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NAS WHITING FIELD  
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FINAL WORK PLAN FOR SUPPLEMENTAL SITE INSPECTION SOIL SAMPLING MUNITIONS  
RESPONSE UNEXPLODED ORDNANCE 1 (UXO1) FORMER GUNNERY AREA AND  
FORMER SKEET RANGE NAS WHITING FIELD FL  
8/1/2012  
TETRA TECH

**Work Plan  
Supplemental Site Inspection Soil Sampling  
Munitions Response UX01  
Former Gunnery Area and  
Former Skeet Range**

**Naval Air Station Whiting Field  
Milton, Florida**

Revision No. 01

**Contract No. N62470-08-D-1006  
Task Order No. JM35**

Submitted to:



Prepared by:



August 2012

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Supplemental Site Inspection Soil Sampling  
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Submitted to:

**Department of the Navy  
U.S. Naval Facilities Engineering Southeast**

Prepared by:



August 2012

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U.S. Navy, Responsible Authority

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  - Preparatory Phase Report
  - Transportation and Disposal Log

# Acronyms and Abbreviations

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AGVIQ-CH2M HILL	AGVIQ-CH2M HILL Constructors, Inc. Joint Venture III
AHA	activity hazard analysis
amsl	above mean sea level
APP	Accident Prevention Plan
BEQ	benzo(a)pyrene equivalent
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CO	Contracting Officer
DoD	Department of Defense
DOT	U.S. Department of Transportation
EE/CA	Engineering Evaluation/Cost Analysis
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
FBL	Fixed-Based Laboratory
FDEP	Florida Department of Environmental Protection
FEAD	Facility Engineering and Acquisition Division
GPS	geographic positioning system
HAZCOM	hazard communication
ID	identification
IDW	investigation-derived waste
JPATS	Joint Primary Air Training System
LDR	Land Disposal Restriction
LGW	Leachability to Groundwater
MC	munitions of concern
MCL	maximum contaminant level
MEC	munitions and explosives of concern
MSDS	Material Safety Data Sheets
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
MRP	Munitions Response Program
NAS	Naval Air Station
NAVFAC SE	Naval Facilities Engineering Command, Southeast
PA	Preliminary Assessment
PAH	polycyclic aromatic hydrocarbon
PAL	project action limit
PCB	polychlorinated biphenyl
PPE	personal protective equipment
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
SAP	Sampling and Analysis Plan

SARA	Superfund Amendments and Reauthorization Act
SCTL	soil cleanup target level
SI	Site Inspection
SOP	standard operating procedure
SPLP	Synthetic Precipitation Leachate Procedure
SSI	Supplemental Site Investigation
SVOC	semivolatile organic compound
T&D	Transportation and Disposal
TCLP	Toxicity Characteristic Leaching Procedure
TO	Task Order
TtNUS	Tetra Tech NUS, Inc.
UCL	upper confidence limit
UFP-SAP	Uniform Federal Policy-Sampling and Analysis Plan
UXO	Unexploded Ordinance
VOC	volatile organic compound
XRF	x-ray fluorescence

# 1.0 Introduction

---

This Supplemental Site Inspection (SSI) Soil Sampling Work Plan presents the methodology and decision logic for conducting supplemental soil sampling at the Munitions Response Program (MRP) Unexploded Ordinance (UXO) Site 1 on Naval Air Station (NAS) Whiting Field, Milton, Florida. MRP Site UXO1 is composed of two locations, the Former Gunnery Area and the Former Skeet Range.

AGVIQ-CH2M HILL Constructors, Inc. Joint Venture III (AGVIQ-CH2M HILL) has prepared this document under the U.S. Navy, Naval Facilities Engineering Command Southeast (NAVFAC SE), Small Business Remedial Action Contract No. N62470-08-D-1006, Task Order (TO) No. JM35. This Work Plan supplements the Uniform Federal Policy Sampling and Analysis Plan (UFP-SAP) prepared under a separate cover. The UFP-SAP contains a combination of a Sampling and Analysis Plan (SAP), Work Plan, Field Sampling Plan, and Quality Assurance Project Plan (QAPP).

The goal of this investigation is to collect additional samples to delineate horizontal and vertical extent of metals (lead, arsenic, and antimony) contamination, as well as polycyclic aromatic hydrocarbons (PAHs) contamination. The delineation will be used to define a removal boundary.

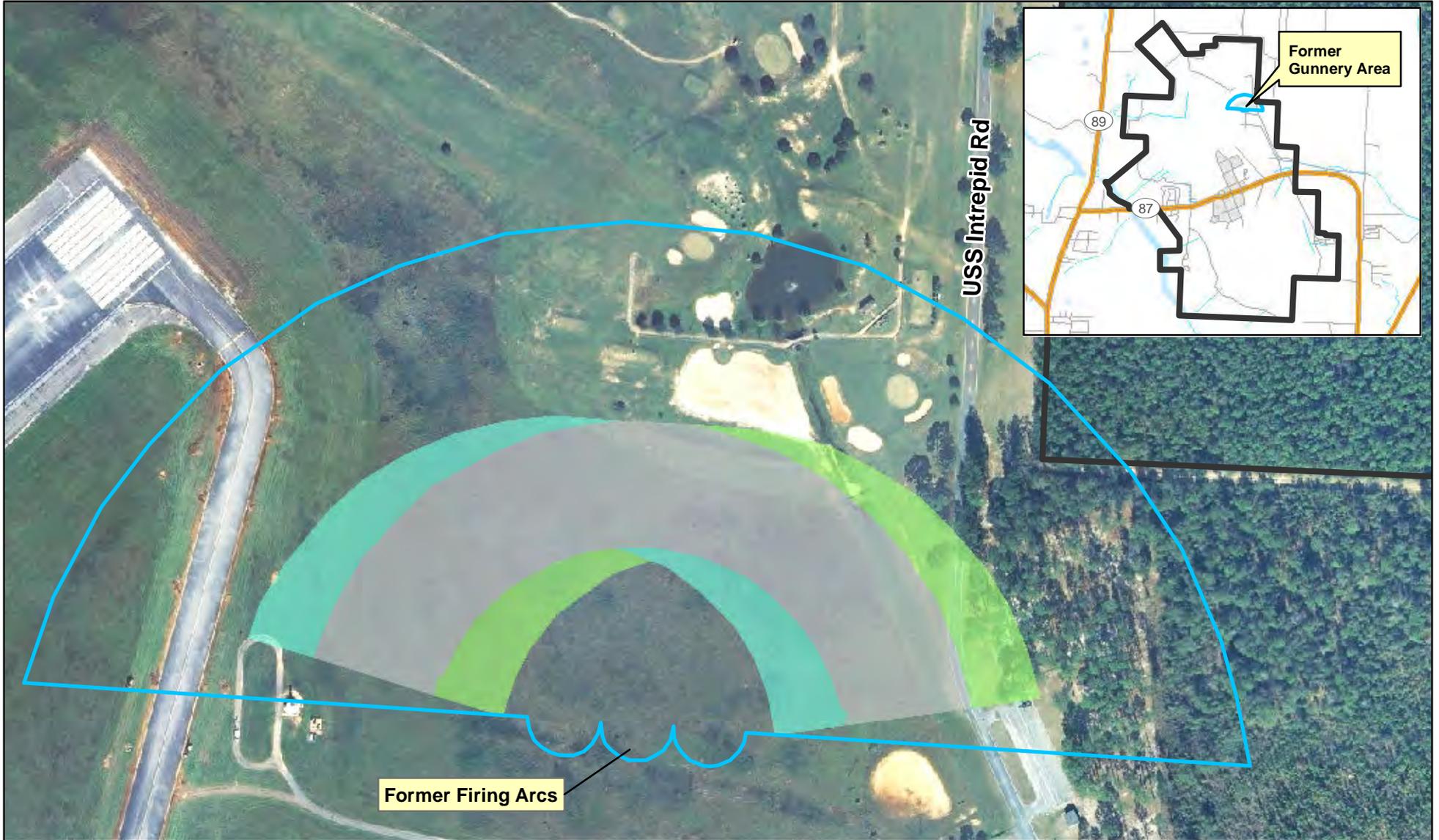
## 1.1 Site History

NAS Whiting Field is located in Santa Rosa County, in Florida's northwest coastal area, approximately 5.5 miles north of Milton and 25 miles northeast of Pensacola, Florida. The installation was constructed in the early 1940s and serves as a naval aviation training facility. The installation encompasses approximately 3,842 acres, containing two airfields (North and South Fields) and a central industrial area that provides the support facilities for flight and academic training.

### 1.1.1 Former Gunnery Area

The Former Gunnery Area is located at the North Field of NAS Whiting Field and is in an approximately 18-acre open, grassy area, approximately 160 feet above mean sea level (amsl) (Figure 1-1). The site topography at the Former Gunnery Area is mainly flat, with a slight slope to the south and west (Tetra Tech NUS, Inc. [TtNUS], 2010a). A drainage ditch is located at the eastern boundary of the Former Gunnery Area. The drainage ditch originates to the southeast of the Former Gunnery Area, and flows to the north, eventually discharging to a pond located at the adjacent golf course. Occasionally, pond overflow flows southeast across into the drainage ditch.

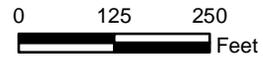
The land at the Former Gunnery Area is currently used as a runway buffer/clear zone and the outfield for a baseball field. Land use is designated as mixed use and includes outdoor recreation (e.g., golf course, picnic area, and baseball field) and training (e.g., adjacent operational pistol range). According to installation personnel, no change in land use at the site is planned. Extension of runways and buffer/clear zones in the immediate vicinity of the site may be necessary in the future to support the Joint Primary Air Training System (JPATS) program (TtNUS, 2010a).



**Legend**

Maximum Shotfall Areas

-  Firing Fan 1
-  Firing Fan 2
-  Firing Fan 3
-  Surface Danger Zone
-  Installation Boundary



**FIGURE 1-1**  
Site Map - Former Gunnery Area  
NAS Whiting Field  
Milton, Florida



Buildings associated with the Former Gunnery Area, including the Gunnery Range House (Building 1473) and the Gunnery Magazine (Building 1488), have been demolished and removed. Only the three concrete firing arcs and the footprint of the former shed remain. The nearest buildings or structures to the site include the golf course buildings to the north and the operational pistol range to the south (TtNUS, 2010a).

Soil at the Former Gunnery Area includes nearly level, well-drained sandy to loamy soil. Site-specific soil information is not available; however, information for the general area in which the Former Gunnery Area is located suggests that the area is dominated by Lakeland sand, Bonifay loamy sand, and/or Troup loamy sand associations.

Low-lying vegetation (shrubs and bushes) is established beyond the site boundary along the perimeter of the maintained grass area (i.e., south and west of the operational pistol range). Pine trees, including Longleaf and Slash pine, are also maintained in areas south and east of the former range (TtNUS, 2010a).

Groundwater is approximately 120 feet below ground surface (bgs) and in general flows toward the south to southeast at the Former Gunnery Area. Groundwater from the Sand-and-Gravel aquifer, which extends to a depth of approximately 220 feet bgs, is the primary source of drinking water for the installation. NAS Whiting Field has three drinking water supply wells screened between 170 and 225 feet bgs; these wells are not located downgradient of or near the Former Gunnery Area.

Munitions use was most likely limited to small arms ammunition from 12, 16, and 20 gauge and .410 caliber shotguns (TtNUS, 2010a). Although the closure date for this range is not known, use was most likely discontinued in the 1970s when the Skeet Range was constructed and became operational. The exact quantity of shotgun ammunition deployed or fired at the range is unknown. Firing records were not available, and based on the information obtained during the data collection process, other munitions types, including special consideration munitions (i.e., chemical warfare materiel filled munitions, electrically fused munitions, and/or munitions containing depleted uranium), are not known nor suspected to have been used at the site (TtNUS, 2010a).

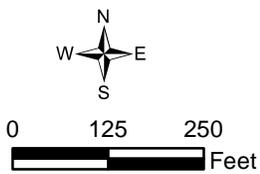
### 1.1.2 Former Skeet Range

The Former Skeet Range is located at the North Field of NAS Whiting Field and is in an approximately 12-acre open, grassy area, approximately 150 feet amsl (Figure 1-2). The site topography at the Former Skeet Range is mainly flat, with a slight slope to the south (TtNUS, 2010a). No surface water features are located within the boundary of the Former Skeet Range. Surface water flows over land to a pond approximately 0.5 mile from the site, or to the drainage ditch adjacent to the Former Gunnery Area.

The Former Skeet Range is currently used for archery. The area is mowed; but shrubs, bushes, and other low-lying vegetation have re-established along the perimeter. Based on discussions with installation personnel, there are no plans to utilize the site for other purposes. Land use in the area is designated as mixed use and includes outdoor recreation (e.g., golf course and picnic area) and training (e.g., adjacent operational pistol range). Although no change in land use in the immediate vicinity of the site is planned, extension of runways and clear zones to the west of the site may be required to support the JPATS program (TtNUS, 2010a).



- Legend**
- Maximum Shotfall Area
  - Surface Danger Zone
  - Installation Boundary



**FIGURE 1-2**  
Site Map - Former Skeet Range  
NAS Whiting Field  
Milton, Florida

The nearest building and/or structures to the Skeet Range include the golf course buildings to the north, the operational pistol range to the west, and a single family residence to the east of the installation boundary. Additionally, a picnic area is located north of the site (TtNUS, 2010a).

Soil at the Former Skeet Range includes nearly level, well-drained sandy to loamy soil. Site-specific soil information is not available; however, information for the general area in which the Former Skeet Range is located suggests that the area is dominated by Lakeland sand, Bonifay loamy sand, and/or Troup loamy sand associations.

Low-lying vegetation (shrubs and bushes) is established beyond the site boundary along the perimeter of the maintained grass area (i.e., south and west of the operational pistol range). Pine trees, including Longleaf and Slash pine, are also maintained in areas south and east of the former range (TtNUS, 2010a).

Groundwater is approximately 120 feet bgs and in general flows toward the south to southeast at the Former Skeet Range. Groundwater is the primary source of drinking water for NAS Whiting Field, from the Sand-and-Gravel aquifer, which extends to a depth of approximately 220 feet bgs. NAS Whiting Field has three drinking water supply wells screened between 170 and 225 feet bgs; these wells are not located downgradient of or near the Former Skeet Range.

The NAS Whiting Field Skeet Club used the range for recreational purposes, primarily on Wednesdays and Sundays, and held an annual "turkey shoot" (TtNUS, 2010a). Military personnel may have used the Skeet Range for moving target orientation training during this period. Munitions use was limited to small arms ammunition from 12, 16, and 20 gauge and .410 caliber shotguns. The Skeet Range was used sporadically between 1998, when it became inactive, and 2000, when it was officially closed. Two skeet buildings, the firing arc, a scorekeeper's table, and an archery target were present during the Preliminary Assessment (PA) site visit, but have since been removed from the site. A portion of the range is mowed regularly, but shrubs, bushes, and other low-lying vegetation have re-established along the range perimeter (TtNUS, 2010a).

## 1.2 Investigation History

Previous investigations that have helped characterize potential contamination include site visits, a PA (Malcolm Pirnie, 2005), and a Site Investigation (SI) (TtNUS, 2010b and 2010c).

### 1.2.1 Site Visits

Target fragments were observed on the ground surface during site walks conducted as part of the PA and the SI (TtNUS, 2010a). The observed fragments consisted of small pieces of clay pigeon targets. When the range was in use, the clay targets were likely launched from a control system by means of a mechanical device within the shed. The target would pass across the field of view, downrange of the individual on the firing line, and a shotgun was fired at the clay targets. Fired shotgun pellets missing the targets would continue unimpeded on a parabolic trajectory to the north toward the area that is now part of the golf course. Intact targets would land on the ground surface. Targets that were hit would fragment and fall to the ground surface. Shot pellets that impacted clay targets would continue on a slightly altered trajectory and fall to the ground downrange (TtNUS, 2010a).

## 1.2.2 Preliminary Assessment

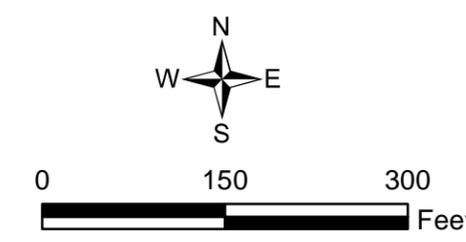
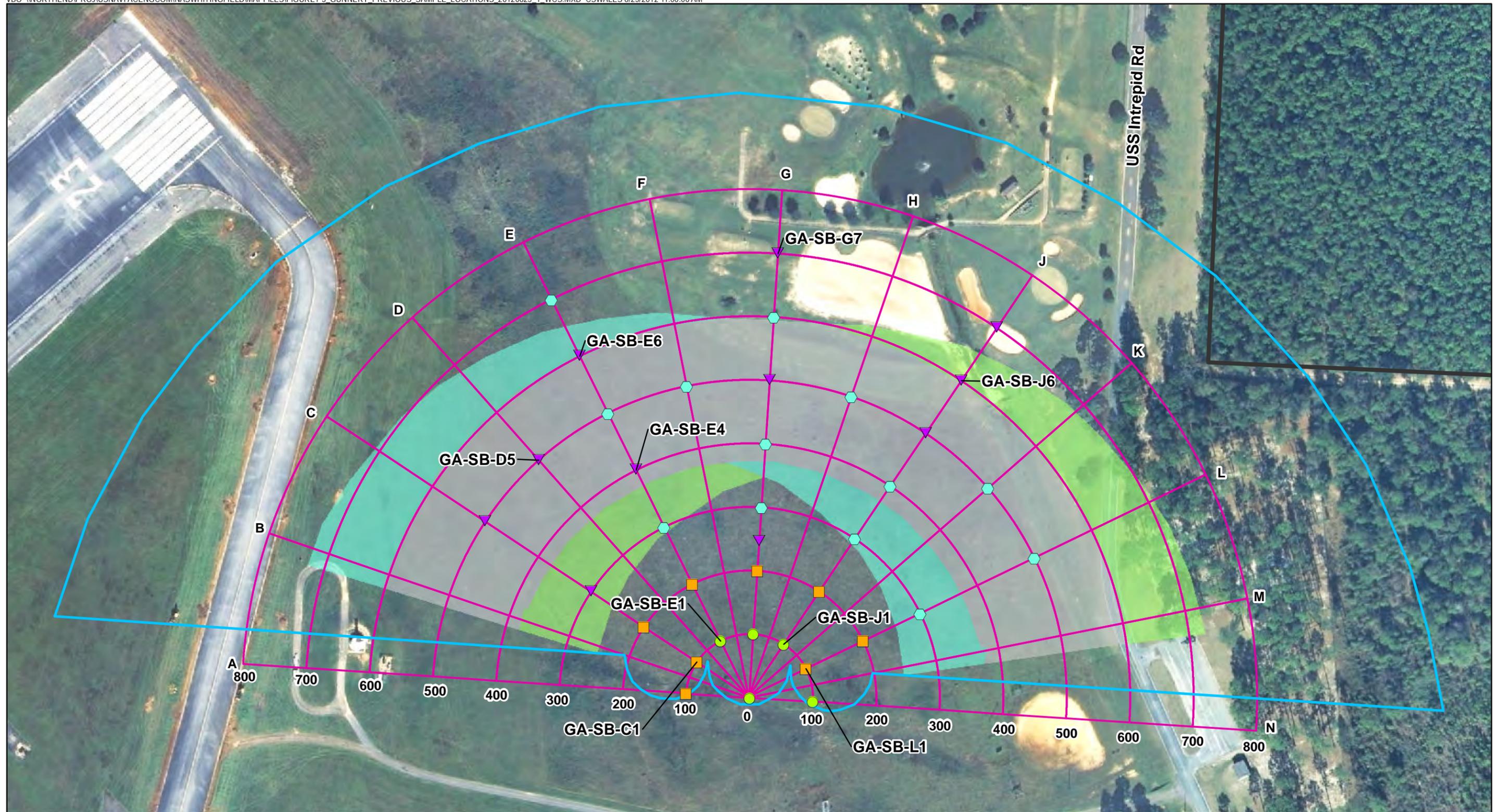
Malcolm Pirnie conducted a PA in December 2005 that summarized the history of munitions use for the Former Gunnery Area at NAS Whiting Field. The PA provided an assessment of the current conditions at the ranges with respect to munitions and explosives of concern (MEC) and munitions of concern (MC). The PA also provided the necessary information for the Navy and regulatory decision-makers to: 1) eliminate from further consideration those MEC sites that pose minimal or no threat to public health or the environment; 2) differentiate MEC sites that may not require further munitions response actions from those that will require further investigation and/or munitions response actions; 3) determine if an imminent explosives safety hazard from MEC is present that warrants an accelerated response action; and 4) determine if an imminent hazard from MC to human health and the environment is present and warrants an accelerated response action. Results of the PA indicated that there was no evidence of MEC. MC may be present at the Former Gunnery Area, and may include lead, which is the primary MC of concern associated with shotgun ammunition. Other constituents associated with ammunition, such as antimony, arsenic, copper, nickel, and zinc, and constituents associated with black or smokeless powder are less likely to be of concern. PAHs may be present from the broken clay targets. MC, if present, would likely be located in surface soils at the range north of the firing arcs and well within the site boundary (Malcolm Pirnie, 2005).

## 1.2.3 Site Inspection

TtNUS conducted an SI in 2010 which included soil sampling at the Former Gunnery Area and at the Former Skeet Range. Previous sample locations are presented on Figures 1-3 and 1-4, respectively.

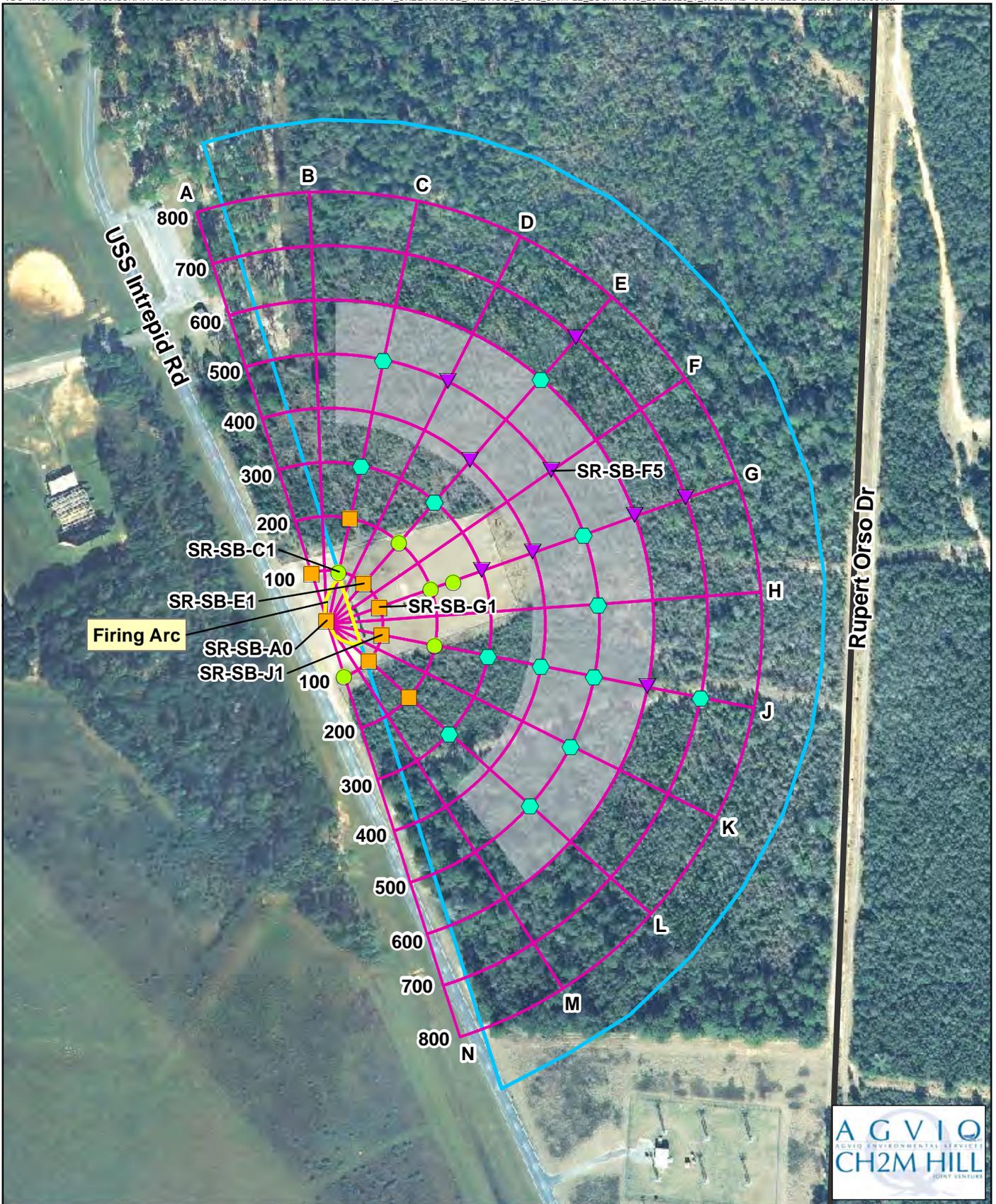
### Former Gunnery Area

Seventy-five soil samples were collected from 38 locations at depths of 0 to 6 inches and 6 to 24 inches bgs at the Former Gunnery Area. All samples underwent field x-ray fluorescence (XRF) analysis for lead; 21 of the samples were subsequently shipped for laboratory analysis for select metals. Nine of the 75 soil samples analyzed in the field with XRF at the Former Gunnery Area had average lead concentrations exceeding the field screening level of 200 milligrams per kilogram (mg/kg). Concentrations of lead ranged between 5.67 and 1,020 mg/kg (TtNUS, 2010b). Four samples analyzed at the laboratory for lead resulted in exceedances of the Project Action Limit (PAL) for lead of 400 mg/kg, which is the Florida Department of Environmental Protection (FDEP) Direct Exposure Residential soil cleanup target level (SCTL). The highest lead concentrations were from the 0- to 6-inch bgs sampling interval. The sample locations with XRF and Fixed-Based Laboratory (FBL) lead concentrations exceeding the PALs were randomly distributed at the site (TtNUS, 2010b). Additionally, four samples were shipped for laboratory analysis for Synthetic Precipitation Leachate Procedure (SPLP) metals analysis. The samples were chosen from sample locations exhibiting a range (high to low) of XRF lead concentrations. Two samples exhibited an exceedance of antimony the PAL of 6 micrograms per liter ( $\mu\text{g}/\text{L}$ ). All four samples exhibited lead concentrations (20  $\mu\text{g}/\text{L}$ , 24.4  $\mu\text{g}/\text{L}$ , 1,490  $\mu\text{g}/\text{L}$ , and 1,500  $\mu\text{g}/\text{L}$ ) exceeding the PAL of 15  $\mu\text{g}/\text{L}$  (TtNUS, 2010b).



**FIGURE 1-3**  
 Previous Sample Locations - Former Gunnery Area  
 NAS Whiting Field  
 Milton, Florida





**Legend**

Soil Sample Grid	PAHs, select metals, and XRF lead	
Maximum Shotfall Area	PAHs and XRF lead	
Surface Danger Zone	Select metals and XRF lead	
Firing Arc	XRF lead	
Installation Boundary		

**FIGURE 1-4**  
Previous Soil Sample Locations  
Former Skeet Range  
NAS Whiting Field  
Milton, Florida

Arsenic exceeded the PAL of 3.2 mg/kg in two locations, from the 0-6-inch bgs interval (TtNUS, 2010b). Twenty-nine samples were selected from the Former Gunnery Area for PAH analysis; 18 of the samples had PAL exceedances. The calculated benzo(a)pyrene equivalent (BEQ) of 0.1 mg/kg was exceeded in 22 of the 29 samples. In addition, the exposure concentration represented by the 95 percent upper confidence limit (UCL) of the mean for the BEQ was significantly greater than the PAL or Direct Exposure Residential SCTL of 0.1 mg/kg. Therefore, it was recommended that the extent of PAH contamination be further investigated (TtNUS, 2010b).

### Former Skeet Range

Seventy-six soil samples were collected from 39 locations at depths of 0 to 6 inches and 6 to 24 inches bgs at the Skeet Range. All samples underwent field XRF analysis for lead and 22 of the samples were subsequently shipped for laboratory analysis for select metals analysis. Two of the 76 soil samples analyzed in the field with XRF at the Skeet Range had average lead concentrations exceeding the field screening level of 200 mg/kg (TtNUS, 2010b). One of 22 samples analyzed by the laboratory for lead resulted in an exceedance of the PAL of 400 mg/kg (FDEP Direct Exposure Residential SCTL). The sample locations with XRF and FBL lead concentrations exceeding the PALs were randomly distributed at the site (TtNUS, 2010b). Arsenic exceeded the PAL of 3.2 mg/kg (background concentration at NAS Whiting Field) in one location from the 0- to 6-inch bgs interval (TtNUS, 2010b).

Of the 26 samples selected from the Skeet Range for PAH analysis, 18 samples had PAL exceedances. The calculated BEQ of 0.1 mg/kg was exceeded in 12 of the 30 samples. In addition, the exposure concentration represented by the 95 percent UCL of the mean for the BEQ was significantly greater than the PAL or Direct Exposure Residential SCTL of 0.1 mg/kg. Therefore, it was recommended that the extent of PAH contamination be further investigated.

Four samples from the Skeet Range were shipped for laboratory analysis for SPLP metals analysis. The samples were chosen from the sample locations exhibiting a range (high to low) of XRF lead concentrations. Soil samples had detections of arsenic, copper, lead, antimony, and zinc. Only soil sample SPLP result for SR-SS-F5-02 (6 to 24 inches bgs) exceeded the lead PAL of 15 µg/L at a concentration of 66.4 µg/L (TtNUS, 2010b). However, No Further Action was recommended for metals at the site.

### 1.2.4 Release History

The presence of spent shot and clay target fragments on the ground surface, as well as concentrations of PAHs, lead, arsenic, and antimony, indicates that a release has occurred at the Former Gunnery Area and Former Skeet Range; however, investigations conducted to date have not delineated the extent of contamination at either site. The extent of contamination at both sites is not known.

## 1.3 Overview

The purpose of this Work Plan is to outline the procedures to be used to perform additional soil sampling to assess the extent of contamination at the Former Gunnery Area and Former Skeet Range at NAS Whiting Field, Florida.

## 1.4 Project Objective

The objective of the SSI is to determine the extent of contamination from PAHs, lead, arsenic, and antimony in order to reduce potential risk to human health receptors by removing the contaminated soil to acceptable levels on site-wide basis. Additional analytical data for PAHs, lead, arsenic, and antimony will be collected at select locations across the site. Soil samples will be collected from both sites using a sampling grid previously developed as part of the SI, as well as “step-out” locations from identified exceedances. The results will be screened against background levels, the FDEP Direct Exposure SCTLs, and/or the FDEP Leachability to Groundwater (LGW) criteria.

Data collected in support of this SSI will be combined with previous data collected as part of the SI and documented in an Engineering Evaluation/Cost Analysis (EE/CA), for both the Former Gunnery Area and the Former Skeet Range.

# 2.0 Project Execution Plan

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## 2.1 Scope of Work

The following activities are associated with the scope of work:

- Mobilize, prepare site, and survey underground utilities.
- Log all relevant site-specific observations on site conditions and sampling activities in the field notebook.
- Locate and stake out the sampling grid locations
- Collect soil samples. Decontaminate all non-disposable sampling equipment immediately after each use.
- Collect sample location coordinates using a geographic positioning system (GPS) unit.
- Package and ship samples to laboratory.
- Characterize, containerize, transport, and dispose of the liquid waste stream.
- Prepare and submit the EE/CA report.

## 2.2 Mobilization, Site Preparation, and Utility Survey

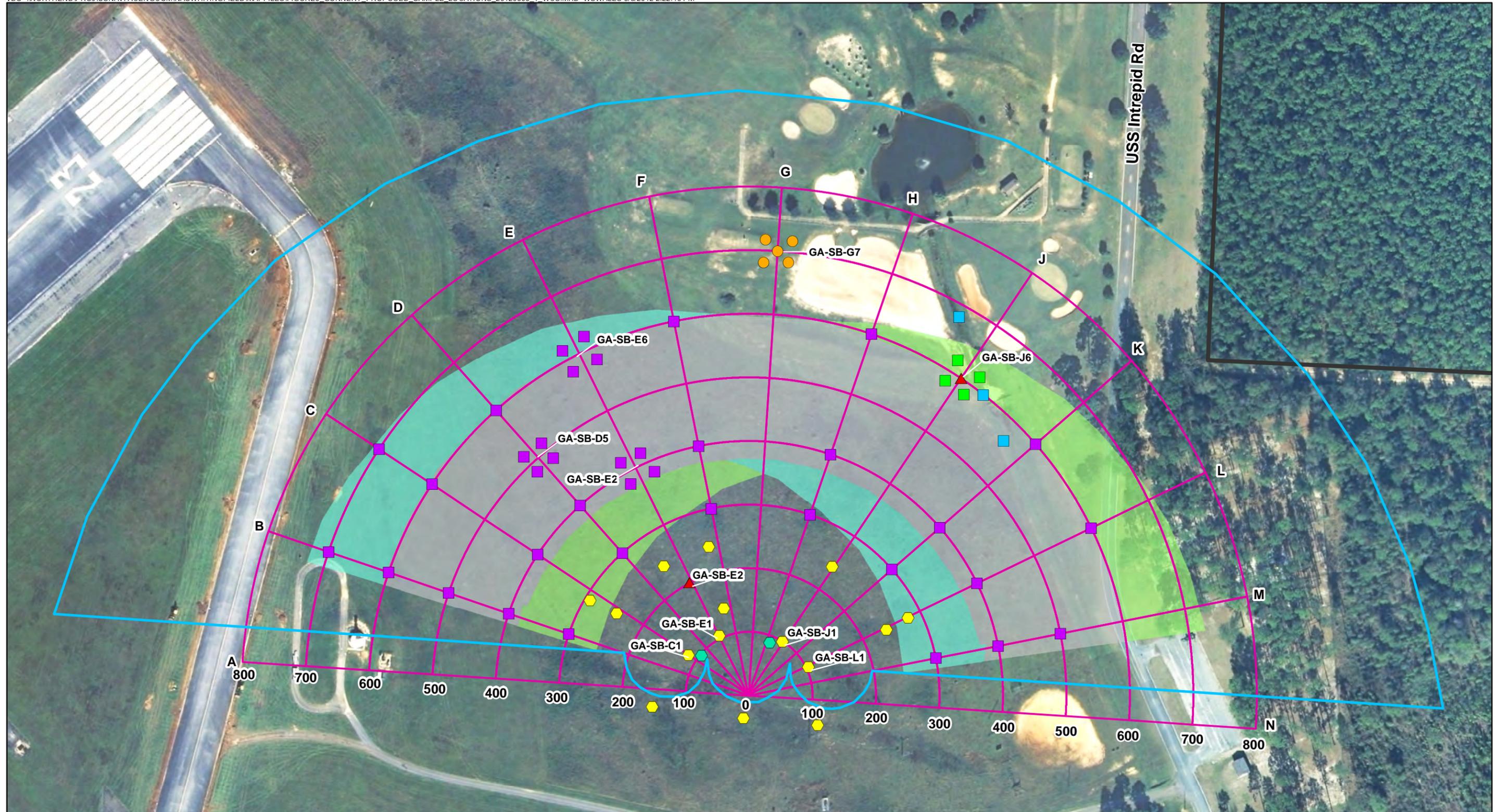
AGVIQ-CH2M HILL will mobilize personnel and equipment to the project site, and will coordinate with Sunshine State One Call of Florida and NAS Whiting Field Facilities Engineering Acquisition Division to complete a site utility survey and to acquire utility layout plans of the area. In addition, AGVIQ-CH2M HILL will subcontract the services of a qualified firm to identify underground utilities in the areas of proposed drilling. Utilities in the work areas will be marked with paint and stakes, as appropriate. The progress of subsurface work will be continuously monitored for evidence of obstructions.

## 2.3 Soil Sampling

Figures 2-1 and 2-2 are maps showing the proposed sampling locations at the Former Gunnery Area and Former Skeet Range, respectively. The sampling and analytical requirements, and required level of quality and data packages are listed in Table 2-1. The quantitation, project action, accuracy, precision, and completeness limits by which the data will be evaluated will be provided by the selected laboratory and approved by AGVIQ-CH2M HILL's Project Chemist prior to any analytical testing.

Samples will be collected and processed in accordance with applicable Standard Operating Procedures (SOPs) referenced in the following worksheets of the UFP-SAP:

- SAP Worksheet #18 – Sampling Locations and Methods/SOP Requirements Table
- SAP Worksheet #19 – Analytical SOP Requirements Table



**Legend**

- Soil Sample Grid
- Maximum Shotfall Areas
- Firing Fan 1
- Firing Fan 2
- Firing Fan 3
- Surface Danger Zone
- Installation Boundary

**Proposed Soil Sample Locations**

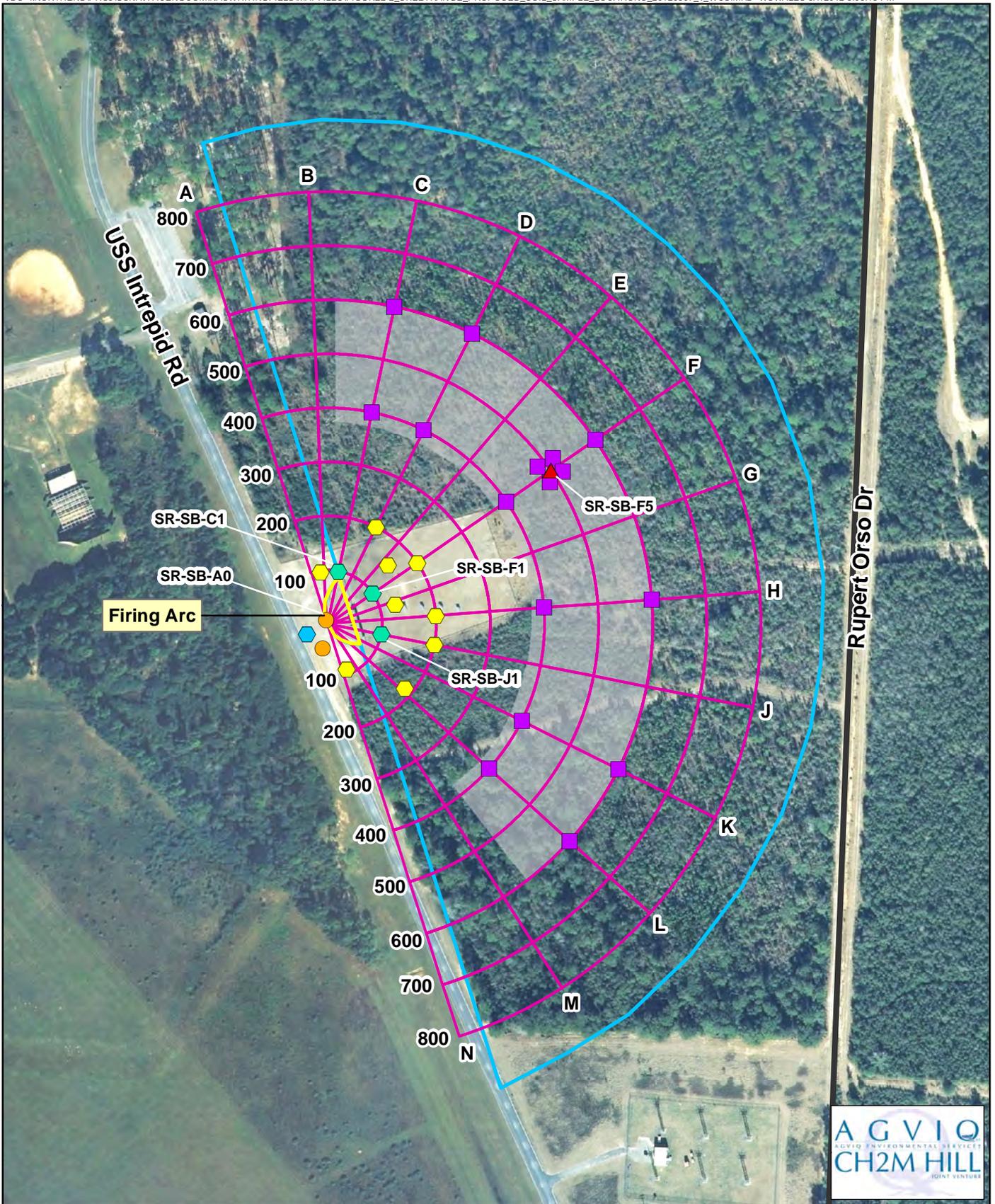
- lead
- arsenic and lead
- lead and arsenic, ditch sample
- arsenic

- ▲ antimony (2-3 ft and 3-4 ft bgs) and arsenic and lead (6-24 inches) bgs
- ⬡ PAHs
- ⬡ PAHs (SPLP)

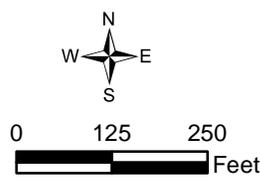


**FIGURE 2-1**  
Proposed Soil Sample Locations - Former Gunnery Area  
NAS Whiting Field  
Milton, Florida





<b>Legend</b>		<b>Proposed Soil Sample Locations</b>
Soil Sample Grid	lead	
Maximum Shotfall Area	arsenic	
Surface Danger Zone	antimony and lead	
Firing Arc	PAHs	
Installation Boundary	PAHs (total and SPLP)	
	PAHs and arsenic	



**FIGURE 2-2**  
**Proposed Soil Sample Locations**  
 Former Skeet Range  
 NAS Whiting Field  
 Milton, Florida

TABLE 2-1  
Sampling and Analysis Summary

Sample Task	Sample Point	Matrix	Sampling Frequency	Approx Sample No	Sampling Method	Sampling Equipment	TAT	DOO Level/ Data Package Reqmnt	Required Analysis	Analytical Method	Holding Time	Sample Preservation	Containers
<b>Soil Sampling - Former Gunnery Area</b>													
Soil Sampling	4 borings in the source area (GA-SB-C1, GA-SB-E1, GA-SB-J1, and GA-SB-L1) from 2-3' and 3-4'; 11 new borings at 4 depths (0-6", 6-24", 2-3', and 3-4'). Hold 2-3' sample pending 6-24" results. Hold 3-4' sample pending 2-3' results	Soil	Once	Maximum 52 + 6 FD + 3 MS/MSD = 64 samples	Grab	SS spoon, SS bowl	14 days	CH2M HILL Level C	PAHs (16 method listed plus 1-Methylnaphthalene & 2-Methylnaphthalene)	8310	14 day extr, 40 day analysis	Cool to 4°C	(1) 4-oz glass
	2 samples from 6-24" beneath GA-SB-G7 and GA-SB-J6; 8 step out borings 0-6" and 6-24", 6 samples from 3 ditch borings 0-6"			24 = 3 FD + 2 MS/MSD = 31 samples					Arsenic	6020A	180 days	Cool to 4°C	(1) 2-oz glass
	Two locations (GA-SB-E2 and GA-SB-J6) from 2-3' and 3-4'. Hold 3-4' sample pending 2-3' results			Minimum 2 samples + 1 FD + 1 MS/MSD					Antimony	6020A	180 days	Cool to 4°C	(1) 2-oz glass
	25 new borings, 2 samples each (0 to 6" and 6 - 24") if XRF > 200 ppm plus step out locations as needed; 16 step out locations from 4 original samples, 2 samples each (0 to 6" and 6 - 24") if XRF > 200 ppm plus step out locations as needed; 3 ditch borings, up to 2 samples each (0 to 6" and 6 - 24") if XRF > 200 ppm			Minimum 20% - depends on XRF readings + 10% FD + 5% MS/MSD					Lead	6020A	180 days	Cool to 4°C	(1) 2-oz glass
	GA-SB-C1 and GA-SB-J1 from 2 - 3'			2					Grab	SS spoon, SS bowl	14 days	CH2M HILL Level C	SPLP PAHs (16 plus 1- & 2-Methylnaphthalene)
	Equipment Blank	Water	Once	6	Grab	Analyte-free water, SS funnel	14 days	CH2M HILL Level C	PAHs (16 method listed plus 1-Methylnaphthalene & 2-Methylnaphthalene)	8310	7 days extr; 40 days analysis	Cool to 4°C	(2) 1-liter amber glass
	3	Arsenic	6020A	180 days					HNO3 pH< 2; Cool to 4°C	(1) 500-ml HDPE			
	1	Antimony	6020A	180 days					HNO3 pH< 2; Cool to 4°C	(1) 500-ml HDPE			
	10% of total	Lead	6020A	180 days					HNO3 pH< 2; Cool to 4°C	(1) 500-ml HDPE			

