, he is encouraged to have the medical professional provide to the supervisor, in writing, any work limits or restrictions which are recommended to assure the health and safety of the employee, as well as of others with whom the employee works while taking the prescribed drug(s).

3. REQUIRED NOTIFICATIONS

Employees are required to notify the Human Resources Manager of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction. After receiving notice from the employee of such conviction, the Human Resources Manager will consult the employee's supervisor to evaluate the appropriate personnel action to be taken against the employee up to and including termination, or the employee may be required to satisfactorily participate in an approved substance abuse assistance or rehabilitation program.

The Human Resource Manager will notify the government contracting office within ten days after receiving notice from the employee or otherwise receiving actual notice of such conviction. Decisions regarding appropriate actions must be made within thirty days after the Human Resources Manager was notified. The decision to terminate an employee requires the approval of the Company President.

If the employee convicted of a criminal drug statute holds an active DoD or DOE security clearance, the Human Resources Manager will immediately inform, in confidence, the Corporate Security Officer. The Corporate Security Officer will make the necessary reports to the appropriate government agencies, as required by U.S. government directive. An "Adverse Information" report will be prepared and submitted as required by DoD security regulations and Defense Investigative Services (DIS).

4. SEARCH OF COMPANY PREMISES

The Company reserves the right to conduct searches of company premises and equipment, and employee work areas at any time. Employees who fail to cooperate with such a search will be considered in violation of this policy and subject to disciplinary action.

5. EMPLOYEE EDUCATION

The Drug-Free Awareness Program is being established as an ongoing educational effort to prevent and eliminate drug abuse that may affect the workplace. The program will inform employees about:

a. The dangers and signs of drug abuse;

b. LATA's drug-free workplace policy and procedures; and

c. The Employee Assistance Program.

6. SUPERVISORY TRAINING

Supervisors are the key to successful implementation of this policy. The DoD Interim Rule specifically requires "supervisory training to assist in identifying and addressing illegal drug use by contractor employees."

LATA will conduct training for all supervisors in:

a. Identifying, constructively confronting, and documenting job performance and on-the-job behavior that may reflect the impact of personal problems;

b. Identifying evidence of on-the-job use of, or possible impairment by, drugs;

c. Procedures of "pre-employment" and "for cause" drug testing;

d. Use of the EAP.

7. EMPLOYEE ASSISTANCE PROGRAM

Early recognition and treatment of drug abuse is important for successful rehabilitation. To assist employees in obtaining early voluntary treatment, LATA has established the Employee Assistance Program (EAP). This program is available to regular and casual employees through a qualified professional organization, that provides among other services, treatment referral services for drug abuse problems. LATA's current group medical plan partially covers the cost of such services. (See details in the group insurance booklet available from Human Resources.)

The decision to seek diagnosis and accept treatment for drug abuse is primarily the individual employee's responsibility. See LATA policy HR 04 02 for details on the EAP.

Employees who voluntarily seek and accept treatment under the EAP will not be considered to be in violation of this policy during the time that they are undergoing treatment. The provisions of this paragraph do not apply, however, to employees who the company believes to have sold or manufactured drugs on LATA premises or while on LATA business.

8. DRUG TESTING PROGRAM

In order to effectively meet the objectives of this policy, the Company recognizes the need to implement a drug testing program. The program presently consists of “pre-employment”, “for cause” and “random” testing in addition to periodic testing which may be required by Company clients in order for employees to maintain necessary clearances or certifications. The Company will undertake reasonable efforts to notify its employees prior to amending the program. The Company may, however, make changes in the procedures for drug testing set forth herein without prior notification.

As a condition of employment or continued employment, applicants and employees must sign, prior to testing, an approved form consenting to the testing and consenting to the release of test results to the Company and its medical review office.

9. PERIODIC TESTING

Periodic testing may be required of employees in order to maintain a badge, certification or other clearance required for their position. Employees who fail to submit to or fail to pass a periodic drug test as required to maintain the clearance or other status necessary to their position may be terminated.

10. PRE-EMPLOYMENT TESTING

Pre-employment testing will be limited to final external candidates for all positions. LATA may elect not to administer pre-employment testing to any former LATA employee who is rehired within 12 months of the employee’s termination date.

Candidates for positions who fail to submit to or pass a pre-employment drug test will not be hired for the position for which they applied.

The Human Resources Department or the hiring official will advise applicants for positions during the interview process that any employment offer will be contingent upon passing a drug test. If the candidate does not agree to take the test, he will be dropped from employment consideration.

Candidates will be notified when they should report for a drug test.

11. "FOR CAUSE" TESTING

"For cause" drug testing applies to all current employees, regardless of job grade, level, category, or type of assignment.

Whenever a "reasonable suspicion" exists that an employee's work performance or "on-the-job" behavior may be affected in any way by illegal drug use, or that an employee has otherwise violated the drug policy, LATA may require the employee to submit to a drug test.

Reasonable suspicion must be based on objective facts. Suspicion sufficient to justify drug testing will generally be based on the following circumstances:

a. Direct observation by a supervisor of drug use;

b. Direct observation by a supervisor of the possession of drugs or drug paraphernalia;

c. Direct observation by a supervisor of symptoms of drug use or impairment which cannot otherwise be explained. Examples of such an observation would be slurred or incoherent speech; an unsteady walk; impaired coordination; uncontrolled laughing; signs of extreme anxiety or wide and sudden mood changes; or signs of withdrawal or tremors.

d. Conviction for violation of any criminal drug statute.

The employee's conduct or appearance must be observed personally by a supervisor who can specifically explain the basis for having "reasonable suspicion."

The Company may also require an employee to submit to a “for cause” drug test after a work related accident. Employees who refuse to submit to or fail to pass a “for cause” drug test are subject to disciplinary action up to and including immediate termination without notice.

12. “RANDOM” TESTING

The Company may conduct random drug testing of employees without notice whenever the Company deems it warranted.

D. REFERENCE(S)

1. Department of Defense (DoD) Interim Rule (FAC 84 43)
2. The Drug-Free Workplace Act of 1988.
3. 10 CFR 707

E. DEFINITION(S) — Additional Definition references may be found in IN 00-04, LATA Acronyms & Standard Terms/Abbreviations.

N/A

F. PROCEDURE

1. Whenever a supervisor directly observes any of the circumstances located in Section C,10, this policy, the supervisor is to take the following actions.

   a. Notify the Human Resources Manager that a "reasonable suspicion" circumstance exists;

   b. Escort the employee to a private location for questioning;

   c. With the Human Resources Manager present, question the employee about the activity, performance, or behavior observed;

   d. Depending upon the outcome of questioning, the supervisor and Human Resources Manager will decide whether drug testing is called for;

   e. If drug testing is deemed necessary the employee will be directed to report (or escorted, if required) to the specimen collection site;

   f. After the urine specimen has been collected, the employee will be:

      1) Placed on "leave with pay" until further notice;

      2) Informed that he/she must remain available to report to work; and,

      3) Advised that he/she may be on LATA premises only with supervisor approval.

   g. Prepare a detailed written memo describing the incident and related interactions.

2. METHODOLOGY

   Urinalysis will be the drug testing method employed to determine the presence of controlled substances in the individual's system.

3. AUTHORIZED TESTING

   Urine specimens collected pursuant to this policy will be used only to test for controlled substances and may not be used to conduct any other analysis or test unless otherwise authorized by law.

   Enzyme Multiplied Immunoassay Technique (EMIT) will be used to conduct the screening test. A separate assay is performed for each drug class or category. EMIT tests only for the presence of drug metabolites, not drug concentrations or recency of ingestion. Drugs to be tested, at a minimum, include marijuana, cocaine, opiate metabolites, amphetamines, and phencyclidine.

A positive test result on an initial screening test will be confirmed by the generally accepted non-immunological method, gas chromatography/mass spectrometry (GC/MS), which can accurately identify the specific substance.

Both the initial test and confirmatory test cutoff levels established by the United States Department of Health and Human Services for Federal Workplace Drug Testing Programs will be used in this program.

Should the medical review office (MRO) have reason to question the accuracy or validity of a confirmed positive test result, the MRO is authorized to order a reanalysis of the original sample at the same laboratory or at another National Institute on Drug Abuse (NIDA) certified laboratory.

4. COLLECTION PROCESS

The company will contract with a qualified local medical facility in the vicinity of each LATA office or offsite work location to perform specimen collection services.

5. CHAIN OF CUSTODY

Written chain-of-custody procedures will be established to document proper sample identification, integrity and security from the time of collection to the receipt of laboratory test results.

Candidates and employees subject to testing will be afforded the opportunity, prior to testing, to list all prescription and nonprescription drugs they have used in the last thirty days and to explain the circumstances surrounding the use of such drugs.

6. PRIVACY

The employee is to be allowed privacy in giving a specimen. The collection facility will provide for adequate privacy unless the collector has reason to believe a particular employee may alter or substitute the specimen to be provided.

7. LABORATORY ANALYSIS

The services of a NIDA certified laboratory will be retained to analyze urine samples in accordance with proper chain-of-custody, quality assurance, and quality control procedures that assure the integrity and confidentiality of the test results.

The laboratory will report as negative all specimens which are negative on the initial test or negative on the confirmatory test. Only specimens confirmed positive will be reported as positive for a specific drug.

Positive reports must be in writing and transmitted to the MRO retained by LATA to review, evaluate, and make final medical determination on all confirmed positive drug tests.

8. MEDICAL REVIEW OFFICER

The MRO will conduct the review prior to transmission of any positive drug test results to LATA. In the analysis of positive test results, the MRO will examine alternate medical explanations for any positive test result. This may involve a medical interview with the employee, as well as a review of the individual's medical history and any other relevant biomedical factors.

9. CONFIDENTIALITY

Given the serious potential consequences for any employee involved in a violation of this policy, all supervisors, managers, and any other personnel having a "need to know" about a potential or actual violation will be instructed to handle all related information and documents in a "strictly confidential" manner.

Personnel having a "need to know" will be restricted to those for whom such knowledge would directly impact their ability to properly carry out their responsibilities.

All discussions should be held in private. Documents should be clearly marked "In confidence — to be opened by addressee only."

Any individual found to have violated this code of confidentiality will be given a written warning.

When an employee has been terminated in whole or in part because of violation of this policy, the company will respond to inquiries by prospective employers regarding the basis for dismissal, by stating with regard to that portion of the dismissal based on violation of this policy that the dismissal was based on violation of company drug-free workplace policy. The specifics of the basis for the dismissal will only be disclosed when a more candid disclosure is required by law or regulation.

10. CONSEQUENCES FOR POLICY VIOLATIONS

Since compliance with this drug policy is a condition of employment, failure or refusal of an employee to cooperate fully, sign any required documents, submit to any inspection or test, or follow any prescribed course of substance abuse treatment will result in disciplinary action, up to and including termination.

As soon as possible, but no more than three (3) working days after it has been verified and confirmed that an employee violated any provision of this policy, the supervisor, with the Human Resources Manager's concurrence must, at a minimum, give the employee a "written warning."

Furthermore, employees in "sensitive positions," i.e., working on contracts with access to classified information, will not only be given a written warning, but will also be denied access to classified information for a period appropriate to the policy violation, and mutually agreed to by LATA and the responsible DoD/DOE official. Such employees may be assigned to "nonsensitive" positions when they are available, or terminated if no positions are available.

Policy violations will be evaluated on a case-by-case basis. In all cases the violation will be discussed with the employee before any disciplinary action and associated documentation is undertaken.

Employees who are referred by management for drug testing as a result of deteriorated job performance or erratic on-the-job behavior, and who test positive will be required:

a. To be evaluated by an EAP counselor;

b. To cease immediately any substance abuse;

c. To successfully complete a substance abuse rehabilitation program; and

d. To submit to periodic unannounced drug testing for a period of 24 months following completion of the rehabilitation.

Employees who undergo counseling and treatment for substance abuse and who continue to work must meet all established LATA standards of conduct and job performance expectations.

11. TERMINATION FOR CAUSE

There are three policy violations which will result in immediate termination for cause. These are:

a. When there is clear evidence the employee switched, adulterated or otherwise submitted a fraudulent urine sample as his/her own for the drug testing program.

b. When a confirmed positive drug test result occurs, either while an employee is undergoing company required counseling and treatment for drug abuse or in an unannounced periodic drug test during the twenty-four month period following completion of a rehabilitation program.

c. When the company believes that an employee has sold or manufactured drugs on LATA premises or while on official LATA business.

G. EXHIBIT(S)

N/A

Appendix F
Emergency Response Plan

EMERGENCY RESPONSE AND NOTIFICATION PLAN for the Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York

Prepared for:
United States Army Corps of Engineers – Buffalo District

Under Contract No: W912P4-07-D-0001
Task Order No. 0005

Prepared by:

LATA-Sharp Remediation Services, LLC
756 Park Meadow Road
Westerville, OH 43081

Deliverable No. 14

April 21, 2014

[redacted]

Date: 4/21/15	**Title:** Site Superintendent
Date: 4/21/15	**Title:** Project Manager
Date: 4/21/15	**Title:** Program Manager

Users of this document are responsible for implementing the most current version of this document.
Date printed: Friday, April 24, 2015

EMERGENCY RESPONSE AND NOTIFICATION PLAN
for the
Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York

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LIST OF ACRONYMS

AMP	Air Monitoring Plan
APP	Accident Prevention Plan
BCRP	Backfill, Compaction and Restoration Plan
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	Contaminant of Concern
CQCP	Contractor Quality Control Plan
FSP	Field Sampling Plan
FSS	Final Status Survey
FUSRAP	Formerly Utilized Sites Remedial Action Program
LSRS	LATA-Sharp Remediation Services, LLC
MARC	Multiple Award Remediation Contract
NCP	National Oil and Hazardous Substances Contingency Plan
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation & Maintenance
POTW	Publicly Owned Treatment Works
RA	Remedial Action
RCP	Regulatory Compliance Plan
ROD	Record of Decision
RPP	Radiation Protection Plan
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SOP	Site Operations Plan
SSHP	Site Safety and Health Plan
SWPPP	Storm Water Pollution Prevention Plan
T&D	Transportation & Disposal
UFP-QAPP	Uniform Federal Policy Quality Assurance Project Plan
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
WMP	Water Management Plan
WMTDP	Waste Management, Transportation and Disposal Plan
WWPPP	Waste Water Pollution Prevention Plan

REVISION LOG

Emergency Response and Notification Plan for Remediation of the Seaway FUSRAP Site, Northside and Southside Areas

Revision Number/Date	Description of Changes	Pages Affected
0 3/31/15	Original Issue	N/A
0-A 4/21/15	Incorporation of USACE comments	All

CERTIFICATE OF INDEPENDENT TECHNICAL REVIEW COMPLETION

LATA-Sharp Remediation Services, LLC (LSRS) has completed the Emergency Response and Notification Plan for the Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York. Notice is hereby given that an independent technical review has been conducted by staff of LSRS that is appropriate to the level of risk and complexity inherent in the project, as defined in the Contractor Quality Control Plan (CQCP).

During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing USACE policy. The document/plans were accomplished by Dave Richards and the independent technical review was accomplished by Kathryn Ethridge as indicated by signatures below. All reviews are documented via red line track changes in associated text files. Red line edited documents are available upon request.