TABLE 2-1  
Sampling and Analysis Summary

Sample Task	Sample Point	Matrix	Sampling Frequency	Approx Sample No	Sampling Method	Sampling Equipment	TAT	DOO Level/ Data Package Reqmnt	Required Analysis	Analytical Method	Holding Time	Sample Preservation	Containers
<b>Soil Sampling - Former Skeet Range</b>													
Soil Sampling	3 borings in the source area (SR-SB-C1, SR-SB-J1, and SR-SB-F1) from 2-3' and 3-4'; 10 new borings at 4 depths (0-6", 6-24", 2-3', and 3-4'). Hold 2-3' sample pending 6-24" results. Hold 3-4' sample pending 2-3' results	Soil	Once	Minimum 23 + 3 FD + 2 MS/MSD = 30 samples	Grab	SS spoon, SS bowl	14 days	CH2M HILL Level C	PAHs (16 method listed plus 1-Methylnaphthalene & 2-Methylnaphthalene)	8310	14 day extr, 40 day analysis	Cool to 4°C	(1) 4-oz glass
	At SR-SB-A0, one sample from 6-24"; 2 step out borings west and south of SR-SB-A0 at 0-6" and 6-24"			5 + 1 FD + 1 MS/MSD = 8 samples					Arsenic	6020A	180 days	Cool to 4°C	(1) 2-oz glass
	One location (SR-SB-F5) from 2-3' and 3-4'. Hold 3-4' sample pending 2-3' results			Minimum 1 sample + 1 FD + 1 MS/MSD					Antimony	6020A	180 days	Cool to 4°C	(1) 2-oz glass
	12 new borings, 2 samples each (0 to 6" and 6 - 24") if XRF > 200 ppm plus step out locations as needed; 4 step out locations from 1 original sample (SR-SB-F5), 2 samples each (0 to 6" and 6 - 24") if XRF > 200 ppm plus step out locations as needed. 2 samples at SR-SB-F5 from 6-8' and 10-12'			Minimum 20% - depends on XRF readings + 10% FD + 5% MS/MSD					Lead	6020A	180 days	Cool to 4°C	(1) 2-oz glass
	3 borings in the source area (SR-SB-C1, SR-SB-J1, and SR-SB-F1) from 2-3' and 3-4'			Soil					Once	6 + 1 FD + 1 MS/MSD = 9 samples	Grab	SS spoon, SS bowl	14 days
	Equipment Blank	Water	Once	3	Grab	Analyte-free water, SS funnel	14 days	CH2M HILL Level C	PAHs (16 method listed plus 1-Methylnaphthalene & 2-Methylnaphthalene)	8310	7 days extr; 40 days analysis	Cool to 4°C	(2) 1-liter amber glass
1	Arsenic	6020A	180 days	HNO3 pH< 2; Cool to 4°C					(1) 500-ml HDPE				
1	Antimony	6020A	180 days	HNO3 pH< 2; Cool to 4°C					(1) 500-ml HDPE				
10% of total	Lead	6020A	180 days	HNO3 pH< 2; Cool to 4°C					(1) 500-ml HDPE				

TABLE 2-1  
Sampling and Analysis Summary

Sample Task	Sample Point	Matrix	Sampling Frequency	Approx Sample No	Sampling Method	Sampling Equipment	TAT	DOO Level/ Data Package Reqmnt	Required Analysis	Analytical Method	Holding Time	Sample Preservation	Containers
<b>Aqueous Waste Characterization</b>													
Disposal of Aqueous Waste	Drums	Water	Once	2	Grab	Drum thief or dip jar	14 days	CH2M HILL Level B	TCL Volatiles	8260B	14 days	HCl pH< 2; Cool to 4oC	(2) 40 ml vials
									TCL Semi-volatiles	8270D	7 days extr; 40 days analysis	Cool to 4°C	(5) 1-liter amber glass
									TCL Pesticides	8081B	7 days extr; 40 days analysis		
									Herbicides	8151A	7 days extr; 40 days analysis		
									PCBs	8082A	7 days extr; 40 days analysis	HNO3 pH< 2; Cool to 4oC	(1) 500-ml HDPE
									TAL Metals	6010C/7470A	180 days; Hg = 28 days		
									Ignitability	1010A	ASAP	Cool to 4oC	(1) 250-ml Glass
									Corrosivity	9040C	ASAP	Cool to 4oC	(1) 250-ml HDPE

TABLE 2-1  
Sampling and Analysis Summary

Sample Task	Sample Point	Matrix	Sampling Frequency	Approx Sample No	Sampling Method	Sampling Equipment	TAT	DOO Level/ Data Package Reqmnt	Required Analysis	Analytical Method	Holding Time	Sample Preservation	Containers		
<b>Backfill Characterization Sampling</b>															
Characterization of Backfill Material	Off-Site Source	Soil	Once per source	2 + 1 DUP = 3 samples	Composite 4 random grabs into 1 sample (Do not composite VOCs)	SS spoon, SS bowl, TerraCore samplers, (3) Prepared 40 ml vials (4 or 8 oz jar for stone)	14 days	CH2M HILL Level C	TCL Volatiles	5035/8260B	48hrs preservation/14 days analysis	Water; Methanol; Cool to 4oC	TerraCore samplers, (3) Prepared 40 ml vials and 2 oz jar		
									TCL Semi-volatiles	8270D	14 day extr; 40 day analysis	Cool to 4oC	(3) 8 oz amber glass		
									PAHs (including 1-and 2-Methylnaphthalene)	8310	14 day extr; 40 day analysis				
									TCL Pesticides	8151B	14 day extr; 40 day analysis				
									TCL Herbicides	8151A	14 day extr; 40 day analysis				
									PCBs	8082A	14 day extr; 40 day analysis				
									TRPH	FL-PRO	14 day extr; 40 day analysis				
									TAL Metals	6010C/7471A	180 days; Hg = 28 days				
		pH	9045D	ASAP											
	Equipment Rinsate Blank	Water	10% of total samples collected	1	Grab	Analyte-free water, SS funnel	14 days	CH2M HILL Level C	TCL Volatiles	8260B	14 days	HCl pH< 2; Cool to 4oC	(2) 40 ml vials		
									TCL Semi-volatiles	8270D	7 days extr; 40 days analysis	Cool to 4°C	(5) 1L amber glass		
									PAHs (including 1-and 2-Methylnaphthalene)	8310	7 days extr; 40 days analysis				
									TCL Pesticides	8081B	7 days extr; 40 days analysis				
									TCL Herbicides	8151A	7 days extr; 40 days analysis				
									PCBs	8082A	7 days extr; 40 days analysis				
									TAL Metals	6010C/7470A	180 days; Hg=28 days			HNO3 pH< 2; Cool to 4oC	(1) 500ml HDPE
									TRPH	FL-PRO	7 days extr; 40 days analysis			Cool to 4oC	(1) 1L amber glass
		pH	9040C	ASAP	Cool to 4oC	(1) 250 mL HDPE									
	Trip Blank	Water	1 Per cooler containing volatile samples	1	Prepared by Lab	Analyte-free water	14 days	CH2M HILL Level C	TCL Volatiles	8260B	14 days	HCl pH< 2;	(2) 40 mL vials		

SS – stainless steel

PAH – polycyclic aromatic hydrocarbon

BTEX – benzene, toluene, ethylbenzene, xylene

MTBE – methyl-tert-butyl-ethylene

FL-PRO – Florida Petroleum Residual Organic

TCL – target compound list

TAL – target analyte list

TAT – turnaround time

ASAP – as soon as possible

N/A – not applicable

- SAP Worksheet #20 – Field Quality Control Sample Summary Table
- SAP Worksheet #21 – Project Sampling SOP References Table
- SAP Worksheet #22 – Field Equipment Calibration, Maintenance, Testing, and Inspection Table

### 2.3.1 XRF Field Screening Process

Soil samples collected for lead analysis will be field-screened using XRF. Figure 2-3 presents the decision tree for lead sampling and analysis. Soil samples with XRF results above 200 mg/kg (half of the FDEP Direct Exposure Residential SCTL for lead, 400 mg/kg), will be submitted for laboratory analysis.

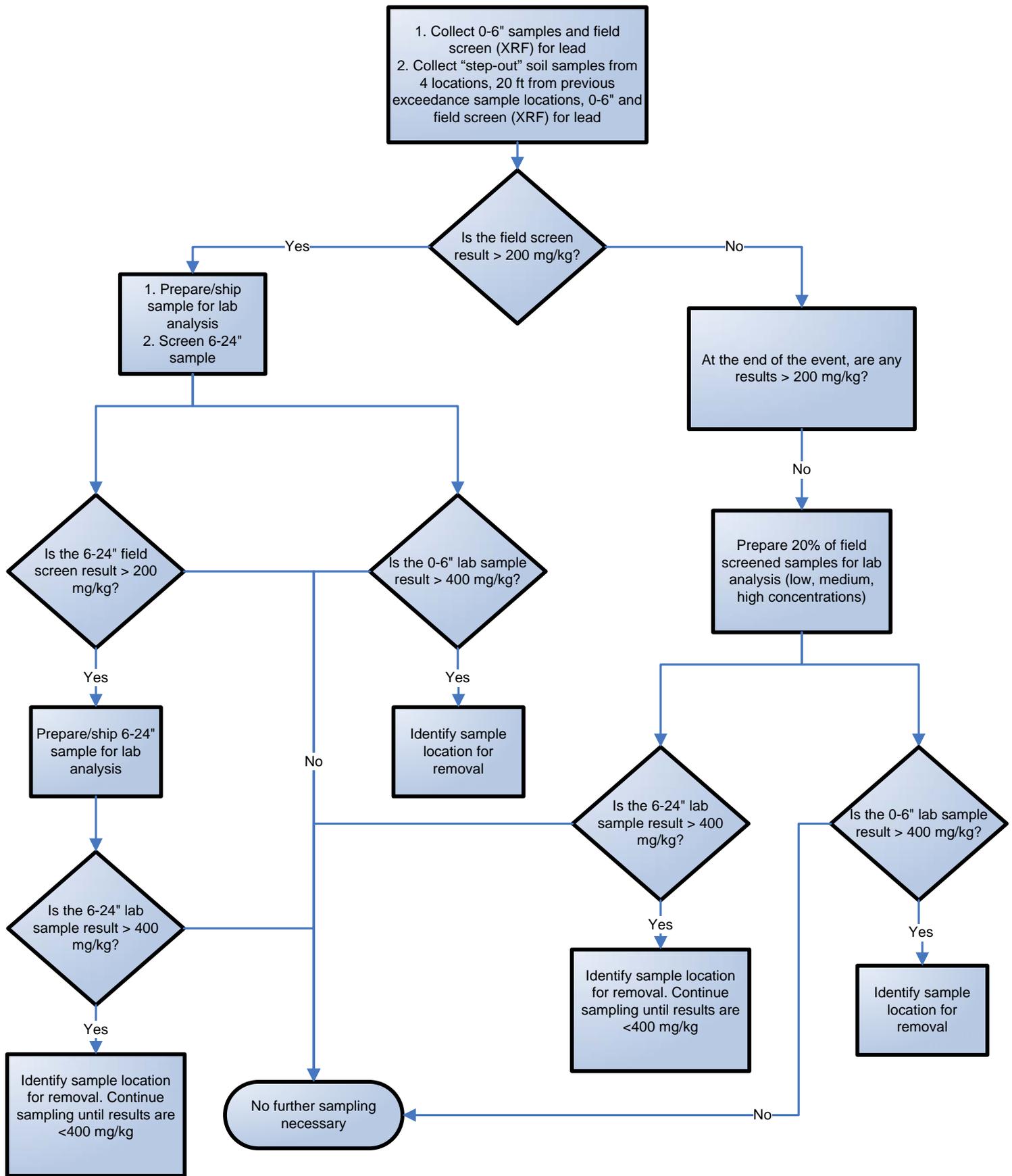
### 2.3.2 Laboratory Analyses

#### Former Gunnery Area

##### *Lead*

The sampling grid developed during the previous SAP (TtNUS, 2010a) will be used during this supplemental soil sampling event. Samples will be collected from select grid nodes not previously sampled (Figure 2-1). From each of the 25 nodes, samples will be collected from 0 to 6 inches bgs and field-screened for lead using XRF. If the field screen result is greater than 200 mg/kg (half of the FDEP Direct Exposure Residential SCTL for lead, 400 mg/kg) then the sample will be submitted for laboratory analysis for lead. A sample from 6 to 24 inches bgs at the same node will then be field-screened for lead using XRF. If the deeper sample exceeds 200 mg/kg, the deeper sample will also be sent for laboratory analysis. If the field screen result for the 0- to 6-inch bgs sample is less than 200 mg/kg, a deeper sample will not be collected. If none of the samples field-screened for lead exceed 200 mg/kg, a minimum of 20 percent of the number of samples field-screened will be sent for laboratory analysis. In addition, for any sample that exceeds the field-screen level of 200 mg/kg, up to four additional samples will be collected and sent for laboratory analysis (one in each horizontal direction, north, south, east, and west) 20 feet from the original sample, in order to bound the extent of contamination. Figure 2-3 presents the decision tree for lead sampling. Any sample with a laboratory result exceeding 400 mg/kg will be identified for removal.

Additionally, at four previously collected sample locations with a laboratory exceedance of 400 mg/kg (TtNUS samples GA-SB-D5, GA-SB-E4, GA-SB-E6, and GA-SB-J6), four samples (one 20 feet in each horizontal direction, north, south, east, and west) will be collected from 0 to 6 inches bgs to bound the contamination. The samples will be field-screened using an XRF. If the result from the 0- to 6-inch sample exceeds the field-screen level of 200 mg/kg, up to three additional samples will be collected (one 20 feet in each direction away from the original sample), at a depth of 0 to 6 inches. Samples will also be collected from 6 to 24 inches bgs beneath any field-screen sample that exceeds 200 mg/kg. Samples exceeding the field-screen criterion of 200 mg/kg will be submitted to the laboratory for analysis. If any of the samples collected have results exceeding 400 mg/kg at these second step-out locations additional samples will be collected until the contamination is bound at the Former Gunnery Area.



In addition, three samples will be collected from the adjacent drainage ditch (Figure 2-1) and analyzed for lead following the same lateral and vertical extent definition strategy (Figure 2-3).

### ***Arsenic***

At each of the original sample locations identified as arsenic hotspots (exceedance of background, 3.2 mg/kg) (TtNUS samples GA-SB-G7 and GA-SB-J6), one sample will be collected from 6 to 24 inches bgs to determine the vertical extent of arsenic contamination (Figure 2-1). In addition, 20 feet in each direction from GA-SB-G7 and GA-SB-J6, four locations will be sampled at 0 to 6 inches and 6 to 24 inches bgs to determine horizontal extent of arsenic contamination (Figure 2-1). If any of the samples exceed the background level of 3.2 mg/kg, additional samples will be collected until the contamination is bound at the Former Gunnery Area. Figure 2-4 presents the decision tree for arsenic sampling.

In addition, three samples will be collected from the adjacent drainage ditch (Figure 2-1) and analyzed for arsenic (same sample locations as sampled for lead).

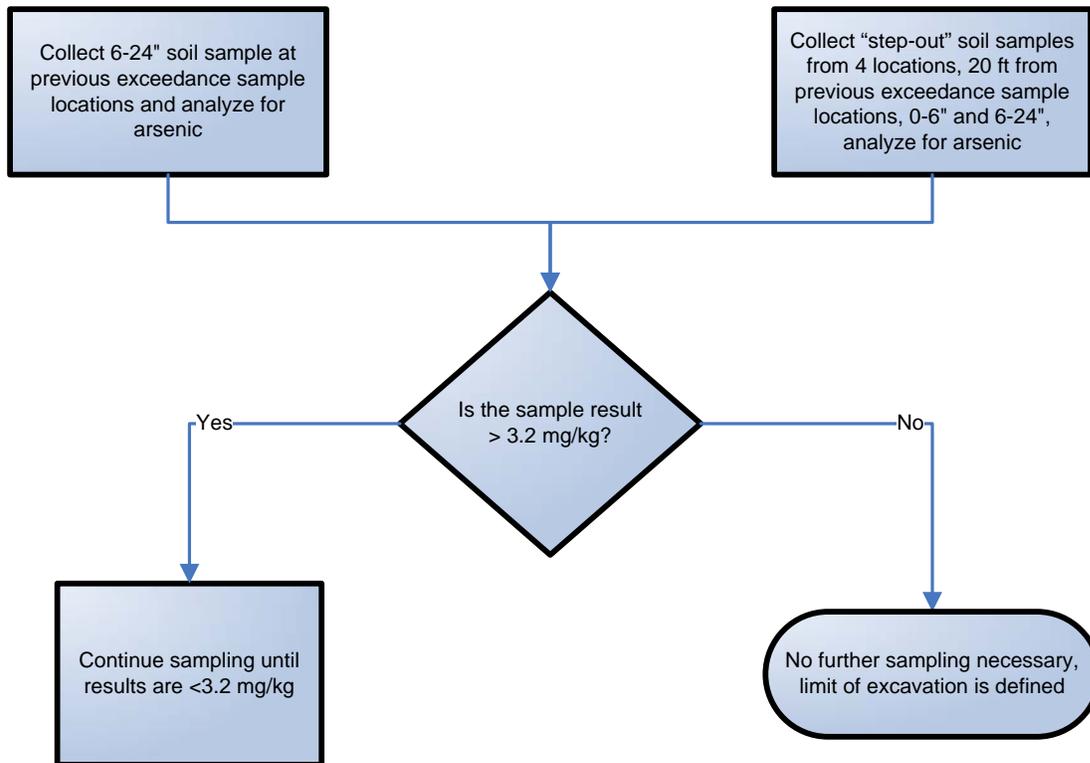
### ***Antimony***

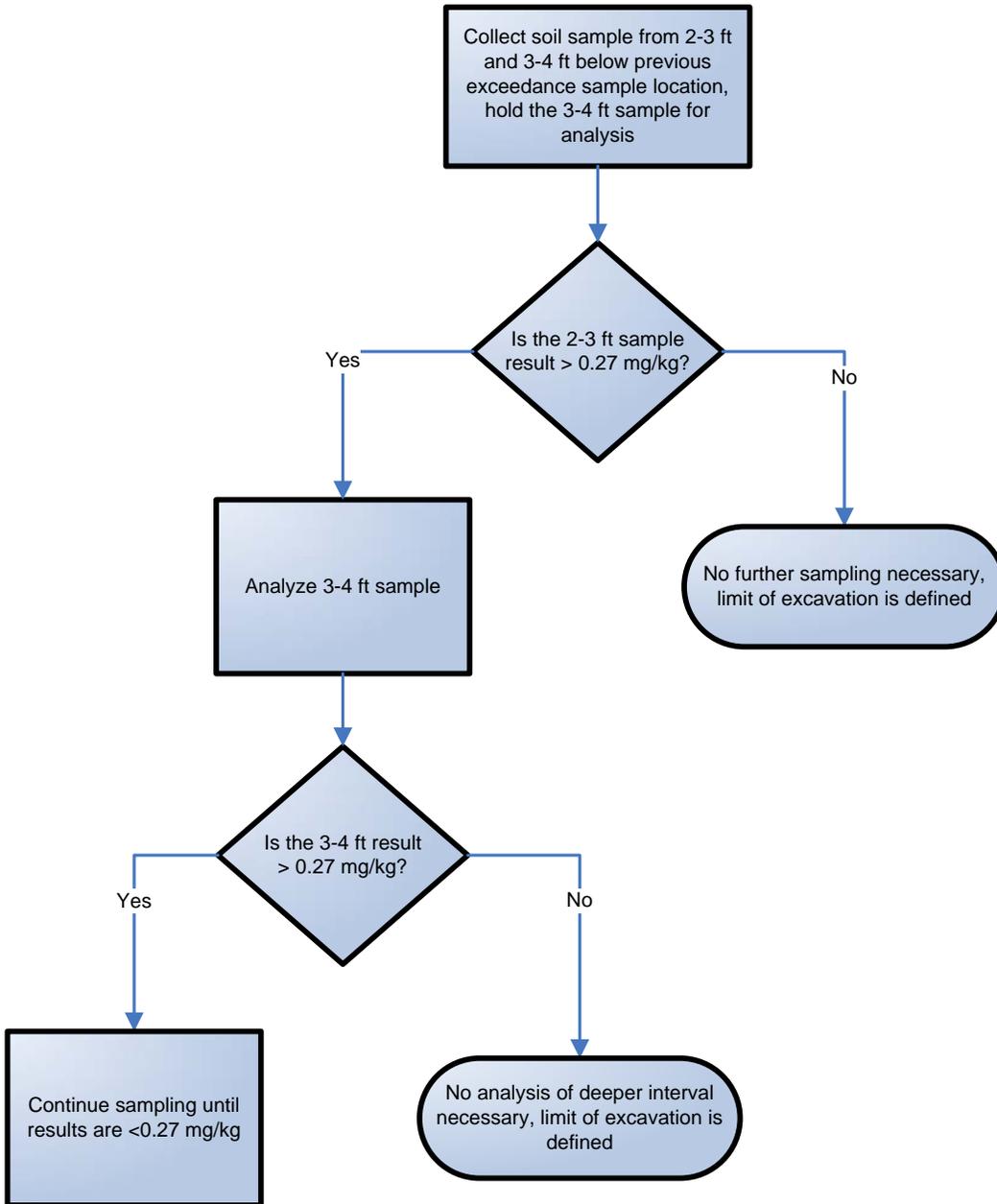
At each of the original sample locations identified as exceeding the FDEP LGW screening level of 5.4 mg/kg (GA-SB-E2 and GA-SB-J6; and thus also exceeding the U.S. Environmental Protection Agency (EPA) Regional Screening Level of 0.27 mg/kg), a sample will be collected from 2 to 3 feet and 3 to 4 feet bgs (Figure 2-1). The sample collected from 2 to 3 feet bgs will be analyzed for total antimony; if the 2- to 3-foot bgs sample does not exceed the EPA Regional Screening Level of 0.27 mg/kg (lower screening level than FDEP), then 2 feet bgs will be identified as the vertical limit of excavation. If the result from the 2- to 3-foot bgs sample exceeds 0.27 mg/kg, the 3- to 4-foot bgs sample will then be analyzed. If the result from the 3- to 4-foot bgs sample is below 0.27 mg/kg, then 3 feet bgs will be identified as the vertical limit of excavation. If the result of the 3- to 4-foot bgs sample exceeds 0.27 mg/kg, additional samples will be collected until the contamination is bound at the Former Gunnery Area. Figure 2-5 presents the decision tree for antimony sampling.

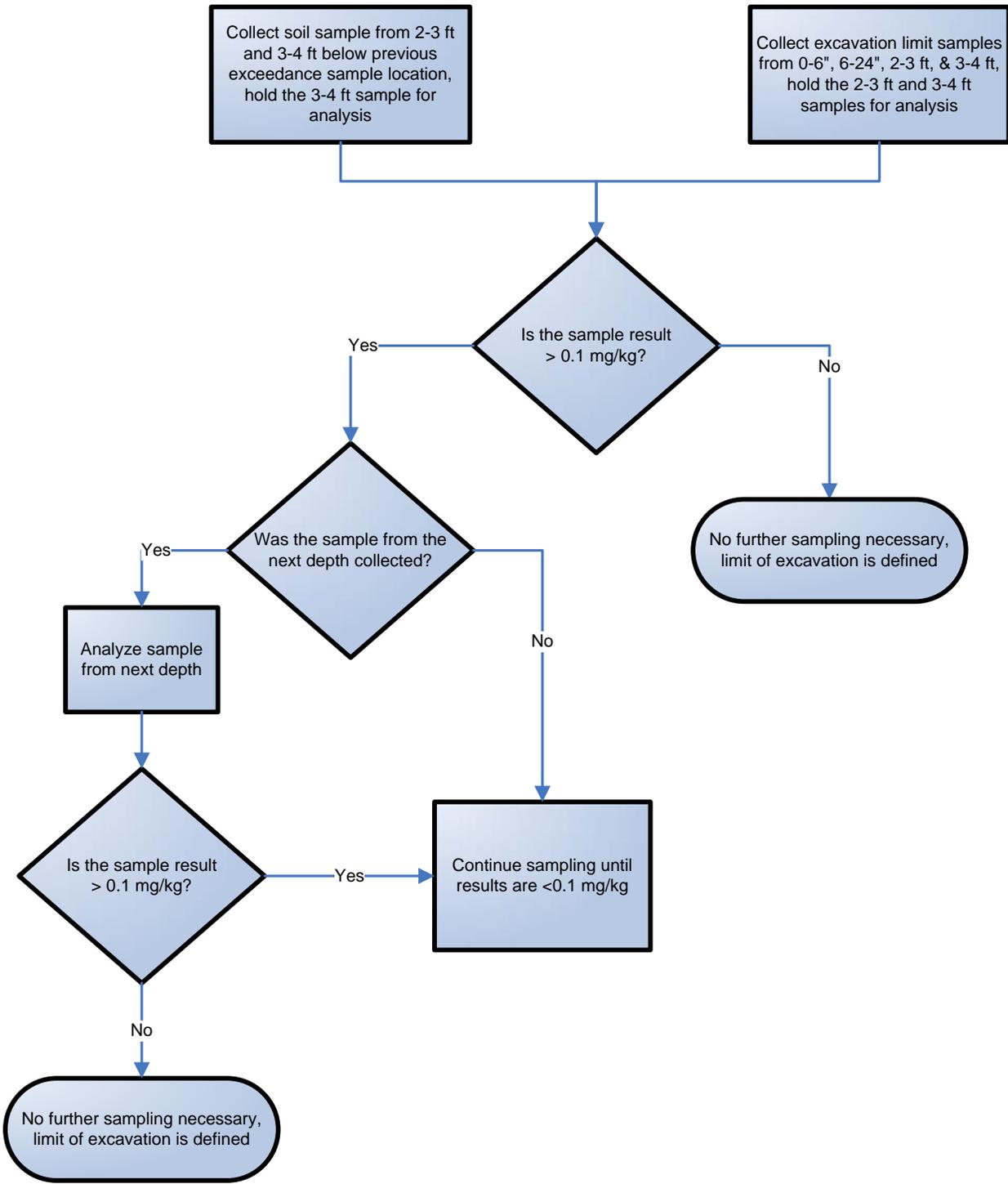
### ***PAHs***

The limits of excavation will be determined by additional sample collection. Samples will be collected from 2 to 3 feet bgs and 3 to 4 feet bgs from four previously sampled locations (GA-SB-C1, GA-SB-E1, GA-SB-J1, and GA-SB-L1) where soil exceeded the FDEP Direct Exposure Residential SCTL of 0.1 mg/kg (BEQ), in order to determine the vertical extent of contamination.

Additionally, soil samples will be collected from four depths (0 to 6 inches, 6 to 24 inches, 2 to 3 feet, and 3 to 4 feet bgs) from 11 locations identified as potential limits of excavation (Figure 2-1). The samples collected from 2 to 3 feet and 3 to 4 feet bgs will not be analyzed immediately; rather, they will be held at the analytical laboratory until the pending analysis of the 6- to 24-inch bgs sample. If the 6- to 24-inch bgs sample does not exceed the 0.1 mg/kg BEQ, then 6 inches will be the vertical limit of excavation. If the result from the 6- to 24-inch bgs sample exceeds 0.1 mg/kg BEQ, the next depth interval will be analyzed (2 to 3 feet, then 3 to 4 feet [as necessary]). If the vertical limit has not been reached once the 3- to 4-foot bgs sample has been analyzed, additional samples will be collected until the contamination is vertically bound at the Former Gunnery Area. Figure 2-6 presents the decision tree for PAH sampling.







Lastly, two samples will be collected from locations near GA-SB-C1 and GA-SB-J1 from 2 to 3 feet (Figure 2-1). These samples will be analyzed for leachability via SPLP. The BEQs will be calculated from the PAH parameters and the results will be compared to the maximum contaminant level (MCL) for benzo(a)pyrene of 0.2 µg/L. If the results are less than 0.2 µg/L, the limit of excavation will be 2 feet bgs. If the result is greater than 0.2 µg/L, additional samples will be collected until the contamination is bound at the Former Gunnery Area. Figure 2-7 presents the decision tree for PAH-SPLP sampling.

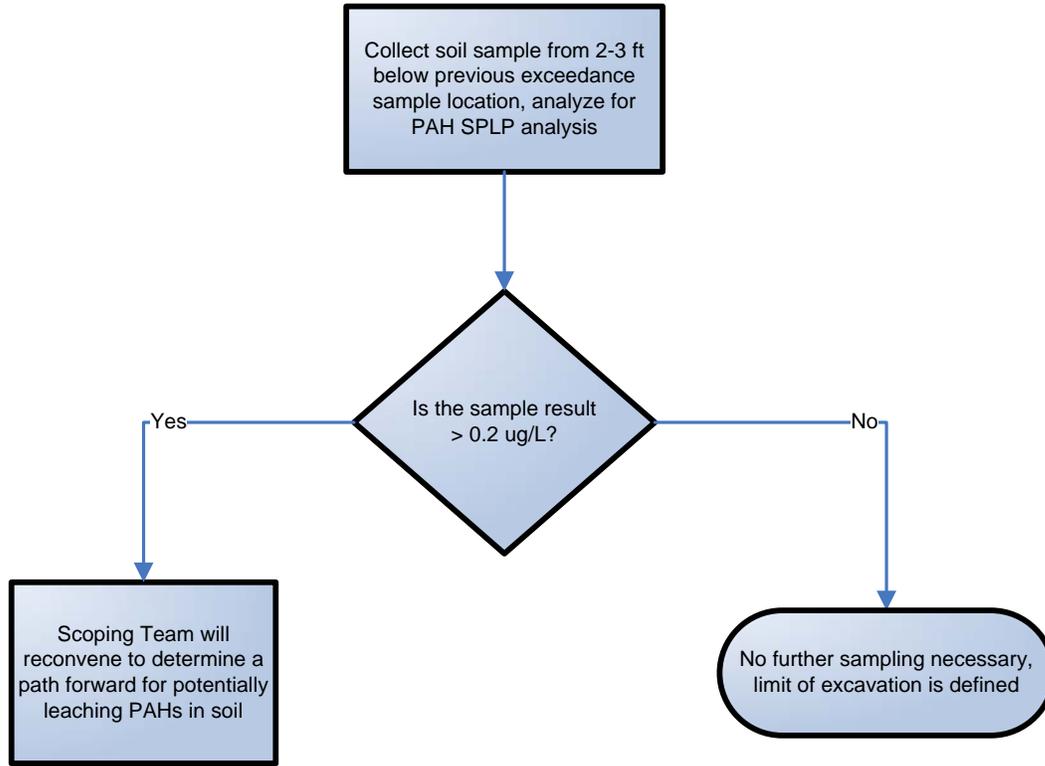
## Former Skeet Range

### *Lead*

The sampling grid developed during the previous SAP (TtNUS, 2010a) will be used during this supplemental soil sampling event. Samples will be collected from select grid nodes not previously sampled (Figure 2-2). From each of the 12 selected nodes, samples will be collected from 0 to 6 inches bgs and field-screened for lead using XRF. If the field screen result is greater than 200 mg/kg (half of the FDEP Direct Exposure Residential SCTL for lead, 400 mg/kg) then the sample will be submitted for laboratory analysis. A sample from 6 to 24 inches bgs at the same node will then be field-screened for lead using XRF. If the deeper sample exceeds 200 mg/kg, the deeper sample will also be sent for laboratory analysis. If the XRF field screen result for the 0- to 6-inch bgs sample is less than 200 mg/kg, a deeper sample will not be field-screened or sent for laboratory analysis. If none of the samples field-screened for lead exceed 200 mg/kg, a minimum of 20 percent of the number of samples field-screened will be sent for laboratory analysis. Any sample with a laboratory result exceeding 400 mg/kg will be identified for removal, and up to four additional samples will be collected and sent for laboratory analysis (one in each horizontal direction, north, south, east, and west) 20 feet from the original sample, in order to bound the contamination.

Additionally, four samples (one in each horizontal direction, north, south, east, and west) will be collected from 0 to 6 inches bgs, 20 feet from former TtNUS sample SR-SB-F5 to bound the contamination (Figure 2-2). The samples will be field-screened using an XRF. If the result from the 0- to 6-inch bgs sample exceeds the field-screen level of 200 mg/kg, up to three additional samples will be collected (one 20 feet in each direction away from the original sample), at a depth of 0 to 6 inches bgs. Samples will also be collected from 6 to 24 inches bgs beneath any field-screen sample that exceeds 200 mg/kg. Samples exceeding the field-screen criterion of 200 mg/kg will be submitted to the laboratory for analysis. If any of the samples collected have results exceeding 400 mg/kg at these second step-out locations, additional samples will be collected until the contamination is bound at the Former Skeet Range.

Also at SR-SB-F5, where previous SPLP results indicated an exceedance of the FDEP MCL of 15 µg/L for lead, samples will be collected from 6 to 8 feet and 8 to 10 feet bgs (Figure 2-2). Both samples will be analyzed for total lead to determine if lead is above the EPA Regional Screening Level for the Protection of Groundwater of 14 mg/kg. Figure 2-3 presents the decision tree for lead sampling.



### ***Arsenic***

At former sample location SR-SB-A0, one sample will be collected from 6 to 24 inches bgs to determine the vertical extent of arsenic contamination (Figure 2-2). In addition, four samples (two locations) will be collected 20 feet west and south from SR-SB-A0, from 0 to 6 inches and 6 to 24 inches bgs to determine the limits of excavation for arsenic (Figure 2-2). The scoping session team agreed that any arsenic to the east and north of SR-SB-A0 will be addressed as part of the PAH-contaminated soil removal action. If any of the samples exceed the background level of 3.2 mg/kg, additional samples will be collected until the contamination is bound at the Former Skeet Range. Figure 2-4 presents the decision tree for arsenic sampling.

### ***Antimony***

At SR-SB-F5, where previous results indicated an exceedance of the FDEP LGW screening level of 5.4 mg/kg for antimony (and thus also exceeded the EPA Regional Screening Level of 0.27 mg/kg), a sample will be collected from 2 to 3 feet and 3 to 4 feet bgs (Figure 2-2). The sample collected from 2 to 3 feet bgs will be analyzed for total antimony; if the 2- to 3-feet bgs sample does not exceed the EPA Regional Screening Level of 0.27 mg/kg (lower screening level than FDEP), then 2 feet bgs will be identified as the vertical limit of excavation. If the result from the 2- to 3-feet bgs sample exceeds 0.27 mg/kg, the 3- to 4-feet bgs sample will then be analyzed. If the result from the 3- to 4-feet bgs sample is below 0.27 mg/kg, then 3 feet bgs will be identified as the vertical limit of excavation. If the result of the 3- to 4-feet bgs sample exceeds 0.27 mg/kg, additional samples will be collected until the contamination is bound at the Former Skeet Range. Figure 2-5 presents the decision tree for antimony sampling.

### ***PAHs***

The scoping session team agreed that the PAH-contaminated soil will be excavated; the limits of excavation will be determined by additional sample collection. Samples will be collected from 2 to 3 feet bgs and 3 to 4 feet bgs from three previously sampled locations (SR-SB-C1, SR-SB-J1, and between SR-SB-E1 and SR-SB-G1) (Figure 2-2), where soil collected from 6 to 24 inches bgs exceeded the FDEP Direct Exposure Residential SCTL of 0.1 mg/kg (BEQ), in order to determine the vertical extent of contamination. If the result of the sample collected from 2 to 3 feet is below 0.1 mg/kg, then the limit of excavation will be 2 feet bgs. If the result of the sample collected from 2 to 3 feet bgs exceeds 0.1 mg/kg, the sample collected from 3 to 4 feet bgs will be analyzed. If the result of the sample collected from 3 to 4 feet bgs is below 0.1 mg/kg, then the limit of excavation will be 3 feet. If the result of the sample collected from 3 to 4 feet bgs exceeds 0.1 mg/kg, additional samples will be collected until the contamination is bound at the Former Skeet Range. These samples will also be analyzed for leachability via SPLP. The BEQs will be calculated from the PAH parameters and the results will be compared to the MCL for benzo(a)pyrene of 0.2 µg/L. If the results are less than 0.2 µg/L, the limit of excavation will be 2 feet bgs. If the result is greater than 0.2 µg/L, additional samples will be collected until the contamination is bound at the Former Skeet Range. Figure 2-6 presents the decision tree for total PAH sampling. Figure 2-7 presents the decision tree for PAH-SPLP sampling. Since groundwater is deeper than 100 ft bgs in this area, leaching is not a concern for the site, making this a conservatively protective investigation.

Additionally, soil samples will be collected from four depths (0 to 6 inches, 6 to 24 inches, 2 to 3 feet, and 3 to 4 feet bgs) from 10 locations identified as potential limits of excavation (Figure 2-2). The samples collected from 2 to 3 feet and 3 to 4 feet bgs will not be analyzed immediately; rather, the analysis of these samples will be dependent on the result of the sample collected from 6 to 24 inches bgs, following the same rationale as previously stated for the vertical extent sampling strategy. Figure 2-6 presents the decision tree for PAH sampling.

## 2.4 Site Restoration

Following soil sampling, the soil will be placed back in the respective boreholes and restored to preexisting or surrounding conditions.

## 2.5 Global Positioning System Sample Locations

Soil sampling locations will be marked using a portable Global Positioning System (GPS) device with submeter accuracy. Horizontal controls for graphic and non-graphic information are Mercator Projection, GRS 80, State Plane Coordinate System, North American Datum 1983, Lambert Zones 1 through 6 (or appropriate zone for the region to be mapped). Vertical controls are Mean Sea Level, North American Vertical Datum, 1988.

## 2.6 Decontamination

To avoid contamination, all decontaminated materials will be handled only with new, unused nitrile or latex gloves. Personnel and equipment will be properly decontaminated to remove all contamination that may be adhering to them because of soil sampling activities. Any water accumulated during the decontamination process will be containerized in 55-gallon drums or portable tanks sampled, managed, transported, and disposed of in accordance with Section 3.0 Waste Management Plan of this Work Plan. Decontamination of personnel and equipment will be performed in accordance with the site-specific Accident Prevention Plan (APP) provided in Appendix A, Standard Operating Procedure (SOP) 008 of the UFP-SAP, and the applicable provisions of 29 Code of Federal Regulations (CFR) 1910.120. All non-disposable sampling equipment will be decontaminated before use and immediately after each use in accordance with applicable SOPs referenced in Worksheet #21 of the UFP-SAP.

## 2.7 Waste Management

The investigative derived waste (IDW) will be properly containerized, labeled, and stored at a central secured location pending analysis by AGVIQ-CH2M HILL. AGVIQ-CH2M HILL will furnish and stage all drums on wooden pallets at a central location. Waste samples will be collected at the frequency of 1 sample per 10 drums (per waste stream) and sent to the analytical laboratory. It is assumed that only liquid wastes will be generated during this investigation. Liquid waste samples will be analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) by SW 846-8260B, TCL semivolatile organic compounds (SVOCs) by SW846-8270D, TCL pesticides by SW-846 8081B, herbicides by SW846-8151A, PCBs by SW-846 8082A, Target Analyte List (TAL) metals by SW-846 Methods 6010C/

7470A, corrosivity (pH) by SW 846-9040C, and ignitability by SW 846-1010A. A waste profile will be created from these data and will be used for transport and disposal purposes.

## 2.8 Demobilization

Personnel and equipment will be removed from the site during demobilization. In addition, any debris or solid waste material remaining from sampling activities will be removed and properly disposed of offsite in accordance with Section 3.0 Waste Management Plan of this Work Plan.

## 2.9 EE/CA

An EE/CA report will be prepared summarizing the execution of site activities, including the sample locations and laboratory soil concentrations, described in this Work Plan. The data provided will be used to define vertical and horizontal limits of lead, arsenic, antimony, and PAH contamination.

## 2.10 Project Schedule

The primary project activities and estimated duration for each are outlined below. Field work, which will begin following approval of this Work Plan and UFP-SAP, is tentatively scheduled to begin October 2012.

Activities	Dates	
	Anticipated Date(s) of Initiation	Anticipated Date of Completion
Subcontractor/Field Work Preparation	October 2012	October 2012
Field Sampling	October 2012	November 2012
Laboratory Analysis	October 2012	November 2012
Data Management	November 2012	January 2013
Data Validation and Usability Assessment	November 2012	December 2012
Report Generation	November 2012	January 2013

AGVIQ-CH2M HILL anticipates fieldwork to begin in October 2012 with completion of the EE/CA in January 2013. This proposed schedule may vary, depending on the actual conditions encountered in the field and the time associated with approval of the UFP-SAP.

## 2.11 Traffic Control Plan

Traffic control will be the responsibility of the AGVIQ-CH2M HILL Field Team Leader. AGVIQ-CH2M HILL will minimize disturbance to NAS Whiting Field traffic patterns during project activities. AGVIQ-CH2M HILL will consult with onsite personnel to evaluate site access, placement of equipment, and traffic flow to minimize the impact of this work to NAS Whiting Field.

# 3.0 Waste Management Plan

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The scope of this waste management plan addresses the management and disposal requirements for wastes generated during soil sampling activities at the Former Gunnery Area and Former Skeet Range located at NAS Whiting Field, Milton, Florida. The following wastes are anticipated to be generated during these activities:

- Soil cuttings from the soil borings will be replaced into the boring.
- Contaminated debris includes but is not limited to materials used in spill prevention and decontamination (e.g., plastic sheeting, sorbent materials, sampling materials, and personal protective clothing).
- Water from decontamination activities.

## 3.1 Waste Characterization

Wastes will be characterized according to Section 2.7 of this Work Plan. Waste characterization information typically will be included on a waste profile form provided by the offsite facility. Wastes from this activity are assumed to be non-hazardous. AGVIQ-CH2M HILL will provide analytical data from characterization sampling and analysis. However, in some cases, facilities that are permitted to accept a specific waste material may require specific or additional analyses to evaluate the waste stream before acceptance.

Waste characterization information will be documented on a waste profile form provided by the offsite treatment or disposal facility as part of the waste acceptance process. The profile will be reviewed and approved by the AGVIQ-CH2M HILL Waste Coordinator prior to submission to the Navy for generator signature. Navy personnel will provide generator certification and/or signature wherever required. The signed profile will then be submitted to the disposal facility for acceptance approval.

The profile typically requires information including but not limited to the following:

- Generator (Navy) information including name, address, contact, and phone number
- Site name including street/ mailing address
- Process generating waste
- Source of contamination
- Historical use for area
- Waste composition (e.g., 95 percent soil, 5 percent debris)
- Physical state of waste (e.g., solid, liquid)
- Hazardous waste codes, if applicable

A facility-approved copy of the waste profile will be received prior to scheduling offsite transportation of the waste.

## 3.2 Waste Management

### 3.2.1 Waste Storage Time Limit

Hazardous wastes are not expected during this project, but if encountered will be removed from the site within 90 days from generation. Other wastes will be removed from the site as soon as possible.

### 3.2.2 Labels

The labeling of waste containers will be in accordance with 49 CFR 172, 173, and 178. Labels will include the type of waste, location from which the waste was generated, and accumulation start date. Containers and tanks used to store/accumulate waste (including decontamination water) will include one of the following labels:

- “Analysis Pending” or “Waste Material” - Temporary or handwritten label to be used until analytical results are received and reviewed. This label will include the accumulation start date.
- “Hazardous Waste” - Pre-printed hazardous waste labels with the following information:
  - Accumulation start date
  - Generator name
  - EPA identification (ID) number
  - Waste codes
  - Manifest number to be added prior to transport (for containers of less than 110-gallon capacity)
- “Non-Hazardous Waste” - Preprinted labels with the following information:
  - Accumulation start date
  - Generator name
  - EPA ID number
  - Waste-specific information (e.g., contaminated soil)

Where applicable, the major hazards (e.g., flammable, oxidizer, and carcinogen) will be included on the label.

### 3.2.3 General Waste Management Requirements

Wastes will be accumulated in an area identified or approved by the Navy. If no area is designated, wastes will be accumulated in an area that is inaccessible to the public and that can be secured. Wastes of the same matrix, contamination, and source may be aggregated to facilitate storage and disposal.

Temporary waste accumulation areas will contain appropriate emergency response equipment. The APP (Appendix A) identifies the specific emergency response procedures and equipment. Hazardous waste accumulation areas will include fire extinguishers (in areas where wastes are known or suspected to be flammable or ignitable), decontamination equipment, and an alarm system (if radio equipment is not available to all staff working in accumulation area). Spill control equipment (e.g., sorbent pads) will be available in the

waste accumulation areas and in areas where liquids are transferred from one vessel to another.

All containers, drums, and tanks will be inspected upon arrival at the site to identify any equipment in disrepair and any contamination of contents. If upon arrival, the container holds waste or is in disrepair, it will be immediately rejected and documented.

### Drums/Small Containers

The following guidelines relate to drums and small containers:

- Drums and small containers will be transported to the temporary accumulation areas on wood pallets and secured together with non-metallic banding.
- Drums will be inspected and inventoried upon arrival onsite for signs of contamination and/or deterioration.
- Adequate aisle space (e.g., 30 inches) will be provided for containers such as 55-gallon drums to allow the unobstructed movement of personnel and equipment. A row of drums should be no more than two drums wide.
- Each drum will be provided with its own label, and labels will be visible.
- Drums will remain covered except when removing or adding waste to the drum. Covers will be properly secured at the end of each workday.
- Drums will be disposed of with the contents. If the contents are removed from the drums for offsite transportation and treatment or disposal, the drums will be decontaminated prior to reuse or before leaving the site.
- Drums containing liquids or hazardous wastes will be provided with secondary containment.

### Inspection of Waste Storage Areas

Waste accumulation areas will be inspected for malfunctions, deterioration, discharges, and leaks that could result in a release. The inspection schedule will be followed as below:

- At a minimum, weekly inspection of containers, tanks, and roll-off containers will be conducted for leaks, signs of corrosion, or signs of general deterioration). Any deficiencies observed or noted during inspection will be rectified immediately. Appropriate measures may include transfer of waste from a leaking container to a new container, replacement of liner or cover, or repair of containment berm.
- Inspections will be recorded in the daily Quality Control Report (Appendix B), to list any deficiencies and denote how the issue was rectified. Copies of the report will be maintained onsite and available for review.
- If operations will be suspended for more than 7 days, the Regulatory Compliance Manager will be contacted and alternate inspection arrangements will be made. Prior to demobilization, all hazardous wastes will be removed from the site.

### 3.3 Shipping Documentation

Prior to offsite disposal of any waste, a waste approval package will be provided to the Navy for each waste stream. This package will include a waste profile naming the U.S. Navy as the generator of the waste, analytical summary table(s) applicable to the waste, land disposal restriction (LDR) notification for any hazardous wastes, a completed waste manifest, and any other applicable information necessary for the Navy to complete its review of the disposal package and its signature as the generator. The signed profile will then be submitted to the disposal facility for approval. Once the approval letter is received from the disposal facility, transportation can be scheduled.

Each load of waste material will be manifested prior to leaving the site. At a minimum, the manifest form will include the following information:

- Generator information including name, address, contact, phone number, and EPA ID number
- Transporter information including name, address, contact, phone number, and EPA ID number
- Facility information including name, address, phone number, and EPA ID number
- Site name including street/ mailing address
- U.S. Department of Transportation (DOT) Proper Shipping Name (e.g., Hazardous Waste Solid, n.o.s., 9, UN 3077, PG III (D008))
- Type and number of container
- Quantity of waste (volumetric estimate)
- TO or job number
- Profile number
- 24-hour emergency phone number

Additionally, each shipment of waste will include a haul/weight ticket. An LDR Notification/Certification is also required for hazardous wastes. This form also requires generator signature and submission of signature to the disposal facility.

The generator (Navy) and the transporter must sign the manifest prior to the waste leaving the site. A copy of the manifest will be retained onsite and included with the daily Quality Control Report. The original signed manifest will be returned to the address of the generator. The facility will provide a copy of this signed manifest to AGVIQ-CH2M HILL for the final report, which will include copies of the facility signed manifest, weight ticket, LDR (if applicable), and the Certificate of Disposal/Destruction/Recycle.

## 3.4 Transportation

Trucks and containers used to transport contaminated waste offsite will be inspected for signs of deterioration and contamination *prior* to loading. Any truck or container that holds contents/residues or that is in poor condition will be rejected.

Each transportation vehicle and load of waste will be inspected and documented before leaving the site. The quantities of waste leaving the site will be documented, at a minimum on the Transportation and Disposal (T&D) Log (Appendix B). A contractor licensed for commercial transportation will haul the non-hazardous wastes. In the event that wastes are hazardous, the transporter will possess an EPA Identification number and will comply with transportation requirements outlined in 49 CFR 171-179 (DOT) and 40 CFR 263.11 and 263.31 (Hazardous Waste Transportation). A copy of the documentation indicating that the selected transporter has appropriate licenses will be received and approved by AGVIQ-CH2M HILL prior to transport of any waste.

### 3.4.1 Transporter Responsibilities

The transporter will be responsible for weighing loads at a certified scale. For each load of material, weight measurements will be obtained for each full and empty container, dump truck, or tanker truck. Disposal quantities will be based on the difference of weight measurements between the full and empty container, dump truck, or tanker truck. Weights will be recorded on the waste manifest. The transporter will provide copies of weight tickets to AGVIQ-CH2M HILL.

The transporter will observe the following practices when hauling and transporting wastes offsite:

- Minimize impacts to public traffic.
- Clean up waste spilled in transit.
- To prevent releases of contamination, line and cover trucks/trailers used for hauling contaminated waste.
- In addition to hauling contaminated waste, decontaminate vehicles prior to reuse.
- Seal trucks that transport liquids.

All personnel involved in offsite disposal activities will follow safety and spill response procedures outlined in the APP (Appendix A).

No materials from other projects will be combined with materials from NAS Whiting Field.

## 3.5 Disposal

Offsite treatment, recycling, or disposal facilities will use the waste profile and supporting documentation, such as analytical results, to verify whether the facility will accept a waste. The treatment, recycling, or disposal facility will be responsible for providing a copy of the final waste manifest and for a certificate of treatment or disposal for each load of waste received. Wastes are expected to be disposed of as follows:

- Non-hazardous wastes will be disposed of in a facility permitted to accept the types and quantities of contamination (for example, Subtitle D landfills) that has been approved under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Off-site Rule (40 CFR 300.440).

### **3.5.1 Transportation and Disposal Log**

The T&D Log is used to track waste from generation to final disposition. Wastes will be logged into the T&D Log the day the waste is generated and placed into containers. Transportation of wastes will be inventoried the day of transportation from the site using the T&D Log. Final disposal will be documented on the T&D Log using the Certificate of Disposal. A copy of the T&D Log is provided in Appendix B.

# 4.0 Environmental Protection Plan

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The Environmental Protection Plan addresses general procedures that will be implemented to prevent pollution and protect the environment. The purpose of this plan is to provide specific requirements/procedures to protect the environment during soil sampling at the Former Gunnery Area and Former Skeet Range located at NAS Whiting Field, Milton, Florida.

## 4.1 Regulatory Drivers

The work activities for the MRP UXO-0001 Soil Removal, including investigation activities and preparation of the EE/CA, will be performed under the authority of CERCLA and the Superfund Amendments and Reauthorization Act (SARA), and in a manner consistent with federal and state environmental requirements.

The cleanup levels for chemicals of concern (COCs) in soil are based either on the FDEP Direct Exposure Residential SCTLs and LGW SCTLs from Chapter 62-777 Florida Administrative Code (FAC; FDEP, 2005) or the EPA Regional Screening Levels (EPA, 2012), whichever is lower. SPLP data for PAHs will be compared to the MCL from Chapter 62-550 FAC (FDEP, 2010). All three metals also occur naturally in background soils; therefore they are considered contaminants only at levels above background levels. Data generated from soil samples analyzed at the laboratory will be screened against the PALs listed in Table 4-1.

TABLE 4-1  
Project Action Levels

COC	PAL	PAL reference
PAHs – total	0.1 mg/kg	FDEP residential SCTL (BEQ)
PAHs – SPLP	0.2 ug/L	FDEP MCL (BEQ)
Lead	400 mg/kg	FDEP Direct Exposure Residential SCTL
Arsenic	3.2 mg/kg	Background
Antimony	0.27 mg/kg	EPA LGW RSL

BEQ = benzo(a)pyrene equivalent  
 COC = chemical of concern  
 FDEP = Florida Department of Environmental Protection  
 LGW = Leachability to Groundwater  
 ug/L = micrograms per liter  
 mg/kg = milligrams per kilogram  
 PAH = polycyclic aromatic hydrocarbon  
 PAL = Project Action Level  
 RSL = Regional Screening Level  
 SPLP = Synthetic Precipitation Leachate Procedure

## 4.2 Protection of Air Resources

Sampling activities will be maintained under surveillance, management, and control to minimize the discharge of any air pollutants. The following general practices will be implemented to protect air resources:

- Travel speeds over unpaved areas will be limited to reduce dust levels.
- Equipment will be operated in a manner that will minimize airborne particulates whenever possible.

## 4.3 Protection of Water Resources

The primary water resource concern during sampling activities is the control of stormwater run-on and runoff. Other water resource issues such as discharges to a waterway or streambed are also a concern and will be discussed as needed with the AGVIQ-CH2M HILL Environmental Compliance Manager.

## 4.4 Protection of Land Resources

Land resources (e.g., trees and shrubs) will be preserved in their present condition or restored as near as possible to their natural appearance. No ropes, cables, or guy lines will be fastened to or attached to any existing trees for anchorage unless specifically authorized by the Navy. Where trees may be defaced, bruised, injured, or otherwise damaged by equipment or sampling operations – boards, planks, or poles may be placed around them for protection.

## 4.5 Erosion Control

During sampling activities, disturbance is fairly insignificant to the general topography of the land in which erosion control measures will be needed. Sampling activities will be conducted in the smallest practical area to be disturbed.

## 4.6 Protection of Fish and Wildlife

Sampling operations will be managed in a manner intended to minimize interference with fish and/or wildlife habitat. Sampling operations will be monitored and reorganized as necessary to prevent negative effects to identifiable wildlife activity.

## 4.7 Chemical Inventory Control

AGVIQ-CH2M HILL will maintain an inventory of chemicals and hazardous materials brought onsite.

The Site Health and Safety Coordinator will request Material Safety Data Sheets (MSDSs) from the subcontractors and the vendors for chemicals delivered to the site by AGVIQ-CH2M HILL and its subcontractors.

The Site Health and Safety Coordinator will perform the following activities:

- Train employees on required site-specific hazard communication (HAZCOM).
- Confirm that the inventory of chemicals brought on site by subcontractors is available.
- Obtain an MSDS for each hazardous chemical before or as the chemicals arrive on the site.
- Label chemical containers with the identity of the chemical and with hazard warnings, if applicable.

The volume of chemicals and hazardous materials used will be tracked and documented in the daily Quality Control Report or Contractor Production Report.

More detailed procedures for chemical and hazardous material inventory and control are provided in the APP in Appendix A.

## 4.8 Spill Prevention and Control

The provisions for spill prevention and control establish minimum site requirements. Refer to the APP (Appendix A) for emergency response procedures and further reporting requirements.

In the event of a "release" of any potentially hazardous waste, chemical, or material, AGVIQ-CH2M HILL will report the occurrence to the Contracting Officer or the designated representative as indicated in the APP. The definition of a release includes any "spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposal into the environment (including the abandonment or discarding of barrels, containers, and other closed containers)" of any potentially hazardous chemical, substance, and/or material. The APP identifies the hazardous chemicals and materials anticipated to be used in work at NAS Whiting Field. The AGVIQ-CH2M HILL Regulatory Compliance Manager will be contacted for questions in regard to other chemicals and/or materials.

## 4.9 Spill Prevention

All fuel, chemical, and waste storage areas will be properly protected from onsite and offsite vehicle traffic. All tanks (including fuel storage and waste storage) must be equipped with secondary containment. These tanks must be inspected daily for signs of leaks. Accumulated water must be inspected for signs of contamination (e.g., product sheen, discoloration, and odor) before being discarded. Fire protection provisions outlined in the APP (Appendix A) must be followed.

Chemical products must be properly stored, transferred, and used. If chemical product use occurs outside of areas equipped with spill control materials, adequate spill control materials must be maintained at the local work area.

## 4.10 Spill Containment and Control

Spill control materials will be maintained in the support zone and at waste storage areas. Incidental spills will be contained with sorbent and will be properly disposed of.

Spilled materials must be immediately contained and controlled. Spill response procedures include the following:

- Immediately warn any nearby workers and notify site superintendent.
- Assess the spill area to ensure whether it is safe to respond.
- Evacuate area if spill presents an emergency.
- Ensure any nearby ignition sources are immediately eliminated.
- Stop source of spill.
- Establish site control for spill area.
- Contain and control spilled material through use of sorbent booms, pads, or other material.
- Use proper personal protective equipment (PPE) in responding to spills.

## **4.11 Spill Cleanup and Removal**

All spilled material, contaminated sorbent, and contaminated media will be cleaned up and removed as soon as possible. Contaminated spill material will be drummed, labeled, and properly stored until the material is disposed of. Contaminated spill material will be managed as waste (see Section 3.0 Waste Management Plan) and disposed of according to applicable federal, state, and local requirements.

# 5.0 Quality Control Plan

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This Quality Control Plan identifies the quality administrators, the project organization for the work to be completed under TO JM35, and the definable features of work (DFOWs) for the project.

The Submittal Register, included in Appendix B of this Work Plan, documents submittals in for this project. AGVIQ-CH2M HILL, the Navy, or others will approve submittals as identified in the Submittal Register. All approved submittals will be distributed by AGVIQ-CH2M HILL to the appropriate Navy personnel (Contracting Officer [CO], Facility Engineering and Acquisition Division [FEAD], etc.), the project site, and to the project file.

The program-specific project organization chart (Figure 5-1) depicts the chain of command for this TO and the individuals responsible for executing the work as indicated. Individual roles and responsibilities of TO personnel are summarized in the UFP-SAP and presented in Table 5-1.

## 5.1 Project QC Manager

Mr. John Towns will serve as the Project QC Manager. A Project QC Manager Appointing Letter for this TO is attached in Appendix B.

## 5.2 Testing Requirements

The project activities will include field and laboratory testing of soil. The field measurements (UFP-SAP) will be conducted in accordance with QC requirements specified in FDEP Standard Operating Procedures, FDEP DEP-SOP-001/01 (FDEP, 2008), and in EPA Region 4 Field Branches *Quality System and Technical Procedures* (EPA, 2007). The more stringent of the two documents will apply. The Testing Plan and Log to track sample collection is included in Appendix B.

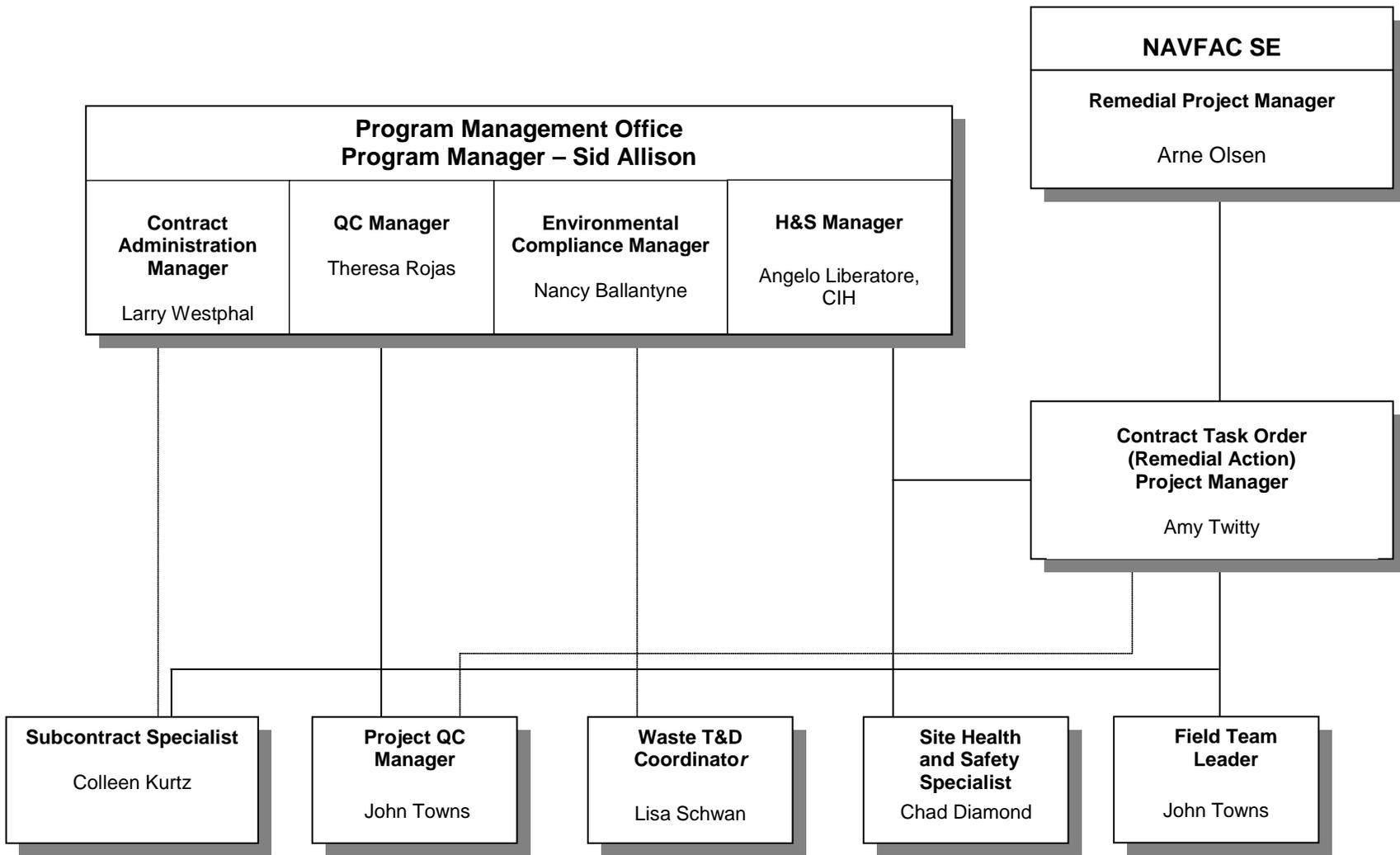


FIGURE 5-1  
Organization Chart

TABLE 5-1  
Roles, Responsibilities, and Authorities of Key Project Personnel

<b>Role</b>	<b>Responsibility</b>	<b>Authority</b>
Project Manager	<ul style="list-style-type: none"> <li>Management and Technical Direction of work</li> <li>Communicate with NAVFAC SE Remedial Project Manager (RPM) and Technical Representative (NTR)</li> <li>Oversee subcontractor performance</li> <li>Select TO staff</li> <li>Develop TO Work Plan and supporting plans</li> <li>Meet TO Performance Objectives</li> <li>Prepare status reports</li> <li>Prepare Field Change Requests</li> </ul>	<ul style="list-style-type: none"> <li>Approve subcontractor selection</li> <li>Approve invoices to NAVFAC SE</li> <li>Approve TO baseline schedule</li> <li>Stop work at the site for any reason</li> <li>Approve payment to vendors and suppliers</li> <li>Approve payment to subcontractors</li> <li>Review technical qualifications of subcontractors</li> <li>Respond to Design Change Notices</li> </ul>
Site Field Team Lead	<ul style="list-style-type: none"> <li>Accept responsibility for all site activities</li> <li>Provide direction to subcontractors</li> <li>Act for Project Manager</li> <li>Provide daily status reports</li> <li>Prepare TO Work Plan</li> <li>Conduct daily safety meetings</li> <li>Review subcontractor qualifications</li> <li>Stop work for unsafe conditions or practices</li> </ul>	<ul style="list-style-type: none"> <li>Stop work for subcontractors</li> <li>Approve corrective action for site work-arounds</li> <li>Approve materials and labor costs for site operations</li> <li>Resolve subcontractor interface issues</li> <li>Approve daily and weekly status reports</li> </ul>
Project QC Manager	<ul style="list-style-type: none"> <li>Monitor and oversee subcontractor compliance with scope of work</li> <li>Review requests for changes in scope of work</li> <li>Recommend improvements in work techniques or metrics</li> <li>Recommend work-around to Site Superintendent</li> <li>Monitor and report on subcontractor quality and quantities</li> <li>Audit subcontractors offsite fabrication</li> <li>Maintain Submittal Register</li> <li>Participate in Incident-Free Operations conference call</li> </ul>	<ul style="list-style-type: none"> <li>Complete daily compliance report</li> <li>Monitor and report on subcontractor quality and quantities</li> <li>Audit subcontractors offsite fabrication</li> <li>Maintain Submittal Register</li> <li>Stop work for non-compliant operations</li> <li>Maintain Rework Items list</li> <li>Stop work for non-compliant operations</li> </ul>
Site Health and Safety Specialist	<ul style="list-style-type: none"> <li>Monitor and report on subcontractor safety and health performance</li> <li>Record and report safety statistics</li> <li>Conduct needed site safety and health orientation</li> <li>Stop work for unsafe practices or conditions</li> </ul>	<ul style="list-style-type: none"> <li>Stop work for unsafe practices or conditions</li> <li>Approve subcontractor site-specific accident prevention plan</li> <li>Set weekly safety objectives</li> <li>Approve resumption of work for resolved safety issues</li> </ul>
Subcontract Specialist	<ul style="list-style-type: none"> <li>Prepare bid packages</li> <li>Purchase disposable materials</li> <li>Maintain subcontract log</li> <li>Approve payables for disposable items</li> <li>Maintain government property records</li> </ul>	<ul style="list-style-type: none"> <li>Coordinate project scheduling</li> <li>Accept responsibility for site cost tracking and reporting</li> <li>Maintain record of site purchases</li> </ul>

## 5.2.1 Environmental

A laboratory approved by the Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP) accredited, and certified in the State of Florida will be used for all sample analyses.

## 5.3 Soil Investigation

The soil investigation activities at NAS Whiting Field will be performed in accordance with the three phases of control while performing the work. The activities included in this Work Plan are mobilization and site preparation, soil sampling, waste sampling, waste management, and demobilization. The tasks associated with the definable work items are described below.

### 5.3.1 Mobilization/Site Preparation

As part of the mobilization activity, a pre-sampling meeting will be held to review the preparedness to begin the project and the procedures and schedule to complete the project. The preparedness check or Preparatory Phase Report (Appendix B) will verify that the approvals and subcontractors are in place for the planned sampling activities and that the materials and equipment mobilized to the field have been inspected, are in conformance with the project specifications, and are in good working condition to commence the work.

#### QC Procedures for Mobilization/Site Preparation

Task	Procedures/ Details
Pre-Sampling Meeting	<ul style="list-style-type: none"><li>• Verify utility clearance from the Sunshine State One Call of Florida, and a third-party utility locale</li><li>• Verify schedule with subcontractors and verify rental materials to be used for the investigation</li></ul>
Site Walk	<ul style="list-style-type: none"><li>• Verify sample locations and feasibility of sampling at the specified locations.</li><li>• Verify utility location and markings.</li><li>• Verify site layout plan.</li><li>• Verify Environmental Conditions Report.</li></ul>
Pre-Investigation Submittals	<ul style="list-style-type: none"><li>• Subcontractor plans and specifications</li><li>• Subcontractor personnel qualification and certifications</li></ul>

### 5.3.2 Soil Sampling

Soil samples will be collected. Environmental samples will be collected in accordance with EPA and FDEP SOPs as described in Worksheet #21 in the UFP-SAP. Other controls will include but are not limited to maintaining a chain of custody; proper handling, packing, and shipping; sampling performed by qualified persons; and the use of certified laboratories.

#### Preparatory Phase

The preparatory phase for sample collection activities includes a review of the relevant Activity Hazard Analyses (AHAs), a review of sampling procedures provided in the UFP-SAP, verifying acceptance of the selected laboratory, and confirming the appropriate equipment and materials are available to perform the sampling activities. The user manual for the XRF analyzer should be reviewed and all sampling equipment inspected.

## Initial Phase

Soil samples will be collected, lead samples initially screened using an XRF, and subsequently analyzed at an approved laboratory in accordance with methods outlined in the UFP-SAP. Sample collection activities, including proper chain-of-custody documentation, will follow the protocols outlined in the UFP-SAP. Contractor Production and Contractor Quality Control Reports (Appendix B) will be completed on a daily basis for submittal to the Remedial Project Manager.

## Follow-up Phase

The Project QC Manager will observe sample collection activities and will maintain the associated documentation records throughout each sampling event. XRF screening forms and analytical reports from the approved laboratory will be reviewed for accuracy and quality. If required, data validation information from the laboratory will be reviewed to resolve discrepancies in the analytical data. AGVIQ-CH2M HILL Quality Assurance (QA) personnel will validate laboratory data and field sampling results. A Monthly Summary Report of Field Tests (Appendix B) will be completed and returned to the Project Manager once the Follow-up Phase is complete.

### QC Procedures for Field Sampling

Task	Procedures/ Details
Field Sampling	<ul style="list-style-type: none"><li>• Verify laboratory and credentials</li><li>• Verify appropriate sampling equipment</li><li>• Verify equipment decontamination</li><li>• Verify that the appropriate facilities and testing equipment are available and comply with testing standards</li><li>• Verify that the field instruments are calibrated in accordance with manufacturers' recommendations</li><li>• Verify that recording forms, including all test documentation requirements, have been prepared and are accurate and complete</li></ul>

### 5.3.3 Waste Sampling

AGVIQ-CH2M HILL will collect representative samples of generated wastes and ship them to the offsite laboratory for analyses. The sampling will be conducted for waste characterization purposes. Sample collection and documentation will follow protocols included in the sampling and analysis section of this Work Plan. Environmental samples will be collected in accordance with EPA and FDEP methods and procedures. Other controls will include but are not limited to maintaining a chain of custody; proper handling, packing, and shipping; and the use of a certified offsite laboratory.

### Preparatory Phase

The preparatory phase for sample collection activities includes a review of the sampling procedures provided in the SAP, verifying acceptance of the selected laboratory for offsite sample testing, and confirming that the appropriate equipment and materials are available to complete the sampling activities. An AGVIQ-CH2M HILL Project Chemist will schedule and coordinate data management with the offsite laboratory project manager and the AGVIQ-CH2M HILL QA group.

## Initial Phase

Samples will be collected and subsequently analyzed at an approved laboratory in accordance with methods outlined in the UFP-SAP. Sample collection activities including proper chain-of-custody documentation will follow the protocols outlined in the UFP-SAP. The Project QC Manager will observe the sampling activities to ensure that the protocols are correctly followed. Any deviations will be corrected and documented.

## Follow-up Phase

Sample collection locations and activities will be properly documented throughout the sampling event. Analytical reports from the approved laboratory will be reviewed for accuracy and completeness. If required, data quality and QA information from the laboratory will be reviewed to verify discrepancies in the analytical data. AGVIQ-CH2M HILL QA personnel will review and tabulate laboratory confirmation data and field sampling results. Environmental samples will be collected in accordance with EPA and FDEP methods and procedures.

### QC Procedures for Characterization Sampling

Task	Procedures/ Details
Characterization Sampling	<ul style="list-style-type: none"><li>• Perform waste characterization sampling in accordance with disposal facility requirements</li><li>• Verify laboratory and qualifications</li><li>• Verify appropriate sampling equipment</li></ul>

The quality controls applicable to the respective product recovery methods described in Section 2 of this Work Plan are outlined in the following subsections. The Project QC Manager and/or the field team leader will verify conformance with the field requirements.

## 5.3.4 Waste Management

Wastes will be characterized, managed, transported, and disposed of in accordance with the Waste Management Plan of this Work Plan.

### QC Procedures for Waste Disposal

Task	Procedures/ Details
Waste Disposal	<ul style="list-style-type: none"><li>• Verify waste profile completion (obtain Navy signature)</li><li>• Inspect waste transport vehicles and/or containers prior to acceptance to job site and before leaving job site</li><li>• Ensure fully executed waste manifests and weight tickets for waste shipments are obtained</li><li>• Transporter and Disposal facility certificates</li><li>• Waste storage area inspection, at least weekly</li></ul>

## 5.3.5 Demobilization

AGVIQ-CH2M HILL and its subcontractors will demobilize equipment and personnel from the site following completion of the work activities identified in this Work Plan. The Project QC Manager will verify that the objectives of associated sampling activities have been met.

## Preparatory Phase

The preparatory phase will include a review of decontamination procedures, the site-specific APP and relevant AHA forms, and the Waste Management Plan.

## Initial Phase

The Site Superintendent will conduct inspections to confirm that the objectives of the decontamination/ demobilization activities have been met and that the rework items, if any, have been completed to the satisfaction of AGVIQ-CH2M HILL and NAS Whiting Field.

## Follow-up Phase

The Project QC Manager will provide continuous oversight of demobilization to verify that the work is completed in accordance with the requirements provided in the Work Plan. Daily observation will verify compliance with the objectives of the Work Plan. Deficiencies will be noted and corrected.

### QC Procedures for Demobilization

Task	Procedures/ Details
Demobilization	<ul style="list-style-type: none"><li>• Perform pre-final site inspection</li><li>• Inspect work areas to ensure all equipment and materials are safely removed from the site</li><li>• Decontaminate equipment</li><li>• Conduct completion inspection when work is substantially complete</li><li>• Verify project housekeeping and final project cleaning</li><li>• Collate site records and documents</li><li>• Complete final reports and deliverables</li><li>• Conduct final site inspection</li><li>• Ensure orderly site demobilization</li></ul>

## 6.0 References

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Florida Department of Environmental Protection (FDEP). 2008. FDEP Standard Operating Procedures (SOPs) for Field Activities, DEP-SOP-001/01. March 31.

Malcolm Pirnie. 2005. Final Preliminary Assessment for the Former Gunnery Area, NAS Whiting Field and Skeet Range NAS Whiting Field at Naval Air Station Whiting Field, Florida, December.

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Tetra Tech NUS, Inc. (TtNUS). 2010b. Draft Site Inspection Report for Munitions Response Program Site Inspections at Small Arms Ranges Former Gunnery Area and Skeet Range, NAS Whiting Field. July.

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# Appendix A

## Accident Prevention Plan

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# Accident Prevention Plan

## Supplemental Site Inspection Soil Sampling Munitions Response UXO1 Former Gunnery Area and Former Skeet Range Farm

Naval Air Station Whiting Field  
Milton, Florida

Revision No. 00

Contract No. N62470-08-D-1006  
Task Order No. JM35

Submitted to:



Prepared by:



January 2012

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## Attachments

1	Site Specific Health and Safety Plan
2	APP and SSHSP Acknowledge Form
3	Subcontractor H&S Tracking Form
4	Project H&S Forms/Permits
5	Emergency Contact List
6	Material Safety Data Sheets
7	Chemical-Specific Training Form & Project-Specific Chemical Product Hazard Communication Form
8	Pre-Task Safety Plan (PTSP)
9	Loss Prevention Observation (LPO) Form
10	Incident Report Form (IRF) Loss/Near Loss Incident (L/NLI) Report Form Root Cause Analysis (RCA)
11	Qualifications of Key Site Personnel
12	Hurricane Preparedness Plan (RESERVED)

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# Acronyms and Abbreviations

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APP	Accident Prevention Plan
AGVIQ-CH2M HILL	AGVIQ-CH2M HILL Constructors, Inc. Joint Venture III
AHA	Activity Hazard Analysis
APP	Accident Prevention Plan
BBLPS	Behavior Based Loss Prevention System
BLS	United States Bureau of Labor Statistics
CBRNE	Chemical, Biological, Nuclear, Radiological, Explosive
CFR	Code of Federal Regulations
CIF	Controlled Industrial Facility
CIH	Certified Industrial Hygienist
COC	Chemicals of Concern
CPR	Cardiopulmonary Resuscitation
CRZ	Contamination Reduction Zone
CSIR	Contractor Significant Incident Report
DART	Days Away, Restriction, or Transfer
DEET	N, N-diethyl-meta-polyamide
DFOW	Definable Feature of Work
DFWP	Drug Free Workplace Program
DON	Department of the Navy
DOT	U.S. Department of Transportation
EMS	Emergency Medical Services
EPP	Environmental Protection Plan
ER	Emergency Response
ESC	Erosion and Sediment Control
EZ	Exclusion Zone
FA	first aid
ft	feet
FTL	Field Team Leader
GFCI	Ground Fault Circuit Interrupter
GDA	Government Designated Authority
GPR	Ground Penetrating Radar

H&S	Health and Safety
HS&E	Health, Safety, and Environment
HITS	Hours and Incident Tracking System
HPP	Hurricane Preparedness Plan
HR	heart rate
HSP	Health and Safety Program
HSPA	Health and Safety Program Administrator
IR	Incident Rate
IRF	Incident Report Form
kV	kilovolt
LLC	Limited Liability Company
LPO	Loss Prevention Observation
mg/m <sup>3</sup>	milligrams per cubic meter
MLLW	Mean Lower Low Water
MEC	Munitions and Explosives of Concern
MPPEH	Materials Potentially Presenting an Explosive Hazard
MSDS	Material Safety Data Sheet
NAICS	North American Industry Classification System
NASWF	Naval Air Station Whiting Field
NASBLA	National Association of Safe Boating Law Administrators
NOAA	National Oceanic and Atmospheric
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PACM	Presumed Asbestos Containing Material
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PEL	Permissible Exposure Limit (OSHA)
POC	Point of Contact
PPE	Personal Protective Equipment
ppm	Parts per million
PRGs	Preliminary Remedial Goals
PTSP	Pre-Task Safety Plan
QC	Quality Control Plan
RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Process
RPM	Remedial Project Manager

SAP	Sampling and Analysis Plan
SBRAC	Small Business Remedial Action Contract
SOH	Safety and Occupational Health
SOP	Standard Operating Procedure (CH2M HILL)
SPCCP	Spill prevention, control, and countermeasure plan
SSHO	Site Safety and Health Officer
SSHSP	Site Specific Health and Safety Plan
SWO	Stop Work Order
SZ	Support Zone
TO	Task Order
TSCA	Toxic Substances Control Act
USCG	United States Coast Guard
WMP	Waste Management Plan
WP	Work Plan

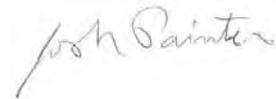
# 1.0 Signature Sheet

---

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Date: December 14, 2011

Signature:



**Josh Painter, CSP**

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Date: January 6, 2012

Signature:



**Angelo Liberatore, CIH, CSP**

## 1c. Plan Concurrence:

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Company: CH2M HILL Constructors, Inc.  
Telephone: (850) 232-0320  
Date: January 6, 2012

Signature:



**Amy Twitty, P.G.**

## 1.1 Revisions

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**Revisions Made By:**

**Date:**

**Revisions to Plan:**

---

**Revisions Approved By:**

**Date:**

## 1.2 Introduction

The AGVIQ-CH2M HILL Constructors, Inc. Joint Venture III (AGVIQ-CH2M HILL) has been contracted by the United States Navy, Naval Facilities Engineering Command (NAVFAC), to conduct a supplemental soil sampling at the Munitions Response Program (MRP) Unexploded Ordinance (UXO) Site 1 on Naval Air Station (NAS) Whiting Field, Milton, Florida. This work will be performed under the terms and conditions of Contract Number N62470-08-D-1006, Task Order (TO) JM35.

This Accident Prevention Plan (APP) has been developed to address applicable requirements set forth by 29 Code of Federal Regulations (CFR) 1910, 29 CFR 1926 and the US Army Corps of Engineers, EM 385 1-1, "Safety and Health Requirements Manual". For clarification, this APP and the Site Specific Health and Safety Plan (SSHSP), included herein, shall be collectively referenced as the APP throughout, but implemented together as a single document, in their entirety. It is understood that NAVFAC prime contract # N62470-08-D-1006 issued for the AGVIQ-CH2M HILL Small Business Remedial Action Contract (SBRAC) was issued prior to September 15, 2008, and as such the **3 November 2003 version of the EM 385 1-1** shall be applicable the execution of this TO work. However, AGVIQ-CH2M HILL will endeavor to implement the September 15, 2008 version for this project where ever it is feasibly possible. It should be noted that the content of this APP has been to prepared to address the requirements set forth by EM 385 1-1, Appendix A, September 15, 2008.

This APP must be available onsite for reference by site personnel. Means and methodology for execution of TO tasks which are detailed in the project work plan (WP) which includes this APP, a Sampling and Analysis Plan (SAP), Environmental Protection Plan (EPP), Quality Control Plan (QCP) and Waste Management Plan (WMP). The WP and its attached support documents are not intended to be executed as separate documents. Therefore any means and methods identified within the WP or its support documents will not be significantly elaborated upon herein, in an effort to minimize duplicity or erroneous information.

All site personnel, including AGVIQ-CH2M HILL and subcontractor personnel, who may be covered by this APP and the Site Specific Health and Safety Plan (SSHSP) (**Attachment 1**) of this APP, must review or be provided a detailed briefing on the contents of this document and sign the Acknowledgement Form (**Attachment 2**).

## 2.0 Background Information

---

**2a. CONTRATOR:** AGVIQ-CH2M HILL Joint Venture III  
Small Business Remedial Action Contract (SBRAC)  
Contract Administration Office Address  
1000 Abernathy Road, Suite 1600  
Atlanta, GA 30328  
  
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Title: Project Manager (overall)  
  
Telephone: (850) 232-0320  
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**2b. CONTRACT#:** Number N62470-08-D-1006  
**(PRIME)** Task Order No. JM35

**2 c. PROJECT NAME:** Supplemental Site Inspection Soil Sampling Munitions Response UXO1  
Former Gunnery Area and Former Skeet Range Farm Naval Air Station Whiting Field, Milton,  
Florida

### 2.1 2d. Project and Work Description, Location and Phases of Work

A description of the project location and description of the work to be perform, phases of the work anticipated (that require an AHA) and other descriptive project information is provided in sections 2.2 through 2.6.

## 2.2 Facility and Site Background

NAS Whiting Field is located in Santa Rosa County, in Florida's northwest coastal area, approximately 5.5 miles north of Milton and 25 miles northeast of Pensacola, Florida. The installation was constructed in the early 1940s and serves as a naval aviation training facility. The installation encompasses approximately 3,842 acres, containing two airfields (North and South Fields) and a central industrial area that provides the support facilities for flight and academic training.

### 2.2.1 Site Information

#### **Former Gunnery Area**

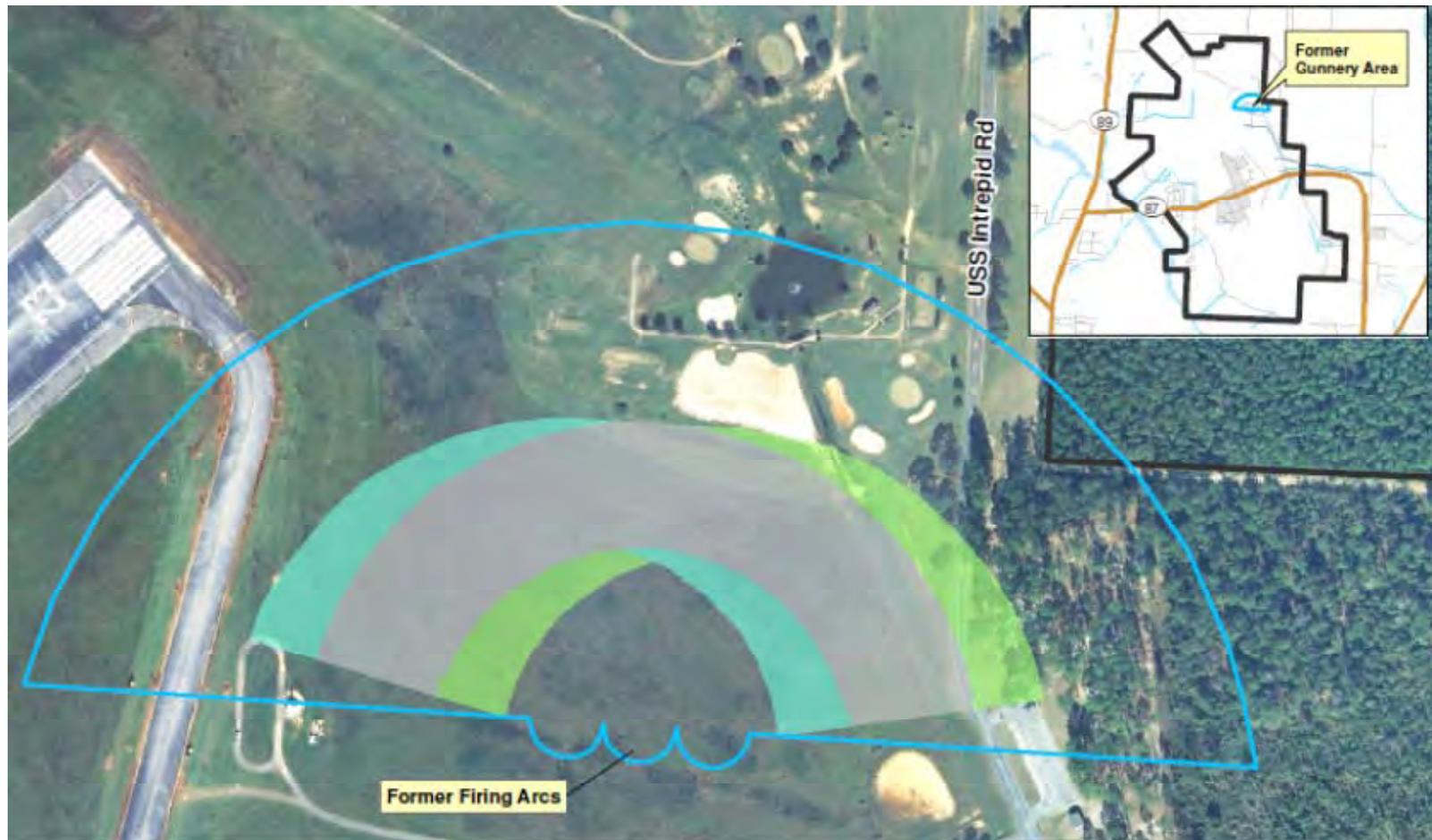
The Former Gunnery Area is located at the North Field of NAS Whiting Field and is in an approximately 18 acre open, grassy area, approximately 160 feet above mean sea level. The site topography at the Former Gunnery Area is mainly flat, with a slight slope to the south and west (TtNUS, 2010a). A drainage ditch is located at the eastern boundary of the Former Gunnery Area. The drainage ditch originates to the southeast of the Former Gunnery Area,

and flows to the north, eventually discharging to a pond located at the adjacent golf course. Occasionally, pond overflow flows southeast across into the drainage ditch.

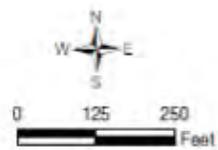
The land at the Former Gunnery Area is currently used as a runway buffer/clear zone and the outfield for a baseball field. Land use is designated as mixed use and includes outdoor recreation (e.g., golf course, picnic area, and baseball field) and training (e.g., adjacent operational pistol range). According to installation personnel, no change in land use at the site is planned. Extension of runways and buffer/clear zones in the immediate vicinity of the site may be necessary in the future to support the Joint Primary Air Training System program (TtNUS, 2010a).

Tetra Tech NUS (TtNUS) collected 75 soil samples from 38 locations at depths of 0 to 6 inches and 6 to 24 inches bgs at the Former Gunnery Area. All samples underwent field x-ray fluorescence (XRF) analysis for lead; 21 of the samples were subsequently shipped for laboratory analysis for select metals. Nine of the 75 soil samples analyzed in the field with XRF at the Former Gunnery Area had average lead concentrations exceeding the field screening level of 200 mg/kg. Concentrations of lead ranged between 5.67 and 1,020 mg/kg (TtNUS, 2010b). Four samples analyzed at the laboratory for lead resulted in exceedances of the Project Action Limit (PAL) for lead of 400 mg/kg (FDEP residential SCTL). The highest lead concentrations were from the 0- to 6-inch bgs sampling interval. The sample locations with XRF and FBL lead concentrations exceeding the PALs were randomly distributed at the site (TtNUS, 2010b). Additionally, four samples were shipped for laboratory analysis for SPLP. The samples were chosen from sample locations exhibiting a range (high to low) of XRF lead concentrations. Two samples exhibited an exceedance of antimony the PAL of 6 µg/L. All four samples exhibited lead concentrations (20 µg/L, 24.4 µg/L, 1,490 µg/L, and 1,500 µg/L) exceeding the PAL of 15 µg/L (TtNUS, 2010b).

Arsenic exceeded the PAL of 3.2 mg/kg in two locations, from the 0-6-inch bgs interval (TtNUS, 2010b). Twenty-nine samples were selected from the Former Gunnery Area for PAH analysis; 18 of the samples had PAL exceedances. The calculated BAP-equivalent of 0.1 mg/kg was exceeded in 22 of the 29 samples. In addition, the exposure concentration represented by the 95 percent upper confidence limit (UCL) of the mean for the BAP-equivalent was significantly greater than the PAL or residential SCTL of 0.1 mg/kg. Therefore, it was recommended that the extent of PAH contamination be further investigated (TtNUS, 2010b).



- Legend**
- Maximum Shotfall Areas
- Firing Fan 1
  - Firing Fan 2
  - Firing Fan 3
  - Surface Danger Zone
  - Installation Boundary



**FIGURE 1-1**  
 Site Map - Former Gunnery Area  
 NAS Whiting Field  
 Milton, Florida

AGVIO  
 CH2M HILL

### Former Skeet Range

The Former Skeet Range is located at the North Field of NAS Whiting Field and is in an approximately 12 acre open, grassy area, approximately 150 feet amsl (Figure 1-2). The site topography at the Former Skeet Range is mainly flat, with a slight slope to the south (TtNUS, 2010a). No surface water features are located within the boundary of the Former Skeet Range. Surface water flows overland to a pond approximately 0.5 mile from the site, or to the drainage ditch adjacent to the Former Gunnery Area.

The Former Skeet Range is currently used for archery. The area is mowed; but shrubs, bushes, and other low-lying vegetation have re-established along the perimeter. Based on discussions with installation personnel, there are no plans to utilize the site for other purposes. Land use in the area is designated as mixed use and includes outdoor recreation (e.g., golf course, picnic area) and training (e.g., adjacent operational pistol range). Although no change in land use in the immediate vicinity of the site is planned, extension of runways and clear zones to the west of the site may be required to support the JPATS program (TtNUS, 2010a).

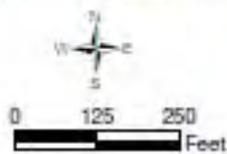
TtNUS collected 76 soil samples from 39 locations at depths of 0 to 6 inches and 6 to 24 inches bgs at the Skeet Range. All samples underwent field XRF analysis for lead and 22 of the samples were subsequently shipped for laboratory analysis for select metals analysis. Two of the 76 soil samples analyzed in the field with XRF at the Skeet Range had average lead concentrations exceeding the field screening level of 200 mg/kg (TtNUS, 2010b). One of 22 samples analyzed by the laboratory for lead resulted in an exceedance of the PAL of 400 mg/kg (FDEP residential SCTL). The sample locations with XRF and FBL lead concentrations exceeding the PALs were randomly distributed at the site (TtNUS, 2010b). Arsenic exceeded the PAL of 3.2 mg/kg (background concentration at NAS Whiting Field) in one location from the 0- to 6-inch bgs interval (TtNUS, 2010b).