[redacted] _____

Plan/Report Preparer / Date

[redacted] _____

Project Manager / Date

[redacted] _____

Construction Quality Control System Manager / Date

[redacted] _____

Independent Technical Reviewer / Date

1.0 INTRODUCTION

LATA-Sharp Remediation Services, LLC (LSRS) is providing supplies and services for task order No. 0005 issued under the Multiple Award Remediation Contract (MARC) contract No. W912P4-07-D-0001 with the United States Army Corps of Engineers (USACE), Buffalo District to remediate the Seaway Site in accordance with the *Record of Decision (ROD) for the Seaway Site, Town of Tonawanda, New York* (USACE 2009). The project scope includes the excavation, transportation and disposal (T&D) of Formerly Utilized Sites Remedial Action Program (FUSRAP) contaminated soils/sediments/debris from the Northside and Southside areas outside of the landfill. This work is being conducted by USACE under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA). Work performed will follow the requirements of the National Oil and Hazardous Substances Contingency Plan (NCP) as well as title 40 of the Code of Federal Regulations.

Work plans produced for this project include a Site Operations Plan (SOP); Accident Prevention Plan (APP)/Site Safety and Health Plan (SSHP) (which includes an Air Monitoring Plan [AMP] and Radiation Protection Plan [RPP]); Sampling and Analysis Plan (SAP) (which includes a Field Sampling Plan [FSP], Uniform Federal Policy Quality Assurance Project Plan [UFP-QAPP] and Final Status Survey [FSS] Plan); Water Management Plan (WMP) (which includes a Storm Water Pollution Prevention Plan [SWPPP] and Waste Water Pollution Prevention Plan [WWPPP]); Waste Management, Transportation and Disposal Plan (WMTDP); Backfill, Compaction and Restoration Plan (BCRP); Contractor Quality Control Plan (CQCP); and Regulatory Compliance Plan (RCP).

2.0 BACKGROUND

USACE is the lead agency for implementing FUSRAP, which was established to identify, investigate, and if necessary cleanup or control contaminated sites. The Seaway Site is a closed landfill in Tonawanda, New York, that is included on the list of FUSRAP sites. The Seaway Site is an inactive hazardous waste disposal site pursuant to Title 6 of the New York Code of Rules and Regulations (NYCRR) Part 375. The site is listed in the Registry of Inactive Hazardous Waste Sites that is maintained by New York State Department of Environmental Conservation (NYSDEC 2003). Under 6NYCRR 375-2.7(b)(3), inactive hazardous waste disposal sites are classified with respect to the threats they pose to the environment, with a Class 1 posing the greatest threat and Class 5 indicating that a site is properly closed and does not require continued operation, maintenance, or monitoring. The Seaway Site is a Class 4 inactive hazardous waste disposal site.

2.1 SITE LOCATION

The Seaway Site is located in the Town of Tonawanda, New York approximately 10 miles north of the City of Buffalo. It is situated northeast of the intersection of State Road 266 (River Road) and Interstate 190 and is approximately 3/4 mile southeast of River Road. Figure 2-1 located as an attachment provides a Site Location Map. Ashland Oil & Refining Company owns properties to the east and west; primarily using these areas for industrial purposes. Other industrial facilities are located nearby along River Road. The nearest residences are located to the northwest across

the Niagara River on Grand Island and to the east in the Town of Tonawanda. A Niagara Mohawk right of way runs along the eastern fence line.

2.2 SITE HISTORY

The Seaway property is approximately 100 acres and is referred to as the Seaway Industrial Park. It is currently owned by the Benderson Development/Sands Mobile Park Corporation, which is the successor by merger to the Seaway Industrial Park Development Company, Inc. Since the late 1980's, Browning-Ferris Industries, Inc. followed by Allied Waste operated the landfill on the property (also referred to as the Niagara Landfill).

The source of the FUSRAP contaminants of concern (COCs) at the site are residues from uranium processing that was conducted at the nearby Linde Site. Various types of wastes were disposed in the landfill starting in 1930 and ending in 1993. These included municipal, commercial, industrial (including hazardous substances), and construction wastes from nearby communities. Approximately 90 percent of the property (90 acres) has been used as a landfill; approximately 69 acres have been capped. The site contains Seaway Southside (Seaway Area D Adjacent Property and Area Northwest of Seaway Area D) and Seaway Northside (property line surface runoff area).

3.0 OBJECTIVE AND SCOPE

The overall objective of the project is to remediate FUSRAP-contaminated soils/sediment from the Seaway Southside and Northside areas. Site operations include activities associated with the Remedial Action (RA) to include but not limited to water management, Operation and Maintenance (O&M) of the air monitoring system, O&M of the meteorological station, equipment decontamination, worker health and safety monitoring, maintenance and radiological monitoring of roads and support areas, utility services, civil surveys, weekly conference calls, on-site meetings, dust control, site security, daily reporting and any other daily site activities. Site operations will occur after mobilization and before demobilization. LSRS will provide all labor, material, equipment, tools, supplies, sanitary facilities, and off-site laboratory facilities necessary to perform the services required to complete the tasks specified under the statement of work.

Work to be performed includes the following:

- Preparation of Project Work Plans.
- Assisting USACE with a Preconstruction Community Outreach Meeting.
- Mobilization and Demobilization activities.
- Site health, safety and environmental monitoring.
- Field verification of actual conditions and location of each work area.
- Verifying the location of the current Landfill Cut-off Wall.
- Sampling and Analysis.
- Excavation of clean overburden for storage and possible reuse.
- Excavation of FUSRAP contaminated materials from areas that are outside of the landfill's Leachate Collection System and Cut-off Wall.

- On-site Waste Management and Packaging.
- Transportation and off-site disposal.
- Radiation Survey
- Final Status Surveys.
- Backfilling the excavated areas and Site Restoration.
- Final Status Survey Technical Data Packages for each survey unit.
- Project Construction Report and Lessons Learned Report

4.0 EMERGENCY RESPONSE AND NOTIFICATION

4.1 EMERGENCY RESPONSE

The requirements of this task order will not require LSRS or our subcontractor's to transport hazardous waste on public highways. The waste shipped from the Seaway site will be documented using a non-hazardous waste manifest.

The probable risk of a release of any chemical substances during the course of construction activities on the Seaway site will be limited to hydraulic oil release from a broken or damaged fitting or hose, spills from refueling operations and leaks from trucks delivering containers and/or materials to the site.

LSRS will have a spill contingency kit on-site in order to respond to any potential spill of oil, fuels or coolants and antifreeze from equipment on the site. Materials collected in the course of a response to a spill on-site will be containerized and disposed of in accordance with all federal, state and local regulations.

4.2 NOTIFICATION

Transportation-related emergencies involving hazardous material require accident and spill reporting. Regulations and requirements mandating the reporting of hazardous material accidents and spills are as follows:

- 49 CFR 171.15, Immediate Notice of Certain Hazardous Materials Incidents – As soon as practical but no later than 12 hours after a reportable incident, each person in control of the hazardous material must provide telephone notification to the National Response Center (NRC) at 1-800-424-8802 or 202-267-2675.

The notice must include the following:

- Name of reporter;
- Name and address of person represented by reporter;
- Phone number where reporter can be contacted;
- Date, time and location of incident;
- The extent of injury (if any);
- Class or division, proper shipping name, and quantity of hazardous materials involved;
- Type of incident and nature of the hazardous material involved.

USACE will also be notified immediately in the event of an emergency response accident and/or spill that requires reporting.

Emergency response information pertaining to the transfer of hazardous materials will be in accordance to 49 CFR 172.600, Subpart G Emergency Response Information. Incident reporting and emergency response phone numbers will be verified and provided to LSRS and LSRS subcontractors prior to startup of work.

4.3 EMERGENCY CONTACTS

Phone numbers and addresses for the local emergency response authorities and hospitals are as follows:

Tonawanda Town Police Department
169 Sheridan Parkside Dr. #2
Tonawanda, New York 14150
(716) 874-8965

Tonawanda Fire Department
744 Sheridan Dr.
Tonawanda, New York 14150
(716) 837-1111

New York EPA
186 Exchange Street
Buffalo, NY 14204
To report an Emergency or Spill Call
1-800-282-9378

New York Dept. of Health
584 Delaware Avenue
Buffalo, NY 14202-1295
(716) 847-4302

DeGraff Memorial Hospital
445 Tremont St
North Tonawanda, NY 14120
(716) 694-4500

Appendix G
Radiation Protection Plan

RADIATION PROTECTION PLAN for the Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York

Prepared for:
United States Army Corps of Engineers – Buffalo District

Under Contract No: W912P4-07-D-0001
Task Order No. 0005

Prepared by:

LATA-Sharp Remediation Services, LLC
756 Park Meadow Road
Westerville, OH 43081

Deliverable No. 12

April 27, 2015

[redacted]

Date: 4/27/15	**Title:** Health & Safety Manager
Date: 4/27/15	**Title:** Project Manager
Date: 4/27/15	**Title:** Corporate Health & Safety Manager

RADIATION PROTECTION PLAN
for the
Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York

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Figure 2-1 Seaway Site Location

List of Acronyms

ACLs	Acceptable Contamination Levels
ACP	Access Control Points
AEC	Atomic Energy Commission
ALARA	As Low As Reasonably Achievable
ALI	Annual Limit of Intake
ANSI	American National Standards Institute
BMP	Best Management Practice
BZA	Breathing Zone Air
CFR	Code of Federal Regulations
CHP	Certified Health Physicist
cm	Centimeter
cm2	Square Centimeter
CO	Contracting Officer
COC	Contaminants of Concern
COR	Contracting Officer Representative
CRM	Continuous Radon Monitoring
CRZ	Contamination Reduction Zone
DAC	Derived Air Concentrations
DOE	Department of Energy
DOT	Department of Transportation
DPM	Disintegrations per Minute
EPA	Environmental Protection Agency
FIDLER	Field Instrument for Detection of Low Energy Radiation
FSP	Field Sampling Plan
FUSRAP	Formerly Utilized Sites Remedial Action Program
GPS	Global Positioning System
HAZWOPER	Hazardous Waste Operation and Emergency Response
LDE	Lens of Eye Dose Equivalent
LLD	Lower Limit of Detection
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDAs	Minimum Detectable Activities
MED	Manhattan Engineer District
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NIOSH	National Institute of Occupational Safety and Health
NIST	National Institute of Standards and Technology
NPL	National Priority List
NRC	Nuclear Regulatory Commission
NVLAP	National Voluntary Laboratory Accreditation Program

ORNL	Oak Ridge National Laboratory
OSHA	Occupational Safety and Health Administration
pCi/g	picoCuries per gram
PDP	Project Dosimetry Program
PHP	Project Health Physicist
PM	Project Manager
PPE	Personal Protective Equipment
ppm	Parts per Million
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RA	Radiation Areas
RCT	Radiological Control Technician
RMA	Radioactive Materials Area
ROD	Record of Decision
RPG	Radiation Protection Group
RPP	Radiation Protection Plan
RPT	Radiation Protection Technician
RSS	Radiation Services Subcontractor
RWP	Radiation Work Permit
RWT	Radiation Worker Training
SDE	Shallow Dose Equivalent
SOP	Standard Operating Procedure
SOR	Sum-of-Ratio
SOW	Statement-of-Work
SSHO	Site Safety Health Officer
SSHP	Site Safety & Health Plan
SZ	Support Zones
TEDE	Total Effective Dose Equivalent
TLD	Thermoluminescent Dosimeter
TO	Task Order
WAC	Waste Acceptance Criteria

REVISION LOG

Radiation Protection Plan for Remediation of the Seaway FUSRAP Site, Northside and Southside Areas

Revision Number/Date	Description of Changes	Pages Affected
0	Original Issue	N/A
0-A 4/27/15	Incorporation of USACE comments	Various

CERTIFICATE OF INDEPENDENT TECHNICAL REVIEW COMPLETION

LATA-Sharp Remediation Services, LLC (LSRS) has completed the Air Monitoring Plan for the Remediation of the Seaway FUSRAP Site, Town of Tonawanda, New York. Notice is hereby given that an independent technical review has been conducted by staff of LSRS that is appropriate to the level of risk and complexity inherent in the project, as defined in the Contractor Quality Control Plan (CQCP).

During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing USACE policy. The document/plans were accomplished by [redacted], CSP and the independent technical review was accomplished by [redacted] as indicated by signatures below. All reviews are documented via red line track changes in associated text files. Red line edited documents are available upon request.

[redacted]

Environmental Dimensions Inc. Employee and Independent Technical Reviewer / Date

1.0 INTRODUCTION

LATA-Sharp Remediation Services, LLC (LSRS) is providing supplies and services for task order No. 0005 issued under the Multiple Award Remediation Contract (MARC) contract No. W912P4-07-D-0001 with the United States Army Corps of Engineers (USACE), Buffalo District to remediate the Seaway Site in accordance with the *Record of Decision (ROD) for the Seaway Site, Town of Tonawanda, New York* (USACE 2009). The project scope includes the excavation, transportation and disposal (T&D) of Formerly Utilized Sites Remedial Action Program (FUSRAP) contaminated soils/sediments/debris from the Northside and Southside areas outside of the landfill. This work is being conducted by USACE under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA). Work performed will follow the requirements of the National Oil and Hazardous Substances Contingency Plan (NCP) and other applicable portions of title 40 of the Code of Federal Regulations.

Work plans produced for this project include a Site Operations Plan (SOP); Accident Prevention Plan (APP)/Site Safety and Health Plan (SSHP) (which includes an Air Monitoring Plan [AMP] and Radiation Protection Plan [RPP]); Sampling and Analysis Plan (SAP) (which includes a Field Sampling Plan [FSP], Uniform Federal Policy Quality Assurance Project Plan [UFP-QAPP] and Final Status Survey [FSS] Plan); Water Management Plan (WMP) (which includes a Storm Water Pollution Prevention Plan [SWPPP] and Waste Water Pollution Prevention Plan [WWPPP]); Waste Management, Transportation and Disposal Plan (WMTDP); Backfill, Compaction and Restoration Plan (BCRP); Contractor Quality Control Plan (CQCP); and Regulatory Compliance Plan (RCP).

2.0 BACKGROUND

USACE is the lead agency for implementing FUSRAP, which was established to identify, investigate, and if necessary cleanup or control contaminated sites. The Seaway Site is a closed landfill in Tonawanda, New York, that is included on the list of FUSRAP sites. The Seaway Site is an inactive hazardous waste disposal site pursuant to Title 6 of the New York Code of Rules and Regulations (NYCRR) Part 375. The site is listed in the Registry of Inactive Hazardous Waste Sites that is maintained by NYSDEC (NYSDEC 2003). Under 6NYCRR 375-2.7(b)(3), inactive hazardous waste disposal sites are classified with respect to the threats they pose to the environment, with a Class 1 posing the greatest threat and Class 5 indicating that a site is properly closed and does not require continued operation, maintenance, or monitoring. The Seaway Site is a Class 4 inactive hazardous waste disposal site.

3.0 SITE LOCATION

The Seaway Site is located in the Town of Tonawanda, New York approximately 10 miles north of the City of Buffalo. It is situated northeast of the intersection of State Road 266 (River Road) and Interstate 190 and is approximately ¾ mile southeast of River Road. Figure 2-1 located as an attachment, provides a Site Location Map. Ashland Oil & Refining Company owns properties to the east and west; primarily using these areas for industrial purposes. Other industrial facilities are located nearby along River Road. The nearest residences are located to the northwest across the Niagara River on Grand Island and to the east in the Town of Tonawanda. A Niagara Mohawk right of way runs along the eastern fence line.