Of the 26 samples selected from the Skeet Range for PAH analysis, 18 samples had PAL exceedances. The calculated BAP equivalent of 0.1 mg/kg was exceeded in 12 of the 30 samples. In addition, the exposure concentration represented by the 95 percent UCL of the mean for the BAP equivalent was significantly greater than the PAL or residential SCTL of 0.1 mg/kg. Therefore, it was recommended that the extent of PAH contamination be further investigated.

Four samples from the Skeet Range were shipped for laboratory analysis for SPLP metals analysis. The samples were chosen from the sample locations exhibiting a range (high to low) of XRF lead concentrations. Soil samples had detections of arsenic, copper, lead, antimony, and zinc. Only soil sample SR-SS-F5-02 (6 to 24 inches bgs) exceeded the lead PAL of 15 µg/L at a concentration of 66.4 µg/L (TtNUS, 2010b).



- Legend**
- Maximum Shotfall Area
  - Surface Danger Zone
  - Installation Boundary



**FIGURE 1-2**  
Site Map - Former Skeet Range  
NAS Whiting Field  
Milton, Florida

## 2.3 General Task Order Scope of Work

The primary objective of this TO is to conduct a Supplemental Soil Sampling Investigation (SSSI) using hand augers to determine the extent of contamination from PAHs, lead, arsenic, and antimony in order to address potential risk to human health receptors by removing the contaminated soil. Additional analytical data for PAHs, lead, arsenic, and antimony will be collected at select locations across the site. Soil samples will be collected from both sites using a sampling grid previously developed as part of the SI, as well as “step-out” locations from identified exceedances. The results will be screened against background, the FDEP direct exposure SCTLs, and/or the FDEP leachability criteria.. For the purposes of developing and executing project Activity Hazard Analyses (AHA) from a health and safety requirements and task hazard control perspective, a summary of the major Definable Features of Work (DFOWs) to complete the execution of this TO are as follows:

- Mobilization, Demobilization, and Site Setup
- Utility and Land Survey, Establishment of Sampling Grid Areas
- Soil Sampling
- XRF Field Screening
- Waste Characterization and Management of Investigation Derived Waste Materials
- Site Restoration

AHAs associated with the execution of this work are included in section 10.6 Project Specific Activity Hazard Analyses of this APP.

## 2.4 Health and Safety Plan Assumption Set

The assumption set for the development of this APP is that AGVIQ-CH2MHILL site personnel and subcontractors controlled by AGVIQ-CH2MHILL who may be covered by this APP are based on the following:

- No Chemical, Biological, Nuclear or Radioactive (CBNR) weapon/agent, material potentially presenting an explosive hazard (MPPEH) or munitions and explosives of concern (MEC) or presumed asbestos containing material (PACM) or asbestos containing material (ACM) will be encountered during the execution of this task order. All site work must cease if it is suspected that these items are onsite.
- Site personnel shall execute good personal hygiene practices to facilitate a negative exposure to site dust, soil, water or sediment via incidental dermal or ingestion exposure vectors.
- It is assumed that the performance of Non-Hazwoper regulated tasks in section 2.5 below, that workers will not be exposed to residual/released site Constituents of Concern (COC) during the execution of these tasks. If this is not the case, then these functions will be considered Hazwoper-Regulated under section 2.4 of this APP.
- Where use of personal protective equipment (PPE) equipment is specified, it will be used in accordance with Table 1-1, **Attachment 1** (SSHSP) of this APP.

- Where the use of air monitoring equipment is specified, it shall be in accordance with Table 1-2, **Attachment 1** (SSHSP) of this APP. Action levels and action level responses defined by this APP shall be adhered to. Air monitoring data collected during the execution of the task order work phases shall be documented and included for the project file.
- Work is being performed in an open air, well ventilated environment.
- Where content in this APP is marked as (Reserved) or otherwise defined as not applicable, then activities associated with these areas, activities or hazards not specifically covered under this APP and must not be performed unless this APP is amended, as necessary.

In the event that the above assumption set is not verified, the conditions of this APP shall be re-evaluated and amended as necessary to address applicable hazards that maybe associated with newly encountered project conditions or newly defined project tasks. In the event that it is determined that site soil, ground water sediment may be impacted by COCs concentrations in excess of established Occupational Exposure Limits (OELs) or CBRN, MEC/MPPEH or PACM/ ACM exposure at any level could occur, work shall cease until such engineering or administrative control measures and/or Personnel Protective Equipment (PPE) are implemented to reduce potential worker exposures to acceptable levels.

Adjustments to this APP to address or mitigate potential OEL/CBRN exposure to workers or involving modifications to worker PPE or worker/site exposure monitoring (air monitoring) requirements will require review and approval by the Program Certified Industrial Hygienist (CIH). All amendments to this APP must be performed by a designated AGVIQ-CH2M HILL Program HSPA, the Program CIH or other duly authorized professional.

## 2.5 HAZWOPER-Regulated Tasks

Where certain work tasks include the handling, removal, containment, investigation or other physical site management of hazardous waste/material or other regulated materials, execution of such tasks and potential employee exposure to chemical hazards associated with these tasks may be regulated under 29CFR1910.120/29CFR1926.65. For this task order, following activities will be considered Hazardous Waste Operations (HAZWOPER)-regulated tasks because of the potential worker exposure to identified site contaminants.

1. Utility and Land Survey, Establishment of Sampling Grid Areas (if conducted on potentially contaminated areas)
2. Soil Sampling
3. XRF Field Screening
4. Waste Characterization and Management of Investigation Derived Waste Materials

## 2.6 Non-HAZWOPER-Regulated Tasks

HAZWOPER regulations under 29CFR1910.120/29CFR1926.65 may be not applicable. Where this is considered, it must be demonstrated that the assigned tasks can be performed without the possibility of exposure to chemical hazards in order to use personnel who do not meet the criteria established by these standards. A determination from the AGVIQ-CH2M HILL Program Certified Industrial Hygienist (CIH) is required before project tasks are conducted by personnel who do not meet the requirements of 29CFR1910.120/ 29CFR1926.65 and where there is question to potential exposure to chemical hazards by site workers. Where it is unlikely or not possible that workers could not be exposed to site chemical hazards during the normal execution of assigned tasks, the task can be considered a Non-Hazwoper Regulated Task. For this project, the following activities can be considered Non-Hazwoper Regulated Tasks.

Mobilization, Demobilization, and Site Setup

Utility and Land Survey, Establishment of Sampling Grid Areas (if conducted on potentially contaminated areas)

Land Clearing/Vegetation Removal (All Areas)

Site Restoration

## 3.0 Statement of Safety and Health Policy

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The measurement of a successful program includes our ability to execute profitably, on time, without violations and safely. Success can only be achieved when all four components are integrated; therefore, health and safety must be part of every operation, at every responsibility level. It is the intent of the AGVIQ-CH2M HILL Joint Venture (AGVIQ-CH2M HILL) to comply with established standards concerning the health and safety of our employees and create work environments that are free of recognized hazards that may result in an accident, injury or illness. To do this, we must be vigilant in the identification and elimination of acts and conditions that can produce or lead to accidents, injuries, and illnesses in our workplace.

Knowledge of an unsafe act or condition does not make the work “safe”. When an act or work area condition is identified that is not consistent with the established practices of the AGVIQ-CH2M HILL Health and Safety Program (HSP), it is the inherent responsibility of each employee to report such inconsistencies to a supervisor so the act or condition may be evaluated, corrected, controlled, or engineered to a status that does not pose a significant threat. Where an act or condition in the workplace is determined to be Immediately Dangerous to Life and Health of AGVIQ-CH2M HILL employees, work must stop until the condition has been abated.

Management, supervisory, and worker personnel are all entrusted with implementing the policies and procedures of the AGVIQ-CH2M HILL HSP and prepared site specific health and safety documents. Prevention of accidents, injury, and illness is an achievable objective for all employees, at all responsibility levels, for all program operations. It is a basic requirement that each manager and supervisor make the safety of employees under their tenure an integral component of his or her regular management practices. Additionally, it is the duty of each employee to accept and follow established safety policies and procedures established by AGVIQ-CH2M HILL.

No employee shall be required to work at a location that would jeopardize their life or health. Employee cooperation in detecting, controlling, and reporting workplace hazards is a condition of participation in the AGVIQ-CH2M HILL Joint Venture Program. It is critical for AGVIQ-CH2M HILL personnel to immediately inform their supervisor of any situation or work area condition that is beyond their ability to correct or control. AGVIQ-CH2M HILL personnel will not be disciplined or suffer any retaliation for reporting acts or conditions that are not consistent with the policies and procedures required by the AGVIQ-CH2M HILL HSP or project specific health and safety documents.

Every effort should be made to provide adequate training to our program participants; however, if an employee is ever in doubt about how to do a job or task safely, it is his or her duty to ask a qualified person for help. Fellow team members that need help should be assisted. Program participants are expected to assist management in accident prevention activities. Everyone is responsible for executing their assigned duties in a safe manner. Every incident (including a near-miss) that occurs in the workplace shall be reported to a first-line supervisor, as soon as possible. Under no circumstances, except in the instance of emergency medical care, should an employee leave the work site without reporting an accident, injury, or illness that occurs in the workplace. When a workplace accident, injury, or illness occurs, everyone is affected. The success and longevity of our program is directly related to maintaining a healthy and safe working environment for everyone.

### **3.1 Purpose**

The purpose of this project APP in conjunction with the project specific or program health and safety documents, is to define the policies, procedures, and requirements that must be implemented for the AGVIQ-CH2M HILL Joint Venture projects and to establish the requirements, responsibilities and expectations for management, supervisors, employees, and subcontractors that may participate in the execution of the program projects. It is the intent of this APP to address applicable requirements set forth by 29 CFR 1910, 29 CFR 1926, EM 385 1-1, and AGVIQ-CH2M HILL policies and procedures incorporated by reference, herein.

### **3.2 Objectives**

The objective of the AGVIQ-CH2M HILL Joint Venture Program is to provide a place of employment free of all recognized hazards that are causing or will likely to death or serious physical harm to our employees. This objective can be facilitated by developing and administering an overall health and safety program, which establishes written policies and procedures to serve as vehicles through which the program requirements will be implemented.

### **3.3 Accident Goals for this Contract and Program**

The health and safety goal for this project and the overall goal for the AGVIQ-CH2M HILL program is to eliminate workplace accidents, gain worker acceptance through cooperation and training, and provide our clients with a responsible, well-trained, safety-oriented work force.

AGVIQ-CH2M HILL considers safety the highest priority during work at all project sites and its business offices and has established a goal of zero incidents. Projects will be conducted in a manner that minimizes the probability of near misses, injury, illness, and equipment/ property damage.

## 4.0 Responsibilities and Lines of Authorities

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### 4.1 4a. Statement of Ultimate Responsibility for the Implementation of the SOH Program

It is always the ultimate responsibility of the AGVIQ, LLC. and CH2M HILL, Inc. as employers and collective as AGVIQ-CH2M HILL to ensure that the requirements of its safety and health program are properly implemented and that a safe and health work environment is provided. This is done through the guidance and oversight of contract work by key program and project personnel.

### 4.2 4b. Identification and Accountability of Personnel Responsible for Safety at Both the Corporate and Project Level

The following listed AGVIQ-CH2MHILL key project and program personnel will have the authority to intervene and suspend work in the interest of ensuring adherence to Health and Safety policies and procedures defined by the APP and/or the AGVIQ-CH2M HILL Joint Venture SBRAC Program.

#### **AGVIQ-CH2MHILL SBRAC Program Manager**

Sidney Allison: (843) 242-8018/ (843) 813-2672 (cell)

#### **AGVIQ-CH2MHILL SBRAC Deputy Program Manager**

Michael Halil: (904) 777-4812/ (904) 219-6277 (cell)

#### **AGVIQ-CH2M HILL Project Manager (overall)**

Amy Twitty (850) 232-0320

#### **AGVIQ-CH2M HILL Joint Venture Program CIH**

Angelo Liberatore, CIH, CSP: (678) 530-4210/ (770) 335-2076 (cell)

#### **AGVIQ-CH2M HILL Joint Venture Project Superintendent/**

John Towns: (850) 939-8300/ (850) 686-2921 (cell)

#### **AGVIQ-CH2M HILL Joint Venture Program SSHO**

Chad Diamond: (850) 939-8300

#### **AGVIQ-CH2M HILL Joint Venture H&S Program Administrator(s)**

Josh Painter, CSP: (303) 993-9274 (cell)

Mark Orman, CSP, CHMM: (414) 847-0597/ (414) 712-4138 (cell)

## 4.3 Organization and Responsibility for Health and Safety

The safety and protection of employees, clients, and the community is the first priority. If an activity or condition at a location under control of AGVIQ-CH2MHILL is determined to be inconsistent with our health and safety policies and procedures, all efforts shall be made to correct the situation immediately or as soon as feasibly possible. At no time should any AGVIQ-CH2MHILL personnel perform or be allowed to perform duties in a work environment that is immediately dangerous to life and health (IDLH) or in an imminently dangerous situation. In these situations, the task will not proceed until the situation is corrected.

### 4.3.1 Program Manager

The AGVIQ-CH2MHILL Program Manager is the primary operational and safety official of AGVIQ-CH2MHILL and has overall responsibility for ensuring that AGVIQ-CH2MHILL program participants implement the established health and safety policies and procedures adopted by AGVIQ-CH2MHILL. The deputy program manager supports the execution of all operations required of the Program Manager.

### 4.3.2 Project Manager

The AGVIQ-CH2M HILL Project Manager is responsible for allocation and coordination of adequate resources (budget and staff) for project-specific implementation of the Health, Safety and Environment (HS&E) management process. The Project Manager has overall management responsibility for the project tasks identified herein and reports to Program Management on all matters and to the Program CIH on matters involving the health and safety of program participants, project incidents or other health and safety related matters. The Project Manager may explicitly delegate specific tasks to other staff, but retains ultimate responsibility for completion of the following in accordance with this APP or other established health and safety requirements. Designated project coordinators, technical leads, engineers and other administrative staff support the execution of all operations required of the Project Manager. In general, the Project Manager's responsibilities include but are not limited to the following:

- Include standard terms and conditions, and contract-specific HS&E roles and responsibilities in contract and subcontract agreements (including flow-down requirements to lower-tier subcontractors).
- Select safe and competent subcontractors by:
  - Ensuring that the review and acceptance/rejection of subcontractor pre-qualification health and safety questionnaires and safety performance documents has been completed.
  - Ensuring that acceptable certificates of insurance, including AGVIQ-CH2M HILL as named additional insured, are secured as a condition of subcontract award.
  - Ensuring subcontractor HS&E submittals required by subcontract agreements are executed, and ensuring that appropriate site-specific safety procedures, training and medical monitoring records are reviewed and accepted prior to the start of subcontractor's field operations.

- Ensure that subcontract agreements and subcontractor certificates of insurance, bond, contractor's license, training and medical monitoring records, and site-specific safety procedures in the project file are accessible to site personnel.
- Provide oversight of AGVIQ-CH2M HILL and subcontractor HS&E practices per the requirements of established safety documents (i.e. APP, SSHS and AHAs).
- Manage the site and interface with third parties in a manner consistent with our contract and subcontract agreements and the applicable standard of reasonable care.
- Monitor project health and safety performance during site operations. Ensure that both the overall and job-specific HS&E goals are fully and consistently implemented.
- Reporting all accidents injuries, illness, property damage cases and near-miss incidents to the Program CIH and Program and Deputy Program Managers.

### 4.3.3 Certified Industrial Hygienist

The AGVIQ-CH2MHILL Program Certified Industrial Hygienist (CIH) meets the established qualification, training and experience criteria requirements and exhibits sufficient knowledge in health, safety and/or industrial hygiene matters to manage and oversee the AGVIQ-CH2M HILL health and safety program. The CIH acts as the responsible program officer (Health and Safety Manager) to review and approve all developed project specific APP's and provides consultation, recommendations or requirements with regard to project worker protection and exposure issues. The CIH may also be required to perform the project/program roles and responsibilities of the Health and Safety Program Administrator(s) HSPA, where required. The Program Certified Industrial Hygienist (CIH) responsibilities include, but are not limited to the following:

- Shall review and approve the project specific APP for field implementation.
- Also be available for consultation/direction with regard to project Industrial Hygiene and worker exposure matters, as may be required by the project team, SSHO or the AGVIQ-CH2MHILL Health and Safety Program Administrator(s)(HSPA) and review and approve any changes to the APP which alters established requirements for worker exposure or perimeter air monitoring or Personal Protective Equipment (PPE).
- Perform the same roles and responsibilities as the HSPA, where required.
- Coordinates with the Program Manager, Deputy Program Manager and the Project Manager (and HSPA or SSHO, as necessary) on all site or worker health and safety matters.

### 4.3.4 Health and Safety Program Administrator(s)

The AGVIQ-CH2MHILL Health and Safety Program Administrators (HSPAs) administers the overall health and safety program for the AGVIQ-CH2M HILL program and reports directly to the Program Management and the Program CIH with regard to AGVIQ-CH2M HILL program or significant project health and safety matters. The HSPA provides the day to day implementation of the health and safety program on behalf of the Program CIH. The HSPA is responsible for supporting and assisting the AGVIQ-CH2MHILL program staff in executing the required health and safety policies and procedures adopted

by the program, for implementation. The HSPA responsibilities include, but are not limited to the following:

- Develop and/or review the project APP for final approval by the CIH.
- Provide review and comment on subcontractor pre-qualification questionnaires that fall outside the performance range delegated to the Contracts Administrator (KA) and request corrective actions are made, where required.
- Provide review and comment subcontractor training records, site-specific safety procedures or subcontractor safety performance submittals prior to start of subcontractor's field operations and request corrective actions are made, where required.
- Support the SSHO's oversight of subcontractor (and lower-tier subcontractors) Health, Safety, and Environment (HS&E) practices and interfaces with third parties, as necessary.
- Support and assist program staff in executing the HS&E policies and procedures adopted by the program for implementation, including the program Behavior Based Loss Prevention System (BBLPS) and overall Risk Management Process (RMP). Provide consultation and direction to project staff with regard to HS&E project and program requirements and industrial hygiene practices.
- Support the amendment of approved APPs as may be necessary to be new work assigned contract functions or unanticipated site conditions. However, Adjustments to this APP to address or mitigate potential exposure to site constituents of concern (COCs) or involving modifications to worker PPE or worker/site exposure monitoring (air monitoring) requirements will require review and approval by the Program Certified Industrial Hygienist (CIH).

#### 4.3.5 Site Supervisors

Site supervisors are the critical links to the success of our injury and illness prevention and overall implementation of our Risk Management Process (RMP). For this project, the site supervisor reports to the AGVIQ-CH2M HILL overall Project Manager on all project matters. Site supervisor responsibilities include but are not limited to the following:

- Implementing the health and safety aspects of the AGVIQ-CH2M HILL program and ensuring that any onsite AGVIQ-CH2M HILL personnel adhere to the requirements of this (APP), host facility conditions or other applicably health and safety requirements relayed to project personnel as part of the execution of this project;
- Report all accidents injuries, illness, property damage cases and near-miss incidents to the Project Manager (overall).
- Conveying hazard information, to which they are advised of, to subordinate employees at the contract project site or facility locations;
- Investigating AGVIQ-CH2M HILL accidents, injuries and illness, that occur under their supervision at the contract project site, in accordance with the accident investigation procedures identified for the program;

- Coordinating the equipment and material needs to be procured by AGVIQ-CH2M HILL for the proper execution of the project.
- Promotes proper field communication and coordination with the overall project manager, field staff and client, as necessary, to personnel assigned to promote the proper execution of the project.
- Providing adequate pre-project planning to allow for the effective procurement of appropriate equipment, materials, safety related systems or documents to facilitate the execution of individual project tasks in a safe and efficient manner;
- Implementing the components of the AGVIQ-CH2M HILL Behavior Based Loss Prevention System (BBLPS) including the execution of routine pre-job safety overviews at AGVIQ-CH2M HILL contract project locations as the project begins, as new tasks are planned, as new project hazards are identified or when new project team members are assigned to the project site;
- Taking prompt action to correct identified acts or conditions which are personally observed by a supervisor or brought to the attention of a supervisor that are not consistent with the conditions of this APP or AGVIQ-CH2M HILL health and safety program requirements ;
- Promoting and ensuring an appropriate project safety culture for subordinate site personnel by positive example;
- Stopping or correcting questionable acts or identified conditions that are under a supervisor's responsibility and which are inconsistent with established safety standards, AGVIQ-CH2M HILL policies and procedures and requirements established by this APP. The site supervisor shall also have the authority to take prompt corrective measures to eliminate existing and predictable hazards and stop work when required.
- Verify that project files available to site personnel include copies of executed subcontracts and subcontractor certificates of insurance (including named additional insured), bond, contractor's license, training and medical monitoring records, and site-specific safety procedures prior to start of subcontractor's field operations.
- Manage and interface with third parties in a manner consistent with our contract/ subcontract agreements and the applicable standard of reasonable care.

#### 4.3.6 Site Safety and Health Officer

The SSHO is responsible for verifying that the project is conducted in a safe and healthy manner and includes the following specific obligations:

- The SSHO shall have the onsite responsibility and authority to modify or stop work or remove personnel from the site, if working conditions change or may affect onsite or offsite health and safety. The SSHO shall have the authority to immediately stop work when an employee is deemed to be in imminent danger of serious injury or loss of life.
- The SSHO will remain onsite at all times when work is in progress unless properly relieved by a qualified and designated SSHO alternate.

- Report all accidents injuries, illness, property damage cases and near-miss incidents to the Site Supervisor and Program CIH.
- Verify this APP remains current and amended when project activities or conditions change.
- Coordinates with the Site Supervisor and the Project Manager (overall) on all site matters and reports to the Program CIH (or HSPA as an alternate) on all health and safety matters.
- Verify AGVIQ-CH2M HILL site personnel and subcontractor personnel read, or have been briefed on the contents of this APP and SSHSP, and sign **Attachment 2**, APP/SSHSP “Acknowledgement Form” prior to commencing field activities.
- Verify AGVIQ-CH2M HILL site personnel and subcontractor personnel have completed any required specialty training (e.g., fall protection, confined space entry) and medical surveillance as identified in section 6.0 of this APP.
- Verify adherence with the requirements of this APP and where applicable the subcontractor’s health and safety plan(s).
- Act as the project “Hazard Communication Coordinator”. Deliver or provide hazard communication information to AGVIQ-CH2M HILL site personnel as may be necessary.
- Act as the project “Emergency Coordinator” and perform the responsibilities outlined in this APP or as maybe required to properly coordinate the onsite response of emergencies, as they arise.
- Verify that safety meetings are conducted at least daily or more frequently as project tasks or hazards change and documented for the project record in accordance with the requirements of the BBLPS.
- Verify that project H&S forms and permits, found in **Attachment 4**, are being used as intended.
- Verify that Project Activity Self-Assessment Checklists, found in the CH2M HILL, Inc. SOPs referenced in this APP, are being used as intended.
- Verify that the Drug-Free Workplace Program is being implemented.
- Coordinate with the HSPA(s) or Program CIH regarding AGVIQ-CH2M HILL and subcontractor operational performance, and third-party interfaces.
- Ensure that the overall, job-specific, HS&E goals are fully and continuously implemented.
- The SSHO is responsible for coordinating with the AGVIQ-CH2M HILL individual responsible for site operations (i.e., Site Supervisor/Manager or Field Team Leader) and Project Manager, as necessary. In general, the Project Manager (overall) will contact the client in the event accidents, injuries or property damage occurs on the project site. The Program CIH (or HSPA(s) as necessary), should be contacted by the SSHO as appropriate.

### 4.3.7 4.b(1) – 4.b(9) OSHA 30 hr Course

Not Applicable. There is no specific information that must be included in this section. Sections 4.b(1) – 4.b(9) of EM 385 1-1, Appendix A of only establishes what shall be included in the OSHA 30-hour course or equivalent course. In order to receive an OSHA sanctioned 30 hr Construction Safety Training card, the course and specific training requirements must be included.

### 4.3.8 AGVIQ-CH2MHILL Program Participants

All AGVIQ-CH2MHILL Program participants (i.e. “employees”), regardless of job title, share the responsibility for executing their assigned tasks in a healthy and safe manner and must report any or acts or conditions that are not consistent with established health and safety procedures and protocols at the project site without fear of reprisal. It is imperative that AGVIQ-CH2M HILL Program participants observe the following minimum requirements in order to achieve a safe and healthy workplace:

- Program participants must familiarize themselves with the contents this APP and the general safety rules herein.
- Program participants must implement all health and safety requirements delivered or provided to them.
- Program participants shall wear the necessary PPE required for the job or task as specified by the APP or other applicable program requirements.
- Program participants must notify their immediate supervisor of any potential workplace hazard, condition, work practice or act that is not consistent with the AGVIQ-CH2M HILL health and safety policies and procedures.
- Program participants must report all accidents, injury, illness or property damage to an immediate supervisor regardless of the severity or cost. This includes all near misses (accidents without injury or damage).
- Program participants shall adhere to the requirements of their employer Drug Free Work Place Program. In addition, each program participant that is taking any prescription or over the counter medications that could alter the manner in which they could be treated in an emergency or effect their job performance/safety or other site personnel shall notify their supervisor of the condition prior to beginning any assigned work.
- Program participants shall be subject to the requirements of their employer’s policies and procedures for disciplinary action where it is determined that health and safety requirements are not followed or disregarded.

## 4.4 4c. Employee Competency

Employee competency, as defined by 29 CFR 1926.32(f) and for areas of executable contract work for which an employee has responsibility, shall be established by the appropriate employer only (i.e. AGVIQ, LLC. or CH2M HILL, Inc.). Employee competency is determined by employee training, total work experience and/or on the job training, professional certification and/or educational degrees.

It is the opinion of AGVIQ-CH2M HILL that the professionals identified in this APP are competent in their areas of expertise with regard to the management, field execution of the specified contract work, or in the implementation of AGVIQ-CH2M HILL site specific or program health and safety requirements, as applicable.

In addition to the above, the AGVIQ-CH2M HILL Health and Safety Program utilizes a team of Health and Safety Professionals who are qualified by experience, training, educational degrees and professional certification (CIH, CSP, CHST, ASP) to act as the responsible program representatives with regard to the overall project specific and program wide implementation of the AGVIQ-CH2M HILL Health and Safety policies and procedures.

### 4.4.1 4d. Presence of Competent Person On-Site

Executable onsite contract work for which there is a specific requirement for a competent person to oversee (i.e. excavation, scaffolding etc.), will not be conducted unless a competent person is available and present on the job site.

There are no anticipated activities that require a competent person.

## 4.5 4e. Requirements for Pretask Safety and Health Analysis

Requirements for completing Pre-Task Safety and Health Analysis prior to the execution of onsite work must be, at a minimum, in accordance with sections 10.2 Pre-task Safety plans and section 10.1 Activity Hazard Analysis of this APP. Activity Hazard Analysis (AHA) documents applicable to this project are included in section 10.6, project Specific Activity hazard Analyses of this APP.

## 4.6 4f. Lines of Authority

Safety responsibilities, accountability, and lines of authority for this project are as identified in sections 4.1 through 4.2 of this APP and is as graphically represented in Figure 4-1, below.



## 4.7 4g. Non Compliance with Safety Requirements

The duty for employee disciplinary action must be exercised by the employee's company line manager, supervisor, or corporate official only, as appropriate. Verbal or written reprimands, suspensions, or terminations shall be in accordance with the requirements established by the AGVIQ, LLC. or CH2M HILL, Inc. employee's Corporate Employee Handbook, or internal policies and procedures and Standard Operating Procedures (SOPs). The content of these documents applies to employees of the specific employer and its authorized subsidiaries.

To ensure seamless project operations and the best possible work environment for AGVIQ-CH2M HILL program participants, both AGVIQ, LLC. and CH2M HILL, Inc. in its business partnership (AGVIQ-CH2M HILL Joint Venture), expects its employees to follow rules of conduct that and established site procedures that will protect the health and safety of all AGVIQ-CH2MHILL personnel.

Where unacceptable employee behavior or workplace actions are identified, it is will be the intent of the employer to administer equitable and consistent disciplinary actions. It is in the best interest of AGVIQ, LLC and CH2M HILL, Inc. to ensure fair treatment of all employees by making certain that disciplinary actions are prompt, uniform, and impartial. The major purpose of any disciplinary action is to correct the problem, prevent recurrence, and prepare the employee for satisfactory service in the future.

Employee disciplinary actions are "typically" exercised in a three (3) steps process;

- verbal warning,
- written warning,
- suspension with or without pay or up to termination of employment, depending on the severity of the problem and re-occurrences of similar unacceptable employee behavior or workplace actions.

By using progressive discipline, most employee problems can be corrected at an early stage, benefiting both the employee, AGVIQ, LLC., CH2MHILL, Inc. and the AGVIQ-CH2MHILL Joint Venture Program.

Both AGVIQ, LLC. and CH2MHILL, Inc. recognize that there are certain types of employee problems that are serious enough to justify either a suspension, or, in extreme situations, termination of employment, without going through the usual progressive discipline steps, but this decision shall be solely determined by the employee's respective employer and not the AGVIQ-CH2MHILL Joint Venture.

## 4.8 4h. Procedures for Holding Managers and Supervisors Accountable for Safety

It is the duty of first managers and supervisors to motivate employees and promote the adherence of AGVIQ-CH2M HILL's established health and safety policy and procedures and established hazard control measures identified for each work environment under their supervision.

When in doubt, they should seek the assistance of the Program CIH or designated HSPA, or other authorized program level representative, prior to initiating a task. If the task cannot be accomplished in a manner that is consistent with established AGVIQ-CH2M HILL program, regulatory or contract health and safety requirements, it will not be attempted.

Managers and supervisors must:

- Confirm subcontractor safety performance records/information and pre-mobilization contractual obligations (insurance, bonding, work plans, training documentation etc.) have been met prior to initiating onsite work.
- Allocate sufficient time for the training/orientation of AGVIQ-CH2M HILL personnel to ensure that everyone knows the appropriate requirements (health, safety procedural) for completing assigned tasks.
- Ensure that the AGVIQ-CH2M HILL program participants are outfitted with and wear PPE as specified by this APP other AGVIQ-CH2M HILL procedures, or as directed by the Program CIH, HSPA, Project Manager, or SSHO.
- Prevent new site personnel from performing any tasks until required training/orientation is completed.
- Verify program participants and subcontract personnel are completing assigned tasks in a manner that is consistent with established health and safety policies and as instructed.
- Immediately correct acts or conditions that are not consistent with AGVIQ-CH2M HILL Joint Venture policies and procedures, or OSHA and EM 385 1-1 requirements.
- Lead by setting a “good example”.
- Promote the creation of a healthy and safe work environment for site personnel in which program participants and subcontractors support the achievement of our safety goals.
- Monitor subcontractor performance during operations to ensure contractual requirements are met.
- Report all accidents, near misses, and property damage in accordance with the Incident Management and Reporting Procedure.

Section 4.7, 4g. Non Compliance with Safety Requirements of this APP identifies the procedures holding managers and supervisors and all other program participants accountable regarding non-compliance of safety requirements.

## 5.0 Subcontractors and Suppliers

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### 5.1 5a. Identification of Subcontractors and Suppliers (if known)

All subcontractors who may be required to support the execution of this TO are either not identified or have not been issued a subcontract award at time this APP has been prepared for submission, and therefore cannot be included, herein at this time. Because of the potentially dynamic and evolving nature of contract requirements and resultant project scheduling at many points during the project evolution, only partial identification of potential subcontractors who may support this TO is available. To this end, continuously updating and amending this APP with potentially identified or newly selected subcontractors would not be practical or cost effective for all parties concerned. If, prior to the start of this TO, the Government Designated Authority (GDA) requires a list of awarded subcontractor entity information, then such information shall be prepared and provided by the AGVIQ-CH2M HILL project manager (overall) identified in this APP.

The AGVIQ-CH2MHILL procurement/contracting team maintains an extensive and detailed process for subcontractor procurement with the Federal Acquisition Regulations (FAR) as the primary driver. Subcontractor selection is based on scope of work pricing, qualifications, current and historical safety performance data and best value evaluations.

### 5.2 5b. Safety Responsibilities of Subcontractor/Supplier

AGVIQ-CH2MHILL subcontractor safety performance and adherence to established industry standards and project policies and procedures will be reviewed prior to being issued a contract for Site work. AGVIQ-CH2MHILL subcontractors must be required to comply with the most stringent requirement defined by the Subcontractor's own policies and procedures, or requirements outlined in this APP, regulations or other requirements applicable to a project, such as contract flow-down requirements.

Typically, the subcontractor reports directly to the AGVIQ-CH2MHILL Project Manager. The AGVIQ-CH2MHILL Project Manager will typically designate daily subcontractor onsite reporting requirements to the AGVIQ-CH2MHILL site supervisor (i.e. Superintendent, foreperson, Field Team Leader or other appropriate designee).

AGVIQ-CH2MHILL subcontractors may be required to acknowledge and adhere to the requirements of the AGVIQ-CH2MHILL APP. Where subcontractor personnel are covered by this APP, they must be provided a copy of it to read or be provided a detailed briefing of its contents, and acknowledge the conditions of this APP to initiating work by application of subcontractor employee signatures on the APP/SSHSP Acknowledgement Form (**Attachment 2**).

However, if the AGVIQ-CH2MHILL APP does not address specific hazards associated with specialty tasks and equipment that the subcontractor has expertise in (e.g., electrical, scaffold erection, demolition), a subcontractor must be required to develop or implement their own APP which is equally or more stringent than AGVIQ-CH2MHILL APP or prime contract documents.

All subcontractor personnel shall be subject to the same training (or medical surveillance requirement, where applicable) as AGVIQ-CH2MHILL personnel, depending on job activity and OSHA requirements.

All subcontractor personnel actively engaged in onsite operations should be required to sign in daily at AGVIQ-CH2MHILL controlled project sites (**Attachment 4**) and either attend an AGVIQ-CH2MHILL sponsored daily safety meeting and work phase meeting (or be required to conduct their own) which addresses daily operations, site specific hazard awareness, or other pertinent issues associated with the scheduled work or complete their own meeting of similar intent. The requirements for implementing and documenting daily or periodic work phase meetings are detailed in section 10.0, Risk Management Process (RMP), of this APP and will not be further elaborated upon in this section.

All incidents involving subcontractor personnel must be reported to the AGVIQ-CH2MHILL site supervisor and a copy of the subcontractor's incident or injury/illness report will be submitted to the AGVIQ-CH2MHILL site supervisor, Project Manager, program Manager and Program CIH as soon as possible, but no later than 24 hours.

Subcontractors are responsible for the health and safety procedures specific to the work, but it is critical that subcontractor work be performed in a manner that is consistent with applicable OSHA standards (29CFR1910, 29CFR1926, as applicable), EM 385 1-1 or other applicable health and safety plan(s)/protocols. Identified subcontractor health and safety performance or site conditions that are not consistent with established procedures must be corrected.

AGVIQ-CH2MHILL continuously endeavors to observe a subcontractors' safety performance. This process should be reasonable and include observing site hazards, practices and procedures that are not consistent with established HS& E requirements that are both readily observable and occur in common work areas. However, observance of subcontractor operations by AGVIQ-CH2MHILL does not relieve subcontractors of their responsibility for effective implementation and compliance with the established plan(s), protocols, or established safety regulations or contract conditions.

When apparent conditions or actions are observed that are not consistent with this APP, AGVIQ-CH2MHILL Health and Safety Program protocols or project/regulatory requirements, the designated subcontractor onsite supervisor or safety representative shall be notified of the condition so that the subcontractor can determine and implement the appropriate corrective action(s). When these identified conditions or practices/actions are repeated or persist, notify the designated subcontractor onsite supervisor or safety representative and require the condition be immediately corrected. Contact the Project Manager and evaluate the need to issue a stop work order (SWO) (**Attachment 4**) affected work until adequate corrective measures are implemented.

- When an apparent imminent danger exists, immediately remove all affected AGVIQ-CH2MHILL and subcontractor personnel, notify onsite supervisor or safety representative and stop affected work until adequate corrective measures are implemented and also issue the SWO. Notify the Project Manager (overall) and Program CIH (or HSPA if necessary), as appropriate. Document all standard and imminent danger SWO related communications in project field logbook, daily reports, or other records.

# 6.0 Training

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## 6.1 6a. New Hire SOH Orientation Training

The overall Safety and Occupational Health (SOH) orientation provided by AGVIQ, LLC. and CH2M HILL, Inc. for their employees, incorporates the information necessary for the employee to perform as expected but also considers assigned job function, experience of the employee, personnel certifications and education level/degrees achieved by the employee completed as related to the employees assigned job function.

Because the AGVIQ-CH2M HILL Joint Venture is composed of two separate and distinct corporations operating together in a business partner arrangement, both corporations separately conduct new hire safety and occupational health (SOH) orientation training in accordance with each employer's (AGVIQ, LLC. or CH2M HILL) established processes. Typically such orientations would be performed by an employee's line supervisor, human resource representative, intranet training or by employee review of information provided by the employer. In general, new hire SOH orientation training would most likely include the following components, depending on the employee's hire category.

- 1) Completion of hire evaluation new any employer specific Drug Free Work Place (DFWP) requirements
- 2) Introduction to company/corporate history
- 3) Organizational Structure
- 4) Briefing on job functions and employee performance expectations
- 5) Time keeping and/or expense reporting
- 6) Provision, review and acknowledgement of Corporate Policies and Procedures Manual (aka Employee Manual) or equivalent
- 7) Provision, review and acknowledgement of Corporate Health and Safety Program Plan or equivalent
- 8) Verification and update (as necessary) of prerequisite training and medical surveillance testing, where applicable for field work (Hazwoper/Construction)
- 9) Management and Supervisor training, as applicable

In order to promote the seamless operation of the AGVIQ-CH2M HILL Joint Venture program as a single entity, orientation to management and supervisory personnel who have not previously participated in the AGVIQ-CH2M HILL programs is provided. This orientation typically would include, but not be limited to the following:

- 1) Background history of the development and functionality of the AGVIQ-CH2M HILL Joint Venture Programs
- 2) Organizational Structure

- 3) Project and Program reporting requirements (incident, financial and chain of command)
- 4) Fund allocation, cost tracking, forecasting and invoicing procedures
- 5) Review processes for Client Request For Proposal (RFP) responses and project deliverables
- 6) Project concurrence or changed conditioned processes
- 7) Expectations with regard to Client/Customer and project team communications, project performance, Client/Customer expectations, health and safety and quality control performance
- 8) Resource allocation

All designated AGVIQ-CH2M HILL personnel, regardless of assignment responsibilities, who are engaged in site operations must review or be provided a detailed briefing on the contents of site specific health and plans, APP's, task specific Activity Hazard Analyses (AHAs) and daily safety briefings and must acknowledge such documents by signature.

## **6.2 6b. Requirements for Mandatory Training and Certificates**

AGVIQ-CH2MHILL engages in construction, environmental remediation and other consulting services and endeavors to comply with the health and safety training requirements mandated by governmental agencies, internal policies and client requirements.

Personnel will be provided sufficient training to execute their jobs in a safe and healthy manner. It is the responsibility of each employer (AGVIQ, LLC. and CH2M HILL, Inc.) to ensure that their employees maintain the appropriate training requirements to complete their assigned duties. Direct employee supervisors, with support by the respective employer Senior Management and Health and Safety professionals, are responsible for determining the overall and project specific training requirements to ensure that personnel assigned to AGVIQ-CH2MHILL operations have the necessary requisite.

Designated employer personnel and electronic databases facilitate the maintenance of training records and applicable experience documentation. When an employee training is identified being insufficient to perform an assigned task, every effort will be made to provide the necessary training or to provide a trained and experienced alternate until the employee has achieved the required criteria.

Employee training records are available at corporate offices, by electronic means, and generally maintained on the project site. Depending on the size of the project crew and because of work crew dynamics and scheduling, the provision of hard copy employee training records (and medical surveillance records where applicable) for all anticipated personnel who may be assigned to this project, within the content of this APP is impractical. AGVIQ-CH2MHILL endeavors to maintain these documents onsite for review and will provide them to government officials for verification, upon request.

All AGVIQ-CH2MHILL personnel performing Hazardous Waste Operations and Emergency Response (HAZWOPER) Regulated Tasks are enrolled in a comprehensive health and safety program, which at a minimum, meets the requirements of 29CFR1910.120/29CFR1926.65 or 29CFR1910.134. The medical surveillance and training requirements associated with this project are summarized below.

Training or Medical Surveillance Requirement	Applicability
<ul style="list-style-type: none"> <li>• 29CFR1910.120(e)(3)/29CFR1926.65(e)(3) Note: 40 hr or 24 training as applicable to employee assigned duties.  No periodic refresher performance so long as the requirements of 29CFR1910.120(e)(8)/29CFR1926.65(e)(8) are maintained.</li> </ul>	<ul style="list-style-type: none"> <li>• All site personnel performing Hazwoper regulated activities identified in section 2.4 of this APP.</li> </ul>
<ul style="list-style-type: none"> <li>• 29CFR1910.120(e)(8)/29CFR1926.65(e)(8)  Refresher training required on an annual basis</li> </ul>	<ul style="list-style-type: none"> <li>• All site personnel performing Hazwoper regulated activities identified in section 2.4 of this APP.</li> </ul>
<ul style="list-style-type: none"> <li>• 29CFR1910.120(e)(4)/29CFR1926.65(e)(4)  No specific recertification requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• All site manager, supervisory or SSHO personnel performing Hazwoper regulated activities identified in section 2.4 of this APP.</li> </ul>
<ul style="list-style-type: none"> <li>• First Aid/CPR 1st Aid – typically 3 yr renewal CPR – 1 or 2 yr renewal (depending on sponsor)</li> </ul>	<ul style="list-style-type: none"> <li>• All designated manager, supervisory or SSHO site personnel (2 per site).</li> </ul>
<ul style="list-style-type: none"> <li>• OSHA 10 hour Construction Safety Training</li> </ul>	<ul style="list-style-type: none"> <li>• SSHO</li> </ul>
<ul style="list-style-type: none"> <li>• 29CFR1910.120(f)/29CFR1926.65(f)  On an annual basis under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine</li> </ul>	<ul style="list-style-type: none"> <li>• All site personnel performing Hazwoper regulated activities identified in section 2.4 of this APP.</li> </ul>
<ul style="list-style-type: none"> <li>• 29CFR1910.134(e)  On an annual basis under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine</li> </ul>	<ul style="list-style-type: none"> <li>• All site personnel performing Hazwoper regulated activities identified in section 2.4 of this APP and required to utilize respiratory protection</li> </ul>
<ul style="list-style-type: none"> <li>• 49CFR172.700  Renewal, every 3 years</li> </ul>	<ul style="list-style-type: none"> <li>• Each person who offers for transportation in commerce or transports in commerce hazardous materials</li> </ul>
<ul style="list-style-type: none"> <li>• Radiation Safety Awareness and XRF Operators Manual</li> </ul>	<ul style="list-style-type: none"> <li>• All site personnel working within ten feet of the XRF</li> </ul>

- Initial training required by 29CFR1910.120(e)(3)/29CFR1926.65(e)(3) shall be 40-hour or 24-hour training initial training, and 3-day/1 day on-the-job experience in accordance with employee's normal assigned duties and anticipated site conditions as applicable to the requirements of CFR1910.120(e)(3)(i)-(iv)/29CFR1926.65(e)(3) (i)-(iv). Site personnel performing operations falling under the requirements of 29CFR1910.120/29CFR1926.65 shall also have 8 hours of "refresher training" on an annual basis, in accordance with 29CFR1910.120(e)(8)/29CFR1926.65(e)(8).
- Onsite management and supervisors directly responsible for, or who supervise employees engaged in, hazardous waste operations and individuals designated as an SSH) shall also have an additional 8 hours of "management and supervisor" training defined by 29CFR1910.120(e)(4)/29CFR1926.65(e)(4).

- It is our intent to require site personnel designated with management, site supervisor, or SSHO responsibilities to maintain current American Red Cross or American Heart Association sponsored First Aid and Cardio-Pulmonary Resuscitation (FA-CPR) certifications. When a medical facility or physician is not accessible within 5 minutes of an injury to a group of two or more employees for treatment of injuries, at least two employees on each shift shall be trained to administer First Aid and CPR. These individuals have also been provided training in exercising universal precautions against exposure to blood borne pathogens as a component to FA/CPR training which meets the intent of 29CFR1910.1030. This employee training is also regularly complemented by other regularly scheduled employer training curriculums that are typically executed for the HAZWOPER industry, regulated under 29CFR1910.120/29CFR1926.26.
- All employees who perform work at hazardous waste sites or perform emergency response operations meeting the criteria of 29CFR1910.120(a)(1)(i)-(v)/29CFR1926.65(a)(1)(i)-(v) standards will be subject to the individual employer medical surveillance program requirements. AGVIQ, LLC. and CH2MHILL, Inc. medical surveillance programs conform to the requirements established by 29 CFR 1910.120(f)/1926.65 (f) and/or 29CFR1910.134(e).
- Certain key project site personnel that may be responsible for packaging, labeling hazardous materials for transportation will have received training in accordance with 49 CFR 172.700
- Employees being exposed to certain air borne chemicals or contaminants may require medical monitoring requirements defined by OSHA standards but outside of the medical monitoring requirements defined by 29CFR1910.120(f) or 29CFR1910.134(e), as applicable to anticipated site conditions.
- Where it is determined that employees will be performing certain assigned tasks (e.g., confined-space entry, scaffold, fall protection, forklift operations etc.), then training, additional to that identified above, will be applicable and must be provided by the employer.

### **6.3 6c. Procedures for Periodic Safety & Health Training of Supervisors and Employees**

Supervisor and employee training is routinely provided by the employee's employer (AGVIQ, LLC. or CH2M HILL, Inc.) as method of adhering to OSHA, DOT or other requirements. The types and frequency of routine training provided to AGVIQ-CH2M HILL program participants by AGVIQ, LLC. or CH2M HILL, Inc. is identified in Section 6.2 of this APP.

Supervisor and employee training is regularly supplemented through the regular implementation of AHA and daily safety meeting processes, which are detailed in section 10.0 Risk Management Process of this APP. Implementation of AHAs and daily safety meetings as a regular component to our RMP provides a routine procedure for conducting additional supervisor and employee “awareness training.” The desired result of the implementation of the RMP is to facilitate the identification and control of certain risks (or liabilities) that may be encountered during the execution of the project. Additionally, the implementation of our RMP processes establishes and maintains a level of expectation with regard to overall project and program health and safety performance.

## 6.4 6d. Requirements for Emergency Response Training

There are no specific requirements for emergency response training for this project other than the following:

- 29 CFR 1910.120(e)(3)/29CFR1926.65(e)(3) standard
- On the job experience associated with operations regulated by 29 CFR 1910.120(e)(3)/29CFR1926.65(e)(3) standard
- First Aid and CPR training and Blood Bourne pathogen training
- Review and become familiar with the requirements of section 9.2 Emergency Response Planning of this APP.
- Review and become familiar with and site/facility specific evacuation, emergency response or request for medical support procedures that be applicable to the execution of work at the project site.

Note: Confined Space Entry (CSE) rescue training under 29 CFR1910.146(k)(2)(iii-iv) for CSE operations is not applicable to this project.

# 7.0 Safety and Health Inspections

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## 7.1 7a. Specific Assignment of Responsibilities for minimum Daily Job Site Inspections

The AGVIQ-CH2MHILL site supervisor or SSHO are required to perform site inspections using the checklists/forms included herein **Attachment 4** of this APP or contained in the CH2M HILL, Inc. SOPs referenced herein. The forms included in **Attachment 4**, herein, are not intended to be an all inclusive detail of inspection forms/checklists which may be needed during the execution of this project, but is intended to represent a submittal basis only. Other applicable forms or checklists are contained in CH2MHILL Standards of Practice (SOP), referenced through section 9.0 of this APP, which are available in electronic format for AGVIQ-CH2MHILL program participants.

Site inspections/evaluations will be made by the site supervisor, SSHO or other designated AGVIQ-CH2MHILL representative, depending on assigned job function. Discrepancies or HS&E inconsistencies identified during inspection and evaluation process will be corrected as soon as practicable and documented on the Loss Prevention Observation (LPO) form and/or Deficiency Tracking System form included in **Attachment 9** of this APP. Serious inconsistencies that represent potential immediate harm or danger to an employee will be corrected immediately or controlled to a condition where it does not represent a threat to the employee. Inspections that identify Imminent Danger or Immediately Dangerous to Life and Health (IDLH) situations will require that work be immediately stopped and personnel removed from the work area until the situation is abated, corrected, or controlled to a non-hazardous condition.

The site supervisor or SSHO (when designated by the Project Manager or site supervisor) is responsible for conducting and preparing reports of inspections of work processes, site conditions and maintaining these documents for the project record, as necessary. Corrective actions resulting from discrepancies identified during inspections will be reviewed with the Project Manager and implemented, as necessary. Copies of these reports are maintained on file at the project locations.

A member of AGVIQ-CH2MHILL senior management or their designated representative may periodically conduct site visits and perform additional assessments of project health and safety performance, at their own discretion or at the request of a corporate official employee, site supervisor or manager. Any discrepancies identified as part of these inspection processes will be addressed with the Project Manager by the senior management team and may be corrected in the field if minor in nature.

The following is a typical list of the type and frequency of inspections that may be associated with this project and what individuals should perform such inspections.

<b>Inspection Type</b>	<b>Designated Person</b>	<b>Frequency</b>
Loss Prevention Observation	Any site personnel, but typically the Site Supervisor, SSHO or QCM	Weekly
Deficiency Tracking Log (includes general site inspection)	Any site personnel, but typically the Site Supervisor, SSHO or QCM	Entered Daily
Fire Extinguishers	Any site personnel, but typically the Site Supervisor, SSHO or QCM	Once Monthly Once Annually
Excavations	Excavation Competent Person	Daily with open excavations
Project Audits	Program level: managers, health and safety professionals or quality control managers	Typically once per project but is dependent upon project complexity and size
First Aid Kits	Any site personnel, but typically the Site Supervisor, SSHO or QCM	Before onsite use and at least every 3 months or more frequently depending on use
Hand and Power Tools	Individual using tool	Before Use
Electric Cords and GFCI's	Individual using electric cord and GFCI	Before Use

## 7.2 7b. External Inspections/Certifications

The following is a list of potential external inspections that may be or will be required by NAVFAC.

- Issuance of NAVFAC Excavation Permit
- Issuance of Navy Hot Work Permit by the NAS Whiting Field Fire Department Inspector, as necessary.

# 8.0 Accident Reporting and Investigation

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## 8.1 8a. Exposure Data (man-hours worked)

Because the AGVIQ-CH2M HILL Joint Venture is composed of two separate and distinct corporations operating together in a business partner arrangement, both corporations separately record and report information related to annual labor hours and workplace injuries and illnesses as required by 29 CFR 1904. Where annual summary postings are required under 29 CFR 1904.32(b)(6), they will be posted as separate documents by AGVIQ, LLC, and by CH2M HILL, Inc., in our appropriate workplace environment(s). In addition, because AGVIQ-CH2M HILL operates as a business partnership and not as a single business entity, AGVIQ-CH2M HILL does not maintain a jointly established Experience Modification Rate.

However, designated employee representatives from the AGVIQ-CH2M HILL Joint Venture programs tabulate and track labor hours posted to the AGVIQ-CH2M HILL program and lost work day and recordable incident information attributable to the execution of all AGVIQ-CH2M HILL Joint Venture program contracts and issued contract task orders. This process is executed for the purpose of establishing a safety performance history associated for our business partnership. AGVIQ-CH2M HILL safety performance data is extrapolated from the following:

- Tabulated Employer Labor Hours
- Established Incident Reporting Processes
- Incident Investigation Reports
- Formal Project Audits

To date, the AGVIQ-CH2M HILL Joint Venture programs has expended over 782,054.5 labor hours, from 2003 through November, 2011. During this period, three (3) OSHA other recordable cases and one (1) Days Away, Restriction, or Transfer (DART) or “lost work day” case and zero (0) fatalities have been attributed to completed or ongoing AGVIQ-CH2M HILL Joint Venture program projects. With this information available the following can be determined:

- Days Away, Restriction, or Job Transfer (DART) Incident Rate:  
$$\frac{\text{Number of DART Cases} \times 200,000}{\text{Number of Hours Worked}}$$
$$\text{DART Incident Rate} = \frac{1 \times 200,000}{782,054.5} = 0.26 \quad \text{AND}$$
- OSHA Recordable Incident Rate:  
$$\frac{\text{Number of OSHA Total Recordable Cases} \times 200,000}{\text{Number of Hours Worked}}$$
$$\text{OSHA Total Recordable Case Rate} = \frac{3 \times 200,000}{782,054.5} = 0.77$$

No DART cases or other recordable cases have been experienced for AGVIQ, LLC. or CH2M HILL, Inc. employees participating in the AGVIQ-CH2M HILL Joint Venture since 2008.

For the Construction (North American Industry Classification System [NAICS] code -23) and Remediation Services (NAICS code - 56291) industries, which is typical of the contract work that AGVIQ-CH2M HILL typically executes, the AGVIQ-CH2M HILL calculated DART and OSHA Recordable Incident Rates for our entire operating period, are currently well below DART Incident Rate (IR) and OSHA Recordable Incident Rate tabulated by the 2008 United States Bureau of Labor Statistics (USBLS) for these industries (see below).

- USBLS IR Construction Benchmark (2009): 4.2 <sup>1</sup>
- USBLS DART Construction Benchmark (2009): 2.3 <sup>1,2</sup>
- USBLS IR Remediation Services Benchmark (2009): 3.2 <sup>3</sup>
- USBLS DART Remediation Services (NAICS Code 56291) Benchmark (2009): 1.5 <sup>2,3</sup>

<sup>1</sup> NAICS Code 23

<sup>2</sup> DART total "all sizes"

<sup>3</sup> NAICS Code 56291

## 8.2 8b. Accident Investigations, Reports and Logs

Completion of incident and near-miss incident investigation reports for the AGVIQ-CH2M HILL Joint Venture shall be performed using the forms in **Attachment 10** of this APP and generally via the procedures identified herein. The AGVIQ-CH2M HILL Program CIH, HSPA, or their designee (SSHO, site supervisor, project manager), conducts accident/incident investigations and prepares the required incident or near-miss incident investigation reports for the following conditions:

- Near Miss Incidents
- DART or other OSHA recordable cases
- Spills, releases, discharges, or environmental violations
- Property damage incidents resulting in over \$1,000 of loss
- A fatal injury \*
- A hospitalization of three or more people resulting from a single occurrence \*
- A weight-handling equipment incident
- A permanent total disability
- A permanent partial disability

\* Within eight (8) hours after the death of any employee from a work-related incident or the in-patient hospitalization of three or more employees as a result of a work-related incident, you must orally report the fatality/multiple hospitalization by telephone or in person to the Area Office of the Occupational Safety and Health Administration (OSHA), U.S.

Department of Labor, that is nearest to the site of the incident. You may also use the OSHA toll-free central telephone number, 1-800-321-OSHA (1-800-321-6742).

Completed incident and near miss incident investigation reports are reviewed by the CIH/HSPA, Project Manager (overall), site management (SSHO, site Supervisor) team and Program Management team. Incident and near-miss incident reports must be submitted to the Project Manager, Program CIH/HSPA and the Program Management team, as soon as possible, but no longer than 24 hours. At a minimum the Project Manager and Program Management personnel, including the Program CIH must be verbally notified, immediately or in a case where emergency medical treatment is required, as soon as injured personnel have been transported to and received by a medical treatment facility.

Except for rescue and emergency measures, the accident scene shall not be disturbed until it has been released by the investigating official. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law enforcement, and regulatory agencies. The Contractor shall assist and cooperate with personnel conducting investigations on behalf of NAVFAC.

In addition to the incident and near-miss incident investigation report forms contained in **Attachment 10** of this APP, for all OSHA recordable accidents, property damage in excess of \$2,000 a Contractor Significant Incident Report (CSIR) must also be completed. If the CSIR is being used as initial notification of a Fatality or High Visibility Mishap. The initial form is due within 4 hours of a serious accident. A CSIR form marked 'Follow-up' or 'Final' is required within 5 days.

### 8.2.1 8c. Immediate Accident Notification Criteria

In addition to the above, the Project Manager (or site supervisor when designated by the Project Manager or Program Management team) must also be responsible for reporting all injuries to NAVFAC as soon as reasonably possible but no later than 24 hours. Where an incident has, or appears to have, any of the consequences listed below, these incidents shall be immediately reported to NAVFAC.

- a. Fatal injury/illness;
- b. Permanent totally disabling injury/illness;
- c. Permanent partial disabling injury/illness;
- d. The hospitalization of three (3) or more people resulting from a single occurrence;
- e. Property damage of \$200,000 or more
- f. Arc Flash Incident/Accident

### 8.2.2 Best Management Practices for Incident Investigation

The causes of loss and near-loss incidents can be similar, so by identifying and correcting the causes of loss and near-loss incidents, future loss incidents may be prevented. When loss or near-loss incidents occur, identifying and correcting conditions or acts that create these incidents can be achieved by engaging the following processes:

1. Gathering all relevant facts, focusing on fact-finding, not fault-finding, while answering the "who, what, when, where, and how" questions.
2. Draw conclusions, putting facts together into a probable scenario.
3. Determine the incident root cause(s) and contributing factors of incidents. These are basic factors on why or how conditions or acts are created that result in incidents.

4. Develop and implement solutions, matching all identified root causes and contributing factors with solutions so that future conditions or acts that have attributed to incidents are eliminated in the future.
5. Communicate incident as a lesson learned to all project personnel.
6. File follow-up on implemented corrective action to confirm solution is appropriate.

The purpose of an incident investigation is to understand how the incident happened, analyze the root causes, and prevent recurrence by implementing corrective actions. To conduct an effective investigation, all information must be as detailed and comprehensive as possible. The investigation must be based on facts that clearly identify the sequence of events and the factors that contributed to the incident. The investigation team should not be involved with any punitive actions resulting from the investigation. Fairness and impartiality are essential. The following provides general Best Management Practice guidance in completing incident investigations.

1. An unbiased approach is necessary to obtain objective findings.
2. Visit the accident scene as soon as possible while the facts are fresh and before witnesses forget important details.
3. If possible, interview the injured worker at the scene of the accident and "talk" through re-enactment.
4. Conduct all interviews as privately as possible. Interview witnesses individually and separately. Talk with anyone who has knowledge of the accident/incident, even if he/she did not actually witness it. Only retrieve witness statement from individuals who actually observed the accident/incident. Document witness interviews.
5. Document details graphically. Use the IRF as well as sketches, diagrams, and photographs as needed. Take measurements where appropriate.
6. Focus on the causes and hazards leading to the accident/incident. Develop an analysis of what happened, how it happened and how it could have been prevented. Determine what caused the accident/incident itself, not just the injury.
7. Include a Corrective Action plan in every investigation. Describe how you will prevent such accidents in the future. Completion of the Root Cause Analysis may assist in the formulation of such plans.
8. Save any evidence if a third party or defective product contributed to the accident/incident. It should be critical to the recovery of claims costs.

# 9.0 Plans Required by the Safety Manual

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## 9.1 9a. Layout Plans (04.A.01)

Site locus maps, layout plans, haul route maps, drawings, or sketches are included in the project WP, for which this APP is an integral component of and need not duplicated in this section of this APP. Site locus maps, layout plans and drawings are identified in the project WP as follows:

## 9.2 9.b Emergency Response Plans (01.E)

### 9.2.1 Emergency Planning/Preparedness

**(Reference CH2MHILL SOP # HSE&Q 106, Emergency Planning)**

The site supervisor and/or SSHO performs the applicable pre-emergency planning tasks before starting field activities and coordinates emergency response with onsite parties, the NAVFAC POCs, and local emergency-service providers as appropriate. These pre-emergency planning activities include the following:

- Review any host facility emergency and contingency plans, where applicable, or determine how host facility emergency and contingency plans effect, or are implemented at the project site location.
- Determine what onsite communication equipment is necessary and available (e.g., two-way radio, air horn, nearest telephone, cell phones etc.).
- Verifying sufficient resources are available so that the “Buddy System” can be used for all assigned work.
- Confirm and post emergency telephone numbers, evacuation routes, assembly areas, and route to hospital; communicate the information to onsite personnel. Posting of emergency contact information shall be posted in a commonly accessed area in clear view of the onsite workers.
- Review changed site conditions, onsite operations, and host facility/outside agency responders accessibility/availability in relation to emergency response conditions.
- Designate one vehicle as the emergency vehicle; place hospital directions and map inside; keep keys in ignition during field activities.
- Inventory and check site emergency (first aid kits/eye wash etc., equipment, supplies, and potable water).
- Rehearse the emergency response plan before site activities begin, including driving route to hospital.
- Brief new workers on the components of the APP and emergency response procedures.

- Communicate emergency procedures for personnel injury, exposures, fires, explosions, and releases.
- Where appropriate and acceptable to the client, inform emergency room and ambulance and emergency response teams of anticipated types of site emergencies.

### 9.2.2 Emergency Equipment and Supplies

The site supervisor/SSHO shall verify the availability and readiness of emergency support equipment listed below.

Emergency Equipment and Supplies	Location
20 LB (or two 10-lb) fire extinguisher (A, B, and C classes) w/ annual maintenance and monthly inspection tags	Construction Support Area and AST fuel storage tank
First aid kit/CPR Shield	Construction Support Area or Field Vehicle
Eye wash	Construction Support Area or Field Vehicle
Potable water	Construction Support Area
Blood borne-pathogen kit	Construction Support Area or Field Vehicle
Additional equipment (specify): Mobile phone and contact information	Construction Support Area or Field Vehicle for site supervisor/site management and SSHO at a minimum
Spill Control/Clean-up Materials/Proper Spill Response PPE	Construction Support Area/ AST fuel storage tank

### 9.2.3 Evacuation

The Site Supervisor/SSHO will direct the coordination of response to emergency or medical support situations. Response considerations include the following elements:

- Evacuation routes and assembly areas will be specified at the commencement of field work. Evacuation route(s) and assembly area(s) will be designated by the site supervisor or SSHO before work begins and posted at the designated evacuation rally point or construction support facility.
- Personnel shall be advised of the assembly and accounting process during emergency conditions, able to understand evacuation signals and know where final evacuation assembly areas are located. The site supervisor or SSHO will account for personnel assembly area(s).
- Designation of a vehicle to be available to support emergency conditions or response actions.
- Evaluation of existing and potential hazards that may be associated with any experienced emergency condition and mitigation measures necessary to control hazards so the response measures can be executed without additional danger.
- Assessment of the situation and condition of any victims.

- f) Determination of the resources needed for victim stabilization and transport and additional emergency support.
- g) Enforcement of the Buddy System. No one will be permitted to perform a response to an emergency condition alone.
- h) Removal of injured personnel from the area and/or control of the emergency condition.
- i) Decontamination of injured parties will be accomplished after stabilization of their medical conditions, where necessary. Gross decontamination maybe required if their condition poses immediate threat to the victim's life. If decontamination may cause additional harm to an injured person, then alternate measures such as wrapping the injured person in material to prevent the spread of contamination during extrication and transport may be required. In this situation, emergency medical transport personnel and the receiving medical facility must be advised of potential contamination issues of injured personnel, as early as possible.

Evacuation signals for the project site are listed below.

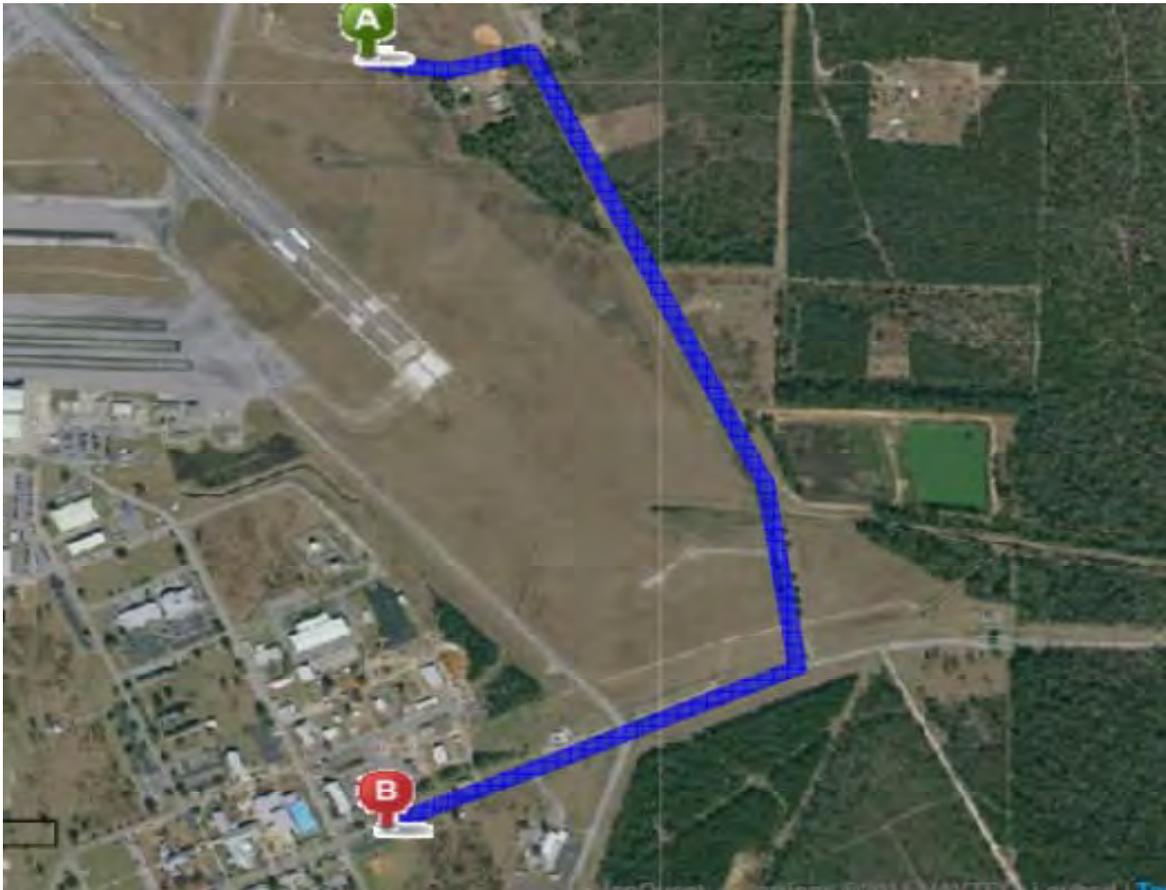
Signal	Meaning
Grasping throat with hand	Emergency-help me.
Thumbs up	OK; understood.
Grasping buddy's wrist	Leave area now.
Continuous sounding of horn	Emergency; leave site now.
<b>(Verify signal does not coincide with evacuation signals for government personnel in close proximity to the site)</b>	
Severe Weather Warnings (radio, TV, internet)	Leave the region in accordance with the facility evacuation orders or directives from program/project management team

Figure 9-1, below, is depicts an Evacuation Route Map. This evacuation route map could be used for evacuation due to pending severe weather conditions, site emergency or in the event that was being evacuated and secured due to a to a national emergency.

**FIGURE 9-1**

**Evacuation Route Map - Gunnery Range**

*(Total distance about 1.4 miles @ 3 minutes)*



**Procedure**

When a site emergency evacuation signal is given or required, all site personnel shall shut down operations and equipment, complete any personnel decontamination procedures, secure the site to the extent possible and proceed to **initial rally point** (approximately **Point A** of the Map) at the site. All site personnel shall be accounted for before leaving the site to the initial rally point (approximately **Point B** of the Map). From here, site personnel will receive further direction from the site POC. Notify the AGVIQ-CH2MHILL management team in accordance with Figure 4-1 "Incident Reporting Process and Chain of Command" and Attachment 4 "Emergency Contact List" of this APP and secure further instructions.

Directions	Distance
Start out going east toward USS Intrepid Rd.	~ 0.2 miles
Turn <b>right</b> onto USS Intrepid Rd.	~ 0.7 miles
Turn <b>right</b> onto Langley St/ CR-87A.	~ 0.4 miles
<b>7281 LANGLEY ST is on the left.</b> <ul style="list-style-type: none"> <li>• Your destination is 0.1 miles past USS Yorktown St</li> <li>• If you reach USS Saratoga St you've gone a little too far</li> </ul>	~ 0.1 miles

**AGVIQ-CH2MHILL Project - Emergency Contacts**

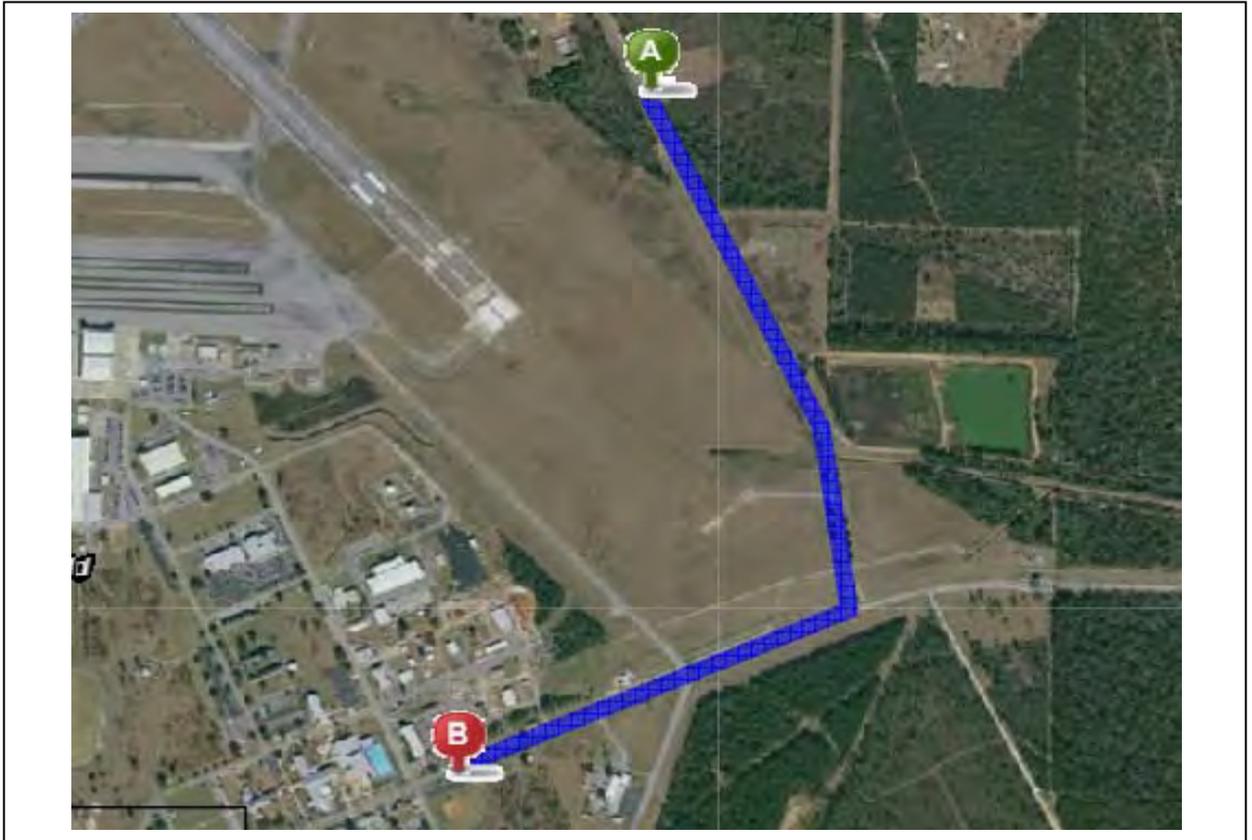
Sidney Allison - SBRAC Program Manager: Phone (843) 242-8018/ (843) 813-2672 (cell)

Michael Halil - SBRAC Deputy Program Manager: Phone (904) 777-4812 x 233/ (904) 219-6277 (cell)

Amy Twitty - Project Manager (overall): (850) 232-0320

FIGURE 9-1

**Evacuation Route Map – Skeet Range**  
*(Total distance about 1.1 miles @ 3 minutes)*



**Procedure**

When a site emergency evacuation signal is given or required, all site personnel shall shut down operations and equipment, complete any personnel decontamination procedures, secure the site to the extent possible and proceed to **initial rally point** (approximately **Point A** of the Map) at the site. All site personnel shall be accounted for before leaving the site to the initial rally point (approximately **Point B** of the Map). From here, site personnel will receive further direction from the site POC. Notify the AGVIQ-CH2MHILL management team in accordance with Figure 4-1 “Incident Reporting Process and Chain of Command” and Attachment 4 “Emergency Contact List” of this APP and secure further instructions.

Directions	Distance
Start out going <b>south</b> on <b>USS Intrepid Rd</b> toward <b>Langley St / CR-87A</b>	~ 0.6 miles
Turn <b>right</b> onto <b>Langley St / CR-87A</b> .	~ 0.4 miles
<b>7281 LANGLEY ST</b> is on the <b>left</b> . <ul style="list-style-type: none"> <li>• <i>Your destination is 0.1 miles past USS Yorktown St</i></li> <li>• <i>If you reach USS Saratoga St you've gone a little too far</i></li> </ul>	~ 0.1 miles

**A AGVIQ-CH2MHILL Project – Emergency Contacts**

Sidney Allison – SBRAC Program Manager: Phone (843) 242-8018/ (843) 813-2672 (cell)  
 Michael Halil – SBRAC Deputy Program Manager: Phone (904) 777-4812 x 233/ (904) 219-6277 (cell)  
 Amy Twitty – Project Manager (overall): (850) 232-0320

### 9.2.4 9.b(1) Procedures and Tests (01.E.01)

It is the intention of the project team to verify that emergency response processes are in place and capable of being executed, prior to the start of field assignments. However, because of the secure nature of the facility, response to medical or fire emergencies will most likely be by installation personnel or even possibly by outside public responders with secured or escorted access. As such, it may be impractical and disruptive to the primary mission of these responders to perform “procedural response testing”. In this case, the designated site supervisor or SSHO shall verify that emergency services are available for response, that contact information is appropriate, and that responders know how to access anticipated work areas.

### 9.2.5 9.b(2) Spill Plans (01E.01, 06.A.02)

The initial response to any spill or discharge will be to protect human health and safety, and then the environment. Identification, containment, treatment, and disposal assessment will be the secondary response.

If for some reason a chemical spill is not contained, but inherent process, contained within a dike or sump area, an area of isolation must be established around the spill. When any spill occurs, only those persons involved in overseeing or performing emergency operations will be allowed within the designated hazard area and must maintain appropriate training, and be enrolled in a medical surveillance program in accordance with the requirements of 29CFR1910.120 and possess proper experience and PPE, to do so.

The onsite emergency coordinator will inform the proper agencies of all spills. A Project Emergency Contact List is provided in **Attachment 5** of this APP. For work at this site, it is the AGVIQ-CH2MHILL’s understanding that chemicals or materials that could create a threat to the health or safety to the surrounding community in the event of a spill or release will not be brought onsite as part of our scheduled work.

Reporting of spills or releases of oil or hazardous materials to appropriate agencies and stakeholders (i.e. NAVFAC, EPA, US Coast Guard, State DEP, the LECA etc.) must be performed when spilled or released quantities of oil or hazardous materials are in excess of established Reportable Quantities (RQs) for the material in questions.

In a spill or release response/containment, personnel shall take the following measures:

- Immediately warn any nearby workers and notify individual responsible for site operations.
- Assess the spill area to ensure that it is safe to respond.
- Evacuate area if spill presents an emergency.
- Provide notification to project stakeholders.
- Ensure all unnecessary persons are removed from the hazard area.
- Put on protective clothing and equipment.
- If a flammable material is involved, remove all ignition sources, and use only spark- and explosion-proof equipment for recovery of material.

- Remove all surrounding materials that could be especially reactive with materials in the waste. Determine the major components in the waste at the time of the spill.
- Stop source of spill and establish site control for spill area.
- If wastes reach a storm sewer, dam the outfall by using sand, earth, sandbags, etc. Pump this material out into a temporary holding tank or drums as soon as possible.
- Place all small quantities of recovered liquid wastes (55 gallons or less) and contaminated soil into drums for incineration or removal to an approved disposal site.
- Apply appropriate spill control media (e.g., clay, sand, lime) to absorb discharged liquids.
- For large spills, establish diking around leading edge of spill using booms, sand, clay, or other appropriate material. If possible, use diaphragm pump to transfer discharged liquid to drums or holding tank. Follow proper ground and bonding procedures of equipment during recovery efforts. Intrinsically safe equipment must be used in recovery operations.
- For small fires or chemical releases, actions to be taken include the following:
  1. Shut down operations and evacuate the immediate work area
  2. Notify appropriate response personnel
  3. Account for personnel at the designated assembly area(s)
  4. Assess the need for site evacuation, and evacuate the site as warranted

Instead of implementing a work-area evacuation, small fires or spills posing minimal safety or health hazards may be controlled by onsite personnel, assuming that personnel who respond to these emergencies are properly trained to do so and wearing appropriate PPE to protect themselves against hazards that may be associated with the response.

In addition to the above, AGVIQ-CH2MHILL will have project field staff that are trained in accordance with 29CFR1910.120, are enrolled in a medical surveillance program meeting the criteria of 29CFR1910.120(f) and have previous experience training to mitigate unanticipated small releases of materials that could occur on this project (i.e. Petroleum, Oil or Lubricants) and spill materials that will be readily available at the project site.

#### 9.2.5.1 Anticipated Hazardous Materials (06.A.02)

The following is a list of hazardous materials or chemicals that may be brought onsite and incorporated as part of the final completion of the work, generated during the execution of the work for offsite disposal or recycling or otherwise used to facilitate site work. These hazardous materials or chemicals may require spill prevention and countermeasure control processes to ensure sensitive environmental receptors are not adversely impacted in the event of a spill or release of these materials.

- Marking Paint
- Insect repellent(s)

### 9.2.5.2 Notification

In the event a spill occurs that requires notification, a project person shall follow the “AGVIQ-CH2MHILL Incident Notification Process and Lines of Authority” organizational chart identified in **section 4.4** of this APP.

In addition, the AGVIQ-CH2MHILL Project Manager shall make notification to the designated project NAVFAC Point of Contact (POC) and environmental compliance representative(s) or other designated NAVFAC personnel, such that additional appropriate community and/or federal/state agencies may be engaged and notified, as applicable. The AGVIQ-CH2MHILL overall Project Manager shall coordinate with the designated project NAVFAC POC for support with regard to adhering to local, state, or federal regulations for spill notification clean-up and closure requirements.

### 9.2.6 9.b(3) Firefighting Plan (01.E.01, Section 19)

AGVIQ-CH2MHILL personnel ARE NOT considered Firefighting Organizations or Fire Brigades. Only “small/containable”, incipient stage fires that are containable by the use of first response fire protection equipment (i.e. 2.5 to 20 lb ABC fire extinguishers) may be controlled by AGVIQ-CH2MHILL personnel. All other response shall be considered firefighting measures and shall be conducted by facility provided or public agency firefighting teams.

All fire prevention measures and portable first response fire protection equipment shall be in accordance with the information identified in Section 9.7 Health and Safety Hazard Control Program – Fire Prevention, and Section 9.2 Emergency Response Plans of the APP, respectively.

### 9.2.7 9.b(4) Posting of Emergency Telephone Numbers (01.E.05)

Emergency contact numbers appropriate to project operations are included in **Attachment 5** of this APP and are referenced as the “Emergency Contact List”. For this project it is anticipated that a temporary project construction support trailer will be mobilized to and established at the project site (approximately at Point A of Figure 9-1). Posting of emergency contact information shall be posted in a commonly accessed area of the temporary construction trailer and in clear view of the onsite workers. This action shall be considered as meeting the intent of EM 385 1-1, 01.A.06 and 01.E.05.

### 9.2.8 9.b(5) Man Overboard / Abandon Ship (19.A.04)

(Reserved)

Man overboard/abandon ship scenarios are not applicable to this TO.

### 9.2.9 9.b(6) Medical Support

Location and direction to the local emergency medical support facility shall be posted in a commonly accessed area of the temporary construction trailer and in clear view of the onsite workers.

In addition, the project shall be outfitted with first aid kits of suitable size and quality (contents) to meet health and safety requirements for onsite first aid and CPR response. Personal protective devices shall be provided such that universal precautions against blood borne pathogens can be exercised while administering CPR or first aid. Eye wash stations, either portable or stationary, will be available.

Procedures for the decontamination and medical treatment of injured personnel are provided in section 1.2.18 of **Attachment 1** of this APP (Site Specific Safety and Health Plan).

An effective means of communication and to summon transportation of injured workers to medical treatment facilities must be evaluated and established prior to the start of field activities. Communication devices shall be tested in the area of use to assure functionality. When a medical facility or physician is not accessible within five (5) minutes of an injury to a group of two or more employees for the treatment of injuries, at least two (2) employees on each shift shall be qualified to administer first-aid and CPR.

Injuries and illnesses experienced by AGVIQ-CH2MHILL personnel must also be reported to the Project and Program Management team identified in section 4.0 this APP and Human Resources contacts on the Emergency Contact List in **Attachment 5** of the APP. If there is doubt about whether medical treatment is necessary, or if the injured person is reluctant to accept medical treatment, contact the designated employer medical consultant or seek the evaluation form any Emergency Medical Services (EMS) Support personnel, as applicable, who may respond to onsite emergencies.

**It must be understood that for life threatening emergencies, get or summon medical attention immediately.**

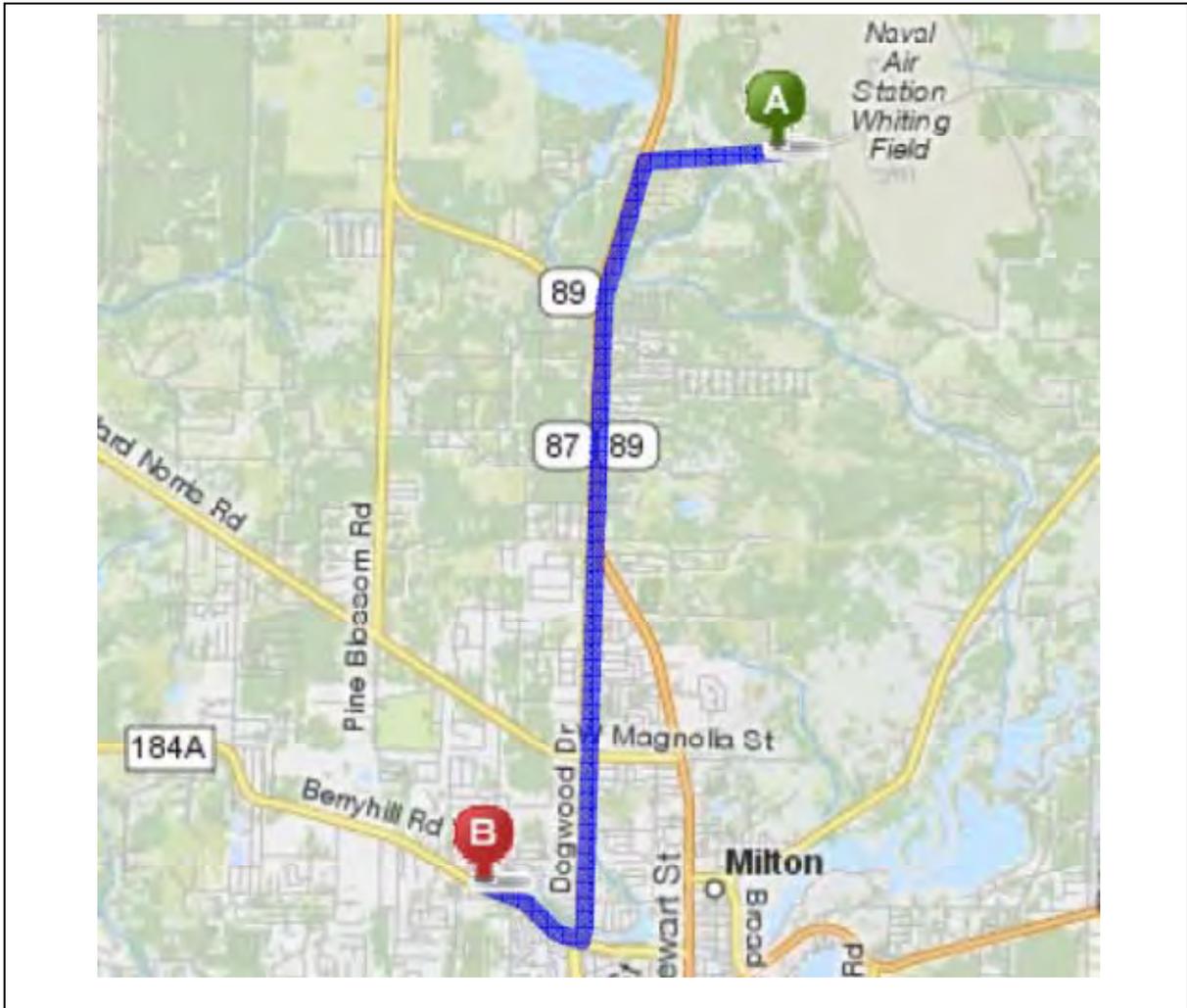
During non-emergencies, follow these procedures as appropriate.

- Notify appropriate emergency response authorities (e.g., 911).
- The Site Supervisor or SSHO will assume charge during a medical emergency until the ambulance arrives or until the injured person is admitted to the emergency room.
- Prevent further injury.
- Initiate first aid and CPR where feasible and where worker "Universal Precautions" to Blood borne Pathogens can be completed.
- Perform decontamination where feasible; lifesaving and first aid or medical treatment take priority.
- Make certain that the injured person is accompanied to the emergency room.
- When contacting the medical consultant, give your name and telephone number, the name of the injured person, the extent of the injury or exposure, and the name and location of the medical facility where the injured person was taken.
- Report incident as outlined in Section 8.0 and in accordance with the "Primary Lines of Authority identified in section 4.4 of this APP.

**A map showing the route to the local hospital is shown on Figure 9-2.**

FIGURE 9-2

Hospital Route Map  
 (Total distance about 7.3 miles @ ~ 12 minutes)



Directions	Distance
Start out going west on Langley St toward Westgate Dr.	~ 1.0 miles
Turn <b>left</b> onto <b>SR-87 S</b> .	~ 2.6 miles
Stay <b>straight</b> to go onto <b>SR-89 S</b> .	~ 3.0 miles
Turn right onto Berryhill Rd/CR-184A. <ul style="list-style-type: none"> <li>• Berryhill Rd is 0.2 miles past Sunnyside Dr</li> <li>• - If you reach Hamilton Bridge Rd you've gone about 0.2 miles too far</li> </ul>	~ 0.8 miles
<b>6002 BERRYHILL RD is on the right.</b> <ul style="list-style-type: none"> <li>• Your destination is 0.1 miles past Vanity Fair Rd</li> <li>• If you reach Doctors Park Dr you've gone a little too far</li> </ul>	

**Santa Rosa Medical Center**  
 6002 Berryhill Rd  
 Milton, FL 32570

**Dispatch# 911**

(850) 626-7762

**AGVIO-CH2MHILL Project - Emergency Contacts**

Sidney Allison - SBRAC Program Manager: Phone (843) 242-8018/ (843) 813-2672 (cell)  
 Michael Halil - SBRAC Deputy Program Manager: Phone (904) 777-4812 x 233/ (904) 219-6277 (cell)  
 Amy Twitty - Project Manager (overall): (850) 232-0320

### 9.3 9.c Plan for Prevention of Alcohol and Drug Abuse (01.C.02)

The AGVIQ-CH2MHILL policy statement on alcohol and drug abuse is provided in Section 10.5 of the APP, and will not be elaborated further upon in this section.

### 9.4 9.d Site Sanitation Plan (2)

Toilet facilities for this project shall be of the pre-manufactured, temporary/portable type chemical toilets typical of construction projects and shall be constructed so the occupants are protected against weather and falling objects (reasonably sized); all cracks shall be sealed; and the door shall be tight-fitting, self-closing, and capable of being latched. Adequate ventilation (natural via vents) shall be provided and all windows and vents shall be screened. Toilet facilities shall be lighted via natural lighting. Provisions for routinely servicing and cleaning all toilets and disposing of the sewage shall be established before placing toilet facilities into operation. The method of sewage disposal shall be managed by the temporary/portable toilet vendor. Separate toilet rooms for each sex need not be provided if toilet rooms can only be occupied by one person at a time can be locked from the inside, and contain at least one toilet seat.

Washing facilities shall be provided within or adjacent to the temporary/portable type chemical toilet facilities and as needed to maintain healthful and sanitary conditions. If it is not practical to provide a water source for hand washing due to low ambient air temperatures (~32°F) running water, then hand sanitizers may be used as a substitute. Trash and garbage generated by the normal site operations must be properly stowed, containerized, and secured such that vermin will not be attracted and disposed of off-site on a regular basis.

Temporary sanitary facilities will be located adjacent to the construction support area trailer. The construction support trailer will contain necessary administrative support equipment, required to execute the TO.

### 9.5 9.e Access and Haul Road Plan (4.B)

The site access and haul road for the project site has not been authorized by NAS Whiting Field/NAVFAC at the time this APP was prepared. It is assumed that the project haul route will be established on or before the project pre-construction meeting, but at this time it is anticipated to be as identified in the WP.

### 9.6 9.f Respiratory Protection Plan (05.G)

**(References: CH2M HILL SOP # HSE&Q 121, Respiratory Protection, TIKIGAQ Corporation Respiratory Protection Program)**

It would be impractical to include each employer Respiratory Protection Program applicable to each site worker within the body of this APP. However, the following are critical components to the viability of our employer Respiratory Protection Programs. The following information is provided to identify critical components for Respiratory Protection Program requirements as applicable to EM 385 1-1 Appendix A and 05.G.03 as related to the

anticipated overall operations of this TO. Other employer Respiratory Protection Program requirements of 29 CFR 1910.134 are met individually by each employer who may be covered by this APP.

### **9.6.1 Program Administration**

Each person required to utilize respiratory protection devices, except those voluntarily using only filtering face pieces (i.e. dust masks) must be included in an employer developed respiratory protection program and shall only use respirators approved by the National Institute of Occupational Safety and Health (NIOSH). Each employer executing operations under this TO, whose employees use respiratory protection devices shall be responsible for administering their own Respiratory Protection Program and will be administered by personnel who are technically qualified to develop, implement and update the program as necessary. The employer designated qualified person shall evaluate respiratory hazards at the facility/project, select appropriate respirators based on facility/project hazards or potential hazards, and train employees on the use of selected respirators as well as enroll their employees in an applicable medical surveillance program.

### **9.6.2 Evaluation of Workplace Respiratory Hazards and Selection of Respirators**

For AGVIQ-CH2M HILL projects, evaluation of potential work place, or in this case project specific, respiratory hazards and selection of appropriate respiratory protection is initially completed during the project proposal review phase and then further validated during the project planning phase when the project APP is developed. This evaluation is based on available Client provided site information and historical monitoring records.