4.0 SITE HISTORY

The Seaway property is approximately 100 acres and is referred to as the Seaway Industrial Park. It is currently owned by the Benderson Development/Sands Mobile Park Corporation, which is the successor by merger to the Seaway Industrial Park Development Company, Inc. Since the late 1980's, Browning-Ferris Industries, Inc. (BFI) followed by Allied Waste operated the landfill on the property (also referred to as the Niagara Landfill).

The source of FUSRAP contaminants of concern (COCs) at the site are residues from uranium processing that was conducted at the nearby Linde Site. Various types of wastes were disposed in the landfill starting in 1930 and ending in 1993. These included municipal, commercial, industrial (including hazardous substances), and construction wastes from nearby communities. Approximately 90 percent of the property (90 acres) has been used as a landfill; approximately 69 acres have been capped. The Site contains Seaway Southside (Seaway Area D Adjacent Property and Area Northwest of Seaway Area D) and Seaway Northside (property line surface runoff area).

5.0 SCOPE

The overall objective of the project is to remediate FUSRAP radiologically contaminated soils/sediment from the Seaway Southside and Northside areas. Site operations include activities associated with the Remedial Action (RA) to include but not limited to water management, Operation and Maintenance (O&M) of the air monitoring system, O&M of the meteorological station, equipment decontamination, worker health and safety monitoring, maintenance and radiological monitoring of roads and support areas, utility services, civil surveys, weekly conference calls, on-site meetings, dust control, site security, daily reporting and any other daily site activities. Site operations will occur after mobilization and before demobilization. LSRS will provide all labor, material, equipment, tools, supplies, sanitary facilities, and off-site laboratory facilities necessary to perform the services required to complete the tasks specified under the statement of work.

6.0 RADIATION PROTECTION PLAN

Radiation and radioactive materials are potential environmental and work place hazards. This Radiation Protection Plan (RPP) defines the worker protection requirements for radiation exposure control as a support document to the Project SSHP. This plan will be implemented through the use of standard operating procedures and programs that are commensurate with the scope and extent of the remedial activities associated with the Seaway Site. This RPP outlines the roles and responsibilities of the radiological support staff and describes the radiation protection measures to be implemented at the site. These measures will provide assurance that site workers and the public are protected from the effects of unnecessary exposure to radiation.

A mission of the RPP is to make every reasonable effort to maintain occupational, environmental and public radiation exposure As Low As Reasonably Achievable (ALARA). The premise of the ALARA program is based on the assumption that the risk associated with radiation exposure is directly proportional to the dose incurred and that there is no threshold dose below which there is no risk. The program addresses topics such as; administrative exposure controls, training, self-assessments, radiological procedure review, radiation work permits, radiological performance and awareness, and documentation and record keeping

All activities conducted in accordance with this plan will be compliant with the applicable requirements and guidance set-forth in the approved Seaway Project QAPP and SAP.

The Project Certified Health Physicist (CHP) shall approve the RPP and be signatory to the plan. Other responsible parties to the RPP include Project Manager and Site Superintendent/Quality Assurance Manger assigned to the project.

6.1 HEALTH PHYSICS OPERATIONAL PROCEDURES

Health physics operational procedures are the key component of any comprehensive RPP and will be implemented during the course of conducting work involving radioactive materials. LSRS will be responsible for the implementation of these procedures to include oversight and compliance with work activities. Planned work activities will be continually evaluated and compared to procedural requirements to ensure safe and effective task execution. The RSS will also be responsible for updating or revising procedures as necessary. Any procedural deficiencies identified will be brought to the attention of the RSS for correction and revision.

7.0 REGULATORY REQUIREMENTS

The primary regulatory driver for conducting all radiation protection activities associated with the Seaway Project will be governed by NRC 10CFR20.

Construction activities are regulated by OSHA under 29CFR1926. Paragraph 29CFR1926.53, "Ionizing Radiation" states "(a) in construction and related activities involving the use of sources of ionizing radiation, the pertinent provisions of the Nuclear Regulatory Commission Standards for Protection Against Radiation (10CFR20) relating to protection against occupational exposure shall apply."
Site perimeter airborne exposure limits for the public will be maintained in accordance with the National Emissions Standards for Hazardous Air Pollutants (NESHAPs).

Other applicable guidance documents such as USACE, Radiological Safety, ER 385-1-80 and USACE, Radiation Protection Manual, EM 385-1-80 will be addressed through Project plans, programs, and procedures.

Radiological surface contamination for unrestricted release of materials, equipment, and personnel will be conducted in accordance with NUREG Guide 1.86, "Termination of Operating Licenses for Nuclear Reactors", Surface Concentration Guidelines for Unrestricted Use. These values are also consistent with DOE Order 5400.5, Figure IV-1, Surface Contamination Guidelines and DOE/CH/8901.

Final verification surveys will be conducted in accordance with Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), DoD 1997.

8.0 REFERENCES

USACE, Management Guidelines for Low-Level Radioactive Waste (LLRW) and Mixed Waste (MW) Site Remediation, EM 1110-35-1, 30 June 1997

USACE, Radiological Safety, EM 385-1-80, 30 May 1997

USACE, Radiation Protection Manual, EM 385-1-80, 30 May 1997

NRC Regulation 10 CFR 20 Standards for Protection Against Radiation

DOD 1997, Multi-Agency Radiation Survey and Site Investigation Manual (MARRSIM)

NUREG-1575, EPA 402-R-97-016, Department of Defense et. al., December 1997

U.S. Nuclear Regulatory Commission (NRC), Termination of Operating Licenses for Nuclear Reactors, Regulatory Guide 1.86, Washington, D.C., June 1974

U.S. Department of Energy (DOE), Radiation Protection of the Public and the Environment DOE Order 5400.5, February 8, 1990

OSHA Regulations 29CFR1910.1096 and 29CFR1926.53

USACE; 2005; Quality Assurance Project Plan (QAPP) for the Seaway Project

EPA Regulations 40CFR61, National Emission Standards for Hazardous Air Pollutants

DOT 49CFR 172, Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

40CFR61, Appendix B - Test Methods, Method 115, Monitoring for Radon-222 Emissions

ANSI N13.30-1996, Performance Criteria for Radiobioassay

NUREG/CR-4884, Interpretation of Bioassay Measurements, July 1987

EPA 520/1-88-020, Federal Guidance Report No. 11, Limiting Values of Radionuclide Intake and Air Concentrations and Dose Conversion Factors for Inhalation, Submersion, and Ingestion, 1988.

NRC Regulatory Guide 8.25, “Air Sampling in the Workplace”

9.0 ORGANIZATION

9.1 PROJECT MANAGEMENT TEAM

The Project Management Team is responsible for providing the commitment and the resources necessary to support the development and implementation of a comprehensive RPP. The RSS shall emphasize and delegate this commitment to the Seaway Project Manager responsible for all site activities. The RSS is ultimately responsible for regulatory compliance and oversight of all site activities involving actual or potential exposures to radiation and/or radioactive materials.

9.2 CERTIFIED HEALTH PHYSICIST (CHP)

The CHP is responsible for the development, implementation, and maintenance of the RPP ensuring

that it is in compliance with applicable federal requirements defined in this plan. Specifically, the CHP is responsible for ensuring that the records management requirements of this plan are commensurate with site activities. The CHP shall conduct periodic reviews to ensure program compliance with regulatory requirements. The CHP ensures that dose assessments are completed and accurate to include appropriate analytical protocols, ensures that all radiation exposure reports are produced and provided to the individual and to the governing regulatory agency in accordance with regulatory requirements. The CHP also reviews other applicable project plans and provides technical support throughout the duration of the project.

9.3 RADIATION SERVICES SUBCONTRACTOR (RSS)

Under the direction of the CHP, the RSS will be responsible for the implementation of this RPP. The RSS will have oversight of all radiation safety activities and operations relating to radioactive material handling to include sampling, sample analysis, site radiological surveys, packaging of radioactive materials, waste management, and shipping operations. The RSS, or his designated alternate, will also be responsible for the following:

- Ensures that operations are being conducted in accordance with the approved SSHP; RSS's approved Health Physics Operational Procedures, USACE requirements, and the requirements of 10CFR20.
- Assures that environmental monitoring addresses the site-specific emissions providing clear and accurate documentation of compliance**.**
- Evaluates airborne concentrations and determines Derived Air Concentrations (DAC)-hour exposures for occupational workers.
- Manages the project's Dosimetry Program to include the review and trending of Thermoluminescent Dosimeter (TLD) results and bioassay analytical data.
- Performs review of all radiological data and reports to include conducting Sum-of-Ratio (SOR) results of soil data.
- Directs Supervision of project Radiological Protection Technicians (RPT).
- Performs RPP briefing of personnel and ensure that all personnel are adequately trained in radiation safety principles commensurate to the level with each person's job function.
- Correction of any work practices and/or conditions that may result in unnecessary exposure to, or loss of control of, radioactive materials.
- Ensuring that the project's radiation protection staff and supporting resources are adequate for implementing the radiological control and monitoring requirements of this plan.
- Reviews and documents trending for radiation exposures and work practices of project personnel, including; incidence of personnel contamination.

- Leading the regulatory interface for all matters of radiation safety and/or radioactive waste management.
- Involvement in the project work planning of all operations in contaminated areas.
- Prepares and approves Radiation Work Permits (RWPs).
- Ensures controlled areas are correctly identified, posted and marked.
- Reviews the performance of site remediation surveys, including GPS surveys and sampling, and preparation of the Final MARRSIM Survey Plan.
- Maintaining radiological records and reports. Consults with the CHP about any deficiencies involving project radiation safety.

9.4 RADIATION PROTECTION TECHNICIAN

The RPT will report to the RSS. The RPT is responsible for:

- Performing quality control checks and operability checks of all radiation detection instrumentation
- Performing all routine radiation contamination surveys and conduct airborne monitoring to include data reduction of results and reporting
- Controlling the access of tools, personnel and equipment into and out of exclusion zones, including surveys for unrestricted release
- Performing sampling and measurements for screening and final MARRSIM survey of excavated areas
- Performing all site walkover surveys
- Performing all radiation and contamination surveys for radioactive waste shipments
- Performing any personnel decontamination as needed
- Maintaining and posting all radiological signs and barriers
- Ensuring compliance with the requirements of posted RWPs to include the issuance of Personal Protective Equipment (PPE)
- Maintaining logbooks as required
- Escorting visitors and inspectors

- Consulting with the RSS regarding any deficiencies.

10.0 OPERATIONAL TASK

Based on the previous site activities and data collection, the prescribed remedial objective for the Site includes removal by excavation and off-site disposal of impacted soils that exceed soil cleanup levels for radiological contaminants as defined in the Record of Decision (ROD)**.**

All work associated with the removal of the radiological impacted soils will be completed in the manner that is protective of human health and the environment. These tasks include the following activities.

10.1 PRE-REMEDIAL ACTION ACTIVITIES

Pre-remediation action activities performed by the RSS will include mobilizing of qualified radiation protection personnel to the site. The RSS will acquire proper instrumentation/supplies, establishing site boundaries and control zones. As the site is prepared, the RSS will clearly delineate the work control boundaries**.**

The RSS will work with LSRS Project Management to ensure that the boundaries are located appropriately based upon site history and located to maximize work flow. Postings will be firmly mounted on supports at the site's point of entries, and as designated by regulatory requirements. Support will be provided to assist LSRS Project Management in the setup of appropriate areas/boundaries for project support.

The perimeter air monitoring network will be established prior to the commencement of remediation activities or other intrusive work. In addition, air monitoring will be conducted prior to intrusive work activities to establish baseline radioactive particulate concentrations for the site.

10.1.1 Pre-Remedial Action Walkover Surveys

A walkover survey prior to remedial activities will be conducted to assist in the decision making process on where to locate excavation and transport equipment as well as haul roads.

Walkover surveys will be performed using a Ludlum Model 44-10 2 x 2 NaI (Tl) Gamma scintillation Detector to detect the radium in soil. Walkover surveys will also be performed using a Ludlum Model 2221 with a Field Instrument for Detection of Low Energy Radiation (FIDLER) probe to detect the presence of U238 in soil. Each Ludlum Model 2221 Scaler/Ratemeter is equipped with a RS 232 data output coupled to a Trimble GPS handset for automated data logging at one measurement per second. A distance of 2-4 inches above the ground surface will be maintained throughout the survey. The screening level will be based upon the mean background count rate plus three standard deviations of those data or twice the mean background – whichever is lower..

10.2 EXCAVATION ACTIVITIES

Excavation of soils will be performed using typical construction equipment such as track hoes, excavators, intermodal containers, etc. These activities will be monitored by the RSS to ensure safe work practices and compliance with procedures, programs, and plans. Occupational monitoring will be performed during intrusive work activities. The RPT will perform gamma walkover surveys, during the course of the remedial action, to guide the remediation process**.**

10.2.1 Material Sampling

Soils from the excavation area will be directly loaded into IMC's to avoid the generation of soil stockpiles. Pre-excavation sample pits will be performed in order to sample the material for waste profile acceptance. General area air sampling units will be concentrated around the perimeter of the load out area. Breathing Zone Area sampling will also be implemented during remediation activities, and loading operations. Dust suppression activities will be closely monitored and are key to the success of the project air sampling program.

Dose rate surveys will be performed by the RPT to monitor any change in site conditions. Dose rate data will be reviewed by the RSS and used to update dose maps and RWPs, as necessary. Any change in conditions will be communicated to the Project workers during the daily planning meetings.

Soil samples will be routinely collected from the IMC's during the remedial activities. These samples are referred to as container characterization samples, and include samples collected over the course of the soil excavation activities. The results will be compared to the Waste Acceptance Criteria (WAC) and will be used to characterize the curie content for waste transportation manifesting in accordance with Department of Transportation (DOT) requirements. Soil sampling will be conducted in accordance with the Seaway Sampling and Analysis Plan**.**

10.2.2 Material Load-out and Waste Packaging

Material load-out and waste packaging operations will be monitored as described in the above section. Incoming surveys will be conducted of all empty waste containers upon arrival to the site. Incoming surveys identify any residual radioactivity that may be present within the container prior to use by the project. Following the loading of the containers with excavated soils, transferable surveys and dose rate surveys will be conducted and documented. These surveys will be performed to ensure compliance with the Seaway site release criteria and for compliance with DOT regulations. Routine surveys of the load-out areas will be conducted and documented. This data will provide trend indicators as to the effectiveness of the controlled load-outs.

10.3 FINAL STATUS SURVEYS (MARRSIM)

Final status surveys will be conducted of the post-excavation surfaces. The purpose of these surveys is to confirm that all of the contaminated soils exceeding the specified ROD cleanup criteria have been removed. These samples will be analyzed offsite. Details on the sampling design, sampling procedures, number of samples, analytical protocols, and data decisions for final status survey soil sampling efforts will be address in the MARRSIM Final Status Survey (FSS) Plan and the site SAP**.**

10.4 BACKFILLING

The RSS will ensure that all site surveys and sampling protocols have been met prior to backfilling any excavated areas. The RSS will notify site management that the areas are available for backfilling. No radiological controls will be implemented during backfilling operations.