### **9.6.3 Medical Evaluations of Personnel Required to Use Respirators**

All personnel who wear a respirator, except those voluntarily using only filtering face pieces (i.e. dust masks), shall be given a medical evaluation prior to use and at least annually thereafter. A respirator user shall be medically evaluated by a licensed physician who is knowledgeable in occupational medicine, preferable board certified in occupational medicine where possible, to determine if an employee is capable of wearing a respirator without endangering their health or safety. The medical evaluation of the employee shall be performed in accordance with 29 CFR 1910.134, Respiratory Protection or other applicable OSHA standards (i.e. 29CFR1910.120/29CFR1926.65 etc.) that may apply to the employer's work classification and the employee's assigned duties. A written authorization for respirator use shall be provided by the licensed physician and the authorization must be included in the employee's permanent record.

### **9.6.4 Fit Testing Procedures for Tight-Fitting Respirators**

Before an employee may be required to use any respirator with a negative or positive pressure tight-fitting face piece, the employee must be "fit tested" for each make, model, style, and size of respirator that will be used. A fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol.

A fit test is conducted only when there is not any hair growth between the skin and the face piece sealing surface, such as hair, stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface.

## **9.6.5 Procedures of the Care, Use, Maintenance and Storage of Respirators**

### **9.6.5.1 Respirator Cleaning**

Respirators shall be cleaned after every use, or more often if necessary, to ensure they are maintained in a clean and sanitary condition and in accordance with the manufacturer's requirements. Respirators shall be sanitized between uses if the respirator is not assigned for one individual's use. This shall be done in accordance with manufacturer's requirements with an approved sanitizing solution.

### **9.6.5.2 Respirator Inspection**

Respirators shall be inspected by the wearer before each use and during respirator cleaning. The inspection shall include an examination of all respirator components for obvious damage or defects and a check of all rubber components for pliability and signs of deterioration. Respirators found to be damaged or defective during the inspection shall be taken out of service or repaired by a qualified person. Follow the manufacturer's inspection procedures.

### **9.6.5.3 Respirator Storage**

Respirators shall be properly stored to protect against contamination, dust, extreme temperatures, excessive moisture, damaging chemicals, and direct sunlight. They shall be packed or stored to prevent deformation of the face piece and exhalation valve. Respirators should be stored in their original carton or carrying case, or suitably protective alternate.

## **9.6.6 Training of Employees in the Proper Use of Respirators**

Prior to using any respiratory protective equipment, personnel who are required to wear respiratory protection devices shall review or provided a detailed brief or training on components of the Respiratory Protection Program that is most applicable to the employee. In addition, prior to wearing any respiratory protection device the employee, at a minimum, shall be trained in accordance with 29 CFR 1910.134.

## **9.6.7 APR Cartridge or Canister Change-out Schedule**

OSHA respiratory protection standards stipulate that a cartridge or canister change-out schedule is established and implemented when air-purifying respirators (APR) without cartridge or canister end-of-service-life indicators (ESLI), are used for worker protection against gases and vapors.

If respiratory protection is required during the performance of this TO, a detailed change out schedule will be developed in consultation with the project CIH.

## **9.6.8 Procedures for Regularly Evaluating the Effectiveness of the Program**

In any workplace where an employer has established a respiratory protection program to protect the health of the employee via the use of respiratory protection devices, the employer shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use. The program shall be evaluated to ensure that it is properly implemented and to consult employees to ensure that they are using the respirators properly. The employer shall regularly consult employees required to use respirators to

assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected.

### **9.6.9 Voluntary Respirator Use Guidelines**

If an employee requests a respirator for voluntary use, all aspects of this program shall be implemented. The employee shall also be given a copy of 29 CFR 1910.134 App D.

## **9.7 9.g Health and Safety Hazard Control Program (06.A)**

Exposure to certain project specific hazards in the work place may include injury/ accidents, occupational illnesses or property damage due to execution of a variety of assigned tasks or as a result of existing site conditions. This section of the APP is provided to aid employees in the recognition of potential specific and general project hazards and provide procedures and practices to be implemented on the project site that may facilitate the reduction or elimination of occupational incidents that may be attributed to identified projects hazards. All AGVIQ-CH2MHILL personnel are required to contact the designated Project Manager, SSHA, Program CIH/HSPA identified in this APP regarding any questions or concerns to ensure the execution of this task order in a healthy and safe manner.

### **9.7.1 Adverse Weather**

Sudden inclement weather can rapidly encroach upon field personnel. Because of the time of year that this project is being executed and its geographical region it is not anticipated that Hurricanes or tropical storms would have an impact or require a significant stoppage in scheduled tasks. However, because of the sites location its field crew members could experience a variety of adverse weather conditions during the course of a normal work assignment and should be prepared for the effects of adverse weather conditions.

Personnel performing work outdoors should carry clothing appropriate for foul weather conditions (rain gear, etc) that may be expected. In severe weather conditions, (i.e., high wind, rain squalls, electrical storms), the field crews must evacuate from an outdoor work environment area and find safe shelter until the weather abates and until a decision is made to resume the field activities. Even though much of the field operations may be performed within sheltered environments, the following information is provided for field personnel subject to outdoor work environments as procedures must be exercised where adverse weather is encountered or is expected to occur during an assigned work day.

Frequently observe the skyline for rain squalls, thunder storms or other severe weather systems that may be developing. Check internet, local TV weather or radio channels for daily forecasts and plan daily work activities accordingly. Have a portable radio available onsite to monitoring local weather or marine forecasts. If onsite internet or radio monitoring are not available, check with the with home office support personnel who may be able to determine the severity of developing storm systems.

Shut down operations during heavy rain/lightning events, high wind or heavy snow conditions and identify "safe haven" location. Safe haven locations should be identified prior to the start of work. Safe haven structures must be grounded where there is a potential for a lightning event.

When excessively hot or cold ambient temperatures exist heat and cold stress monitoring must be implemented, as necessary, defined in section 9.14 of this APP.

## 9.7.2 Lightning

Preparedness and caution are the best defenses against lightning. Many lightning deaths and injuries happen before or after a thunderstorm's peak. The site supervisor or SSHO shall monitor weather forecasts for predictions of electrical storms in the area. Lightning within 6 miles of the work site, all operations shall be stopped and only resumed when conditions permit. The site supervisor or SSHO shall monitor weather conditions to determine when it is appropriate to resume work. The lightning safety recommendation is 30-30: Seek refuge when thunder sounds within 30 seconds after a lightning flash; and do not resume activity until 30 minutes after the last thunder clap. Some other general precautions include:

- Know where to go and how long it will take to get there. If possible, take refuge in a large building or vehicle. Do not go into a shed in an open area.
- The inclination to see trees as enormous umbrellas is the most frequent and most deadly mistake. Do not go under a large tree that is standing alone. Likewise, avoid poles, antennae and towers.
- Stay away from lakes, streams, pools, or any water.
- Stay away from railroad tracks that can carry lightning charges for long distances.
- If the area is wide open, go to a valley or ravine, but be aware of flash flooding. Do not stand on top of a hill.
- If you are caught in a level open area during an electrical storm and you feel your hair stand on end, drop to your knees, bend forward and put your hands on your knees or crouch. The idea is to make yourself less vulnerable by being as low to the ground as possible and taking up as little ground space as possible. Lying down is dangerous, since the wet earth can conduct electricity. Do not touch the ground with your hands.
- Do not use telephones during electrical storms, except in the case of emergency.

## 9.7.3 Aerial Lifts

**(Reference CH2MHIILL SOP # HSE&Q-301, Aerial Lifts)**

(Reserved)

Aerial lifts will not be used on this project.

## 9.7.4 Air Compressor Operations

(Reserved)

Compressed air sources will not be used on this project. The requirements of EM 385 1-1, section 26.I.01 are not applicable to the execution of this TO.

### 9.7.5 Asbestos

(Reference CH2MHIILL SOP # HSE&Q-502, Asbestos)

(Reserved)

Contact with Asbestos Containing Material (ACM) is not anticipated for this project. In the event that suspect PACM/ ACM is discovered during site activities, personnel will secure/cover the material to the extent possible secure (i.e. in a manner that doesn't create a possible worker exposure) and exit the immediate work area until the nature of the material can be evaluated by qualified personnel. Personnel who do not possess proper qualifications and who are not enrolled in a medical surveillance program meeting the requirements of 29 CFR 1910.1001/29 CFR 1926.1101 will not disturb material that contains PACM/ ACM.

### 9.7.6 Biological Hazards and Controls

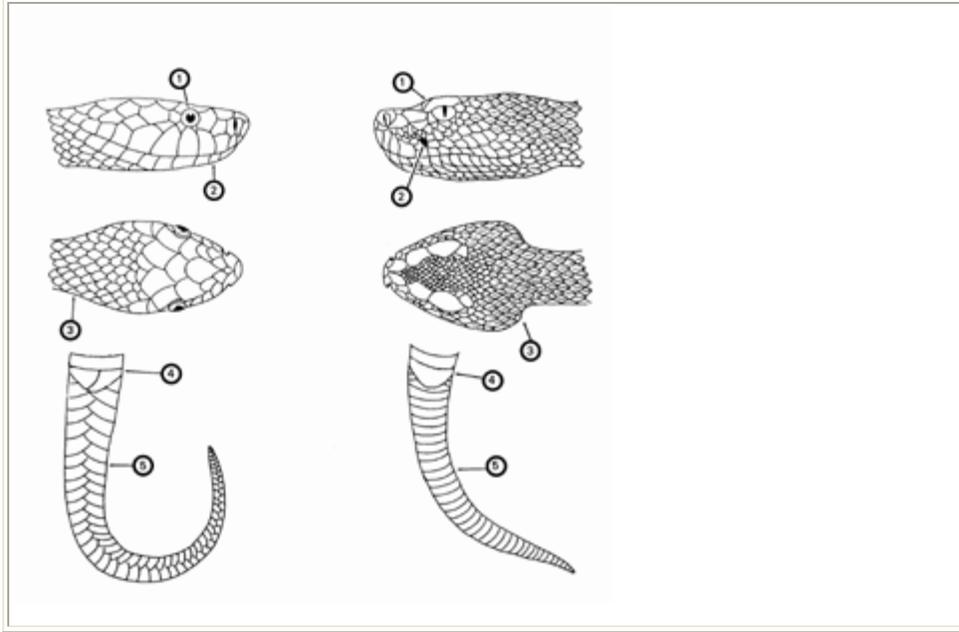
The following sections provide information on potential biological hazards. Site personnel shall notify their overall supervisors and their project site supervisor of any potential allergic reactions that may occur as a result of contact with biological hazards in the workplace. If employee antidotes are required to counteract allergic reactions from biological hazard exposure, employees shall make personnel, who may be required to administer personal antidotes, aware of the location, type, and quantity of antidotes needed to counteract any potential allergic reaction(s).

#### 9.7.6.1 Venomous 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 bitten by a snake, wash and immobilize the injured area, keeping it lower than the heart if possible. Call the occupational nurse at 1-866-893-2514 immediately. Do not apply ice, cut the wound, or apply a tourniquet. Try to identify the type of snake: note color, size, patterns, and markings. Below is a guide to identifying poisonous snakes from non-poisonous snakes.

#### Identification of Poisonous Snakes

Major Identification Features Non-venomous Snake	Major Identification Features Venomous Snake
1. Round pupils	1. Elliptical pupils
2. No sensing pit	2. Sensing pit between eye and nostril
3. Head slightly wider than neck	3. Head much wider than neck
4. Divided anal plate	4. Single anal plate
5. Double row of scales on the underside of the tail	5. Single scales on the underside of the tail



#### 9.7.6.1.1 Alligators

The normal habitat of the American Alligator includes Florida. There may be some areas on parts of the work area or adjacent to the work area where bodies of water exist where alligators may be present and personnel performing field activities must be always be aware of the potential to encounter alligators, in Florida. The following precautionary work practices that must be followed when accessing areas that can potentially be considered a viable alligator habitat.

- Always use the buddy system.
- With a buddy, survey the area for alligators or signs of alligators prior to entering areas that can be considered potential alligator habitats.
- Maintain radio and cellular phone communications with other team members.
- Avoid approaching the edge of the creek which could potentially be within striking distance of a submerged alligator.
- If an alligator is observed in the work area or signs of alligator presence is observed (tracks, nests, eggs) evacuate the work area immediately.



Notify the project supervisor /project manager if alligators or signs of an alligator habitat are observed so that work routines of perimeters of work area can be adjusted away from potential alligator habits or other measure can be implemented to minimize contact worker contact with alligators.

#### 9.7.6.1.2 Poisonous Plants

Poison ivy, poison oak, and poison sumac typically are found in brush or wooded areas, which are common to the site. They are more commonly found in moist areas or along the edges of wooded areas. Shrubs are usually 12" to 30" 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 its (yellowed, then brown) leaves in Winter, leaving toxic stems. All parts of the plant remain toxic throughout the seasons.

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.

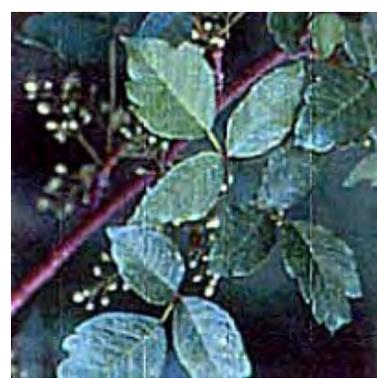
**Poison Ivy**



**Poison Sumac**



**Poison Oak**



#### Exposure:

Contamination with poison oak, ivy or sumac can happen through several pathways. These include:

- Direct skin contact with any part of the plant.
- Contact with clothing that has been contaminated
- Contact from removing shoes that have been contaminated, as your shoes may be coated with oil)
- Sitting in a vehicle that has become contaminated
- Contact with any objects or tools that have become contaminated.

Exposure to poison oak, ivy or sumac often becomes an OSHA recordable illness. Take proper action if you are potential contaminated. The dermatitis is so severe that many people seek medical care and get prescription cortisone creams or steroid shots to reduce the suffering caused by the itch.

**Best Work Practices:**

If you must work on a site that has been identified to potentially contain poison oak, ivy or sumac, the following precautions are necessary:

- Identify plants containing urushiol – The best way to prevent exposure is to recognize the plant and avoid working in areas where poison oak, ivy or sumac is present.
- If you must work in areas with urushiol containing plants, contact you project manager and health and safety manager to determine the best procedures to prevent contamination.
- Do not drive vehicles onto the Site where it will come into contact with poison oak, ivy or sumac. Vehicles which need to work in the area, such as drill rigs or heavy equipment must be washed and decontaminated as soon as possible after leaving the site.
- All tools used in the area, including those used to cut back the plants, 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 onsite decontamination is not possible, use plastic to wrap any tools or equipment until they can be decontaminated. If working on or near the ground surface, place plastic on the ground to cover the grass and foliage.
- Personal protective equipment (PPE), including Tyvek coveralls, gloves, and boot covers must be worn. PPE and plastic used to cover the ground must be placed into separate plastic bags and sealed if they are not disposed immediately into a trash receptacle.
- Shower as soon as possible 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 an invisible film on top of the water and contaminate your entire body upon exiting the bath.
- Zanafel™ may also be used to treat exposed areas that are experiencing signs and symptoms of poison oak, ivy or sumac contamination. Refer to the Zanafel™ information guide below for specific product and contact information.
- Use products such as IvyBlock™ to prevent poison oak, ivy and sumac contamination. IvyBlock™ is approved by the FDA to prevent the rash caused by poison oak, ivy and sumac.
- If there is exposure use the following first aid procedures, or others you may find to alleviate the pain and itching.

**Poison Oak, Ivy, and Sumac First Aid :****Self-Care/First Aid**

- Wash (decontaminate) all affected areas with warm water and a strong soap.
- Keep your hands away from your eyes, mouth and face.
- Do not scratch or rub the rash.

- Apply any of these to the skin rash:
- Calamine (not Caladryl) lotion
- Zanafel™ lotion
- Zinc oxide ointment
- Paste made with baking soda - mix 3 teaspoons of baking soda with 1 teaspoon of water
- Take an over-the-counter antihistamine such as Benadryl, as stated on the label
- If self-care/first aid measures don't bring relief, call your doctor.

### **Urushiol Plant Facts:**

#### **Urushiol Oil is Potent**

- Only 1 nanogram (billionth of a gram) needed to cause rash
- Average is 100 nanograms for most people
- 1/4 ounce of urushiol is all that is needed to cause a rash in every person on earth
- 500 people could itch from the amount covering the head of a pin
- Specimens of urushiol several centuries old have found to cause dermatitis in sensitive people.
- 1 to 5 years is normal for urushiol oil to stay active on any surface including dead plants
- Derived from **urushi**, Japanese name for lacquer

### **New Cream to Treat Exposure to Poison Plants:**

Exposure to poison oak, ivy and sumac can be uncomfortable, and in some cases the rash can become so severe that medical care is required. A relatively new product is available Zanafel™ ([www.zanafel.com](http://www.zanafel.com)) that helps prevent blistering and itching from becoming severe. If you are working in an area with poison oak, ivy or sumac, you can obtain this cream by contacting and notifying your supervisor of the need to purchase this material.

Please remember, the cream does not replace preventative measures, including:

- Avoiding contact with poison oak, ivy and sumac.
- Wearing Tyvek coveralls and gloves to prevent contact.
- Washing with Tecnu® (or a similar product) after potential exposure.
- Washing clothing and decontaminating equipment with an oil-cutting detergent.

### **More information about Zanafel (from Zanafel):**

Zanafel™ is an effective wash for urushiol-induced contact dermatitis. Urushiol is the toxin known to cause the itching and rash associated with poison oak, ivy, sumac, poisonwood, and related plants. Zanafel works by surrounding urushiol and bonding with it, thereby

enabling it to be rinsed away. Unlike some products that require use within 10-20 minutes of contact or that required continued use until the rash is gone (which can take up to 5 weeks), Zanafel offers relief at any stages of the reaction and often with only one wash. Individuals with particularly severe reactions may require additional washes. Most individuals experience relief from the itching within 30 seconds of application. The rash will begin to subside within hours if the reaction is mild to moderate. Severe and systemic cases will still require medical attention. Severe cases are defined as breakouts that are present on more than 15-percent of the body, and new breakouts continue to develop after day 4.

### 9.7.6.2 Ticks

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/taped to boots; spray **only outside** of clothing with permethrin or permethrin and spray skin with only N, N-diethyl-methyl-polyamide (DEET); and check yourself frequently for ticks. Where exposure to ticks is verified, personnel shall consider wearing “bug-out” suits to minimize potential exposures to ticks or other biting insects (i.e., chiggers). However, when these suits are used when ambient air temperatures are elevated (> 70 degrees) heat stress preventive measures and monitoring protocols must be implemented. See the Heat Stress section in this APP for additional information.

#### **Hazard Control:**

The methods for controlling exposure to ticks include, in order of most-preferred to least:

- Avoiding tick habitats and ceasing operations in heavily infested areas
- Reducing tick abundance through habitat disruption or application of acaricide
- Personal protection through use of repellants and protective clothing
- Frequent tick inspections and proper hygiene

Vaccinations are not available and preventive antibiotic treatment after a bite is generally not recommended.

#### **Tick Identification:**

There are five varieties of hard-bodied ticks that have been associated with tick-borne pathogens. These tick varieties include:

- Deer (Black Legged) Tick (eastern and pacific varieties)
- Lone Star Tick
- Dog Tick (American and Brown)
- Rocky Mountain Wood Tick
- Western Black-legged tick

#### **Illnesses and Signs/Symptoms:**

There are six distinguishable tick-borne pathogens that cause human illness in the United States. These pathogens may be transmitted during a tick bite – normally hours after attachment. The illnesses, presented in approximate order of most common to least, include:

1. Lyme (bacteria)
2. Rocky Mountain Spotted Fever (RMSF) (bacteria)
3. Ehrlichiosis (bacteria)
4. Southern Tick-Associated Rash Illness (STARI) (bacteria)
5. Tularemia (Rabbit Fever) (bacteria)
6. Babesia (protozoan parasite)

Symptoms will vary based on the illness, and may develop in infected individuals typically between 3 and 30 days after transmission. Some infected individuals will not become ill or may develop only mild symptoms. These illnesses present with some or all of the following signs and symptoms: fever, headache, muscle aches, stiff neck, joint aches, nausea, vomiting, abdominal pain, diarrhea, malaise, weakness, and small solid, ring-like, or spotted rashes. The bite Site may be red, swollen, or develop ulceration or lesions. A variety of long-term symptoms may result when untreated, including debilitating effects and death.

### **Tick Removal:**

- Use fine-tipped tweezers or shield your fingers with a tissue, paper towel, or nitrile gloves.
- Grasp the tick as close to the skin surface as possible and pull upward with steady, even pressure. Do not twist or jerk the tick; this may cause the mouthparts to break off and remain in the skin. (If this happens, remove mouthparts with tweezers. Consult your healthcare provider if infection occurs.)
- Do not squeeze, crush, or puncture the body of the tick because its fluids (saliva, hemolymph, and gut contents) may contain infectious organisms. Releasing these organisms to the outside of the tick's body or into the bite area may increase the chance of infectious organism transmission.
- Do not handle the tick with bare hands because infectious agents may enter through mucous membranes or breaks in the skin. This precaution is particularly directed to individuals who remove ticks from domestic animals with unprotected fingers. Children, elderly persons, and immune-compromised persons may be at greater risk of infection and should avoid this procedure.
- After removing the tick, thoroughly disinfect the bite Site and wash your hands with soap and water.
- You may wish to save the tick for identification in case you become ill. Your doctor can use the information to assist in making an accurate diagnosis. Place the tick in a plastic bag and put it in your freezer. Write the date of the bite on a piece of paper with a pencil and place it in the bag. See "First Aid and Medical Treatment" information below.

Previously infected individuals are not conferred immunity – re-infection from future tick bites can occur even after a person has contracted a tick-borne disease.

### **First-Aid and Medical Treatment:**

Tick bites should always be treated with first-aid. Clean and wash hands and disinfect the bite site after removing embedded tick. Consult a healthcare professional if infection or symptoms and effects of tick-borne illnesses are developing.

Medical treatments for tick-borne infections include antibiotics and other medical interventions. Diagnosis of specific illness involves both clinical and laboratory confirmations. Preventive antibiotic treatment in non-ill individuals who have had a recent tick bite is recommended in specific cases only.

### **Tick Analysis Procedure for Lyme disease:**

For tick removal, follow the instructions in your tick removal kit using a fine pointed pair of tweezers. If the tick is alive, place it in two layered zip-lock bags. It is highly recommended that you wear gloves when removing the tick from the skin to avoid infection.

It is important to remove the entire tick and place it in a zip-lock bag. Place the zip-lock bag in an envelope and contact your applicable health care representative, project manager and health and safety representative (see **Attachment 5** of this APP) for instructions on where to send the tick for analysis of certain tick-borne pathogens.

#### **9.7.6.3 Fire Ants**

Fire Ant infestation is prevalent to Florida. Fire ants can and will inflict a painful sting. Fire ants look very much like ordinary house or garden ants but are:

- Small and coppery-brown in colour on the head and body, with a darker abdomen.
- Come in a variety of sizes within one nest, ranging from 2mm to 6 mm. (This is a distinguishing feature of fire ants.)
- Have nests with no obvious entry or exit holes on top of them.
- Can be distinguished by their aggressive behaviour, particularly near the nest.

**Fire Ant**



**Ant Mound in Electric Box**



**Bites on Arm**



Their nests can appear as dome-shaped mounds, up to 40cm high, or can be found next to, or underneath other objects found on the ground, such as timber, logs, rocks, pavers, bricks etc. Mounds will not always be evident, but are usually found in open areas such as lawns, pastures, along roadsides and unused cropland. Mounds are rarely found in frequently cultivated areas. This species could easily be confused with the common coastal brown ant and as well as some local native ants.

Fire ants inflict a fiery sting, which causes a small blister or pustule to form at the site of each sting after several hours. The blisters become itchy while healing and are prone to infection if broken.

If you are stung by a fire ant:

- Apply a cold compress to relieve the swelling and pain.
- Gently wash the affected area with soap and water and leave the blister intact.
- People who are allergic to insect stings should seek medical attention immediately. On rare occasions, fire ant stings can cause severe acute allergic reaction (anaphylaxis).

#### 9.7.6.4 Spiders - Brown Recluse

It is regarded by many as the most dangerous spider in the United States. Although Connecticut is not typically a known habitat of the Brown Recluse, it can be present as a result of interstate shipping/transportation the Brown Recluse spider can be found most anywhere in the United States.

Brown Recluse Spiders are usually 1 inch or larger in size, including the legs and can grow as large as 3 inches. Young Brown Recluse spiders are smaller and somewhat lighter in color. Brown recluse spider bites don't always hurt right away.



In fact, you may not know that you have been bitten until other symptoms appear. Symptoms of a brown recluse spider bite may include the following:

- Reddened skin followed by a blister that forms at the bite site.
- Mild to intense pain and itching for 2 to 8 hours following the bite.
- An open sore with a breakdown of tissue (necrosis) that develops within a few hours to 3 to 4 days following the bite and the area may become painful, itchy, hot, swollen, red and tender. An irregular ulcerous sore, caused by necrosis, will often appear that is from 1/4 inch to 10 inches in diameter. Prompt attention is the best defense against preventing the necrosis. The wound is often described as being reddish and surrounded by a bluish area with a narrow whitish separation in between the red and the blue. This gives it the famous "bull's eye" pattern. In just hours, a bite from the highly venomous Brown Recluse spider can create blisters and cause tissue damage.

Some people have a severe, systemic (whole-body) reaction to brown recluse spider bites, including the rapid destruction of red blood cells and anemia. Signs and symptoms include:

- Fever and chills.
- Skin rash all over the body with many tiny, flat purple and red spots.
- Nausea or vomiting.
- Joint pain.

If you think you have been bitten by a brown recluse spider:

- Remain calm. Too much excitement or movement will increase the flow of venom into the blood.
- Try to collect the spider, without being bitten, (even a mangled specimen has diagnostic value), if possible, for positive identification by a spider expert. A plastic bag, small jar, or pill vial is useful and no preservative is necessary, but rubbing alcohol helps to preserve the spider.
- Apply a cool, wet cloth to the bite or cover the bite with a cloth and apply an ice bag to the bite.
- Do not apply a tourniquet. It may cause more harm than benefit.
- Try to positively identify the spider to confirm its type.
- Seek prompt medical attention.

A brown recluse bite can be serious and will likely require immediate medical care. Seek medical attention if you believe you have been bitten by a recluse spider, especially if severe symptoms develop throughout your body or an open sore and necrosis develop. A brown recluse spider bite is diagnosed through a physical examination and questions about the bite. You should be prepared to describe the spider, where and when the bite took place, and what you were doing at the time. Your health professional will ask what your main symptoms are, when they began, and how they have developed, progressed, or changed since the bite.

- Before utilizing outdoor temporary sanitary facilities, be sure to check the unit to verify there are not any spiders.

#### 9.7.6.5 Spiders - Widow

Generally only the Northern Black Widow would potentially be encountered in Connecticut. Females range from 8-15 mm in body length; males are smaller, sometimes very small (2 mm). Most have globose, shiny abdomens that are predominantly black with red markings (although some may be pale and/or have lateral stripes), with moderately long, slender legs. These spiders are nocturnal and build a three-dimensional tangled web, often with a conical tent of dense silk in a corner where the spider hides during the day. In nature, most species are found under rocks and logs, but they readily adapt to human-altered environments, where they are most commonly found in outbuildings (sheds, barns, privies), water meter holes, nursery cans, and under any item or structure (e.g., barbecue grill, slide, sand box) that has been undisturbed for a lengthy period.

Formerly, many bites by black widows (usually by female spiders) occurred in outhouse structures, but widow bites occur most frequently when the spider is trapped against human skin, either by reaching under objects where the spider is hiding or when putting on clothing, gloves or shoes containing the spider. Widow spiders are generally very timid and only bite in self-defense when they accidentally contact humans.

Northern Black



Northern Black



Note: The northern widow is similar to the southern widow except the telltale red markings are shaped slightly different.

Bite symptoms are systemic, spreading through the lymphatic system, and usually start about 1-3 hours after the bite. The most common symptoms are intense pain, rigid abdominal muscles, muscle cramping, malaise, local sweating, nausea, vomiting, and hypertension. Other symptoms may include tremors, labored breathing, restlessness, increased blood pressure, and fever. If left untreated, widow bite symptoms usually last 3-5 days.

If bitten, remain calm, and immediately seek medical attention (contact your physician, hospital and/or poison control center). Apply an ice pack directly to the bite area to relieve swelling and pain. Try to collect the spider, without being bitten, (even a mangled specimen has diagnostic value), if possible, for positive identification by a spider expert. A plastic bag, small jar, or pill vial is useful and no preservative is necessary, but rubbing alcohol helps to preserve the spider. A hospital stay may be recommended, particularly for those with a heart condition or with health problems. A physician may administer a specific antivenin to counteract the venom or calcium gluconate to relieve pain. Calcium gluconate and/or antivenin may be administered to relieve or counteract symptoms.

- Before utilizing outdoor temporary sanitary facilities, be sure to check the unit to verify there are not any spiders.

#### 9.7.6.6 Blood borne Pathogens

Blood borne pathogens are pathogenic microorganisms present in human blood or other potentially infectious material that can cause disease. These pathogens include, but are not limited to, the Hepatitis B Virus (HBV) and the Human Immunodeficiency Virus (HIV). Other potentially infectious material includes any human body fluid that is visibly contaminated with blood, such as saliva or vomit. It also includes all body fluids in situations where it is difficult or impossible to differentiate between body fluids, such as during an emergency response and any unfixed tissue (other than intact skin) from a human (living or dead).

In emergency medical situations, certain employees may need to render first aid as a collateral duty in response to workplace accidents or injuries. This category includes the SSHO, site managers/supervisors, or individuals certified in FA and CPR and shall have received training in exercising universal precautions against exposure to blood borne pathogens as a component to FA/CPR training, which meets the intent of 29CFR1910.1030. However, additional worker training programs in to blood borne pathogens may also be

required when it is expected that employees could contact landfill waste or other waste streams containing potentially infectious material. This situation is not reasonably expected for this project. Blood borne pathogen employee training is also complemented by other regularly scheduled employer training curriculums that are typically executed for the HAZWOPER industry, regulated under 29CFR1910.120/29CFR1926.26. The only worker exposure to blood borne pathogens anticipated for this project will potentially be to those individuals providing FA/CPR to an injured or “down” worker.

To eliminate or minimize employee exposure to blood borne pathogens, workers who may be exposed to blood borne pathogens or potentially infectious material must implement the following hazard control measures.

Employees expected to render first aid shall be cognizant of and adhere to the following with regard to potential exposure to blood borne pathogens:

- First aid kits and a Blood borne Pathogens Protection Kit shall be immediately available at the Site. The kit is commercially available through most safety or medical supply vendors.
- These kits shall contain gloves, masks, CPR protectors, biohazard disposal bags, antiseptic cleanser, splash-proof goggles, towels, wipes, and an absorbent powder to clean up spills. Gloves, masks, and other PPE measures must be donned by personnel responding to emergency or first aid situations where exposure to Blood borne Pathogens could occur.

A portable eye wash station or means of conducting eye washing or flushing shall be readily available at the project site location.

- Always wash your hands and face with antiseptic soap and running water after contacting potentially infectious material. If washing facilities are unavailable, use an antiseptic cleanser with clean paper towels or moist towelettes. When antiseptic cleansers or towelettes are used, always rewash your hands and face with soap and running water as soon as available. Do not consume food or beverages, smoke, chew tobacco, or perform another hand to eye/face/mouth activity until after thoroughly cleaning your hand (with antiseptic soap and water), then your face and only after the employee has removed themselves from the designated work area that contains materials that can be reasonably considered being contaminated with blood borne pathogens.
- Use universal precautions when dealing with materials or situations where there is a potential for blood borne pathogens. Universal precaution is an approach to infection control whereby all human blood and potentially infectious material are treated as if known to be infectious for HIV, HBV, and other blood borne pathogens.
- Personnel who may be exposed to Blood borne Pathogens should review and implement all applicable components of CH2M HILL SOP # HSE&Q 202, Blood borne Pathogens.

#### 9.7.6.7 Mosquito Bites

Because of the recent detection of the West Nile Virus in the southeastern United States, it is recommended that preventive measures be taken to reduce the probability of being bitten

by mosquitoes whenever possible. Mosquitoes are believed to be the primary source for exposure to the West Nile Virus as well as several other types of encephalitis. The following guidelines should be followed to reduce the risk of these concerns for working in areas where mosquitoes are prevalent.

- Stay indoors at dawn, dusk, and in the early evening.
- Wear long-sleeved shirts and long pants whenever you are outdoors.
- Spray clothing with repellents containing pyrethrum or DEET because mosquitoes may bite through thin clothing.
- Apply insect repellent sparingly to exposed skin. An effective repellent will contain 35% DEET. DEET in high concentrations (greater than 35%) provides no additional protection.
- Repellents may irritate the eyes and mouth, so avoid applying repellent to the hands.
- Whenever you use an insecticide or insect repellent, be sure to read and follow the manufacturer's DIRECTIONS FOR USE, as printed on the product.

Note: Vitamin B and "ultrasonic" devices are NOT effective in preventing mosquito bites.

#### **Symptoms of Exposure to the West Nile Virus:**

Most infections are mild, and symptoms include fever, headache, and body aches, occasionally with skin rash and swollen lymph glands. More severe infection may be marked by headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis, and, rarely, death.

The West Nile Virus incubation period is from 3 to 15 days.

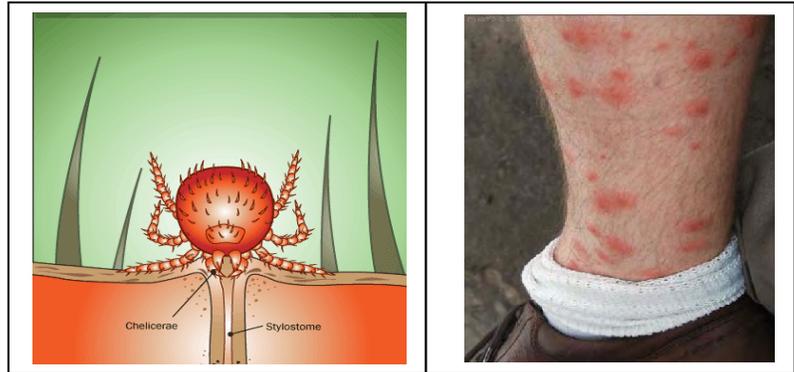
If you have any questions or to report any suspicious symptoms, contact our line supervisor, project health and safety representative and/or designated corporate occupational physician, as per your employers policy, for support with suspect exposures to West Nile Virus.

#### **9.7.6.8 Chiggers**

"Chigger" is the name given to the tiny larval stage of the Trombiculidae mite. Exposure to chiggers at the project site could occur and as such site personnel should be aware of the potential affects. The adult mites are variously call harvest mites, red bugs, or scrub-itch mites. They are related to ticks and spiders and, like theses insects, the mite's life cycle has four stages: egg, larva, nymph, and adult. Nymphs and adults Trombiculidae mites are not parasitic. When a larva emerges from the egg and it is this larva that is called a "chigger" and are almost invisible to the naked eye. A chigger is almost microscopically small. A magnifying glass is usually required to observe it although sometimes clumps of the tiny orange-red larvae can be seen with the naked eye. After the chigger emerges from its egg, it climbs to the top of nearby vegetation and waits for a host to come along so it can attach itself and begin to feed. Common hosts are rodents, rabbits, birds, snakes, toads, and many mammals including humans.

Once infected, but a chigger bite causes a fierce itching that far surpasses that caused by many of its larger relatives.

When a chigger attaches to its host, it moves quickly to a feeding site. It prefers areas under tight-fitting clothes. Under socks is probably the most common site, but it also likes to settle beneath waistbands or bras. Another favorite site is in skin folds. Once attached to the host, the



chigger pierces the skin and injects a fluid (a digestive enzyme) into the bite. This enzyme begins to liquefy the cells of the surrounding tissue and this is what the chigger feeds on. It is not a blood feeder as some believe, but feeds on the host's emulsified tissue. The damaged tissue surrounding the bite hardens and actually forms a straw-like channel, called a stylostome that allows the chigger to dine on deeper tissues than it can physically reach. The hardened tissue is the primary source of the inflammation and intense itching caused by chigger bites. The site of the bite develops a red welt and sometimes a rash. Itching is a delayed reaction and does not start when the bite first occurs, instead it starts after enough time has passed for the enzyme to damage the tissue around the bite. The itching will begin at least several hours after the bite and sometimes not until 24 to 48 hours later. Untreated, the itching will last for a week or two but even without treatment it will usually heal on its own. In the United States chiggers are not known to transmit any disease although species of Trombiculidae mites found in Japan and Southeast Asia do transmit a serious disease called scrub typhus.

There are several common misconceptions about chiggers. The orange-red color of the chigger leads some to believe that they suck the host's blood, but as already noted they do not. Another misconception is that they burrow into the skin of the host. This is also incorrect. The tiny chigger sometimes appears to have burrowed, but actually the damaged tissues are so inflamed that they surrounded it.

The treatment for chigger bites is focused on alleviating the discomfort and intense itching. If you develop welts at the bite sites, the itching can be reduced by covering them with Vaseline, lotions or creams, or oils. These work by limiting the bite site's exposure to air which aggravates the itching. The treatment is even more effective if the substance used contains an antihistamine or local anesthetic to further reduce the itching. Calamine lotion, Caladryl, and hydrocortisone ointments or creams may all offer some relief. If you know that you were in an area infested with chiggers, take a hot bath or shower and soap yourself several times to dislodge any unwelcome guests. By removing them quickly, you can minimize the effect of their bites. Your clothes should also be laundered in hot water. Cold water will not kill them and you can be reinfected the next time you wear the clothing.

Although the chigger does not transmit disease (except as previously noted), the bite site can develop a secondary infection- usually because of heavy scratching. For this reason, the use of a topical antibiotic may be a useful preventative measure. Be sure to see a medical

professional if the bite becomes infected. Rarely, someone may have severe allergic reaction to a chigger bite. Immediate medical attention is recommended.

The best way to handle chigger bites is to avoid them. When outdoors, avoid likely chigger habitats. Stay on roads and paths when possible. If you must walk through high grasses, weeds, etc, wear long pants and sleeves. Tuck the pant legs inside your boots and keep sleeve cuffs buttoned. Repellents are effective but only for a few hours before they must be reapplied. Look for products containing either DEET or Permethrin. Be sure to follow the product instructions carefully to avoid adverse reactions. Never wear pet flea collars on your ankles. This can result in serious chemical burns and the active ingredients in the collars are toxic.

#### **9.7.6.9 Rabid Animals**

Encounters with a rabid animal can lead to rabies transmission when virus from the animal's saliva, brain tissue, or spinal fluid enters open cuts or wounds in skin or mucous membranes. Therefore, not every encounter with a rabid animal is a true exposure requiring intervention. Treatment is often provided unnecessarily to people who have encountered but had no true exposure to a potentially rabid animal.

Any penetration of the skin by an animal's teeth is considered a "bite exposure." Local wound care should be performed immediately on anyone bitten by an animal. Local treatment of wounds involving immediate and extensive washing of all bite wounds, scratches, or other Sites of potential exposure for 10 minutes with soap and water is arguably the most important measure for preventing rabies following an exposure to a rabid animal.

Experiments done in animals suggest that thorough and vigorous cleansing to the depth of the wound with a 20% soap solution can reduce the risk of developing rabies. Tetanus booster vaccine (Td) should be given if indicated. A health care provider should be consulted to determine whether other measures are necessary. When a bite exposure has been determined, laboratory testing of the animal, if available, may be indicated depending upon the circumstances of the exposure (such as whether it was provoked or not) and the species involved. The risks associated with bites from different animals vary from place to place. For work on this particular contract, contact with rabid dogs, cats, raccoons, and rats could be possible.

"Non-bite exposures" include any scratches, abrasions, or contamination of mucous membranes by an infected animal's saliva, brain tissue, or spinal fluid. Other types of contacts (such as with the blood, urine, feces, or fur of an animal) would not by themselves be considered exposures capable of transmitting rabies even if the animal were known to be rabid. The virus is not hardy; once dry, saliva containing rabies virus is considered non-infectious.

#### **9.7.7 Buried Objects/Utilities (locating)**

Do not begin excavation or other ground disturbing activities until a check for underground utilities and similar obstructions has been conducted. Contact the local utility mark-out or locating service identified below to make a request to verify the presence or absence of underground utilities that may be within your proposed work area.

- **Local Utility Mark-Out Service**
- **Name:** Sunshine State One Call of Florida, Inc.
- **Phone:** (800) 432-4770
- **Website:** <http://www.callsunshine.com/corp/index.html>

In addition to contacting the local utility mark-out service/utility owner, review current and historic engineering or as-built drawings as a supplement to the mark-out service/utility owner location of known underground utilities that may be present in the area to be disturbed.

As a best management practice, or in areas where sufficient mark-out of utilities by the utility owner's representative is potentially insufficient or where available facility engineer drawings appear incorrect or erroneous data seems likely, then the services of an independent "third party" utility location surveyor must be secured to identify additional and potentially undiscovered/unconfirmed buried utilities in the proposed area of disturbance. The independent utility locator may need to use some or all of the following survey technologies to verify the location of potential buried utilities in the proposed disturbance area:

- **Ground Penetrating Radar (GPR)**, which can detect pipes, including both metallic and non-metallic gas pipes, tanks, conduits, and cables, at depths up to 30 feet depending on equipment. Sensitivity for both minimum object size and maximum depth detectable depends on equipment selected, soil conditions, etc.
- **Radio Frequency (RF)** involves inducing an RF signal in the pipe or cable and using a receiver to trace it. Some electric and telephone lines emit RF naturally and can be detected without an induced signal. This method requires knowing where the conductive utility can be accessed to induce RF field if necessary.
- **Dual RF** is a modified version of RF detection using multiple frequencies to enhance sensitivity but with similar limitations to RF.
- **Ferromagnetic Detectors** are metal detectors that will detect ferrous and non-ferrous utilities. Sensitivity is limited, e.g., a 100-mm iron disk to a depth of about one meter or a 25-mm steel paper clip to a depth of about 20 cm.
- **Electronic markers** are emerging technologies that impart a unique electronic signature to materials such as polyethylene pipe to facilitate location and tracing after installation. Promising for future installations but not of help for most existing utilities already in place.
- **Vacuum excavation** is not applicable to this TO.

#### 9.7.7.1 Procedure

The following procedures shall be used to identify and mark underground utilities during subsurface construction activities on the project.

- Contact the or the local state/regional utility protection service mark-out service (i.e. Miss Utility, Call Before You Dig, Dig Safe etc.) at least three (3) working days prior to executing the proposed work, and request that the location of underground installations be identified prior to the start of proposed ground disturbing activities. Keep copies of

any written documentation (faxes, email printouts) regarding utility location verification provided by utilities owners in the office project file and in a working field file onsite.

- Request and review current/historic host facility as-built or engineering drawings, documents or records to support the location of potential underground utilities within the area to be disturbed.
- Obtain utility clearances for subsurface work on both public and private property. **Clearances are to be in writing, signed by the party conducting the clearance.** Written access approval/authorization may be necessary to perform these operations on private property.
- Secure an independent third party utility locate survey subcontractor as an additional means of locating underground utilities when necessary. The independent third party utility locate shall determine the most appropriate geophysical technique or combinations of techniques to identify the buried utilities on the project, based on the survey contractor's experience and expertise, types of utilities anticipated to be present, and specific site conditions. The utility locate survey contractor shall to survey the proposed path of subsurface construction work to confirm no buried utilities are present. Schedule the independent survey, as may be necessary.
- Identify host facility/customer specific permit and/or procedural requirements for conducting ground disturbing activities. Contact and coordinate with the host facility/Customer/ Client POC to obtain the appropriate authorization to engage in ground disturbing activities.
- Underground utility locations must be physically verified by hand digging using wood or fiberglass-handled tools when any adjacent subsurface construction activity (e.g., mechanical drilling, excavating) work is expected to come within 5 feet of the marked underground system. If subsurface construction activity is within 5 feet and parallel to a marked existing utility, the utility location must be exposed and verified by hand digging every 100 feet.
- Protect and preserve the markings of identified utilities until the markings for ground disturbing operations. If the markings of utility locations are destroyed or removed before ground disturbing operations are completed, the Project Manager or the site supervisor must notify the utility company or utility protection service to inform them that the markings have been destroyed and that a remark is required.
- Photo documentation of defined utility mark-out locations as related to proposed limits of ground disturbing activities should be conducted prior to the start of work.
- Conduct a site briefing for employees regarding the hazards associated with working near the utilities and the means by which the operation will maintain a safe working environment. Detail the method used to isolate the utility and the hazards presented by breaching the isolation.
- Monitor for signs of utilities during advancement of intrusive work (e.g., sudden change in advancement of auger or split spoon during drilling or change in color, texture, or

density during excavation that could indicate the ground has been previously disturbed).

- Update local utility companies or the state/regional utility protection service (i.e. Miss Utility, Call Before You Dig, Dig Safe etc.) utility verification request numbers as required. Include written responses to updated request verifications in the project file as verification the update was completed.

In addition to the information contained in this section, where personnel are required to perform hand augering operations for sample confirmation sampling activities, a fiberglass ground probe should be used to search ahead to the next sample interval prior to advancing the hand auger when there is a potential for encountering buried underground utilities. When performing environmental sampling decontamination of the fiberglass ground probe shall apply between sample intervals to prevent cross contamination.