10.5 DEMOBILIZATION

All equipment, tools, and materials to include office trailers, storage containers, and vehicles will be radiologically surveyed for unrestricted release. Any items found to be contaminated will be decontaminated and resurveyed.

11.0 CONTAMINANTS OF CONCERN (COC)

The source of the FUSRAP COCs at the Site are residues from uranium processing that was conducted at the nearby Linde Site. These residues were highly insoluble and not subject to significant leaching. The results of soil sampling conducted at the Site show Thorium (Th-230) to be the most prevalent radioactive contaminant in Area A (USACE 1999a, 2002). In addition to Th-230, elevated concentrations of Radium (Ra)-226, total uranium (U total), Protactinium (Pa)-231 and Actinium (Ac)-227 have been identified**.** Uranium at the Site consists of natural uranium that contains three isotopes: U-234, U-235, and U-238. U-234 and U-238 are in the same decay series that also includes Ra-226 and Th-230. Ac-227 and Pa-231 are in the U-235 decay series. U-total is the sum of the concentrations of the three uranium isotopes**.**

Under FUSRAP, USACE is only authorized to address contaminants associated with the Nation's early atomic energy program that was administered under the Manhattan Engineer District / Atomic Energy Commission (MED/AEC). Thus, USACE will not remediate radioactive or chemical contamination that are not FUSRAP related or are not commingled with FUSRAP contaminants. Because the landfill is an inactive hazardous waste disposal site, there may be other sources of radionuclides. Examples include fly ash and waste oils that contain naturally occurring radionuclides. These should be avoided.

The primary goal of this project is to effectively remove the COCs in the areas identified as Seaway Southside and Seaway Northside and their related cleanup criteria.

USACE has estimated the volumes of FUSRAP contamination, which are documented in:

- Technical Memorandum: Synopsis of Volume Calculations for Seaway Site Areas A, B, and C, Tonawanda, New York (USACE 1999b)
- Technical Memorandum: Summer 2001 Subsurface Investigation of the Seaway Site – Areas A, B, and C, Tonawanda, New York (USACE 2002)
- Addendum to the Feasibility Study for the Seaway Site, Tonawanda, New York (USACE 2008a)

Estimated volumes of FUSRAP contaminated soil/sediment to be excavated from the Seaway Southside and Northside areas are provided in Table 1. The range of COC concentrations at each area is provided in the ROD (USACE 2009).

Table 1 - Estimated Volumes of FUSRAP-Contaminated Soils Outside of the Landfill

Area	Est. Volume (CY)
Seaway Southside	800
Seaway Northside	300
Total	1,100

Notes:
CY = cubic yards

11.1 SEAWAY SOUTHSIDE

Two additional areas of contamination were identified on the Seaway property. These areas were not addressed during the Ashland 1 remedial action (RA) located to the south west because the excavations would have impacted the closed landfill. They have been referred to as 1) Seaway Area D Adjacent Property and 2) an area northwest of Seaway Area D. The COCs are the same as those identified in areas A, B and C.

Contamination at Seaway Area D Adjacent Property does not appear to extend towards the landfill by more than 1 to 2 ft, and towards the north by no more than 7 ft. Based on an average thickness of 8 inches, the volume of FUSRAP contaminated material in this area is estimated to be less than 3 CY.

The approximate extent of FUSRAP contaminated material in the area northwest of the Seaway Area D is 19,800 square ft (SF). Approximately 47 percent (9,230 SF) of the contaminated material is located within the landfill's leachate collection system; the remaining 53 percent (approximately 10,570 SF) is located outside of the leachate collection system. FUSRAP contaminated material is estimated to extend approximately 100 ft from a perimeter cutoff wall into the closed landfill. This RA SOW addresses only the portion that is outside of the leachate collection / cutoff wall system.

11.2 SEAWAY NORTHSIDE

During remediation of the Ashland 2 area, FUSRAP contaminated soil/sediment was found up to the Seaway property line that appeared to be a result of surface runoff from Area A. A sample from the area at 1 ft BGS contained Ra-226 at 14 picocuries per gram (pCi/g) and Th-230 at 396 pCi/g. Based on this limited data, the contaminated area is estimated to be a 35 ft wide by 72 ft long section that extends from the property line to a point approximately 22.5 ft from the landfill's cutoff wall. LSRS will excavate this known point source at the fence line, and then perform additional characterization of this area via guided excavation to remove any other elevated material above the ROD criteria. USACE has estimated the volume at 140 CY.

11.3 RADIATION EXPOSURE LIMITS

Seaway radiological work activities shall be performed in accordance with the requirements of this RPP and shall incorporate provisions for reducing radiological exposures to As Low As Reasonably Achievable (ALARA). The control of radiological work shall include a formal plan and subsequent implementation of procedures and engineering controls that reduce the exposure of the individual to the radiological environment. Table 2 lists the permissible equivalent dose limitto trained and monitored employees. Table 3 lists the permissible equivalent dose limit for visitors and the public. Process or other engineering controls are the preferred methods for maintaining exposures to radiation and radioactive materials ALARA. Some controls that may be incorporated into the site activities include the following:

- Control of access to the radioactive areas or waste materials
- Reduced exposure times
- Dust suppression
- Monitoring of work practices
- Use of appropriate personal protective equipment (PPE)
- An increase of distance between the individual and the source

Table 2 – Equivalent Exposures for Trained and Monitored Adult Employees

Total Effective Dose Equivalent	(TEDE = DDE + CEDE)	5.0 rem/yr
Total Organ Dose Equivalent to Maximum Exposed Organ	(TODE = DDE + CDE)	50.0 rem/yr
Lens of Eye Dose Equivalent	(LDE)	15.0 rem/yr
Shallow Dose Equivalent to Skin Extremity	(SDE)	50.0 rem/yr

Table 3 - Exposure to Visitors and Members of the Public

Radiation exposure to the public from air particulate emission shall be controlled to limit doses to:	<0.10 rem/yr
Radiation exposure to visitors onsite or individuals offsite shall be controlled to limit doses to>	TEDE <0.10 rem/yr
The EPA sets an offsite dose limit via air particulate emissions of:	TEDE <0.01 rem/yr

11.3.1 Embryo/Fetus

In the event that a Seaway worker declares herself to be pregnant, the declared worker's task assignments shall be controlled to limit the radiation exposure to the embryo/fetus. That limit shall be based on the time from conception to birth. The dose equivalent limit to embryo/fetus:

- 0.5 rem for entire pregnancy

11.3.2 Radiation Exposure to Minors

The Seaway Project does not employ minor individuals (individuals less than 18 years old) to perform work in a radiation environment.

11.3.3 Radiation Exposure to Visitors and Members of the Public

Members of the public may receive radiation exposure from the project activities. These exposures may be due to controlled and/or monitored activities. A visitor may be a member of the public or may be a representative or employee of a company or agency performing work onsite.

12.0 RECORDS AND REPORTS

Records shall be maintained to document compliance with this RPP. Unless otherwise specified, records shall be retained until final disposition is authorized by the USACE. All required records shall be transferred to the USACE upon termination of activities. At a minimum, the following types of records, as pertinent to Seaway work activities, shall be produced and retained:

- Individual monitoring records
- Bioassay results
- Workplace monitoring records
- Worker preparation and training records
- Records of incidents

- Records of reviews and audits of the RPP

Project workers, who perform work involving occupational radiation exposure limited by an applicable regulatory authority, shall be monitored in accordance with provisions of the Project RPP. Regulatory agencies require that certain reports be produced and issued. These reports may typically be reports to:

- The individual;
- Regulatory agencies; and
- Employers.

12.1 Reports to Individuals

The types of reports provided to individuals include: Annual reports, Termination reports, Special requested reports by the individual. Reports of the individual exposure are transmitted to the regulatory agency.

12.2 Annual Reports

Annual reporting requirements to individuals who were monitored for radiation exposure are defined by NRC - 10 CFR 19.13(b) "Each employer shall advise each worker annually of the workers dose".
For the purpose of this plan, all Project workers who are monitored for radiation exposure during their work assignment shall receive a report of the results of that monitoring annually.

12.3 Termination Reports

For an individual who is terminating employment at a facility or site that provided monitoring for radiation dose assessment, a report shall be provided to that individual by the reporting facility or employer for the period of time the individual was exposed at that facility. For an individual who was monitored for work involving NRC licensed activities, this report shall be furnished within thirty days from the time a request is received from the individual or within 30 days after the exposure of the individual has been determined by the employer, whichever is later (10 CFR 19.13(c)).

The RSS shall issue termination reports to individuals who are monitored in accordance with the RPP no later than thirty days after receipt of the request from the terminating individual or his designee. These reports shall include, as a minimum, a summary of information that is included in each annual reporting period for the individual.

12.4 Special Requested Reports by the Individual

For occupational exposure resulting from NRC or agreement state licensed activities, such special requests by the individual are associated with termination (10 CFR 19.13(e)). Under 10 CFR 20, reporting requirements to the individual are silent with regard to special reporting. The RSS shall issue a report of exposures to the individual within 30 days of receipt of any special request from the individual. As a minimum, the information provided should include all data normally provided in a Termination Report. This may include an estimate of most recent exposures if monitoring results are not yet available.

12.5 Reports Transmitted to Regulatory Authorities (non-routine exposures)

Any report of an individual non-routine occupational exposure that is required to be transmitted to the appropriate regulatory agency shall also be transmitted to the individual at a time no later than the transmittal date to the agency (10 CFR 835.810(e) and 10 CFR 19.13(d)). These reports include, but are not limited to:

- Unplanned occurrences involving any exposure to radiation or radioactive materials (accidents, emergencies)
- Exposures of an individual in excess of applicable regulatory limits
- Planned special exposures

12.6 Occurrence Reports

The regulatory agencies that oversee radiological work activities require the reporting of any unplanned occurrence or incident (accident) involving radiation exposure to individuals. The content and format for these reports are described by each of the regulatory agencies.

12.7 Planned Special Exposures

Each of the regulatory agencies requires submittal of a written report within thirty days after a planned special exposure has occurred. As a minimum, reports to the appropriate agency shall include:

- Date planned special exposure occurred
- Description of circumstances requiring planned special exposure
- Identification of approval authority
- Identification of individuals involved
- ALARA evaluation results
- Description and justification of necessary actions
- Estimate of expected exposures
- Reports to Employers

At the written request of an individual who has been monitored for occupational radiation exposure, a written record shall be provided to that individual's employer, or to any other agent specified by the individual.

13.0 ALARA PROGRAM

The radiation exposure to Seaway personnel accessing radiologically controlled areas shall be controlled to ensure that the following limits are not exceeded for all work that the worker is assigned. These limits are consistent with federal regulations that are applicable to Seaway remedial action work activities involving exposure or potential exposure to radiation and/or radioactive materials and are the maximum allowed, with approval of the CHP and Contracting Officer Representative (COR).

Program Activities:
All activities involving radiation and radioactive materials shall be conducted in such a manner that radiation and contamination exposure to workers and the general public are maintained to ALARA standards, taking into account current technology and the economics of radiation exposure reduction in relationship to the benefits of health and safety.

Administrative controls and procedures endeavor to reduce/maintain individual and collective radiation exposures to ALARA standards. Minimizing exposure to radiation and contamination exposure is accomplished by preliminary planning and scheduling, using proven and innovative engineering techniques and performing engineering reviews of proposed work plan changes.

Worker involvement and acceptance in minimizing radiation exposure is a key component of the RPP. Workers are responsible to incorporate ALARA principles into work performance.

Work shall be planned in accordance with ALARA principles, involving input from discipline engineers, the project radiation protection group and other members of the project team.

Prior to the start of specific activities/tasks, ALARA methods will be reviewed and approved by the RSS.

Prior to implementation, any procedure and control considered for ALARA purposes shall be evaluated to ensure the following:

- Implementation costs are feasible and effective.
- Implementation will result in an overall risk reduction.

Table 4 - Contract Administrative & ALARA Control Limits (in units of rem)

Dose Quantity	10CFR20	Contract ACL	ALARA ACL
TEDE	5	0.5	0.1
CDE	50	5	1.0
LDE	15	1.5	1.5
SDE	50	5	1.0
Embryo/Fetus	0.5	.5	NA

14.0 PERSONNEL REQUIREMENTS

Site workers will receive site- and project-specific radiation safety training and will have been medically-cleared by an occupational physician prior to performing any field activities. In addition, the RSS will ensure that all field technicians responsible for radiation safety have adequate training and certification to perform their requisite duties. Site visitors and providers of ancillary project support such as survey personnel will receive project-specific hazard awareness training prior to entering the site and will be accompanied by the RSS or SSHO at all times when on site.

15.0 TRAINING AND QUALIFICATIONS

All project personnel will have documented training commensurate with their respective task prior to conducting work onsite. All RPTs shall have the appropriate level of experience and training (NRC ANSI 3.1 or DOE RCT) to conduct radiological operations. The RSS will provide radiological worker training, as necessary. All project staff members will have, at a minimum, 40-hour HAZWOPER training and current 8-hour refresher training.

The RSS will conduct radiation training describing radiation fundamentals and protection measures, relative risks, and site-specific radiological hazards. Additional onsite training will include hazard communication, site-specific orientation training and other required training that is not provided offsite. Potential risks associated with planned work will be addressed at the beginning of each work day.

The records generated for the training program will be maintained at the site and will be available for review.

16.0 DOSIMETRY PROGRAM

16.1 INTERNAL MONITORING

The RSS will maintain a bioassay program for all site personnel and their subcontractors for the Project. As part of the health physics occupational monitoring, a routine bioassay sample will be collected from each worker prior to conducting work and at the end of the worker's assignment. Non-routine bioassay samples will be collected if face or nasal contamination is detected; or based on personal air sampling data.

Bioassay data, along with data from external exposure monitoring, will be used to determine the occupational Total Effective Dose Equivalent (TEDE). Breathing zone air sampling data will be used as a tool to assess radiation exposure and/or the need for additional personal protective measures.

Bioassay analysis shall be performed by a USACE certified laboratory. Samples will be analyzed for Ra-226, TH-230 and isotopic Uranium. All results will be documented and assigned to each worker's permanent occupational monitoring record

16.2 EXTERNAL MONITORING

Thermoluminescent Dosimeters (TLDs) will be issued to every worker, prior to conducting work, to measure beta/gamma external radiation exposure. The TLD measurement data will be documented for each radiation worker assigned to the project and will become part of their permanent radiation exposure history. TLDs will be changed out on a quarterly basis.

The RSS will distribute, track, and collect TLDs for offsite analysis by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited vendor. All results will be reviewed by the RSS and the project's CHP and then transmitted to LSRS's SSHO, PM, and the COR.

17.0 RADIOLOGICAL AIR MONITORING PROGRAM

The primary operational radiation protection concern at the site during activities is airborne radioactivity generated from excavation and soil removal operations, etc. An air-sampling program is described in the Air Monitoring Plan (AMP) and will be implemented to ensure compliance with occupational and environmental limits. Dust suppression methods employed during excavation and waste handling activities will be keys in adhering to these applicable regulatory limits. The project air-sampling program will include site perimeter, general work area, and breathing zone samples. All air sampling equipment will be routinely calibrated and maintained in good working condition.

To establish the areas background concentrations, one ambient air-monitoring station is recommended. The background air sampling location shall be established upwind from the site and away from point sources or other radiological contamination. The site location as compared to prevailing wind directions and availability of utilities shall also be considered.

17.1 SITE PERIMETER MONITORING

Ambient air particulate monitoring is important to verify that offsite locations are not impacted during site remediation activities. The RSS will perform ambient air monitoring during intrusive work activities. The design of the perimeter air monitoring network will take into consideration the location and proximity of the work area to the site perimeter including predominant wind directions.

Air sample filters will be changed routinely and analyzed onsite for gross alpha and beta/gamma activity (uCi/ml). Some samples will be composited and sent to an offsite laboratory for isotopic analysis to determine the relative distribution of identified radioisotopes. This information will be used to confirm compliance with the appropriate regulatory limits and to evaluate these limits, as deemed appropriate. FUSRAP is required to comply with the applicable regulations identified in the CFR, Title 40, Part 61, Subpart I and 10CFR20, Appendix B (Table 2, Column 1).

Additionally, perimeter air monitoring results may be compared to area background concentrations and used to assess and/or demonstrate radiation dose estimates to the public, if required**.**

All results will be reviewed by the RSS and transmitted to LSRS's SSHO, PM, and the COR. The LSRS SSHO will be immediately notified in the event that elevated air concentrations are observed.

17.2 GENERAL WORK AREA MONITORING

General work area particulate air sampling will be performed every work day during intrusive operations. Air monitors will be located near the work activities most likely to have the highest airborne activity. The number of general work area air samples collected will be dependent upon the task being performed**.**

The RSS will analyze samples onsite for gross alpha and beta/gamma activity. MDAs and LLD will be considered when reporting all air data.

The RSS will compare the concentration of air particulates to the appropriate action levels presented in Table 5. If elevated levels are determined, the RSS will notify LSRS's SSHO. The data will be used to assess compliance with regulatory requirements. All samples will be archived and made available for further isotopic analysis, as required.

17.3 BREATHING ZONE AIR MONITORING

The RSS will perform Breathing Zone Air (BZA) sampling using personnel air sampling pumps to determine the concentration of airborne radioactive material in the immediate breathing zone.

Sampling will be implemented when an individual is likely to receive an annual intake of 2% or more of the specified ALI values and/or an individual's airborne radioactivity exposure is likely to exceed 1 DAC in accordance with 10CFR 20. This information will be used to assess the effectiveness of engineering controls, determine the appropriate level of respiratory protection required and to determine if non-routine bioassay samples are required.

In accordance with 29 CFR 1910.1096, no employee exposure to airborne radioactive material shall be permitted to exceed the average concentrations specified in Table 1 of Appendix B, "Concentration of Air and Water Above Natural Background", of 10CFR20 for 40 hours in any work week of 7 consecutive days or 40 DAC hours per week. Compliance will be routinely demonstrated by

monitoring the exposure in DAC hours per week. The Th-230 DAC (3 x 10-12 uCi/ml) will be used for DAC-hr calculations.

The assessment of DAC hours will be based on an appropriate review of air monitoring results.

BZA samplers will be provided to the persons most likely to be exposed in a given work group. The number of BZA samples will depend on the task being performed.

All air samples taken at the site will be analyzed onsite for gross alpha/beta-gamma activity. Unusual or unexpected results will be investigated and may require offsite laboratory analysis. The radiological contaminant airborne action levels and actions to be taken are listed in Table 5.

17.4 Operational Action Levels for Airborne Radioactivity

A decision-making protocol for an upgrade in levels of protection and/or withdrawal of personnel from an area based on atmospheric hazards is outlined in Table 5 – "Operational Action Levels".

Table 5 – Operational Action Levels for Long-Lived Airborne Radioactivity

Type of Airborne Radioactivity Measurement	Activity	Action
Total Particulate – General Work and Waste Loading Areas	3.0E-12 µCi/ml	Stop operations that are presenting the problem until engineering controls can be established that will reduce airborne levels to 30% of this level
Total Particulate – Perimeter	2.0E-14 µCi/ml	Stop operations that are presenting the problem; evaluate work tasks in order to reduce airborne levels and reoccurrence

The USACE EM 385-1-1 refers to 10CFR 20, Appendix B for airborne levels. The basis for action is at 1 DAC for any radionuclide. Airborne Radioactivity area means a room, enclosure or area in which airborne radioactive materials, composed wholly or partly of licensed material, exist in concentrations in excess of the derived air concentrations specified in Appendix B, to §20.1001 – 20.2401**, or** to such a degree that an individual present in the area without respiratory protective equipment could exceed, during the hours an individual is present in a week, an Allowable Limit of Intake (ALI) or 12 DAC hours.

18.0 RESPIRATORY PROTECTION PROGRAM

The respiratory protection program will be implemented in the event that airborne particulate concentrations exceed the ALARA limits (30% of the DAC). Engineering controls such as evaluating dust suppression methods will be considered prior to the implementation of the program. Respirator selection will depend on the concentration of radioactive particulates detected as well as other pertinent factors.

19.0 RADIOLOGICAL CONTAMINATION CONTROL PROGRAM

The RSS will establish radiological contamination controls at the Seaway Site pursuant to 10CFR20 and other applicable and relevant requirements. Such controls will be implemented through the use of barricades, postings, and site maps to identify cleanup operations and/or exclusion zones. The RSS will also establish the Access Control Point (ACP) in order to control the activities and movement of project equipment. . Controlling access through an ACP minimizes the potential for exposure, prevents unauthorized access to contaminated areas and it ensures that site workers do not enter controlled areas without: 1) reviewing posted RWPs for specified work activities; 2) verifying proper training and issuances of personal dosimetry; and 3) wearing proper protective equipment. Copies of all applicable RWPs and site entry/exit logs will be maintained and posted at the ACP.

19.1 ESTABLISHMENT OF CONTROL ZONES

Site control measures must be implemented to minimize potential exposure to, and accidental spread of, contaminants. The following work zones are required to be established:

- Exclusion Zones (EZ)
- Contamination Reduction Zone [CRZ]
- Access Control Point (ACP)

19.2 SUPPORT ZONES

The zone boundaries may be modified as material removal from the site progresses.
The exclusion zone(s) will be established where there will be direct contact with the contaminated material to minimize the spread of contaminants from the exclusion zone. The exclusion zone may be designed to facilitate separation of the transport conveyances from the load-out equipment, thus keeping the conveyances in a contamination-free support zone location.

The contamination reduction zone (s) will consist of the area located in front of or next to the exclusion zone. The level of PPE required will be based on hazard, site conditions and air monitoring performed.
.
All personnel entering and exiting exclusion and contamination reduction zones will sign in and out through the access control point. The sign in/out log will indicate the date and time entering and exiting, the location entered, personal protective equipment utilized and the review of all applicable RWPs.

Other support zones will be maintained as non-contaminated areas such as storage areas for operation equipment, break rooms, restrooms and etc. RPTs will designate radiological work zones with a barrier and appropriate signage. Access to these areas will be limited for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials.

19.3 RADIATION WORK PERMITTING (RWPS)

RWPs will be issued and maintained for each discrete work activity. The RWP will contain information necessary to assess the potential for radiation worker and non-worker exposure to radioactive materials. RWPs also specify the method(s) of controlling exposures. Other elements of the RWP will include: tasks to be performed; location of task; radiological hazards expected; most recent radiation survey results; required PPE; and the signature of the RSS/SSHO and workers.

19.4 Radiological Contamination Controls

The RSS will establish radiological contamination controls pursuant to applicable and relevant regulatory requirements. Such controls will be implemented through the use of barricades, postings, and site maps.

19.5 Engineering Controls

Implementation of engineering controls can reduce the need for personal protective equipment by separating the worker from the radiologically contaminated material. During remedial activities, dust may be generated. The RSS and SSHO will be constantly alert to the possibility of unacceptable dust levels. Control measures will be implemented for all operations where dust is likely to be generated. Careful planning and implementation of controls will reduce potential dust concentrations.

There are a number of specific construction practices which can be utilized to reduce levels of airborne particulates. These include:

- Provide misting spray during excavation activities
- Wetting and misting equipment and contaminated materials
- Spraying mist on buckets during material handling
- Reducing the active work area surface and limiting the number of concurrent operations
- Regular washing of contaminated equipment

19.6 Posting Requirements

Radiological postings are used to delineate areas containing radiological hazards and to inform personnel of these hazards. In addition, supplemental or informational postings may be included which provide personnel with entry requirements or protective equipment requirements. Barriers may be used in conjunction with postings to ensure that personnel do not inadvertently enter into an area with a radiological hazard. Barriers at the Seaway Site are normally composed of rope, tape, or fencing.

Barriers and other means shall be used as required to maintain control of areas requiring posting.
At a minimum, all access / egress points to areas requiring radiological posting shall be conspicuously posted with the appropriate signs.

Appropriate signs should be placed approximately every 40 feet around the perimeter of a posted area. At least one sign should be placed on each side of an area's boundary, visible from any normal avenue of approach.

Radiological control(s) shall not be installed at any location that would prevent the rapid evacuation of personnel in an emergency situation**.**

Trained emergency response personnel (Fire Dept, Ambulance / EMT, Law Enforcement) responding to on-site emergencies are exempt from the requirements of this plan.

Postings will be as clear and concise as possible to prevent confusion on the part of personnel desiring to enter an area.

Postings will not be hung from ladders, electrical wire, switches, vehicles, or any other material which could be damaged, moved, or could cause injury to personnel.

If more than one level of radiological posting is required in an area, posting for each condition shall be identified.

Radiological postings shall not be moved or altered without approval from the RSS or the RPT covering the work.

19.6.1 Controlled Areas

All access points to areas meeting the definition of a Controlled Area shall be posted with the words "CONTROLLED AREA."

19.6.2 Restricted Areas

All access points to areas meeting the definition of a Restricted Area shall be posted with the words "RESTRICTED AREA."

19.6.3 Contamination Areas

All access points to areas meeting the definition of a Contamination Area shall be posted with the words "CAUTION, CONTAMINATION AREA," and with the words "RESTRICTED AREA," as well as any special instructions deemed necessary by the RSS.

19.6.4 High Contamination Areas

All access points to areas meeting the definition of a Contamination Area shall be posted with the words "CAUTION, HIGH CONTAMINATION AREA," and with the words "RESTRICTED AREA," as well as any special instructions deemed necessary by the RSS.

19.6.5 Radiation Areas

All access points to areas meeting the definition of a Radiation Area shall be posted with the words "CAUTION, RADIATION AREA" as well as any special instructions deemed necessary by the RSS.

19.6.6 High Radiation Areas

All access points to areas meeting the definition of a High RMA shall be posted with the words "DANGER, HIGH RADIATION AREA" as well as any special instructions deemed necessary by the RSS.

19.6.7 Radioactive Materials Areas

All access points to areas meeting the definition of a Radioactive Materials Area shall be posted with the words "CAUTION, RADIOACTIVE MATERIALS AREA" as well as any special instructions deemed necessary by the RSS.

19.6.8 Airborne Radioactivity Area

All access points to areas meeting the definition of an Airborne Radioactivity Area shall be posted with the words "CAUTION, AIRBORNE RADIOACTIVITY AREA" as well as any special instructions deemed necessary by the RSS.

19.6.9 Posting / De-Posting / Down-Posting

Posting, De-posting, and Down-posting activities should be noted in the appropriate technician logbook with reference to applicable survey number(s).

19.7 ACCESS CONTROL

Several RPP controls are used to ensure the radiological safety of personnel entering into radiologically controlled areas. These controls include, but are not limited to, training, dosimetry, postings, air monitoring, RWPs, and ACPs. ACPs will be established to control all access and egress of equipment, materials, and personnel to and from radiologically controlled areas. RWPs shall be posted at the ACP to include site maps depicting most current radiation measurement data. The RPT will ensure the worker is appropriately trained, has read and understands the requirements of all applicable RWPs, logs all personnel in and out of the area, and performs whole-body surveys of all workers prior to egress. All visitors entering into a radiologically controlled area shall be escorted at all times. The RSS or designee shall approve all visitor entries. No visitor entries are to be made into an Airborne Radioactive Materials Area or areas where a strong potential for internal exposure exists. Visitors are not to perform any work in an intrusive nature (i.e., digging, drilling, sampling, etc.) or any abrasive work (i.e., welding, sanding, grinding, etc.) on contaminated surfaces unless specifically approved by the RSS or designee.

19.8 PERSONAL MONITORING AND DECONTAMINATION

Personnel working in the radiological areas or with radioactive materials have a potential for becoming externally contaminated. The spread of contamination to the unrestricted area can be prevented if personnel are properly monitored, contamination found, and the personnel decontaminated. Early detection and removal of contamination from personnel will reduce internal dose from the ingestion and inhalation pathways, and will reduce external dose.

The RPT is responsible for the following:

RPT personnel shall ensure that a sufficient supply of friskers is available to personnel at exit points from radiological areas where frisking is required. As a minimum, it is recommended that there be at least one frisker for every five workers normally assigned to work in an area. Friskers established for worker use shall have an audible and visual alarm indicating potential contamination.

- Workers shall use alarming instruments unless an RPT is present to observe readings and identify contamination. Personnel shall ensure a frisker is present, calibrated, and operational at the ACP prior to entering an area where personnel monitoring is required upon exit.

- Individuals performing personnel monitoring shall be trained in frisking techniques and subsequent actions in the event contamination is suspected or detected.

- Personnel with detectable radioactive contamination on their skin or personal clothing will be promptly decontaminated. Lukewarm water, soap and water, or adhesive tape is the preferred means of removing particulate contamination from the skin. Care must be taken to avoid abrading or damaging contaminated skin, as this can enhance the absorption of the contaminant.

- A physician will be consulted before applying any chemicals to the skin during a decontamination procedure.

19.9 CONTROL OF RADIOACTIVE SOURCE MATERIALS

The radioactive materials that require controls to prevent unauthorized access or removal fall into two broad categories: (1) discrete sources that may have some value or use; and (2) radioactive waste. The first category will typically be in the form of sources used to perform radiation measurement instrumentation operability checks. The control of radioactive waste from material removal efforts will be defined in work plans, with supporting RPP requirements, to ensure wastes are properly prepared for packaging and transport.

19.9.1 Storage and Inventory

Any radioactive source on-site shall be stored in a secured location to prevent unauthorized access or removal. Sources shall be stored when not in use.

At the beginning of the project, an inventory of radioactive sources shall be performed that includes the following:

- Sources obtained since last inventory
- Sources disposed of since last inventory
- Description and location of all existing sources

19.10 RADIOLOGICAL SURVEYS

Radiological surveys, such as direct and transferable contamination surveys will be performed to evaluate radiological conditions and verify that radiological work activities are being adequately controlled. Survey data will be used for informing personnel of radiological conditions, RWP development, job activity evaluations, environmental reporting, trend analysis, and ALARA planning.

Survey results will be made available to workers entering radiologically controlled areas. Qualified RPTs will utilize proper scanning techniques to ensure that the detection limits of those instruments are less than the acceptable surface contamination levels identified in Table 6. The RSS will review radiation surveys to assure radiological protection practices and regulatory requirements are met.