### 9.7.8 Chemical Injections

(Reserved)

Chemical injection operations will not be performed as part of this TO.

### 9.7.9 Concrete Work

**(Reference CH2M HILL SOP # HSE&Q 302, Concrete & Masonry)**

(Reserved)

Concrete work will not be performed as part of this TO. The requirements of EM 385 1-1, section 27 and 29 CFR 1926, Subpart O are not applicable to the execution of this TO.

### 9.7.10 Confined Space Entry

**(Reference CH2M HILL SOP # HSE&Q-203, Confined Space)**

(Reserved)

Confined space entry operations will not be performed as part of this TO. The requirements of EM 385 1-1, section 34 and 29 CFR 1910.146 are not applicable to the execution of this TO.

### 9.7.11 Cranes

**(Reference CH2M HILL SOP # HSE&Q-303, Cranes)**

(Reserved)

It is the current understanding that crane operations/activities will not be performed as part of this TO. The requirements of EM 385 1-1, section 16 and 29 CFR 1926 Subparts CC and DD are not applicable to the execution of this TO.

### 9.7.12 Demolition/Dismantling

**(Reference CH2M HILL SOP # HSE&Q-305, Demolition)**

(Reserved)

Demolition activities will not be performed as part of this TO. The requirements of EM 385 1-1, section 23 and 29 CFR 1926 Subpart DD are not applicable to the execution of this TO.

### 9.7.13 Drilling/Direct Push Technology

(Reference CH2M HILL SOP # HSE&Q-203, Drilling)

(Reserved)

Drilling will not be a part of this TO.

### 9.7.14 Electrical Safety

(Reference CH2M HILL SOP # HSE&Q-206, Electric Safety)

Several types of electrical hazards may be encountered during the execution of the project. These hazards might include, but not be limited to, hazards associated with the establishment of temporary construction site facilities, sampling near or adjacent to overhead utilities, use of generators/power sources, power cords or when using electric hand tools used during mobilization/demobilization operations. Where the electrical exposure hazards are possible in the work environment, the following standard work practices must be implemented.

- Review and implement all applicable components of CH2MHILL SOP # HSE&Q-206, Electrical Safety, except where other requirements may be more stringent.
- Maintain safe clearance distances between overhead power lines and sampling equipment unless the power lines have been verified as being de-energized and grounded or unless insulating barriers have been installed to prevent physical contact. To determine proper clearance from energized overhead electric lines, consult the reference table below.

Nominal System Voltage (kV)	Minimum Rated Clearance (feet)
Up to 50	10
51 - 200	15
201 - 350	20
351 – 500	25
501 – 650	30
651 – 800	35
801 - 950	40
951 - 1100	45

Clearance values calculated using:

$(\text{Initial kV} - 50\text{kV}) \times (4 \text{ in}/10 \text{ kV}) \times (1 \text{ ft}/12 \text{ in}) = \text{increased distance (ft) over 10 ft. Add this value to 10 ft to yield minimum rated clearance (All dimensions are distances from live part to employee)}$

Reference: US Army Corps of Engineers, EM 385 1-1, 15 Sept 08, Table 11-1.

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- Only qualified personnel (by training, experience, and/or licensure) are permitted to work on electrical systems.
- Do not tamper with or access electrical wiring and equipment unless qualified to do so. All electrical wiring and equipment must be considered energized until hazardous energy control procedures (i.e., lock-out/tag-out) are implemented.
- Inspect electrical equipment, power tools, and extension cords for damage prior to use. Do not use electrical equipment that is identified as needed repair, improperly grounded or insulated or not operating in accordance with the manufacturers intended requirements. Remove these items from service, label the equipment or device as "Damaged – Do Not Use". Ensure that all tools/equipment/power cords that are deemed damaged, dangerous or not operating in accordance with the manufacture's requirements are removed from service and repaired by an authorized manufacturer repair technician or rendered inoperable and properly dispose of.
- Extension cords must be:
  - Inspected before use and events that may have caused damage to the cord before being put back into service.
  - Equipped with third-wire grounding.
  - Covered, elevated, or protected from damage when passing through work areas.
  - Protected from pinching if routed through doorways.
  - Not fastened with staples, hung from nails, or suspended with wire.
- Ground Fault Circuit Interrupters (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.
  - Most generators come with Ground Fault Circuit Interrupters (GFCI). Test the GFCIs daily to determine whether they are working. If a generator is not equipped with GFCI protected circuits plug a portable GFCI into the generator and plug appliances, tools and lights into the portable GFCI.
- Electrical power tools and equipment must be effectively grounded or double-insulated and Underwriters Laboratory (UL) approved.
- Operate and maintain electric power tools and equipment according to manufacturers' instructions.
- Protect all electrical equipment, tools, switches, and outlets from environmental elements.

### 9.7.15 Excavation Activities

(Reference CH2M HILL SOP # HSE&Q-307, Excavation & Trenching Safety)

Manual excavation activities will take place during sampling efforts. This will be limited to hand augering and potential use of shovels to a maximum depth of 4 feet. Because site

personnel will not be required to enter a trench/excavations associated with the work OSHA 29 CFR 1926, Subpart P, and USACOE EM 385 1-1, section 25 will not apply to this work. There will not be a requirement to have a competent person for this work.

#### **9.7.15.1 Digging Permits (Excavation Permits)**

The process for verifying underground utilities is detailed in section 9.7.6 Buried Objects/Utilities (locating) in this APP and will not be elaborated upon further in this section. Once the presence/location of all underground utilities is performed, if required a NAVFAC Excavation Permit will be issued by the NAS Whiting Field GDA to allow the excavation work to proceed.

#### **9.7.15.2 Other Excavation Activity Considerations**

- Prior to implementing any site excavation activities, review and implement all applicable components of CH2MHILL SOP # HSE&Q-307, Excavation & Trenching Safety.
- The location of utility installations, such as sewer, telephone, fuel, electric, water lines, or any other underground installations that reasonably may be expected to be encountered during excavation work, shall be determined prior to opening an excavation. See section 9.7.6 Buried Objects/Utilities (locating) of this APP.

### **9.7.16 Fall Protection**

**(Reference CH2M HILL SOP # HSE&Q-310, Fall Protection)**

(Reserved)

There are no anticipated fall protection hazards associated with the execution of this TO under the requirements of EM 385 1-1, section 21.A that must be addressed in this APP.

### **9.7.17 Fire Prevention**

#### **9.7.17.1 Major Workplace Fire Hazards**

**The major workplace fire hazards are as follows:**

- Storage or spillage of gasoline in approved portable containers (< up to 4 -5 gallon metal safety containers).
- Electrical fires from operating site generators
- Smoking in unauthorized/non-designated areas of the site.

**Potential ignition sources of the above:**

- Improper grounding or fuel pump equipment or generators
- Electrical malfunction of operating equipment
- Improper extinguishment of smoking materials
- Unauthorized hot work and improper hot work control procedures

### 9.7.17.2 Fire Prevention Measures

The information provided below is the minimum Fire Prevention procedures that must be engaged for the project site operations.

- Personnel shall ONLY be allowed to smoke in designated areas, where allowed at all. Designated area must be free of combustible, flammable or potentially explosive materials.
- The project supervisor or SSHO (when designated) shall be responsible for securing, inspecting and maintaining appropriate first response, portable type fire extinguisher equipment and ensure that such equipment is kept in a state of readiness and easily accessible.
- Flammable/combustible liquids must be kept in approved containers, and must be stored in an approved storage cabinet. Use only metal safety cans for storage and transfer of fuel and use funnels and nozzles during fueling operations. Flammable liquids shall be kept in closed containers or tanks when not in use.
- Personnel performing fuel dispensing operations to heavy equipment or small engine equipment shall be responsible for the fuel sources its delivery to the intended equipment. In the event of a spill or release, the person conducting the dispensing operation shall immediately notify the site supervisor so that appropriate corrective measures can be initiated.
- AGVIQ-CH2M HILL personnel incipient are only authorized to fight incipient stage fires to their level of training, and only when it is determined it is "safe" / appropriate to do so. Personnel responding to incipient stage fires shall consider their own personal safety when engaging such fires. Fires resulting from residual product in lines, tanks storage areas containing flammable/combustible waste should be handled by host facility or local agency Fire and Emergency Services. AGVIQ-CH2MHILL personnel ARE NOT considered Firefighting Organizations or Fire Brigades. Only "small/containable", incipient stage fires that are containable by the use of first response fire protection equipment (i.e. 2.5 to 20 lb ABC fire extinguishers) may be controlled by AGVIQ-CH2MHILL personnel. All other response shall be considered firefighting measures and shall be conducted by facility provided or public agency firefighting teams. However, site personnel who may be required to use portable first response type fire extinguishers shall receive training meeting the requirements of 29 CFR 1910.157(g) prior to or upon mobilization to the site.
- All flammable or combustible wastes must be kept in a fire-resistant, properly labeled covered container until removed from the site.
- Sources of open flames, sparks and heat shall not be left unattended.
- A good housekeeping program that provides for the prompt removal and disposal of accumulations of combustible scrap and debris shall be implemented on the site. Self-closing containers shall be used to collect waste saturated with flammable or combustible liquids. Only non-combustible or UL labeled nonmetallic containers may be used to dispose of waste and rubbish.

- All sources of ignition shall be prohibited within 50' of operations with a potential fire hazard.
- All sources of ignition shall be prohibited in areas where flammable and combustible liquids are stored, handled, and processed. Where it is necessary to identify such potential hazard suitable NO SMOKING, MATCHES, OR OPEN FLAME signs shall be posted in all such areas.
- Fire extinguishers will be provided so that the travel distance from any work area to the nearest extinguisher is less than 50 feet when 5 gallons or more of a flammable or combustible liquid is being used. Extinguishers must:
  - Be maintained in a fully charged and operable condition.
  - Be visually inspected each month.
  - Undergo a maintenance check each year.
  - The area in front of extinguishers must be kept clear.
  - Appropriately sized, easily accessible ABC fire extinguisher in work area. Fire extinguishers must be inspected monthly (inspection tag) and have an annual maintenance/inspection certification (tag) attached to the extinguisher.
  - Fire extinguishers shall be approved by a nationally recognized testing laboratory and labeled to identify the listing and labeling organization and the fire test and performance standard that the fire extinguisher meets or exceeds.
- Combustible materials stored outside should be at least 10 feet from any building.
- Mechanized equipment shall be shut down before and during fueling operations.
- Before conducting any hot work operations, a Hot Work Permit must be secured from the host facility designated fire department inspector/fire prevention officer or Government Designated Authority (GDA) when welding, cutting, heating operations or other spark producing operations are performed unless otherwise indicated by the GDA.

#### **9.7.17.3 Fire Watch**

(Reserved)

Hot work is not anticipated for this TO.

#### **9.7.18 Flight Line Safety**

(Reserved)

No TO activities will occur on, within, or immediately adjacent to or require the crossing of flight lines.

#### **9.7.19 General Practices and Housekeeping**

Maintaining proper site housekeeping measures promotes the elimination of slip, trip and fall hazards and exhibits a perception of pride in our work product and habits. Poor housekeeping can result in the basis of citations under 29CFR1926.25(a) or other applicable

regulations. Good housekeeping practices must be implemented on every AGVIQ-CH2MHILL controlled project site and at a minimum shall be as follows:

- Maintain good housekeeping at all times in all project work areas.
- During the course of executed project operations, construction, alteration, or repairs, form and scrap lumber with protruding nails, and all other debris, shall be kept cleared from work areas, passageways, and stairs, in and around buildings or other structures.
- Combustible scrap and debris shall be removed at regular intervals during the course of construction. Safe means shall be provided to facilitate such removal.
- Containers shall be provided for the collection and separation of waste, trash, oily and used rags, and other refuse. Containers used for garbage and other oily, flammable, or hazardous wastes, such as caustics, acids, harmful dusts, etc. shall be equipped with covers and appropriately labeled. Garbage and other waste shall be disposed of at frequent and regular intervals.
- Establish common paths of travel and keep them free from the accumulation of materials.
- Keep access to aisles, exits, ladders, stairways, scaffolding, and emergency equipment free from obstructions.
- Provide slip-resistant surfaces, ropes, and/or other devices to be used.
- Designate specific areas for the proper storage of materials.
- Store tools, equipment, materials, and supplies in an orderly manner.
- As work progresses, neatly store scrap and unessential materials or remove them from the work area.
- Provide containers for collecting trash and other debris and remove them at regular intervals.
- Clean up all spills quickly. Clean oil and grease from walking and working surfaces.

### 9.7.20 Hand and Power Tools

**(Reference CH2M HILL SOP # HSE&Q 210, Hand and Power Tools)**

Hand and power tools may be used intermittently during the support of all operations. When the use of hand and power tools is necessary to properly complete assigned tasks, the following work practices must be implemented, where applicable.

- Review and implement all applicable components of CH2M HILL SOP # HSE&Q 210, Hand and Power Tools except where other requirements may be more stringent.
- Disconnect power (electric, pneumatic) tools from energy sources when they are not in use, before inspecting them, performing cleaning/maintenance or when changing accessories (such as blades, bits, and cutters) so that an unexpected or accidental start-up of tool cannot occur.

- If an inspection of a power or hand tool indicates an item is in need repair, is improperly grounded or insulated or not operating in accordance with the manufacturers intended requirements, immediately remove the tool from service, label (or “tag”) the equipment or device as “Damaged – Do Not Use”. Ensure that all tools/equipment/power cords that are deemed damaged, dangerous or not operating in accordance with the manufacture’s requirements are removed from service and repaired by an authorized manufacturer repair technician or rendered inoperable and properly dispose of.
- Hand tools will be used for their intended use and operated in accordance with manufacturer instructions and design limitations.
- Maintain all hand and power tools in a safe condition.
- Do not set power tools down in muddy or wet areas, which may damage the tool and/or or create a potential for electric shock.
- Use PPE (such as gloves, safety glasses, earplugs, and face shields) when exposed to a hazard from a tool. See table 1-1 of this **Attachment 1** (SSHSP) to this APP for details for Level D PPE.
- Do not carry or lower a power tool by its cord or hose.
- Portable electric power tools will be plugged into GFCI-protected outlets.
- Portable power tools will be UL listed and have a three-wire grounded plug or be double insulated.
- Safety guards on tools must remain installed while the tool is in use and must be promptly replaced after repair or maintenance has been performed.
- Store tools properly in a place where they will not be damaged or come in contact with hazardous materials.
- If a cordless tool is connected to its recharge unit, both pieces of equipment must conform strictly with electrical standards and manufacturer’s specifications.
- Tools used in an explosive environment must be rated for work in that environment (that is, intrinsically safe, spark-proof).
- AGVIQ-CH2M HILL personnel must be provided proper training or be qualified by previous experience prior to using powder actuated tools/devices.
- When using a tool with a blade, stroke or cut away from the body with a smooth motion, where ever feasibly possible. Be careful not to use excessive force that could damage the tool, the material being cut or unprotected hands.

Note: In the event a worker must use manual and pistol-grip hand tools which may result in highly repetitive movement, extended use, extended elevation, constrained postures, and/or awkward positioning of body members (for example, hand, wrist, arm, shoulder, neck, etc.), consider alternative tool designs, improved posture/positions, the selection of appropriate

materials, changing work organization, and sequencing to prevent muscular, skeletal, repetitive motion, and cumulative trauma stressors.

#### **9.7.20.1 Machine Guarding**

Machine guarding for this task order is primarily associated with land clearing operations, but can also be applicable were power tools are used. The following measures must be considered to eliminate potential accidents and injuries with regard to machine guarding requirements.

- Ensure that all machine guards are in place to prevent contact with drive lines, belts, chains, pinch points or any other sources of mechanical injury.
- Maintenance and repair of equipment that results in the removal of guards or would otherwise put anyone at risk requires lockout of that equipment prior to work and this APP would have to be updated to include requirements for implementing a hazardous energy control program.

#### **9.7.20.2 Knife Use**

Knives (fixed/utility) shall not be used. If it is demonstrated that a knife is the right tool for the job, this plan will be amended and the activity that knife use will be used for shall be reviewed.

#### **9.7.20.3 Responsibilities**

- Supervisors with assistance from the SSHO are responsible for funding and ensuring the correct tool is being used, employees wear the proper PPE when using knives, and they have reviewed this policy.
- Employees are responsible for having and utilizing the proper PPE while performing an activity requiring the use of a knife. Employees are also responsible for understanding the proper use of a knife.

#### **9.7.20.4 Glove Requirements**

- In general, Kevlar cut resistant gloves are to be worn when using a knife in an occupational setting.
- Other types of gloves may be required and will be identified within the AHA / written procedure. Example - Leather gloves may be worn when using the acetate sleeve cutter.

#### **9.7.20.5 Standard Control Measures for Knife Use**

- All employees that will use a knife must be trained or have experience with the proper use of a knife, prior to using it.
- When using a knife or blade tool, stroke or cut away from the body with a smooth motion. Be careful not to use excessive force that could damage the tool, the material being cut, or unprotected hands.
- When using a knife always cut away from yourself.

- Many tasks using a utility knife require a knife edge but not a sharp point. For these tasks you can add protection against puncture wounds by using a rounded-tip blade.
- If you use a folding knife, it must be a locking blade type.
- Never use a knife that will fold under pressure.
- If you use a fixed blade knife, make sure there is a handle guard to keep your hand from slipping forward. Also, make sure the handle is dry and non-greasy/slippery to assure a better grip.
- When cutting, make the force of the cut carry the blade away from any part of your body. If you have a peculiar situation where this is not possible, protect yourself with a leather apron, or other material placed between you and the blade. Consider putting the material to be cut in a vise, or other holding device.
- If you carry a fixed blade knife, use a sheath or holder.
- Store utility knives safely, retract the blade or sheath an open blade before storing. Never, leave a knife with the blade exposed on the floor, on a pallet, on a work surface, or in a drawer or cabinet.
- Keep your knife sharp. A dull blade requires you to use more force to cut, and consequently increases the risk of slip or mistake.
- Knives used on the job, but not carried with you, must be properly stored when not in use.
- Never use a defective knife.
- Utility knife blades must be used, recognize that they are brittle and can snap easily. Don't bend them or apply side loads to them by using them to open cans or pry loose objects. Use the knife only to cut. It was not designed to work as a pry bar, screw driver, hole punch, and other assorted things that make it seem so easy.
- Stay focused on the cutting job. It only takes a second of inattention with a sharp blade to produce a serious cut. Letting the mind wander or talking with others while using a knife greatly increases the risk of an accident and injury. If you are interrupted while working with a knife, stop cutting, retract the blade, and place the knife down on a secure surface before dealing with the interruption. You should never continue cutting while distracted! As always, utilize the hierarchy of controls and first attempt to engineer out the hazard and frequently ask ourselves do we have the right tool for the job.

### 9.7.20.6 Examples of Preferred Tools and Kevlar Cut Resistant Gloves



A safety spring provides for automatic blade "shoot-back" into the handle when contact with cutting surface is lost.

### 9.7.21 Haul Trucks

(Reserved)

Haul Trucks are not anticipated to be used for this TO.

### 9.7.22 Heavy Equipment

(Reference CH2M HILL SOP # HSE&Q 306, Earth Moving Equipment)

(Reserved)

Heavy Equipment is not anticipated to be used on this TO.

### 9.7.23 Land Clearing Operations - General

(Reserved)

There are no land clearing operations associated with the execution of this TO.

### 9.7.24 Lock-Out/Tag-Out

**(Reference CH2M HILL SOP # HSE&Q 310, Lock Out Tag Out)**

(Reserved)

There are no identified site conditions or anticipated site operations where the servicing and maintenance of machines and equipment would result in the unexpected energization or start up of the machines or equipment, or release of stored energy that could cause injury to employees. Therefore the requirements to develop a hazardous energy control (HEC) program to address the control of hazardous energy sources as applicable to the requirements 29 CFR 1910.147, 29 CFR 1926, Subpart K or EM 385 1-1, section 12 is not applicable to the execution of this TO.

### 9.7.25 Manual Lifting

**(Reference CH2M HILL SOP # HSE&Q 112, Manual Lifting)**

Manual lifting is likely to occur during many phases of the project, but especially during all mobilization and demobilization activities as described herein and sampling events. Personnel executing assigned tasks where manual lifting is required should use the following procedures to help reduce the potential for personal injury.

- AGVIQ-CH2MHILL personnel should notify supervisors or designated safety representatives of pre-existing medical conditions that may be aggravated or re-injured by lifting activities, such that AGVIQ-CH2MHILL may evaluate safe operational procedures with regard to the required task.
- Perform a muscle stretching routine or work warming regiment before engaging in manual lifting operations.
- Use proper lifting techniques (use of knees and not back) when lifting any object:
- Plan storage and staging to minimize lifting or carrying distances.
- Split heavy loads into smaller loads.
- Use mechanical lifting aids whenever possible.
- Have someone assist with the lift – especially for heavy (>40 lbs.) or awkward loads. Note: If AGVIQ-CH2MHILL personnel are not capable of lifting 40 lbs., seek assistance from a team member to split the load.
- Make sure the path of travel is clear prior to the lift.

### 9.7.26 Marine Activities

(Reserved)

### 9.7.27 Materials Presenting a Potentially Explosive Hazard

(Reference CH2MHILL SOP # HSE&Q 610, Explosives Usage and Munitions Response)

(Reserved)

### 9.7.28 Noise

(Reference CH2M HILL SOP # HSE&Q 108, Hearing Conservation Program)

Unprotected exposure to excessive noise levels may lead to gradual and permanent hearing loss. The greater the intensity of a noise and the longer a person is exposed to the noise, the greater the chance of hearing loss. A hearing loss can be permanent or temporary. After certain noise exposures, a person may experience a temporary threshold shift (hearing loss) that results in the inability to hear certain sounds. The ability to hear will usually return. However, repeated or intense noise exposure can prevent this recovery, resulting in permanent hearing loss.

Employee hearing conservation is particularly important for the following site conditions/operations;

- Working around or adjacent to heavy earthmoving equipment.

Each employee is responsible for the following:

- Notify the site supervisor or SSHO of high-noise-level areas.
- Wear hearing protection when required.
- Complete noise training and audiometric testing (as required).
- Hearing protection will be worn when operations occur within or adjacent to high-noise sources (i.e. potentially exceeding 85 dB).

### 9.7.29 Pressure Washing Operations

(Reserved)

Pressure Washing is not anticipated for this TO.

### 9.7.30 Sample Handling

Sample handling, packaging, and preservation is the focus of this contract task order. Proper work practices and procedures to be followed during sampling activities include:

- Avoiding all skin contact with water, soil, sediment or debris of undetermined chemical characterization or material that is known to be impacted by site COCs.
- PPE and Air Monitoring requirements shall be executed in accordance with in accordance with tables 1-1 and 1-2, respectively, of **Attachment 1** (SSHSP) of the APP to minimize potential dermal and respiratory exposures to identified site contaminants of concern while conducting sample collection or characterization of potentially contaminated media (soil, water, drilling fluids/cuttings, PPE, soil vapor, etc.). In addition, good personal hygiene practices and procedures must be maintained (see section 1.10, **Attachment 1** (SSHSP) of this APP).

- Caution should be exercised when filling bottles containing acid or base preservatives. Both liquid and vapor phases of acid can cause severe burns.
- Following sample collection, sample container lids should be tightened securely to prevent any leaks, and the containers should be rinsed with clean water to ensure that they are free of chemical constituents. Sample activities, sample collection, and equipment decontamination procedures.

### 9.7.31 Slips, Trips and Falls

Slip, trip and fall hazards exist in virtually ALL work environments. Even though slip, trip and fall hazards are typically thought of as posing low risk to workers, they account for a large percentage of worker injuries. As such, workers should be exercise caution about becoming complacent to recognizing and removing slip, trip and fall hazard from designated work areas. To eliminate slip, trip and fall hazards from the work place the following should be implemented.

- Walk or climb only on equipment and/or surfaces designed for personnel access.
- Maintain three (3) points of contact when entering or exiting heavy equipment or when climbing or working from ladders.
- Observe, (mark where appropriate) and avoid areas of unprotected holes, ramps, drainage areas, and ground penetrations or protrusions ( curbs, utility structures etc). If these conditions cannot be corrected, mark these hazards (i.e. high visibility pant, traffic cones etc) so that workers may recognize and avoid them. Only mark where it does not mar or destroy government property, otherwise barricade as appropriate.
- Employees walking in ditches, uneven surfaces, swales and other drainage structures adjacent to roads, across undeveloped land or in controlled industrial work/process areas must use caution to prevent slips and falls, which can result in twisted or sprained ankles, knees, and backs.
- Clear/remove materials from pathways and commonly traveled areas as soon as possible.
- Whenever possible work from areas which have flat, stable surfaces and do not enter steep sided ditches/excavations.
- Sturdy, hard toe boots that provide sufficient ankle support shall be used on AGVIQ-CH2MHILL project site.

### 9.7.32 Stairways and Ladders

(Reference CH2M HILL SOP # HSE&Q 214, Stairways and Ladders)

(Reserved)

There are no significant stairway or ladders systems that are identified to support the execution of this TO.

### 9.7.33 Vacuum Truck Operations

(Reserved)

The use of vacuum trucks will not be required for the execution of this TO.

### 9.7.34 Vehicular Traffic (Exposure to)

**(Reference CH2M HILL SOP # HSE&Q 216, Traffic Control)**

The NAS Whiting Field site is removed from vehicular traffic. The only significant anticipated employee exposure to vehicular traffic will be that traffic associated use and parking of site support vehicles. The information provided below is intended to provide standard work practices must be exercised when personnel are working in or around traffic, haul truck routes or near an area where traffic controls have been established.

- When parking your vehicle, park in a manner that will allow for safe exit from vehicle, and where practicable, park vehicle so it can serve as a barrier.
- Shut off and secure Site vehicles prior to exiting them. Park on level ground where possible. If parking on an incline, engage parking brake. If the vehicle has a manual transmission, ensure the transmission is in gear (not neutral) and the parking brake is engaged before exiting the vehicle.
- Exercise caution when exiting traveled way or parking along street – avoid sudden stops, use flashers, etc.
- All staff working adjacent to traveled way or within work area must wear reflective/high-visibility safety vests.
- Eye protection should be worn to protect from flying debris.
- Remain aware of factors that influence traffic-related hazards and required controls – sun glare, rain, wind, limited sight-distance, hills etc.
- Always remain aware of an escape route, such as behind an established barrier or parked vehicle.
- Always pay attention to moving traffic – never assume drivers are looking out for you.
- Work as far from traveled way as possible to avoid creating confusion for drivers.
- When workers must face away from a haul truck to perform assigned duties, a “buddy system” should be used, where one worker is looking toward traffic.
- Work area should be protected by a physical barrier.
- Lookouts should be used when physical barriers are not available or practical.

In addition to the above work practices, AGVIQ-CH2MHILL personnel and AGVIQ-CH2MHILL subcontractors shall adhere to the following procedures while operating motor vehicles or other motorized equipment on military/government facilities.

- Always use a seat belt while driving on military/government controlled facilities.
- Always observe posted speed limits, traffic signs and signals.

- Never use a cell phone or two-way radio while driving on military/government controlled facilities

Violating these requirements may result in loss of military/government facility driving privileges.

### 9.7.35 Visible Lighting

Site work should be performed during daylight hours whenever possible. Work conducted during hours of darkness (including dusk and dawn) requires the set-up of supplemental lighting equipment. (Note: A general “rule of thumb” is that the illumination intensity must be sufficient to read a newspaper without difficulty).

At this time, it is that no work executed under this TO will be performed at night. If work is to be performed at night, a night operations lighting plan shall be developed to ensure that all activities. Although it is not anticipated that work executed under this TO will be performed during dusk, dawn or night time periods, the chart below provides a reference for illumination requirements for various construction related work environments.

Illumination (Foot Candles)	Illumination (Lux)	Area of Operation
5	~ 55	General construction area lighting
3	~ 33	General construction areas, concrete placement, excavation and waste areas, access ways, active storage areas, loading platforms, refueling, and field maintenance areas
5	~ 55	Indoors: warehouses, corridors, hallways, and exit ways
5	~ 55	Tunnels, shafts, and general underground work areas: (Exception: minimum of 10 foot-candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Bureau of Mines approved caplights shall be acceptable for use in the tunnel heading)
10	~ 108	General construction plant and shops (e.g., batch plants, screening plants, mechanical and electrical equipment rooms, carpenter shops, rigging lofts and active store rooms, mess halls and indoor toilets and workrooms.)
30	~ 323	First aid stations, infirmaries, and offices

Notes:

A **foot candle** is a unit of illumination on a surface that is everywhere one foot from a point source of one candle.

A **lux** is a unit of measurement of the intensity of light. It is equal to the illumination of a surface one meter away from a single candle.

#### CONVERSIONS

$$\text{Foot Candles (FC)} = \text{Lux} \times .0929$$

$$\text{Lux} = \text{Foot candles} \times 10.76 - (\text{i.e.: } 50 \text{ FC} = 538 \text{ LUX})$$

The following safe work practices shall be considered with regard to lighting in the workplace.

- Do not enter poorly lit areas without first providing portable illumination.
- Do not use non-explosion proof lighting in areas of flammable or combustible gases or liquids.

### **9.7.36 Welding or Cutting Operations**

**(Reference CH2M HILL SOP # HSE&Q 314, Welding & Cutting)**

(Reserved)

Welding or Cutting operations are not anticipated for this TO.

### **9.7.37 Working Alone**

(Reserved)

No site personnel will be allowed to work alone on this project.

### **9.7.38 Working Around Material Handling Equipment**

(Reserved)

Working around material handling equipment is not anticipated for this TO.

### **9.7.39 Working on or Over Water**

(Reserved)

It is not anticipated that working on or over water will not be encountered on this TO.

## **9.8 9.h Hazard Communication Program (06.B.01)**

**(Reference CH2M HILL SOP # HSE&Q 316, Rigging  
TIKIGAQ Corporation Hazard Communication Program)**

A hard copy of the AGVIQ, LLC, and CH2MHILL, Inc. Hazard Communication program information and MSDS material shall be provided at the project site.

In general, the site supervisor or SSHO will be the main contact in any onsite emergency coordination or communication situation and will ensure offsite emergency agencies have been contacted prior to the start of and verify that emergency contact numbers contained in this APP are accurate/operational work. The site supervisor or SSHO will communicate with all potential emergency response organizations that would respond to an onsite emergency condition. In the event that during an emergency situation, the primary site supervisor or SSHO is not available or not capable of performing this function, an alternate site supervisor or SSHO or Site Supervisor can fulfill these duties. The site supervisor or SSHO or designee will serve as the Hazard Communication Coordinator, and will perform the following:

- Review the COCs and other applicable hazard communication information contained this APP.

- Request or confirm locations of MSDSs from the client, contractors, and subcontractors or material vendors for chemicals to which AGVIQ-CH2M HILL employees are potentially exposed. Maintain MSDSs in this APP (**Attachment 6**).
- Complete an inventory of chemicals brought onsite. See Attachment 6 of this APP. Give employees required chemical-specific HAZCOM training information using the format included in **Attachment 7** of this APP.
- Confirm that an inventory of chemicals brought onsite is available.
- Prior to, or as chemicals arrive onsite, obtain an MSDS for each hazardous chemical.
- Label chemical containers with the identity of the chemical and with hazard warnings, and store properly.
- Store all materials properly, giving consideration to compatibility, quantity limits, secondary containment, fire prevention, and environmental conditions.

### 9.8.1 Shipping and Transportation of Chemical Products

Chemicals brought to the site might be defined as hazardous materials by the U.S. Department of Transportation (DOT). All staff who ship the materials or transport them by road must receive training in shipping dangerous goods. All hazardous materials that are shipped (e.g., via Federal Express) or are transported by road must be properly identified, labeled, packed, and documented by trained staff. Contact the AGVIQ-CH2M HILL Project Manager and program regulatory specialist for additional information.

## 9.9 9.i Process Safety Management (06.B.04)

(Reserved)

The requirements of EM 385 1-1, section 06.B.04 are not applicable to this TO.

## 9.10 9.j Lead Abatement Plan (06.B.05)

(Reserved)

A lead hazard evaluation has been performed for the site and the maximum levels of lead to be encountered at the site are not anticipated to have the potential to cause a lead exposure above the OSHA action level of 30  $\mu\text{g}/\text{m}^3$ . The type of work being performed does not fall into the category of lead abatement and therefore the requirements of EM 385 1-1, section 06.B.05 are not applicable to this TO.

## 9.11 9.k Asbestos Abatement Plan (06.B.05)

(Reserved)

The requirements of EM 385 1-1, section 06.B.05 are not applicable to this TO.

## 9.12 9.l Radiation Safety Program (06.E.03)

As part of the site investigation that will be performed, a hand held Thermo Scientific Niton XL3T600 X-ray Fluorescence (XRF) Analyzer will be used to screen soils for evidence of elevated metals concentrations using EPA Method 6200. This hand held analyzer contains an X-ray tube as part of the operating/analyzing mechanism.

Specific safety protocols can be found in Section 1.2.1.2 Radiological Hazards and Controls of the Attachment 1 SSHP of this APP.

The GDA will be notified prior to transporting the rented XRF to the site and will be provided a copy of the general license that the rental company provides. The rental company will be responsible for complying with all State and Federal laws.

## 9.13 9.m Abrasive Blasting (06.H.01)

(Reserved)

There are no abrasive blasting operations associated with the execution of this TO. The requirements of EM 385 1-1, section 06.H.01 are not applicable to this TO.

## 9.14 9.n Heat/Cold Stress Monitoring Program (06.I.02)

### 9.14.1 Heat Stress Monitoring and Prevention

It is anticipated that site personnel will have to wear Modified Level D PPE during the execution of their assigned tasks on this TO. Because the work may be performed during periods where low ambient air temperatures should be prevalent, the potential for the development of heat stress related disorders should be very low. However, if the project schedule changes or other heat stress inducing condition factors manifest during the execution of the project, workers should be aware of necessary procedures to prevent heat related disorders, be cognizant of the signs and systems that indicate heat related disorders are occurring and know when first aid or medical treatment may be required to treat heat related disorders. The following information is provided as procedural information to monitor and prevent heat related injuries to site workers, while performing assigned tasks.

- It is recommended that personnel drink 16 ounces of water before beginning work. Water maintained at 50°F to 60°F shall be available. Under severe conditions, drink 1 to 2 cups every 20 minutes, for a total of 1 to 2 gallons per day. Do not use alcohol in place of water or other nonalcoholic fluids. Decrease your intake of coffee and caffeinated soft drinks during working hours.
- Acclimate yourself by slowly increasing workloads.
- Use cooling devices, such as cooling vests, to aid natural body ventilation.
- Use mobile showers or hose-down facilities to reduce body temperature and cool protective clothing.
- Conduct field activities in the early morning or evening and rotate shifts of workers, if possible.

- Whenever possible, avoid direct sun, which can decrease physical efficiency and increase the probability of heat stress. Take regular breaks in a cool, shaded area. Use a wide-brim hat or an umbrella when working under direct sun for extended periods.
- Provide adequate shelter/shade to protect personnel against radiant heat (sun, flames, hot metal).
- Maintain good hygiene standards by frequently changing clothing and showering.
- Observe one another for signs of heat stress. Persons who experience signs of heat syncope, heat rash, or heat cramps should consult the SSHO to avoid progression of heat-related illness.
- **To counteract the onset of heat stress symptoms, a work-break regimen must be established during the executed work. Workers in Modified Level D or Level C PPE shall be allowed to rest and lower core body temperature to normal status when any one condition is exceeded:**
  - Visual signs and symptoms of heat stress are present in a worker.
  - It is determined that a worker’s core body temperature exceeds 100.4 degrees F.
  - Active work duration in Modified Level D or Level C PPE in ambient temperatures in excess of 70 degrees F (without regard to humidity evaluation) occurs for more than 45minutes.
  - Personnel reactions, physical conditions or extreme atmospheric conditions warrant.

For employees in permeable work clothing, Wet Bulb Globe Temperature (WBGT) Index or physiological monitoring shall be conducted and work/rest regimens established.

<b>SYMPTOMS AND TREATMENT OF HEAT STRESS</b>					
<b>Signs and Symptoms</b>	<b>Heat Syncope</b>	<b>Heat Rash</b>	<b>Heat Cramps</b>	<b>Heat Exhaustion</b>	<b>Heat Stroke</b>
	Sluggishness or fainting while standing erect or immobile in heat.	Profuse tiny raised red blister-like vesicles on affected areas, along with prickling sensations during heat exposure.	Painful spasms in muscles used during work (arms, legs, or abdomen); onset during or after work hours.	Fatigue, nausea, headache, giddiness; skin clammy and moist; complexion pale, muddy, or flushed; may faint on standing; rapid thready pulse and low blood pressure; oral temperature normal or low	Red, hot, dry skin; dizziness; confusion; rapid breathing and pulse; high oral temperature (104F or above).
<b>Treatment</b>	Remove to cooler area. Remove outer impermeable protective clothing. Rest victim lying down in supine position (on back, facing up) with head shoulders slightly elevated. Increase fluid intake. Recovery usually is prompt and complete. Where effected person is	Remove to cooler area. Remove outer impermeable protective clothing. Remove to cooler area. Remove outer impermeable protective clothing. Rest victim lying down in supine position (on back, facing up) with head shoulders slightly elevated.. Use mild drying lotions and powders, and keep	Remove to cooler area. Remove outer impermeable protective Rest victim lying down in supine position (on back, facing up) with head shoulders slightly elevated. Increase fluid intake. Where effected person is conscious, have them loosen their clothing to promote	Remove to cooler area. Rest victim lying down in supine position (on back, facing up) with head shoulders slightly elevated. Administer fluids by mouth. Seek medical attention immediately. Where effected person is conscious, have them loosen their	Remove to cooler area. Rest victim lying down in supine position (on back, facing up) with head shoulders slightly elevated. Where effected person is conscious, have them loosen their clothing to promote cooling surface between clothing/body. Call ambulance, and <u>get medical attention immediately!</u> Provide <u>sips</u> of cool water to if

SYMPTOMS AND TREATMENT OF HEAT STRESS					
	conscious, have them loosen their clothing to promote cooling surface between clothing/body.	skin clean for drying skin and preventing infection. Where effected person is conscious, have them loosen their clothing to promote cooling surface between clothing/body.	cooling surface between clothing/body.	clothing to promote cooling surface between clothing/body.	fully conscious and not nauseous or vomiting. Cool rapidly by soaking clothing in cool—but not cold—water. This procedure shall only be performed where directed by someone with medical training/licensure (i.e. EMT, physician) and only as a life saving precaution. Evaluate employee's condition by an occupational physician prior to resuming normal assigned duties.

### 9.14.2 Monitoring Heat Stress

Heat Stress monitoring procedures must be implemented when the ambient air temperature exceeds 70°F, the relative humidity is high (>50 percent), or when workers exhibit symptoms of heat stress, or when workers are required to wear impermeable protective clothing (Saranex, Tyvek or Rain Gear) to perform their assigned duties.

When AGVIQ-CH2M HILL employees are required to wear impermeable protective clothing (Saranex, Tyvek or Rain Gear) to perform their assigned duties, Level D modified or Level C PPE and are exposed to ambient air conditions in excess of 70°F, physiological monitoring of employees is required. This monitoring will be facilitated by the use of automatic blood pressure monitors and by taking body temperature measurements monitored with aural or oral thermometers. All temperature measurement devices shall be affixed with disposable covers or protectors to ensure exposure to blood borne pathogens does not occur.

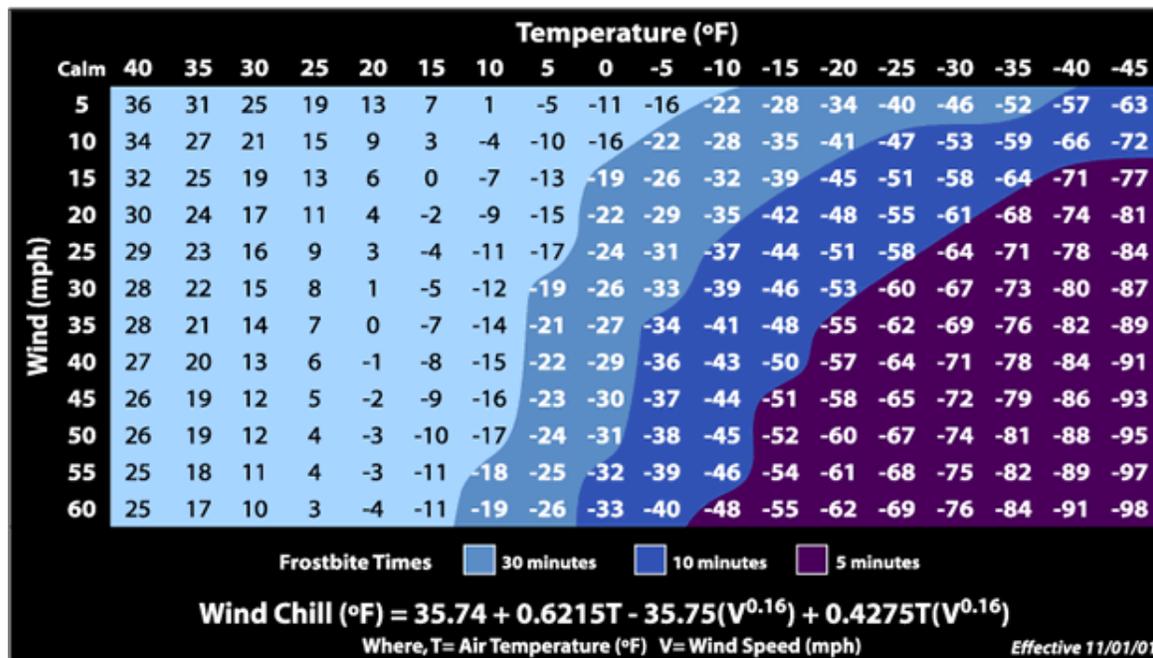
The heart rate (HR) should be measured by the radial pulse for 30 seconds, as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 100 beats/minute, or 20 beats/minute above resting pulse. If the HR is higher, the next work period should be shortened by 33 percent, while the length of the rest period stays the same. If the pulse rate still exceeds 100 beats/minute at the beginning of the next rest period, the work cycle should be further shortened by 33 percent. The procedure is continued until the rate is maintained below 100 beats/minute, or 20 beats/minute above resting pulse.

### 9.14.3 Cold Stress Monitoring and Prevention

- Be aware of the symptoms of cold-related disorders, and wear proper, layered clothing for the anticipated fieldwork. Appropriate rain/foul weather gear is a must in cool/cold weather, especially where precipitation events are occurring.
- Consider monitoring the work conditions and adjusting the work schedule using guidelines developed by the U.S. Army (wind-chill index) and the National Safety Council (NSC).
- Wind-chill index is used to estimate the combined effect of wind and low air temperatures on exposed skin. The wind-chill index does not take into account the body part that is exposed, the level of activity, or the amount or type of clothing worn. For

those reasons, it should only be used as a guideline to warn workers when they are in a situation that can cause cold-related illnesses.

- NSC Guidelines for Work and Warm-Up Schedules can be used with the wind-chill index to estimate work and warm-up schedules for fieldwork. The guidelines are not absolute; workers should be monitored for symptoms of cold-related illnesses. If symptoms are not observed, the work duration can be increased.



- Persons who experience initial signs of immersion foot, frostbite, hypothermia should consult the SHSO to avoid progression of cold-related illness.
- Observe one another for initial signs of cold-related disorders.
- Obtain and review weather forecast— be aware of predicted weather systems along with sudden drops in temperature, increase in winds, and precipitation.

SYMPTOMS AND TREATMENT OF COLD STRESS			
	Immersion (Trench) Foot	Frostbite	Hypothermia
Signs and Symptoms	Feet discolored and painful; infection and swelling present.	Blanched, white, waxy skin, but tissue resilient; tissue cold and pale.	Shivering, apathy, sleepiness; rapid drop in body temperature; glassy stare; slow pulse; slow respiration.
Treatment	Seek medical treatment immediately.	Remove victim to a warm place. Re-warm area quickly in warm—but not hot water. Have victim drink warm fluids, but not coffee or alcohol. Do not break blisters. Elevate the injured area, and get medical attention.	Remove victim to a warm place. Have victim drink warm fluids, but not coffee or alcohol. Get medical attention.

## 9.15 9.o Crystalline Silica Monitoring Plan (06.M)

(Reserved)

There are no anticipated potential worker exposures to crystalline silica associated with the execution of this TO.

## 9.16 9.p Night Operations Lighting Plan (07.A.08)

(Reserved)

No operations will be performed at night. The requirements of EM 385 1-1, section 07.A.08 are not applicable to this TO.

## 9.17 9.q Fire Prevention Plan (09.A)

Fire prevention shall be conducted in accordance with the information identified in section 9.7 of the APP, Health and Safety Hazard Control Program - Fire Prevention.

## 9.18 9.r Wild Land Fire Management Plan(09.K)

(Reserved)

The requirements of EM 385 1-1, 09.K are not applicable to this TO as no USACE prescribed or planned wild land fire management operations or potential will be executed under this TO.

## 9.19 9.s Hazardous Energy Control Plan (12.A.01)

(Reserved)

There are no identified site conditions or anticipated site operations where the servicing and maintenance of machines and equipment would result in the unexpected energization or start up of the machines or equipment, or release of stored energy that could cause injury to employees. Therefore the requirements to develop a hazardous energy control (HEC) program to address the control of hazardous energy sources as applicable to the requirements 29 CFR 1910.147, 29 CFR 1926, Subpart K or EM 385 1-1, section 12 is not applicable to the execution of this TO.