The following are surveys that will normally be conducted for this project:

- Routine surveys (daily, weekly, monthly)
- Surface contamination surveys (fixed and transferable)
- Dose rate surveys
- Pre-job surveys to support radiation work permit requirements, as necessary
- Equipment and material release surveys
- Personnel contamination surveys
- Post decontamination surveys
- Gamma walk-over surveys to support delineation, excavation, and verification
- Radioactive material shipments for DOT compliance
- Establishing and verifying radiologically controlled area boundaries and postings
- Monitoring areas and accesses that may have a high potential for change

19.10.1 Routine Contamination Control Surveys

The RSS will conduct daily, weekly, and monthly radiological surveys of all affected areas. The surveys will ensure site contamination control measures are adequate for their designed purpose. Any area found to have elevated levels of contamination will be smear sampled and analyzed. If the activity of any radionuclide of concern is detected above criteria, the area will be resurveyed and the contamination will be removed and placed in the designated area for final disposition. All routine surveys will be documented including the location(s) of "Hot Spot" contamination, if encountered. The RSS will review all routine radiation survey data.

Routine radiological survey data will also be used to:

- Evaluate work practices and site conditions for trends and posting requirements
- Recommend program modification based on trends, technical soundness and cost-effectiveness
- Ensure compliance with applicable requirements of 10 CFR 20 and USACE 385-1-1

19.10.2 Daily Radiological Surveys

Daily radiological surveys of all step-off pads located at the access control points will be conducted to ensure contamination control. All personnel exiting a controlled area will have a whole body frisk performed by an RPT. LSRS will be notified in the event of personnel contamination in order to evaluate the effectiveness of work controls and PPE. The RSS will contain the spread of any contamination discovered during these surveys.

19.10.3 Weekly Radiological Surveys

The RSS will conduct weekly radiological surveys to ensure that radioactive contamination is contained within appropriate zones.. Efforts will be made to reduce residual buildup of contamination in these areas. Surveys of the radiation protection office trailers or storage areas will also be conducted. Storage areas and any vehicles used will be surveyed for direct and transferable radioactive contamination to further ensure contamination controls are maintained.

19.10.4 Monthly Radiological Surveys

The RSS will conduct monthly radiological surveys of any office trailers and other storage areas, such as tool rooms, showers, etc. The RSS will conduct these surveys to ensure that there is no radioactive contamination in these areas. In addition, routine dose rate surveys will be conducted to monitor any change in radiation levels.

19.10.5 Equipment & Material Surveys

Equipment and materials will be surveyed for direct and transferable radioactive contamination prior to leaving a contaminated area. Release surveys will be conducted for any equipment and material leaving a contaminated area for unrestricted use. The RSS will conduct alpha and beta/gamma direct and transferable surveys of all waste shipping containers (railcars), heavy equipment, vehicles, and other items to ensure the containers meet the criteria identified in Table 6. The survey will be conducted using direct reading hand-held instrumentation capable of detecting the alpha and beta/gamma emitting radionuclide(s) of concern.

All survey data will be documented, compiled and reviewed by the RSS prior to release from the site. Items not meeting the criteria will be designated for decontamination and resurvey.

19.10.6 Surface Contamination Surveys

Surface contamination surveys are an important part of the RPP. Based on results of contamination surveys, assessments can determine the controls for radioactive material and to establish radiation protection requirements for personnel working in an area. There are two basic types of radioactive contamination: fixed and transferable (removable or loose). Radioactive contaminants are external exposure hazards only as long as the contamination remains fixed. Transferable radioactive contaminants are both external and internal exposure hazards. Routine and other contamination surveys are primarily conducted to determine transferable and fixed. All transferable results will be recorded in disintegrations per minute per 100 square centimeters (dpm/100 cm2) unless otherwise indicated on the survey form.

A drawing of the survey area or item shall be completed by the surveyor. The individual survey point shall be indicated on the drawing. Smear surveys are performed by wiping a surface (floor, wall, tool, drum, etc.) with a disposable smear pad, using moderate but even pressure, and wiping an area of 100 cm2 (approximately 4" x 4"). Smears will normally be counted on site using a dual channel scaler or proportional counter. Any detectable activity on the large area smear (i.e., masslin) will be further investigated and augmented with 100 cm2 smears to determine the exact extent of the transferable contamination and determine if decontamination is necessary. Direct measurements using surface barrier detectors will be conducted to assess fixed contamination. Care must be taken to avoid damage to the surfaces of detectors. Scan speed should be no greater than 1/2 probe width per second and, at a distance of 1/2" or less for beta-gamma, 1/4" or less for alpha detection from the surface being surveyed. Audible indicators should be used. The total indicated counts per minute, minus the background counts per minute, divided by the detector efficiency, will equal the dpm per smeared area.

Personnel contamination surveys will be conducted for any individual exiting from the exclusion zone. The background count rate in these areas shall be less than 200 cpm beta gamma as measured with a GM Type “Pancake” detector. Any detectable [above background] personnel contamination will be removed. Contamination of the face area will require further review by the RSS. A fixed frisking point shall be established within the step off pad area. In addition to personnel, all items leaving a contamination area shall be surveyed.

Table 6 – “Acceptable Surface Contamination Levels (EM 385-1-80)”, shows acceptable surface contamination levels. However, items exhibiting activity detectable above background will not be released for unrestricted use and will be treated as radioactively contaminated. The contaminants of concern are Radium-226, Thorium-230, and total Uranium with associated decay products. The ACLs for the Seaway Site are as indicated in Table 6 for these radionuclides.

Table 6 – Acceptable Contamination Levels (EM 385-1-80)

Table 6 – Acceptable Contamination Levels (EM 385-1-80)			
NUCLIDE[a]	**AVERAGE** **dpm/100 cm^2**	**MAXIMUM** **dpm/100 cm^2**	**REMOVABLE** **dpm/100 cm^2**
U-nat, U^{235}, U^{238} and associated decay products	5,000	15,000	1,000
Transuranics, Ra^{226}, Ra^{228}, Th^{230}, Th^{228}, Pa^{231}, Ac^{227}, I^{125}, I^{129}	100	300	20
Th-nat, Th^{232}, Sr^{90}, Ra^{223}, Ra^{224}, U^{232}, I^{126}, I^{131}, I^{133}	1,000	3,000	200
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr^{90} and others noted above.	5,000	15,000	1,000

19.10.7 Dose Rate Surveys

Routine and other dose rate surveys will give the radiation protection personnel, as well as the worker, an indication of the amount of external occupational radiation exposure per unit time that an individual will receive while performing assigned tasks in a specific area. Dose rate surveys are needed to determine the disposition of radioactive material or if engineering controls are needed to reduce the exposure to the worker. This particularly applies during entry into controlled areas and into remediation/excavation areas. While performing dose rate surveys, consideration must be given to the types of radiation that are present in the work area so that hazards to personnel in the work area can be identified. Should any action levels be identified during the survey, the technician will take the appropriate action necessary and perform required notifications.

All required dose rate surveys will be documented by the individual performing the survey and reviewed by the RSS.

19.10.8 Material Load-out Monitoring

General area and waste loading air monitoring will be conducted immediately adjacent to and downwind of the intermodals during excavation and material load-out activities.

19.10.9 Transport Conveyance Surveys

Radiological surveys will be performed on each transport vehicle prior to its leaving the site. Transferable and dose rate surveys will be conducted and documented for each package. The results will be compared to regulatory requirements.. Direct measurements for fixed contamination will be conducted, to include the review of transferable data, and compared to the site radiological release criteria. Routine surveys of the load-out areas will be conducted and documented. This data will provide trend indicators as to the effectiveness of the controlled load-outs.

19.10.10 Gamma Walkover Surveys

Upon completion of background measurements and sample analysis, the RSS will perform an initial gamma radiation walkover of the entire work area to identify all radiological concerns and those that may not have already been previously identified. The emphasis of the survey will be biased towards previously identified locations of the contaminants. Survey results will be used to prepare RWPs and to assist in the execution of remediation activities. Other gamma walkover surveys will be conducted to guide remedial action efforts and to support the Final Multi-Agency Radiation Surveys and Site Investigations Manual, (MARSSIM) process.

20.0 INSTRUMENTATION

20.1 CALIBRATION

LSRS's RSS will ensure instrumentation is calibrated annually and will maintain the site inventory for the duration of the project. Instrumentation will be calibrated in accordance with procedures developed for compliance with ANSI.N323-1997. All source material used to calibrate radiation detection instrumentation will be traceable to NIST. Furthermore, calibrations of electronic instruments will be documented on a calibration certificate. The calibration certificate shall reference all traceable standards used for calibration. Traceability to NIST standards is a basic function of the calibration. The use of traceable standards provides the ability to assure the level of confidence and quality.

20.2 DAILY RESPONSE CHECKS

All instrumentation used to acquire documented measurements will be response checked at the beginning and end of each work day. These quality response checks shall be documented.

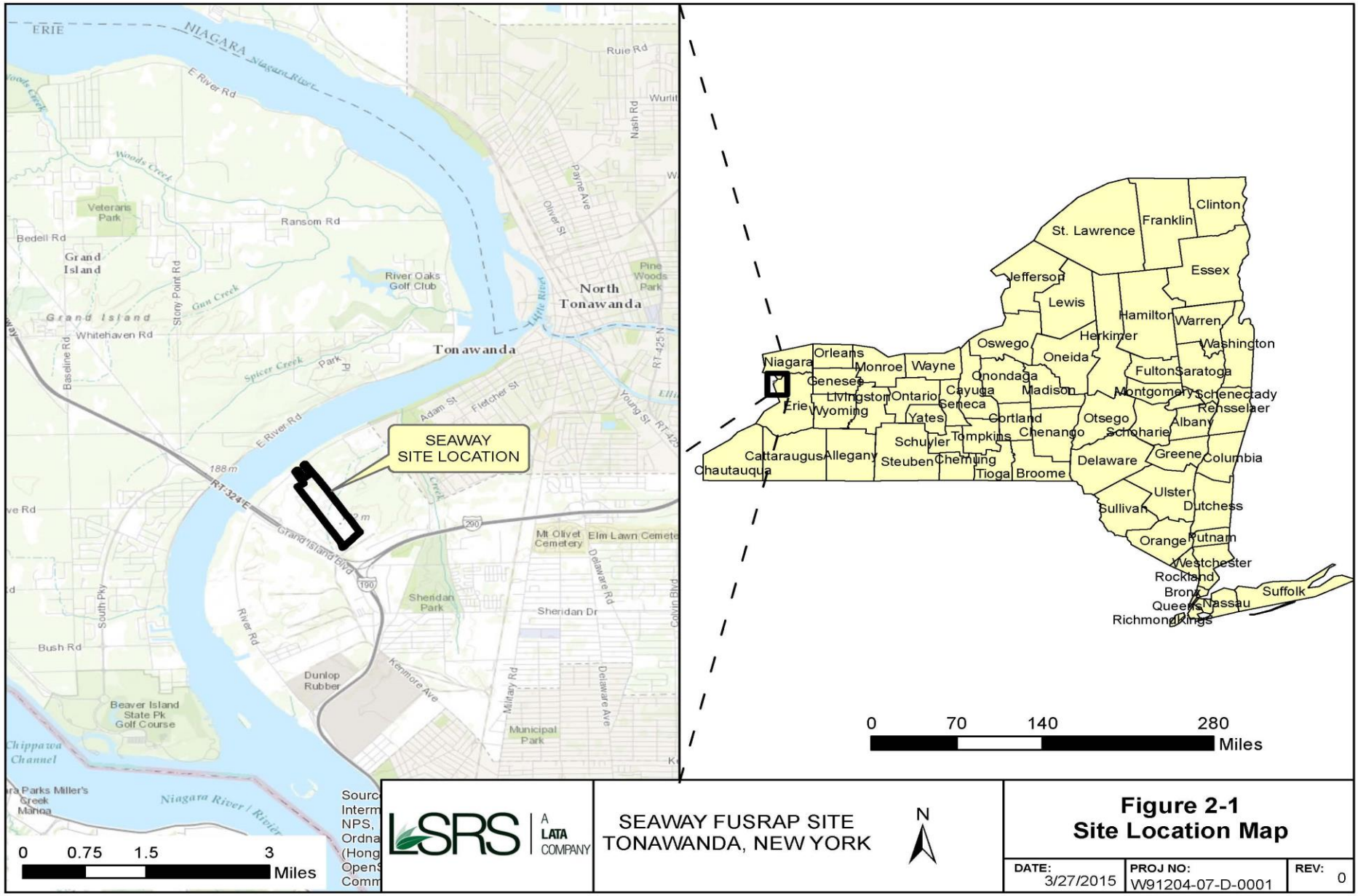
20.3 INSTRUMENT INVENTORY AND CONTROL

The RSS will maintain an instrumentation inventory and control program.

21.0 QUALITY ASSURANCE

Health physics and/or radiation protection activities will be conducted in accordance with the approved Seaway Site Quality Assurance Project Plan (QAPP). Specific quality assurance and quality control measures are incorporated in the site health physics operation procedures. The objectives of the QAPP are:

- To provide an effective monitoring program for the verification of quality characteristics of analytical laboratory, dosimetry, and health physics services
- To assure that services meet the rigid quality and reliability standards of EDi, and conform to applicable customer specifications
- To provide a continuing monitoring service for review of procedures, overall effectiveness, economic evaluation of the quality assurance program, and provide observations and recommendations for improvement in all areas of company operations where quality may be affected
- To provide a value analysis system for all functions of the company, and to establish a "feedback system" for improved relations



SEAWAY FUSRAP SITE
TONAWANDA, NEW YORK

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Figure 2-1
Site Location Map

DATE:	PROJ NO:	REV:
3/27/2015	W91204-07-D-0001	0

Appendix H
Accident Prevention Plan/ Site Safety and Health Plan (APP/SSHP) Checklist
(EM 385-1-1, Appendix A & Section 28, 15 September 2008)

CONTRACTOR ACCIDENT PREVENTION PLAN/ SITE SAFETY AND HEALTH PLAN (APP/SSHP) CHECKLIST
(EM 385-1-1, Appendix - A, Section 28, dated 15 Sept. 08)

The APP/SSHP is the Contractor Safety and Health Program Document. The following Site Specific Areas will be addressed:

NOTE: 1. Contractor will complete Checklist and Submit with their APP/SSHP.
NOTE: 2. Contractor APP/SSHP WILL be submitted in format below.
NOTE: 3. Safety Office will review Contractor APP/SSHP and return to PM /COR.
NOTE: 4. Contractor APP/SSHP's ARE NOT APPROVED by the USACE, only found as Acceptable or Non-Acceptable.

Safety Office Review Status: ACCEPTED BY/DATE: _____ NOT ACCEPTED BY/DATE:_____

Contractor Name: LATA-Sharp Remediation Services, LLC Contract No: W912P4-07-D-0001

Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
ALL CHECKLIST ITEMS WILL BE COMPLETED!	X			
1. SIGNATURE SHEET. Title, signature, and phone number of the following:	X			COVER
a. ***Plan Preparer*** (qualified person, Competent Person such as corporate safety staff person, QC).	X			COVER
b. ***Plan Approval*** by company/corporate officers authorized to obligate the company (e.g. owner company president, regional vice president etc.)	X			COVER
c. ***Plan Concurrence*** (e.g. Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional, project QC). Provide concurrence of other applicable corporate and project personnel (Contractor).	X			COVER
2. BACKGROUND INFORMATION. List the following:				
a. Contractor;	X			COVER
b. Contract number;	X			COVER
c. Project name;	X			COVER
d. Brief project description, description of work to be performed, and location; phases of work anticipated (these will require an AHA).	X			APP pages 1-4
3. STATEMENT OF SAFETY AND HEALTH POLICY. Provide a copy of your current corporate/company Safety & Health Policy Statement, detailing commitment to providing a safe and healthful workplace for all employees. The Contractor's written safety program goals, objectives, and accident experience goals for this contract should be provided.	X			APP Section 5 Page 8-9
4. RESPONSIBILITIES AND LINES OF AUTHORITIES. Provide the following:	**X**			
a. A statement of the employer's ultimate responsibility for the implementation of his SOH program;	X			APP P 9
b. Identification and accountability of personnel responsible for safety at both corporate and project level. Contracts specifically requiring safety or industrial hygiene personnel shall include a copy of their resumes. Qualifications shall include the OSHA 30-hour course or equivalent course areas as listed here:	X			APP Section 5 TBL 5-1
(1) OSH Act/General Duty Clause;			X	
(2) 29 CFR 1904, Recordkeeping;			**X**	
(3) Subpart C: General Safety and Health Provisions, Competent Person			X	
(4) Subpart D: Occupational Health and Environmental Controls, Citations and Safety Programs;			X	
(5) Subpart E: PPE, types and requirements for use;	X			SSHP Section

CONTRACTOR ACCIDENT PREVENTION PLAN/ SITE SAFETY AND HEALTH PLAN (APP/SSHP) CHECKLIST
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Safety Office Review Status: ACCEPTED BY/DATE: _____ NOT ACCEPTED BY/DATE:_____

Contractor Name: LATA-Sharp Remediation Services, LLC Contract No: W912P4-07-D-0001

Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
				15 p19-20
(6) Subpart F: understanding fire protection in the workplace;			X	
(7) Subpart K: Electric002E l;			X	
(8)Subpart M: Fall Protection;			X	
(9) Rigging, welding and cutting, scaffolding, excavations, concrete and masonry, demolition; health hazards in construction, materials handling, storage and disposal, hand and power tools, motor vehicles, mechanized equipment, marine operations, steel erection, stairways and ladders, confined spaces or any others that are applicable to the work being performed.			X	
c. The names of Competent and/or Qualified Person(s) and proof of competency/qualification to meet specific OSHA Competent/Qualified Person(s) requirements must be attached. The District SOHO will review the qualifications for acceptance;	X			Sec 5.2, APP C
d. Requirements that no work shall be performed unless a designated competent person is present on the job site;	X			Sec. 5.4
e. Requirements for pre-task safety and health analysis;	X			re
f. Lines of authority;	X			Sec 5 table 5-1
g. Policies and procedures regarding noncompliance with safety requirements (to include disciplinary actions for violation of safety requirements) should be identified;	X			.Sec 5-4 A & B
h. Provide written company procedures for holding managers and supervisors accountable for safety.	X			APP.A&B
5. SUBCONTRACTORS AND SUPPLIERS. If applicable, provide procedures for coordinating SOH activities with other employers on the job site:	**X**			APP B
a. Identification of subcontractors and suppliers (if known);	X			SOP sec 4.6
b. Safety responsibilities of subcontractors and suppliers.	X			APP B
6. TRAINING.	X			
a. Requirements for new hire SOH orientation training at the time of initial hire of each new employee.	X			Sec 7 PP 12-14
b. Requirements for mandatory training and certifications that are applicable to this project (e.g., explosive actuated tools, confined space entry, crane operator, diver, vehicle operator, HAZWOPER training and certification, PPE) and any requirements for periodic retraining/recertification.	**X**			PP 12-14
c. Procedures for periodic safety and health training for supervisors and employees.	X			PP 12-14
d. Requirements for emergency response training. > See 9.b. below for a list of requirements that may require emergency response training.	X			Sec 7 Pg 12

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Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
7. SAFETY AND HEALTH INSPECTIONS.	X			
a. Specific assignment of responsibilities for a minimum daily job site safety and health inspection during periods of work activity: Who will conduct (e.g., SSHO, PM, safety professional, QC, supervisors, employees – depends on level of technical proficiency needed to perform said inspections), proof of inspector's training/qualifications, when inspections will be conducted, procedures for documentation, deficiency tracking system, and follow-up procedures;	X			Sec. 8 PP 14-15
b. Any external inspections/certifications that may be required (e.g., USCG).			X	
8. ACCIDENT REPORTING. The Contractor shall identify person(s) responsible to provide the following:	X			Sec 8 PP 15
a. Exposure data (man-hours worked);	X			Sec 4.6
b. Accident investigations, reports, and logs: **Report all accidents as soon as possible but not more than 4 hours afterwards to the Contracting Officer/Representative (CO/COR).** The contractor shall thoroughly investigate the accident and submit the findings of the investigation along with appropriate corrective actions to the CO/COR in the prescribed format as soon as possible but no later than five (5) working days following the accident. Implement corrective actions as soon as reasonably possible;	X			**Sec 8**
c. The following require immediate accident notification:	X			**§8**
(1) A fatal injury;	X			**§8**
(2) A permanent total disability;	X			**§8**
(3) A permanent partial disability;	X			**§8**
(4) The hospitalization of three or more people resulting from a single occurrence;	X			**§8**
(5) Property damage of $200,000 or more.	X			**§8**
9. PLANS (PROGRAMS, PROCEDURES) REQUIRED BY THE SAFETY MANUAL. Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks and compliance plans. Using the EM 385-1-1 as a guide, plans may include but not be limited to:	X			
a. Layout plans (04.A.01);	X			SOP
b. Emergency response plans:	X			APP F
(1) Procedures and tests (01.E.01);		X		
(2) Spill plans (01.E.01, 06.A.02);		X		

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Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
(3) Firefighting plan (01.E.01, Section 19);		X		
(4) Posting of emergency telephone numbers (01.E.05);	X			SSHP ATT E
(5) Man overboard/abandon ship (Section19.A.04);		X		
(6) Medical Support. Outline on-site medical support and offsite medical arrangements including rescue and medical duties for those employees who are to perform them, and the name(s) of on-site Contractor personnel trained in first aid and CPR. A minimum of two employees shall be certified in CPR and first aid per shift/site (Section 03.A.02; 03.D);	X			SSHP §17.1
c. Plan for prevention of alcohol and drug abuse (01.C.02);	X			APP E
d. Site sanitation plan (Section 02);		X		
e. Access and haul road plan (4.B);		X		
f. Respiratory protection plan (05.G);		X		
g. Health hazard control program (06.A);	X			APP B&C
h. Hazard communication program (06.B.01);	X			SSHP ATT B
i. Process Safety Management Plan (06.B.04);		X		
j. Lead abatement plan (06.B.05 & specifications);		X		
k. Asbestos abatement plan (06.B.05 & specifications);		X		
l. Radiation Safety Program (06.E.03.a);		X		
m. Abrasive blasting (06.H.01);		X		
n. Heat/Cold Stress Monitoring Plan (06.I.02)	X			SSHP ATT F
o. Crystalline Silica Monitoring Plan (Assessment) (06.M) ;		X		
p. Night operations lighting plan (07.A.08);		X		
q. Fire Prevention Plan (09.A);		X		
r. Wild Land Fire Management Plan (09.K);		X		
s. Hazardous energy control plan (12.A.01);		X		
t. Critical lift Plan (16.H);		X		
u. Contingency plan for Floating Plants for severe weather (19.A.03);	X			SSHP §17.4
v. Float Plan (19.F.04);		X		
w. Site-Specific Fall Protection & Prevention Plan (21.C);		X		
x. Demolition plan (to include engineering survey) (23.A.01);		X		
y. Excavation/trenching plan (25.A.01);	X			SSHP ATT H
z. Emergency rescue (tunneling) (26.A.);		X		

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Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
aa. Underground construction fire prevention and protection plan (26.D.01);		X		
bb. Compressed air plan (26.I.01);		X		
cc. Formwork and shoring erection and removal plans (27.C);		X		
dd. PreCast Concrete Plan (27.D);		X		
ee. Lift slab plans (27.E);		X		
ff. Steel erection plan (27.F.01);		X		
gg. Site Safety and Health Plan for HTRW work (28.B);	X			APP D
hh. Blasting Safety Plan (29.A.01);		X		
ii. Diving plan (30.A.13);		X		
jj. Confined Space Program (34.A).		X		
10. RISK MANAGEMENT PROCESSES. Detailed project-specific hazards and controls shall be provided by an **Activity Hazard Analysis** (0I.A.13) for each major phase/activity of work.	X			APP B SSHP Att C
11. ABBREVIATED APP for LIMITED-SCOPE SERVICE, SUPPLY AND R&D CONTRACTS. If service, supply and R&D contracts with limited scopes are awarded, the contractor may submit an abbreviated Accident Prevention Plan. This APP shall address the following areas at a minimum. If other areas of the EM 385-1-1 are pertinent to the contract, the contractor must assure these areas are addressed as well.			X	
a. Title, signature, and phone number of the plan preparer.			X	
b. Background Information to include: Contractor; Contract number; Project name; Brief project description, description of work to be performed, and location (map); The project description shall provide a means to evaluate the work being done (see AHA requirements in 01.A.13) and associated hazards involved. Contractor's APP shall address the identified hazards involved and the control measures to be taken.			X	
c. Statement of Safety and Health Policy detailing their commitment to providing a safe and healthful workplace for all employees.			X	
d. Responsibilities and Lines of Authorities – to include a statement of the employer's ultimate responsibility for the implementation of his SOH program; Identification and accountability of personnel responsible for safety at all levels to include designated site safety and health officer (SSHO) and associated qualifications. The District SOHO will review the qualifications for acceptance.			X	
e. Training - new hire SOH orientation training at the time of initial hire of each new employee and any periodic retraining/recertification requirements.			X	
f. Procedures for job site inspections - assignment of responsibilities and frequency.			X	

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	Yes	No	N/A	Page(s)
g. Procedures for reporting man-hours worked and reporting and investigating any accidents as soon as possible but not more than 24 hours afterwards to the Contracting Officer/Representative (CO/COR). An accident that results in a fatal injury, permanent partial or permanent total disability shall be immediately reported to the Contracting Officer.			X	
h. Emergency Planning. Employees working alone shall be provided an effective means of emergency communication. This may be cellular phone, two-way radio or other acceptable means. The selected means of communication must be readily available and must be in working condition.			X	
i. Drinking Water provisions, toilet and washing facilities.			X	
j. First Aid and CPR training (at least two employees on each shift shall be qualified/certified to administer first aid and CPR) and provision of first aid kit (types/size).			X	
k. Personal Protective Equipment.			X	
(1) WORK CLOTHING - Minimum Requirements. Employees shall wear clothing suitable for the weather however minimum requirements for work shall be short-sleeve shirt, long pants (excessively long or baggy pants are prohibited) and leather work shoes. If analysis determines that safety-toed (or other protective) footwear is necessary (i.e., mowing, weed eating, chain saw use, etc), they shall be worn.			X	
(2) Eye and Face Protection. Eye and face protection shall be worn as determined by an analysis of the operations being performed HOWEVER, all involved in chain saw use, chipping, stump grinding, pruning operations, grass mowing, weed eating and blowing operations shall be provided safety eyewear (Z87.1) as a minimum.			X	
(3) Hearing Protection. Hearing protection must be worn by all those exposed to high noise activities (to include grass mowing and trimming, chainsaw operations, tree chipping, stump grinding and pruning).			X	
(4) Head Protection. Hard hats shall comply with ANSI Z89.1 and shall be worn by all workers when a head hazard exists. At a minimum, hard hats shall be worn when performing activities identified in (2) above.			X	
(5) High Visibility Apparel shall comply with ANSI/ISEA 107, Class 2 requirements at a minimum and shall be worn by all workers exposed to vehicular or equipment traffic.			X	
(6) Protective Leg chaps shall be worn by all chainsaw operators.			X	
(7) Gloves of the proper type shall be worn by persons involved in activities that expose the hands to cuts, abrasions, punctures, burns and chemical irritants.			X	
(8) If work is being performed around water and drowning is a hazard, PFDs must be provided and worn as appropriate.			X	
l. Machine Guards and safety devices. Lawn maintenance equipment must have appropriate guards and safety devices in place and operational.			X	

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Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
m. Hazardous Substances. When any hazardous substances are procured, used, stored or disposed, a hazard communication program must be in effect and MSDSs shall be available at the worksite. Employees shall have received training in hazardous substances being used. When the eyes or body of any person may be exposed to corrosives, irritants or toxic chemicals, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within 10 seconds of the worksite.			X	
n. Traffic control shall be accomplished in accordance with DOT's MUTCD.			X	
o. Control of Hazardous Energy (Lockout/Tagout). Before an employee performs any servicing or maintenance on any equipment where the unexpected energizing or startup of the equipment could occur, procedures must be in place to ensure adequate control of this energy.			X	
p. Driving, working on (i.e., working with equipment/mowers) while on slopes, working from/in boats/skiffs, etc shall also be considered and dealt with accordingly.			X	
HTRW Projects Additional Requirements (EM 385-1-1, Section 28 HAZWOPER): SSHP (Site Safety and Health Plan) shall be attached to the APP as an Appendix. The SSHP shall cover the following in project-specific detail. General information adequately covered in the APP need not be duplicated.	X			
a. Site description and contamination characterization	X			SSHP PP 1-3
b. Hazard/Risk Analysis - AHA for each task	X			SSHP Att C
c. Staff Organization; Qualifications; Responsibilities	X			Sec 5 APP C
d. Training - General, Supervisor and Project Specific	X			Sec 7
e. PPE Personal Protective Equipment	X			SSHP Sec 15
f. Medical Surveillance	X			SSHP Sec 7
g. Exposure Monitoring/ Air Sampling Program	X			SSHP Sec 16
h. Heat and Cold Stress - Procedures and Practices	X			SSHP Att.F
i. SOPs Standard Operating Procedures; Engineering Controls; Work Practices:	X			SSHP Sec. 8
(1) Site rules/prohibitions (buddy system, eating/drinking/smoking restrictions, etc.)	X			SSHP Sec 8 Pg 11 - 12
(2) Work permit requirements (rad work, excavation, hot work, confined space etc.)	X			SSHP Att H
(3) Material handling procedures (soil, liquid, rad materials, spill contingency)	X			SSHP Sec 19 Pg. 31
(4) Drum/container/tank handling (opening, sampling, draining, removal, etc.)		X		
(5) Comprehensive AHA of treatment technologies employed at site		X		
j. Site Control Measures: Clearly Defined EZ, SZ, CRZ	X			SSHP Sec 10 Pg. 12-13
k. Personal Hygiene and Decontamination	X			SSHP Sec 18 Pg 30-31
l. Equipment Decontamination	X			SSHP Sec 18

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Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
				Pg 30-31
m. Emergency Equipment and First Aid	X			SSHP Sec 17 Pg 24-28
n. Emergency Response and Contingency Procedures:	X			SSHP Sec 17 Pg 24-28
(1) Pre-emergency planning	X			SSHP Sec 17 Pg 24-28
(2) Personnel and lines of authority for emergency situations	X			SSHP Sec 17 Pg 24-28
(3) Criteria and procedures for emergency recognition and site evacuation (alarms, etc.)	X			SSHP Sec 17 Pg 24-28
(4) Decontamination and medical treatment of injured personnel	X			SSHP Sec 17 Pg 24-28
(5) A route map to emergency medical facilities and phone numbers for emergency responders	X			SSHP Sec 17 Pg 24-27
(6) Criteria for alerting the local community responders	X			SSHP Sec 17 Pg 24-28

Appendix I
Air Monitoring Plan

AIR MONITORING PLAN
for the
Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York

Prepared for:
United States Army Corps of Engineers – Buffalo District

Under Contract No: W912P4-07-D-0001
Task Order No. 0005

Prepared by:

LATA-Sharp Remediation Services, LLC
756 Park Meadow Road
Westerville, OH 43081

Deliverable No. 12

April 27, 2015

[redacted]	**Date:** 4/27/15	**Title:** Health & Safety Manager
	Date: 4/27/15	**Title:** Project Manager
	Date: 4/27/15	**Title:** Corporate Health & Safety Manager

AIR MONITORING PLAN
for the
Remediation of the Seaway FUSRAP Site, Northside and Southside Areas, Town of Tonawanda, New York

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5.2 GENERAL WORK AREA MONITORING 4
5.3 BREATHING ZONE AIR (BZA) MONITORING 4
5.4 OPERATIONAL ACTION LEVELS FOR AIRBORNE RADIOACTIVITY 5

LIST OF ACRONYMS

ALI	Allowable Limit of Intake
AMP	Air Monitoring Plan
APP	Accident Prevention Plan
BCRP	Backfill, Compaction and Restoration Plan
BZA	Breathing Zone Air
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CHP	Certified Health Physicist
COC	Contaminant of Concern
COR	Contracting Officer Representative
CPM	Critical Path Method
CQCP	Contractor Quality Control Plan
CRM	Continuous Radon Monitoring
DAC	Derived Air Concentration
FSP	Field Sampling Plan
FSS	Final Status Survey
FUSRAP	Formerly Utilized Sites Remedial Action Program
LLD	Lower Limits of Detection
LSRS	LATA-Sharp Remediation Services, LLC
MARC	Multiple Award Remediation Contract
MDA	Minimum Detectable Activities
NCP	National Oil and Hazardous Substances Contingency Plan
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation & Maintenance
PDT	Project Delivery Team
POC	Point-of-Contact
PPE	Personal Protective Equipment
QA/QC	Quality Assurance/Quality Control
RA	Remedial Action
RCP	Regulatory Compliance Plan
ROD	Record of Decision
RPP	Radiation Protection Plan
RSO	Radiological Safety Officer
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SOP	Site Operations Plan
SOP	Standard Operating Procedure
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SWPPP	Storm Water Pollution Prevention Plan
T&D	Transportation & Disposal

UFP-QAPP	Uniform Federal Policy Quality Assurance Project Plan
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
WMP	Water Management Plan
WMTDP	Waste Management, Transportation and Disposal Plan
WWPPP	Waste Water Pollution Prevention Plan

REVISION LOG

Air Monitoring Plan for Remediation of the Seaway FUSRAP Site, Northside and Southside Areas

Revision Number/Date	Description of Changes	Pages Affected
0	Original Issue	N/A
0-A 4/27/15	Incorporation of USACE global comments	1, 2

CERTIFICATE OF INDEPENDENT TECHNICAL REVIEW COMPLETION

LATA-Sharp Remediation Services, LLC (LSRS) has completed the Air Monitoring Plan for the Remediation of the Seaway FUSRAP Site, Town of Tonawanda, New York. Notice is hereby given that an independent technical review has been conducted by staff of LSRS that is appropriate to the level of risk and complexity inherent in the project, as defined in the Contractor Quality Control Plan (CQCP).

During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing USACE policy. The document/plans were accomplished by [redacted], CSP and the independent technical review was accomplished by [redacted] as indicated by signatures below. All reviews are documented via red line track changes in associated text files. Red line edited documents are available upon request.

[redacted] _____

[redacted] _____

Project Manager / Date

[redacted] _____

[redacted] _____

Independent Technical Reviewer / Date

1.0 INTRODUCTION

LATA-Sharp Remediation Services, LLC (LSRS) is providing supplies and services for task order No. 0005 issued under the Multiple Award Remediation Contract (MARC) contract No. W912P4-07-D-0001 with the United States Army Corps of Engineers (USACE), Buffalo District to remediate the Seaway Site in accordance with the Record of Decision (ROD) for the Seaway Site, Town of Tonawanda, New York (USACE 2009). The project scope includes the excavation, transportation and disposal (T&D) of Formerly Utilized Sites Remedial Action Program (FUSRAP) contaminated soils/sediments/debris from areas outside of the landfill. This work is being conducted by USACE under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA). Work performed will follow the requirements of the National Oil and Hazardous Substances Contingency Plan (NCP) and other applicable portions of title 40 of the Code of Federal Regulations.

Work plans produced for this project include a Site Operations Plan (SOP); Accident Prevention Plan (APP)/Site Safety and Health Plan (SSHP) (which includes an Air Monitoring Plan [AMP] and Radiation Protection Plan [RPP]); Sampling and Analysis Plan (SAP) (which includes a Field Sampling Plan [FSP], Uniform Federal Policy Quality Assurance Project Plan [UFP-QAPP] and Final Status Survey [FSS] Plan); Water Management Plan (WMP) (which includes a Storm Water Pollution Prevention Plan [SWPPP] and Waste Water Pollution Prevention Plan [WWPPP]); Waste Management, Transportation and Disposal Plan (WMTDP); Backfill, Compaction and Restoration Plan (BCRP); Contractor Quality Control Plan (CQCP); and Regulatory Compliance Plan (RCP).

2.0 PURPOSE

The purpose of this Air Monitoring Plan (AMP) is to ensure compliance with occupational and environmental regulatory limits during excavation, sampling, and waste management activities performed at the Site. This plan provides air monitoring requirements in accordance with applicable local, state, and federal regulations.

The AMP is developed to:

- monitor potential fugitive off-site emissions generated by remedial action activities from contaminating the general environment and nearby receptors; and
- demonstrate the effective use of engineering controls to keep site workers safe and uncontaminated.

3.0 BACKGROUND

USACE is the lead agency for implementing FUSRAP, which was established to identify, investigate, and if necessary cleanup or control contaminated sites. The Seaway Site is a closed landfill in Tonawanda, New York, that is included on the list of FUSRAP sites. The Seaway Site is an inactive hazardous waste disposal site pursuant to Title 6 of the New York Code of Rules and Regulations (NYCRR) Part 375. The Site is listed in the Registry of Inactive Hazardous Waste Sites that is maintained by NYSDEC (NYSDEC 2003). Under 6NYCRR 375-2.7(b)(3),

inactive hazardous waste disposal sites are classified with respect to the threats they pose to the environment, with a Class 1 posing the greatest threat and Class 5 indicating that a site is properly closed and does not require continued operation, maintenance, or monitoring. The Seaway Site is a Class 4 inactive hazardous waste disposal site.

3.1 SITE HISTORY

The Seaway property is approximately 100 acres and is referred to as the Seaway Industrial Park. It is currently owned by the Benderson Development/Sands Mobile Park Corporation, which is the successor by merger to the Seaway Industrial Park Development Company, Inc. Since the late 1980's, Browning-Ferris Industries, Inc. (BFI) followed by Allied Waste operated the landfill on the property (also referred to as the Niagara Landfill).

The source of FUSRAP contaminants of concern (COCs) at the site are residues from uranium processing that was conducted at the nearby Linde Site. Various types of wastes were disposed in the landfill starting in 1930 and ending in 1993. These included municipal, commercial, industrial (including hazardous substances), and construction wastes from nearby communities. Approximately 90 percent of the property (90 acres) has been used as a landfill; approximately 69 acres have been capped. The Site contains Seaway Southside (Seaway Area D Adjacent Property and Area Northwest of Seaway Area D) and Seaway Northside (property line surface runoff area).

3.2 SITE SETTING

The Seaway Site is located in the Town of Tonawanda, New York approximately 10 miles north of the City of Buffalo. It is situated northeast of the intersection of State Road 266 (River Road) and Interstate 190 and is approximately ¾ mile southeast of River Road. Figure 2-1 provides a Site Location Map. Ashland Oil & Refining Company owns properties to the east and west; primarily using these areas for industrial purposes. Other industrial facilities are located nearby along River Road. The nearest residences are located to the northwest across the Niagara River on Grand Island and to the east in the Town of Tonawanda. A Niagara Mohawk right of way runs along the eastern fence line.

4.0 SCOPE

The overall objective of the project is to remediate FUSRAP radiologically contaminated soils/sediment from the Seaway Southside and Northside areas. Site operations include activities associated with the Remedial Action (RA) to include but not limited to water management, Operation and Maintenance (O&M) of the air monitoring system, O&M of the meteorological station, worker health and safety monitoring, maintenance and radiological monitoring of roads and support areas, utility services, civil surveys, weekly conference calls, on-site meetings, equipment decontamination, dust control, site security, daily reporting and any other daily site activities. Site operations will occur after mobilization and before demobilization. LSRS will provide all labor, material, equipment, tools, supplies, sanitary facilities, and off-site laboratory facilities necessary to perform the services required to complete the tasks specified under the statement of work.

5.0 AIR MONITORING PROGRAM

The primary operational radiation protection concern at the site during remediation activities is airborne radioactivity generated from excavation and soil removal operations. An air-sampling program will be implemented to ensure compliance with occupational and environmental limits. Dust suppression methods employed during excavation and waste handling activities will be key in adhering to the applicable regulatory limits. The project air sampling program will include site perimeter, general work area, and breathing zone (i.e., personal air) samples. All air sampling equipment will be routinely calibrated and maintained in good working condition.

To establish the areas background concentrations, one ambient air-monitoring station is recommended. The background air sampling location shall be established upwind from the site and away from point sources or other radiological contamination. The site location as compared to prevailing wind directions and availability of utilities shall also be considered.

5.1 SITE PERIMETER MONITORING

LSRS shall conduct perimeter air monitoring from pre-mobilization (to determine baseline air quality) to demobilization activities. LSRS shall implement dust suppression and erosion control measures as needed during the remedial action to protect the workers and minimize airborne migration of radionuclides or other hazardous contaminants.

All air monitoring results (site perimeter, general work area, and breathing zone) shall be provided to the COR as an attachment to the Weekly Progress Report on a weekly basis.

Ambient air particulate monitoring is important to verify that offsite locations are not impacted during site remediation activities. The Radiation Safety Officer (RSO) will perform ambient air monitoring during intrusive work activities. The design of the perimeter air monitoring network will take into consideration the location and proximity of the work area to the site perimeter including predominant wind directions.

Air sample filters will be changed routinely and analyzed onsite for gross alpha and beta/gamma activity (uCi/ml). Some samples will be composited and sent to an offsite laboratory for isotopic analysis to determine the relative distribution of identified radioisotopes. This information will be used to confirm compliance with the appropriate regulatory limits and to evaluate these limits, as deemed appropriate. FUSRAP is required to comply with the applicable regulations identified in the Appendix B to Part 20—Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage.

Additionally, perimeter air monitoring results may be compared to area background concentrations and used to assess and/or demonstrate radiation dose estimates to the public, if required. Table 2 "Effluent Concentrations", the columns in Table 2 of the appendix captioned "Effluents," "Air," and "Water," are applicable to the assessment and control of dose to the public, particularly in the implementation of the provisions of § 20.1302. The concentration values given in Columns 1 and 2 of Table 2 are equivalent to the radionuclide concentrations

which, if inhaled or ingested continuously over the course of a year, would produce a total effective dose equivalent of 0.05 rem (50 millirem or 0.5 millisieverts).

All results will be reviewed by the RSO and transmitted to LSRS's Site Safety and Health Officer (SSHO), Project Manager, and the COR. The LSRS SSHO will immediately be notified in the event that elevated air concentrations are observed.

5.2 General Work Area Monitoring

General work area particulate air sampling will be performed every work day during intrusive operations. Air monitors will be located near the work activities most likely to have the highest airborne radioactivity. The number of general work area air samples will depend the task being performed.

The RSO will analyze samples onsite for gross alpha and beta/gamma activity. Minimum Detectable Activities (MDAs) and Lower Limits of Detection (LLD) will be considered when reporting all air data.

The RSO will compare the concentration of air particulates to the appropriate action levels presented in Table 1. If elevated levels are determined, the RSO will notify LSRS's SSHO. The data will be used to assess compliance with regulatory requirements. All samples will be archived and made available for further isotopic analysis, as required.

5.3 Breathing Zone Air (BZA) Monitoring

The RSO will perform BZA sampling using personal air sampling pumps to determine the concentration of airborne radioactive material in the immediate breathing zone.

Sampling will be implemented when an individual is likely to receive an annual intake of 2% or more of the specified Allowable Limit of Intake (ALI) values and/or an individual's airborne radioactivity exposure is likely to exceed 1 Derived Air Concentration (DAC) in accordance with Established DAC values given in Table 1, Column 3, of Appendix B to Title 10, Part 20, of the Code of Federal Regulations (10 CFR Part 20), "Standards for Protection Against Radiation.". This information will be used to assess the effectiveness of engineering controls, determine the appropriate level of respiratory protection required and to determine the need for non-routine bioassay samples.

In accordance with 29 CFR 1910.1096, no employee exposure to airborne radioactive material shall be permitted to exceed the average concentrations specified in Table 1 of Appendix B, "Concentration of Air and Water Above Natural Background", of 10CFR20 for 40 hours in any work week of 7 consecutive days or 40 DAC hours per week. Compliance will be routinely demonstrated by monitoring the exposure in DAC hours per week. The most restrictive DAC (3 x 10-12 uCi/ml) is associated with Th-230.

The assessment of DAC hours will be based on an appropriate review of air monitoring results.

BZA samplers will be provided to the persons most likely to be exposed in a given work group. The number of BZA samples will depend on the level of airborne activity that is measured and the task being performed.

All air samples taken at the site will be analyzed onsite for gross alpha/beta-gamma activity. Unusual or unexpected results will be investigated and may require offsite laboratory analysis.

5.4 Operational Action Levels for Airborne Radioactivity

A decision-making protocol for an upgrade in levels of protection and/or withdrawal of personnel from an area based on atmospheric hazards is outlined in Table 1 – Operational Action Levels for Airborne Radioactivity.

Table 1 – Operational Action Levels for Airborne Radioactivity

Type of Airborne Radioactivity Measurement	Activity	Action
Total Particulate – General Work Area and Waste Loading Area	3.0E-12 µCi/ml	Stop operations that are presenting the problem until engineering controls can be established that will reduce airborne levels to 30% of this level
Total Particulate – Perimeter	2.0E-14 µCi/ml	Stop operations that are presenting the problem; evaluate work tasks in order to reduce airborne levels and reoccurrence

The USACE EM 385-1-1 refers to 10CFR 20, Appendix B for airborne levels. The basis for action is at 1 DAC for any radionuclide. Airborne Radioactivity area means a room, enclosure or area in which airborne radioactive materials, composed wholly or partly of licensed material, exist in concentrations in excess of the DACs specified in Appendix B, to §20.1001 – 20.2401, or to such a degree that an individual present in the area without respiratory protective equipment could exceed, during the hours an individual is present in a week, an ALI or 12 DAC hours.