## 9.20 9.t Critical Lift Plan (16.H)

(Reserved)

No cranes will be utilized during the execution of this TO. The requirements of EM 385 1-1, section 16 and 29 CFR 1926 Subparts CC and DD are not applicable to the execution of this TO.

## 9.21 9.u Contingency for Severe Weather Plan (19.A.03)

See section 9.7 Health and Safety Hazard Control Program - "Adverse Weather". Although severe weather conditions can be experienced at the site, it is anticipated that the

performance period of this TO will be during periods where Hurricanes and similar severe tropical storm events are generally not a significant threat (November 30 through June 1) and therefore a Hurricane Preparedness Plan (HPP) will not be prepared as part of this APP for this TO.

## **9.22 9.v Float Plan (19.F.04)**

(Reserved)

The conditions of EM 385 1-1 19.F.04 are not applicable to this work.

## **9.23 9.w Site Specific Fall Protection and Prevention Plan (21.C)**

(Reserved)

There are no anticipated significant fall protection hazards under the requirements of EM 385 1-1 section 21.A that must be addressed by this APP.

## **9.24 9.x Demolition Plan(23.A.01)**

(Reserved)

Demolition activities will not be performed during the execution of this TO. The requirements of EM 385 1-1, section 23 and 29 CFR 1926 Subparts t and DD are not applicable to the execution of this TO.

## **9.25 9.y Excavation/Trenching Plan (25.A.01)**

(Reserved)

There are not activities to be performed on during the execution of this TO that would require being addressed under the requirements of 29 CFR 1926, Subpart P or EM 385 1-1, section 25.

## **9.26 9.z Emergency Rescue (Tunneling) (26.A)**

(Reserved)

No tunneling will be performed during the execution of this TO. The requirements of EM 385 1-1, section 26 are not applicable to the execution of this TO.

## **9.27 9.aa Underground Construction Fire Prevention and Protection Plan (26.D)**

(Reserved)

No underground construction will be performed during the execution of this TO. The requirements of EM 385 1-1, section 26 are not applicable to the execution of this TO.

## 9.28 9.bb Compressed Air Plan (26.I.01)

(Reserved)

No underground construction (tunnels), shafts or caissons work will be executed as part of this TO. The requirements of EM 385 1-1, section 26.I.01 are not applicable to this TO.

## 9.29 9.cc Formwork Shoring and Removal Plan (27.C)

(Reserved)

The requirements of EM 385 1-1, section 27 Concrete, Masonry, Steel Erection, and Residential Construction are not applicable to this TO.

## 9.30 9.dd Precast Concrete Plan (27.D)

(Reserved)

The requirements of EM 385 1-1, section 27 Concrete, Masonry, Steel Erection, and Residential Construction are not applicable to this TO.

## 9.31 9.ee Lift Slab Plan (27.E)

(Reserved)

The requirements of EM 385 1-1, section 27 Concrete, Masonry, Steel Erection, and Residential Construction are not applicable to this TO.

## 9.32 9.ff Steel Erection Plan (27.F)

(Reserved)

The requirements of EM 385 1-1, section 27 Concrete, Masonry, Steel Erection, and Residential Construction are not applicable to this TO.

## 9.33 9.gg Site Safety and Health Plan of HRTW Work (28.B)

A Site Specific Safety and Health Plan addressing the requirements of section 28.B of EM 385 1-1 is located in **Attachment 1** (SSHSP) of this APP.

## 9.34 9.hh Blasting Safety Plan

(Reserved)

No blasting operations will be conducted during the execution of this TO.

## 9.35 9.ii Diving Plan

(Reserved)

No diving operations will be conducted during the execution of this TO.

## 9.36 9.jj Confined Space Program

(Reference SOP # HSE&Q 203, Confined Space)

(Reserved)

Confined space entry operations will not be performed as part of this TO. The requirements of EM 385 1-1, section 34 and 29 CFR 1910.146 are not applicable to the execution of this TO.

# 10.0 Risk Management Process

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AGVIQ-CH2MHILL utilizes a Behavior Based Loss Prevention System (BBLPS) to support the implementation of our Risk Management Process (RMP) by identifying, analyzing and controlling certain risks (or liabilities) that may be encountered during the execution of a its assigned projects. The BBLPS is a system to prevent or reduce losses using behavior-based tools and proven management techniques to focus on behaviors or acts that could lead to losses.

The five basic loss prevention tools that will be used to implement the BBLPS on this project include:

- Activity Hazard Analysis (AHA)
- Pre-Task Safety Plans (PTSP)
- Loss Prevention Observations (LPO)
- Loss and Near Loss Investigations (NLI)
- Drug Free Workplace Program (DFWP)

The Project Manager and site superintendent are responsible for implementing the BBLPS on the project site. These personnel typically delegate authority to the SSHO for the project specific implementation of the BBLPS, but the Project Manager and Site Superintendent/Supervisor or Field Team Leader remains accountable for its implementation.

In an effort to provide a safe and healthy workplace for all program participants, AGVIQ-CH2MHILL promotes and implements a Drug Free Workplace Program (DFWP). AGVIQ-CH2MHILL personnel must participate in and adhere to the requirements of the DFWP.

## 10.1 Activity Hazard Analysis

One of the key elements in executing our RMP, is the use of an Activity Hazard Analysis (AHA) for each major Definable Feature of Work (DFOW) and safety sensitive operation. An AHA defines the activity being performed, the hazards posed, and the necessary hazard control measures that must be implemented to facilitate the progression of the work in a safe and health manner. In addition, the equipment to be used to perform the activity, as well as inspection and training requirements, and competent person designations necessary to execute the task are also listed in the AHA.

Site workers review (or are briefed on the content) of the AHA before initiating the DFOW or safety sensitive operation. Worker input should be solicited where ever possible and included in the AHA. After employees review (or are briefed on the content of) each AHA applicable to their assigned task(s), they will acknowledge that this review was completed by adding their printed names, signatures, and the dates that the material was delivered to them or reviewed by them on the last page of the AHA form.

AGVIQ-CH2MHILL subcontractors will be required to provide AHAs specific to their scope of work on the project for acceptance by the SSHO, AGVIQ-CH2MHILL Program CIH or HSPA or other designated qualified safety professional associated with AGVIQ-CH2M HILL. Each subcontractor will submit AHAs for their field activities, as defined in their work plan/scope of work, along with their project-specific APP. Additions or changes in AGVIQ-CH2MHILL or subcontractor field activities, equipment, tools or material to perform work, or additional/ different hazard encountered that require additional/ different hazard control measures requires either a new AHA to be prepared or an existing AHA to be revised.

The AHA applicable to the current site operation(s), work phase or safety sensitive function must remain posted in a conspicuous place (project construction trailer, weather proof bulletin board, etc.) that all site or facility personnel can access. When the most current AHA is not in use and not required to be posted, these completed AHAs shall be filed on site in a neat and organized manner for review are kept onsite in a neat and organized manner for review by NAVFAC Points of Contact (POCs) or the AGVIQ-CH2M HILL project management or program management team, or health and safety representatives, if requested.

At the end of project operations, all completed hard copies of AHAs are included in the final project record.

**Table 10-1 of Section 10.6**, below summarizes identified hazards associated with the phases of work anticipated with the project execution. Table 10-1 provides the basis for the development of Activity Hazard Analysis documents included in section 10.6 of this APP. **Section 10.6** of this APP contains applicable Activity Hazard Analysis (AHA) documents that must be implemented during the execution of this TO. These AHAs, in addition to the content of this APP, are intended to reinforce project or program requirements and present project control measures for anticipated or encountered hazards that may occur during the execution of an employee's assigned tasks. Any changes in site conditions or processes, AHA must be updated prior to work proceeding.

## 10.2 Pre-Task Safety Plans

Daily safety meetings are held with all designated project site personnel in attendance to review the potential hazards that may be associated with daily work assignments. These meetings set forth various hazard control measures or policies, procedures or requirements that must be implemented by project staff to reduce or eliminate workplace incidents that could be associated with daily scheduled work. The topics developed and delivered during each production day safety meeting are documented on an AGVIQ-CH2M HILL PTSP planner. The PTSPs are held between the site line supervisor and work crews and are designed to focus on eliminating identified hazards associated with daily assigned work. An example PTSP is included in **Attachment 8** of this APP.

Daily safety topics typically include task-specific or site hazards and associated hazard control measures, health and safety processes, or “hazardous conditions” discovered and corrected and/or controlled during a previous work event that may still be applicable to the current daily production goals. Additionally, names of personnel, types of tools and equipment that will be used to perform the assigned daily task(s) are listed, along with the hazards posed and required health and safety procedures that have been identified in the task specific AHAs or the APP and are incorporated into each PTSP.

Preparation and delivery of the PTSP may be delegated to the SSHO by the site supervisor/field team leader (FTL) to facilitate site operations. At the start of each day’s activities, the line supervisor or SSHO completes a PTSP. Ideally, input from the work crew is solicited and integrated into the development and delivery of each PTSP. Implementing daily PTSPs enhances worker participation in the recognition and control of hazardous site conditions or undesirable site acts, while reinforcing the task-specific required H&S procedures with the crew each work day. In the event that more than one type of project task is scheduled in any one daily production event, multiple PTSPs may need to be completed and implemented.

After the delivery of each PTSP, all personnel in attendance at the daily safety meeting acknowledge the delivered material with the addition of their printed names, signatures, and the date on which the material was delivered to them on the last page of the form. Completed PTSPs are kept on site in a neat and organized manner for review by management or the client, as deemed necessary.

Completed PTSPs are kept onsite in a neat and organized manner for review by NAVFAC POCs or the AGVIQ-CH2M HILL project management or program management team, or health and safety representatives, if requested. The project manager and the site line supervisor may establish a process by which these completed PTSPs are scanned and emailed for inclusion in the electronic project file, where email communication capability is available. Where email capability is not available other suitable distribution methods shall be arranged between the overall project manager and the site supervisor/FTL.

At the end of the project or facility operations, all completed PTSP hard copies are included in the final project record.

After the delivery of each PTSP, all personnel in attendance of the daily safety meeting shall acknowledge the delivered material with the addition of their printed name, signature and date that the material was delivered to them on the last page of the form. These completed PTSPs shall be kept onsite in a neat and organized manner for review by management or project Owner, as deemed necessary.

The use of safety meetings via the use of a PTSP or other similar format is a common safety practice in the construction industry.

## 10.3 Loss Prevention Observations

A LPO is a tool to be used by management, site supervisors/FTLs, and SSHOs to determine whether workplace behaviors, acts, and conditions are consistent with established H&S procedures, project site-specific APP requirements, or other established health and safety standards. An LPO may also be completed by an individual work crew member to initiate necessary corrective actions, to identify a work crew member's positive performance or contribution, or to report an undesirable act that would endanger the employee or other co-workers or result in a loss. Completion of the LPO provides a mechanism for management to reinforce positive actions for work practices performed correctly, while also identifying and eliminating work procedures, site conditions, or behaviors that could result in eventual losses.

LPOs can be completed by any employee involved with or observing site operations, but are typically prepared by the site supervisor/FTL, SSHO, or project manager using the LPO form found in **Attachment 9** of this APP. The LPO is implemented as a comparison of the actual execution of work process observed against established work procedures identified in the project-specific APP, AHAs, established health and safety policies and procedures, or regulatory standards.

One LPO shall be completed weekly and forwarded to the overall AGVIQ-CH2M HILL Project Manager and their designated management team, the CH2M HILL Administrative Assistant designated to track project labor hours and completed LPO, as well as the designated project HSPA lead where email capability is available. Where email capability is not available other suitable distribution methods shall be arranged between the overall project manager and the site supervisor. When severe or critical deficiencies are observed by the LPO process, the project manager, site supervisor/FTL, or SSHO has a duty to notify the project manager and Chain of Command personnel of the condition for further review and development of corrective action requirements.

Completed LPOs are kept onsite in a neat and organized manner for review by management or NAVFAC, as deemed necessary. At the end of the project or facility operations, all completed LPO hard copies are included in the final project record.

### 10.3.1 Deficiency Tracking System

On NAVFAC contracts where adherence to the US Army Corps of Engineers' EM 385-1-1, "Safety and Health Requirements Manual" is required in addition to Occupational Safety & Health Administration (OSHA) regulations, the site supervisor is responsible for ensuring that the a "Deficiency Tracking System" or log is maintained. The deficiency tracking system is used to identify and monitor the status of safety and health "deficiencies" observed at the project-specific location, in chronological order. The deficiency tracking system includes the following information:

- Date deficiency identified
- Description of deficiency
- Name of person responsible for correcting deficiency
- Projected resolution date
- Date actually resolved

The deficiency tracking system or log is posted on a project bulletin board or other conspicuous place commonly accessed by project or facility personnel, updated daily, and available for review by the NAVFAC POCs or by AGVIQ-CH2MHILL Project Management, Senior Management or Health and Safety Representatives. At project or facility sites where the use of a Deficiency Tracking System is required, this log supplements the LPO process.

At the end of the project, or when facility operations are completed, hard copies of the deficiency tracking system data or logs are included in the final record.

## 10.4 Loss/Near-Loss Investigations

Loss and Near Loss Incident investigations are detailed in section 8.0 “Accident Reporting and Investigation” of this APP and will not be further elaborated upon in this section. Incident reporting and investigation forms are included in **Attachment 10** of this APP.

## 10.5 Drug-Free Workplace Program

AGVIQ-CH2MHILL does not tolerate illegal drugs, or any use of drugs, controlled substances, or alcohol that impairs an employees work performance or behavior. AGVIQ-CH2MHILL has established a policy that its employees and subcontractors will not be involved in any manner with the unlawful manufacture, distribution, dispensation, possession, sale, or use of illegal drugs in the workplace. The use or possession of alcohol in the workplace is also prohibited. Any violation of these prohibitions may result in discipline or immediate discharge.

## 10.6 Project Specific Activity Hazard Analyses

Applicable project Activity Hazard Analysis (AHA) documents for each major phase of work anticipated for this contract are contained below. It is the intent of these AHAs to reinforce project or program requirements and present project control measures for anticipated or encountered hazards that may occur during the execution of an employee’s assigned tasks.

Table 10-1 below summarizes identified hazards associated with the phases of work anticipated with work scheduled at site 4A. Table 10-1 provides only the basis for the development of Activity Hazard Analysis documents, which must be implemented as part of the AGVIQ-CH2M HILL Health and Safety Program, BBLPS and overall RMP.

TABLE 10-1: ACTIVITY HAZARD ANALYSIS BASIS						
PROJECT HAZARDS	PROJECT ACTIVITIES					
	Mobilization, Site Setup, & Demob	Utility and Land Survey	Soil Sampling	XRF Field Screening	Waste Characterization/Management	Site Restoration
Adverse Weather	X	X	X	X	X	X
Air Compressors						
Biological	X	X	X	X	X	X
Buried Utilities			X			
Chainsaws/Brush cutters						
Contaminant Exposure			X	X	X	X
Chemical Injections						
Compressed Gas Cylinders						
Concrete and Masonry						
Confined Space						
Cuts/Abrasions	X	X	X		X	X
Cranes						
Demolition/Dismantling						
Dredging						
Drilling/DPT						
Electrical Safety	X	X	X	X	X	
Excavations			X			
Fall Prevention						
Fire/Explosion Prevention	X	X	X		X	X
Flight Line						
Hand & Power Tools	X	X	X	X	X	X
Haul Truck Operations						
Heat Stress/Cold Stress			X	X	X	
Heavy Equipment						
Housekeeping	X	X	X	X	X	X
Land Clearing						
Lockout /Tagout						
Manual Lifting	X	X	X	X	X	X
MEC/MPPEH						
Noise	X				X	
Overhead Utilities	X		X			
Pinch/Struck by/Caught						
Powered Industrial Trucks						
Pressure Washing Activities						
Pressurized Lines/Systems						
Radiological				X		
Rigging or Material Handling						
Sample Handling			X	X	X	
Slips/Trips/Falls	X	X	X	X	X	X
Stairways & Ladders						
Vacuum Truck						
Vehicle Traffic / Driving	X	X	X	X		X
Visible Lighting	X	X	X	X	X	X
Welding and cutting						
Working Alone						
Working over water						

Section 10.6 (continued)  
Project Activity Hazard Analyses (AHAs)

## ACTIVITY HAZARD ANALYSIS

1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)		2. Contract Number: N62470-08-D-1006 3. Contract Task Order Number: JM35	
4. Project Location: NAS Whiting Field		5. Job/Task: Mobilization, Site Setup, and Demobilization	
6. Prepared By: Josh Painter 7. Date Prepared: 12/23/11	8. Reviewed By: 9. Date Reviewed:	10. Modified By: 11. Date Modified:	
12. Personal Protective Clothing and Equipment: Modified Level D PPE D: Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots, hearing and hand protection (inner and outer chemical resistant gloves)			
13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			Overall RAC: L
14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			
Job Steps	Hazards	Controls	RAC
Crew Arrival and Delivery of Supplies	Preparedness	<ul style="list-style-type: none"> <li>Verify that EMS services are available and can respond in a prompt manner prior to the start of work.</li> <li>Base or Local Emergency medical Service and Fire Dispatch numbers programmed into cellular phones. Have hospital route maps readily available.</li> <li>Buddy System maintained for all phases of work.</li> </ul>	L
	Adverse Weather	<ul style="list-style-type: none"> <li>Frequently observe the skyline for rain squalls and thunder storms systems that may developing.</li> <li>Bring clothing suitable for anticipated daily weather conditions.</li> <li>Shut down operations during heavy rain/lightning events or high wind conditions. For storms producing lightning, seek safe haven in a grounded structure or rubber vehicle. Implement 30 - 30 rule. Do not seek refuge under trees during electrical or high wind storm events.</li> <li>Do not use telephones during electrical storms, except in the case of emergency.</li> </ul>	L
	Biological	<ul style="list-style-type: none"> <li>Prior to starting field activities, notify supervisors of known allergies to stinging insects and location of antidotes.</li> <li>Use insect repellent with DEET or other insect repellent to deter being bit by mosquitoes or other stinging/biting insects.</li> <li>Avoid exposure to blood borne pathogens if first aid must be provided. Use universal precautions against exposure to blood borne pathogens.</li> </ul>	L
	Cuts/Abrasions	<ul style="list-style-type: none"> <li>Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp/cut edges or hand tools.</li> <li>Avoid use of razor knives.</li> <li>When cutting with knives, cut away from the body and never towards another worker.</li> </ul>	L
	Driving	<ul style="list-style-type: none"> <li>Always using a seat belt while driving on military/government facilities. Always observe posted speed limits, traffic signs and signals. Never using a cell phone or two way radio while driving on military/government facilities. Violating these rules may result in loss of military/government facility driving privileges.</li> </ul>	L
	Electric Safety	<ul style="list-style-type: none"> <li>Ensure that electric connections from generator set to temporary construction facilities are performed by qualified electricians.</li> <li>Inspect all electrical power circuits are sufficient prior to connection.</li> <li>If/when electrical extension cords are required to complete work, extension cords must be: <ul style="list-style-type: none"> <li>✓ Equipped with third-wire grounding.</li> <li>✓ Covered, elevated, or protected from damage when passing through work areas.</li> <li>✓ Protected from pinching if routed through doorways.</li> <li>✓ Extension cords and electrical power tools, must have ground fault circuit interrupters (GFCIs) installed.</li> <li>✓ Rated to handle the voltage/amperage of equipment.</li> </ul> </li> </ul>	M
	Fire Prevention	<ul style="list-style-type: none"> <li>Use only metal safety cans for storage and transfer of fuel.</li> <li>Use funnels and nozzles during fueling operations.</li> <li>Appropriately sized, easily accessible ABC fire extinguisher in work area.</li> <li>Fire extinguishers must be inspected monthly (inspection tag) and have an annual maintenance/inspection certification (tag) attached to the extinguisher.</li> <li>Only smoke in designated areas. Designated area must be free of combustible/flammable materials.</li> <li>ASTs for heavy equipment fuel storage should have secondary containment capabilities.</li> </ul>	L
	Hand Tools	<ul style="list-style-type: none"> <li>Select and use the proper tool for the task.</li> <li>Do not use tools that have been damaged or repaired in a manner which is not consistent with manufacturer's requirements.</li> </ul>	L

## ACTIVITY HAZARD ANALYSIS

<b>1. Contractor: AGVIQ-CH2M HILL Joint Venture</b> (Small Business Remedial Action Contract)	<b>2. Contract Number: N62470-08-D-1006</b> <b>3. Contract Task Order Number: JM35</b>
<b>4. Project Location: NAS Whiting Field</b>	<b>5. Job/Task: Mobilization, Site Setup, and Demobilization</b>
<b>6. Prepared By: Josh Painter</b> <b>7. Date Prepared: 12/23/11</b>	<b>8. Reviewed By:</b> <b>9. Date Reviewed:</b>
<b>10. Modified By:</b> <b>11. Date Modified:</b>	

**12. Personal Protective Clothing and Equipment: Modified Level D PPE**  
 D: Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots, hearing and hand protection (inner and outer chemical resistant gloves)

**13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.**

**14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.**

**Overall  
RAC: L**

Job Steps	Hazards	Controls	RAC
	Housekeeping	<ul style="list-style-type: none"> <li>During the course of executed project operations all debris, shall be kept cleared from work areas and passageways. Establish common paths of travel and keep them free from the accumulation of materials. Store tools, equipment, materials, and supplies in an orderly manner.</li> </ul>	L
	Manual Lifting	<ul style="list-style-type: none"> <li>AGVIQ-CH2MHILL or subcontract personnel must notify supervisors or safety representatives of preexisting medical conditions that may be aggravated or re-injured by lifting activities, especially lifting operation involving repetitive motions.</li> <li>When lifting objects, lift using knees not back. For repetitive lifting tasks, the use of lifting braces/supports may be considered. Use heavy equipment to transfer heavy or awkward loads wherever possible. Have someone assist with the lift—especially for heavy (&gt; 40lbs.) or awkward loads. Do not attempt to manually lift objects that should otherwise be lifted with heavy equipment.</li> <li>Plan storage and staging to minimize lifting or carrying distances. Make sure the path of travel is clear prior to the lift. Avoid carrying heavy objects above shoulder level.</li> </ul>	L
	Noise	<ul style="list-style-type: none"> <li>Personnel exposed to loud working environments or in open cabs of heavy equipment or adjacent to operating heavy equipment shall wear hearing protection.</li> </ul>	L
	Overhead Utilities	<ul style="list-style-type: none"> <li>Maintain proper separation between Power Transmission Lines and overhead utilities during the operation of heavy equipment or haul truck deliveries.</li> <li>Be cognizant of utility pole guy wire positions during haul truck deliveries.</li> </ul>	L
	Slips, Trips, Falls/ housekeeping	<ul style="list-style-type: none"> <li>Be aware of poor footing, potential slipping/tripping hazards in the work area, such as wet surfaces on piers/ramps, unprotected holes, drainage areas, rip rap, utilities, ground protrusions. Observe, mark and avoid any of these identified conditions. Use sturdy hard-toe work boots with sufficient ankle support.</li> <li>Institute and maintain good housekeeping practices. Clean Work Areas as activities proceed. Clear/removed materials and debris from pathways and commonly traveled areas as soon as possible.</li> <li>Three points of contact when enter/exiting equipment or when using stairways/ladders.</li> </ul>	L
	Visible Lighting	<ul style="list-style-type: none"> <li>Perform tasks in daylight hours whenever possible. If dawn, dusk or dark work is to be performed portable lighting must be provided to sufficient illuminate work area(s).</li> </ul>	L
	Other	<ul style="list-style-type: none"> <li>Report all unsafe conditions and acts, injury/illness or property damage to supervisors immediately.</li> </ul>	L
Setup of Sampling sites (establish site zones)	Adverse Weather	<ul style="list-style-type: none"> <li>Frequently observe the skyline for rain squalls and thunder storms systems that may developing.</li> <li>Bring clothing suitable for anticipated daily weather conditions.</li> <li>Shut down operations during heavy rain/lightning events or high wind conditions. For storms producing lightning, seek safe haven in a grounded structure or rubber vehicle. Implement 30 - 30 rule. Do not seek refuge under trees during electrical or high wind storm events.</li> <li>Do not use telephones during electrical storms, except in the case of emergency.</li> </ul>	L
	Biological	<ul style="list-style-type: none"> <li>Prior to starting field activities, notify supervisors of known allergies to stinging insects and location of antidotes.</li> <li>Use insect repellent with DEET or other insect repellent to deter being bit by mosquitoes or other stinging/biting insects.</li> <li>Avoid exposure to blood borne pathogens if first aid must be provided. Use universal precautions against exposure to blood borne pathogens.</li> </ul>	L

## ACTIVITY HAZARD ANALYSIS

1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)		2. Contract Number: N62470-08-D-1006	
		3. Contract Task Order Number: JM35	
4. Project Location: NAS Whiting Field		5. Job/Task: Mobilization, Site Setup, and Demobilization	
6. Prepared By: Josh Painter	8. Reviewed By:	10. Modified By:	
7. Date Prepared: 12/23/11	9. Date Reviewed:	11. Date Modified:	
12. Personal Protective Clothing and Equipment: Modified Level D PPE D: Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots, hearing and hand protection (inner and outer chemical resistant gloves)			
13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			Overall RAC: L
14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			
Job Steps	Hazards	Controls	RAC
	Cuts/Abrasions	<ul style="list-style-type: none"> <li>Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp/cut edges or hand tools.</li> <li>Avoid use of razor knives.</li> <li>When cutting with knives, cut away from the body and never towards another worker.</li> </ul>	L
	Driving	<ul style="list-style-type: none"> <li>Always using a seat belt while driving on military/government facilities. Always observe posted speed limits, traffic signs and signals. Never using a cell phone or two way radio while driving on military/government facilities. Violating these rules may result in loss of military/government facility driving privileges.</li> </ul>	L
	Hand Tools	<ul style="list-style-type: none"> <li>Select and use the proper tool for the task.</li> <li>Do not use tools that have been damaged or repaired in a manner which is not consistent with manufacturer's requirements.</li> </ul>	L
	Housekeeping	<ul style="list-style-type: none"> <li>During the course of executed project operations all debris, shall be kept cleared from work areas and passageways. Establish common paths of travel and keep them free from the accumulation of materials. Store tools, equipment, materials, and supplies in an orderly manner.</li> </ul>	L
	Noise	<ul style="list-style-type: none"> <li>Personnel exposed to loud working environments or in open cabs of heavy equipment or adjacent to operating heavy equipment shall wear hearing protection.</li> </ul>	L
	Slips, Trips, Falls/ housekeeping	<ul style="list-style-type: none"> <li>Be aware of poor footing, potential slipping/tripping hazards in the work area, such as wet surfaces on piers/ramps, unprotected holes, drainage areas, rip rap, utilities, ground protrusions. Observe, mark and avoid any of these identified conditions. Use sturdy hard-toe work boots with sufficient ankle support.</li> <li>Institute and maintain good housekeeping practices. Clean Work Areas as activities proceed. Clear/removed materials and debris from pathways and commonly traveled areas as soon as possible.</li> <li>Three points of contact when enter/exiting equipment or when using stairways/ladders.</li> </ul>	L
EQUIPMENT REQUIRED		INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
<ul style="list-style-type: none"> <li>Fire extinguisher (with fuel and electrical sources)</li> <li>Eye wash (small portable type)</li> <li>Miscellaneous power and manual hand tools.</li> <li>First Aid/BbPK/CPR shield</li> <li>Spill Kit</li> <li>Communication devices</li> </ul>		<ul style="list-style-type: none"> <li>Inspect vessel before using.</li> <li>Visual Inspections of designated work areas identify and address hazardous conditions.</li> <li>Emergency Response equipment Inspections (Fire Extinguishers, Eye wash First Aid/CPR etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Review APP for new site personnel.</li> <li>1<sup>st</sup> Aid/CPR 1<sup>st</sup> Aid/CPR (2 per site when medical attention a medical facility or physician is more than 5 minutes away to two or more employees.</li> <li>Supervisors - BBLPS, SC-HW (29CFR1910.120(e)(4), 10 hour OSHA Construction Safety Training or equivalent</li> <li>Training and medical surveillance per 29CFR1910.120.</li> </ul>

NOTES (Field Notes, Review Comments, etc.):

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

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely	RAC Chart
"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible	
Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.	

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

**Probability:** Likelihood of the hazard to cause an incident, near miss, or accident.

- Frequent - Occurs very often, known to happen regularly
- Likely - Occurs several times, a common occurrence
- Occasional - Occurs sporadically, but is not uncommon
- Seldom - Remotely possible, could occur at some time
- Unlikely - Can assume will not occur, but not impossible

**Severity:** Outcome/degree of the incident, near miss, or accident.

- Catastrophic - Death or permanent total disability; Major property damage
- Critical - Permanent partial disability or temporary total disability; Extensive damage to equipment or systems
- Marginal - Lost workdays due to injury or illness; Minor damage to equipment or systems, property, or the environment
- Negligible - First aid or minor medical treatment; Slight equipment or system damage, but fully functional or serviceable; Little or no property or environmental damage

PRINT

SIGNATURE

Date/Time

Supervisor Name: \_\_\_\_\_

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SSHO Name: \_\_\_\_\_

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**SITE PERSONNEL**

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## ACTIVITY HAZARD ANALYSIS

1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)		2. Contract Number: N62470-08-D-1006	
		3. Contract Task Order Number: JM35	
4. Project Location: NAS Whiting Field		5. Job/Task: Utility and Site Survey	
6. Prepared By: Josh Painter	8. Reviewed By:	10. Modified By:	
7. Date Prepared: 12/23/11	9. Date Reviewed:	11. Date Modified:	
12. Personal Protective Clothing and Equipment: Modified Level D PPE D: Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots, hearing and hand protection (inner and outer chemical resistant gloves) Modified D1 (if working in contaminated areas) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves)			
13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			<b>Overall RAC: I</b>
14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			

Job Steps	Hazards	Controls	RAC
Utility Locate Survey	Preparedness	<ul style="list-style-type: none"> <li>Verify that EMS services are available and can respond in a prompt manner prior to the start of work.</li> <li>Base or Local Emergency medical Service and Fire Dispatch numbers programmed into cellular phones. Have hospital route maps readily available.</li> <li>Buddy System maintained for all phases of work.</li> </ul>	L
	Adverse Weather	<ul style="list-style-type: none"> <li>Check internet, local TV weather or radio channels for daily forecasts and plan daily work activities accordingly. Have a portable radio available onsite to monitoring local weather or marine forecasts. If onsite internet or radio monitoring are not available, check with home office support personnel who may be able to verify pending regional severe weather conditions.</li> <li>Frequently observe the skyline for developing rain squalls and thunder storms systems that may developing.</li> <li>Bring clothing suitable for anticipated daily weather conditions.</li> <li>Shut down operations during heavy rain/lightning events or high wind conditions. Seek refuge in the properly grounded construction trailer or rubber tire vehicle for storms producing lightning. Implement 30 - 30 rule.</li> <li>Do not use telephones during electrical storms, except in the case of emergency.</li> <li>Do not execute boating operations when adverse weather is pending or occurring.</li> </ul>	L
	Biological	<ul style="list-style-type: none"> <li>Prior to starting field activities, notify supervisors of known allergies to stinging insects and location of antidotes.</li> <li>Use insect repellent with DEET or other insect repellent to deter being bit by mosquitoes or other stinging/biting insects.</li> <li>Avoid exposure to blood borne pathogens if the administration of First Aid is required. Use universal precautions against exposure if administering first aid is required.</li> </ul>	L
	Cuts/Abrasions	<ul style="list-style-type: none"> <li>Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp/cut edges of loads or rigging.</li> <li>Keep fingers/hands/arms out of potential pinch points of rigging and loads.</li> <li>Avoid use of razor knives.</li> <li>When cutting with knives, cut away from the body and never towards another worker.</li> </ul>	L
	Driving	<ul style="list-style-type: none"> <li>Always using a seat belt while driving on military/government facilities. Always observe posted speed limits, traffic signs and signals. Never using a cell phone or two way radio while driving on military/government facilities. Violating these rules may result in loss of military/government facility driving privileges.</li> </ul>	L
	Electric Safety	<ul style="list-style-type: none"> <li>Ensure that electric connections from generator set to temporary construction facilities are performed by qualified electricians.</li> <li>Inspect all electrical power circuits are sufficient prior to connection.</li> <li>If/when electrical extension cords are required to complete work, extension cords must be: <ul style="list-style-type: none"> <li>✓ Equipped with third-wire grounding.</li> <li>✓ Covered, elevated, or protected from damage when passing through work areas.</li> <li>✓ Protected from pinching if routed through doorways.</li> <li>✓ Extension cords and electrical power tools, must have ground fault circuit interrupters (GFCIs) installed.</li> <li>✓ Rated to handle the voltage/amperage of equipment.</li> </ul> </li> </ul>	M

## ACTIVITY HAZARD ANALYSIS

<b>1. Contractor: AGVIQ-CH2M HILL Joint Venture</b> (Small Business Remedial Action Contract)	<b>2. Contract Number: N62470-08-D-1006</b> <b>3. Contract Task Order Number: JM35</b>
<b>4. Project Location: NAS Whiting Field</b>	<b>5. Job/Task: Utility and Site Survey</b>
<b>6. Prepared By: Josh Painter</b> <b>7. Date Prepared: 12/23/11</b>	<b>8. Reviewed By:</b> <b>9. Date Reviewed:</b>
<b>10. Modified By:</b> <b>11. Date Modified:</b>	

**12. Personal Protective Clothing and Equipment: Modified Level D PPE**  
 D: Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots, hearing and hand protection (inner and outer chemical resistant gloves)  
 Modified D1 (if working in contaminated areas) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves)

**13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.**  
**14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.**

**Overall RAC: L**

Job Steps	Hazards	Controls	RAC
	Fire Prevention	<ul style="list-style-type: none"> <li>Use only metal safety cans for storage and transfer of fuel.</li> <li>Use funnels and nozzles during fueling operations.</li> <li>Appropriately sized, easily accessible ABC fire extinguisher in work area.</li> <li>Fire extinguishers must be inspected monthly (inspection tag) and have an annual maintenance/inspection certification (tag) attached to the extinguisher.</li> <li>Only smoke in designated areas. Designated area must be free of combustible/flammable materials.</li> <li>ASTs for heavy equipment fuel storage should have secondary containment capabilities.</li> </ul>	L
	Hand Tools	<ul style="list-style-type: none"> <li>Select and use the proper tool for the task.</li> <li>Do not use tools that have been damaged or repaired in a manner which is not consistent with manufacturer's requirements.</li> </ul>	L
	Housekeeping	<ul style="list-style-type: none"> <li>During the course of executed project operations all debris, shall be kept cleared from work areas and passageways. Establish common paths of travel and keep them free from the accumulation of materials. Store tools, equipment, materials, and supplies in an orderly manner.</li> </ul>	L
	Slips, Trips, Falls/ housekeeping	<ul style="list-style-type: none"> <li>Be aware of poor footing, potential slipping/tripping hazards in the work area, such as wet surfaces on piers/ramps, unprotected holes, drainage areas, rip rap, utilities, ground protrusions. Observe, mark and avoid any of these identified conditions. Use sturdy hard-toe work boots with sufficient ankle support.</li> <li>Institute and maintain good housekeeping practices. Clean Work Areas as activities proceed. Clear/removed materials and debris from pathways and commonly traveled areas as soon as possible.</li> <li>Three points of contact when enter/exiting equipment or when using stairways/ladders.</li> </ul>	L
	Visible Lighting	<ul style="list-style-type: none"> <li>Perform tasks in daylight hours whenever possible. If dawn, dusk or dark work is to be performed portable lighting must be provided to sufficient illuminate work area(s).</li> </ul>	L
Site Land Survey (sample grid layout)	Adverse Weather	<ul style="list-style-type: none"> <li>Check internet, local TV weather or radio channels for daily forecasts and plan daily work activities accordingly. Have a portable radio available onsite to monitoring local weather or marine forecasts. If onsite internet or radio monitoring are not available, check with home office support personnel who may be able to verify pending regional severe weather conditions.</li> <li>Frequently observe the skyline for developing rain squalls and thunder storms systems that may developing.</li> <li>Bring clothing suitable for anticipated daily weather conditions.</li> <li>Shut down operations during heavy rain/lightning events or high wind conditions. Seek refuge in the properly grounded construction trailer or rubber tire vehicle for storms producing lightning. Implement 30 - 30 rule.</li> <li>Do not use telephones during electrical storms, except in the case of emergency.</li> <li>Do not execute boating operations when adverse weather is pending or occurring.</li> </ul>	L
	Biological	<ul style="list-style-type: none"> <li>Prior to starting field activities, notify supervisors of known allergies to stinging insects and location of antidotes.</li> <li>Use insect repellent with DEET or other insect repellent to deter being bit by mosquitoes or other stinging/biting insects.</li> <li>Avoid exposure to blood borne pathogens if the administration of First Aid is required. Use universal precautions against exposure if administering first aid is required.</li> </ul>	L

## ACTIVITY HAZARD ANALYSIS

1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)		2. Contract Number: N62470-08-D-1006	
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6. Prepared By: Josh Painter	8. Reviewed By:	10. Modified By:	
7. Date Prepared: 12/23/11	9. Date Reviewed:	11. Date Modified:	
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13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			<b>Overall RAC: I</b>
14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			

Job Steps	Hazards	Controls	RAC
	Cuts/Abrasions	<ul style="list-style-type: none"> <li>Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp/cut edges of loads or rigging.</li> <li>Keep fingers/hands/arms out of potential pinch points of rigging and loads.</li> <li>Avoid use of razor knives.</li> <li>When cutting with knives, cut away from the body and never towards another worker.</li> </ul>	L
	Driving	<ul style="list-style-type: none"> <li>Always using a seat belt while driving on military/government facilities. Always observe posted speed limits, traffic signs and signals. Never using a cell phone or two way radio while driving on military/government facilities. Violating these rules may result in loss of military/government facility driving privileges.</li> </ul>	L
	Electric Safety	<ul style="list-style-type: none"> <li>Ensure that electric connections from generator set to temporary construction facilities are performed by qualified electricians.</li> <li>Inspect all electrical power circuits are sufficient prior to connection.</li> <li>If/when electrical extension cords are required to complete work, extension cords must be: <ul style="list-style-type: none"> <li>✓ Equipped with third-wire grounding.</li> <li>✓ Covered, elevated, or protected from damage when passing through work areas.</li> <li>✓ Protected from pinching if routed through doorways.</li> <li>✓ Extension cords and electrical power tools, must have ground fault circuit interrupters (GFCIs) installed.</li> <li>✓ Rated to handle the voltage/amperage of equipment.</li> </ul> </li> </ul>	M
	Fire Prevention	<ul style="list-style-type: none"> <li>Use only metal safety cans for storage and transfer of fuel.</li> <li>Use funnels and nozzles during fueling operations.</li> <li>Appropriately sized, easily accessible ABC fire extinguisher in work area.</li> <li>Fire extinguishers must be inspected monthly (inspection tag) and have an annual maintenance/inspection certification (tag) attached to the extinguisher.</li> <li>Only smoke in designated areas. Designated area must be free of combustible/flammable materials.</li> <li>ASTs for heavy equipment fuel storage should have secondary containment capabilities.</li> </ul>	L
	Hand Tools	<ul style="list-style-type: none"> <li>Select and use the proper tool for the task.</li> <li>Do not use tools that have been damaged or repaired in a manner which is not consistent with manufacturer's requirements.</li> </ul>	L
	Housekeeping	<ul style="list-style-type: none"> <li>During the course of executed project operations all debris, shall be kept cleared from work areas and passageways. Establish common paths of travel and keep them free from the accumulation of materials. Store tools, equipment, materials, and supplies in an orderly manner.</li> </ul>	L
	Slips, Trips, Falls/ housekeeping	<ul style="list-style-type: none"> <li>Be aware of poor footing, potential slipping/tripping hazards in the work area, such as wet surfaces on piers/ramps, unprotected holes, drainage areas, rip rap, utilities, ground protrusions. Observe, mark and avoid any of these identified conditions. Use sturdy hard-toe work boots with sufficient ankle support.</li> <li>Institute and maintain good housekeeping practices. Clean Work Areas as activities proceed. Clear/removed materials and debris from pathways and commonly traveled areas as soon as possible.</li> <li>Three points of contact when enter/exiting equipment or when using stairways/ladders.</li> </ul>	L
	Visible Lighting	<ul style="list-style-type: none"> <li>Perform tasks in daylight hours whenever possible. If dawn, dusk or dark work is to be performed portable lighting must be provided to sufficient illuminate work area(s).</li> </ul>	L

### ACTIVITY HAZARD ANALYSIS

<b>1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)</b>	<b>2. Contract Number: N62470-08-D-1006</b> <b>3. Contract Task Order Number: JM35</b>
<b>4. Project Location: NAS Whiting Field</b>	<b>5. Job/Task: Utility and Site Survey</b>
<b>6. Prepared By: Josh Painter</b> <b>7. Date Prepared: 12/23/11</b>	<b>8. Reviewed By:</b> <b>9. Date Reviewed:</b>
<b>10. Modified By:</b> <b>11. Date Modified:</b>	

**12. Personal Protective Clothing and Equipment: Modified Level D PPE**  
 D: Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots, hearing and hand protection (inner and outer chemical resistant gloves)  
 Modified D1 (if working in contaminated areas) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves)

**13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.**  
**14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.**

**Overall  
RAC: L**

Job Steps	Hazards	Controls	RAC
	Other	<ul style="list-style-type: none"> <li>Report all unsafe conditions and acts, injury/illness or property damage to supervisors immediately.</li> </ul>	L

EQUIPMENT REQUIRED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
<ul style="list-style-type: none"> <li>Fire extinguisher (with fuel and electrical sources)</li> <li>Eye wash (small portable type)</li> <li>Miscellaneous power and manual hand tools.</li> <li>First Aid/BbPK/CPR shield</li> <li>Spill Kit</li> <li>Communication devices</li> </ul>	<ul style="list-style-type: none"> <li>Visual Inspections of designated work areas identify and address hazardous conditions.</li> <li>Emergency Response equipment Inspections (Fire Extinguishers, Eye wash First Aid/CPR etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Review APP for new site personnel.</li> <li>1<sup>st</sup> Aid/CPR 1<sup>st</sup> Aid/CPR (2 per site when medical attention a medical facility or physician is more than 5 minutes away to two or more employees.</li> <li>Supervisors - BBLPS, SC-HW (29CFR1910.120(e)(4), 10 hour OSHA Construction Safety Training or equivalent</li> <li>Training and medical surveillance per 29CFF1910.120.</li> </ul>

NOTES (Field Notes, Review Comments, etc.):

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

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

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

**Probability:** Likelihood of the hazard to cause an incident, near miss, or accident.

- Frequent - Occurs very often, known to happen regularly
- Likely - Occurs several times, a common occurrence
- Occasional - Occurs sporadically, but is not uncommon
- Seldom - Remotely possible, could occur at some time
- Unlikely - Can assume will not occur, but not impossible

**Severity:** Outcome/degree of the incident, near miss, or accident.

- Catastrophic - Death or permanent total disability; Major property damage
- Critical - Permanent partial disability or temporary total disability; Extensive damage to equipment or systems
- Marginal - Lost workdays due to injury or illness; Minor damage to equipment or systems, property, or the environment
- Negligible - First aid or minor medical treatment; Slight equipment or system damage, but fully functional or serviceable; Little or no property or environmental damage



## ACTIVITY HAZARD ANALYSIS

1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)		2. Contract Number: N62470-08-D-1006	
		3. Contract Task Order Number: JM35	
4. Project Location: NAS Whiting Field		5. Job/Task: Soil Sampling	
6. Prepared By: Josh Painter	8. Reviewed By:	10. Modified By:	
7. Date Prepared: 12/23/11	9. Date Reviewed:	11. Date Modified:	
12. Personal Protective Clothing and Equipment: Modified Level D PPE Modified D1: (contact with site COCs is <u>limited to the hands only</u> ) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves) Modified D2: (contact with site COCs is <u>not limited to the hands only</u> ) Coveralls: Uncoated Tyvek® (or equivalent) chemical resistant disposable coveralls, Boots: Hard-toe work boots that provide sufficient ankle support (preferable leather); with outer rubber boot covers, Gloves: Inner nitrile chemical-resistant nitrile gloves.			
13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			Overall RAC: L
14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			

Job Steps	Hazards	Controls	RAC
Sample Container Setup	Preparedness	<ul style="list-style-type: none"> <li>Verify that EMS services are available and can respond in a prompt manner prior to the start of work.</li> <li>Base or Local Emergency medical Service and Fire Dispatch numbers programmed into cellular phones. Have hospital route maps readily available.</li> <li>Buddy System maintained for all phases of work.</li> </ul>	L
	Chemical Exposure (preservatives)	<ul style="list-style-type: none"> <li>All personnel performing this task shall be trained and enrolled in a medical surveillance program in accordance with 29CFR1910.120.</li> <li>Inspect coolers for broken glass jars before reaching into coolers.</li> <li>Wear nitrile inner gloves with outer work gloves</li> <li>Exercise good hygiene practices. Always wash hands before eating, drinking, or smoking..</li> </ul>	L
	Housekeeping	<ul style="list-style-type: none"> <li>During the course of executed project operations all debris, shall be kept cleared from work areas and passageways. Establish common paths of travel and keep them free from the accumulation of materials. Store tools, equipment, materials, and supplies in an orderly manner.</li> </ul>	L
	Manual Lifting	<ul style="list-style-type: none"> <li>AGVIQ-CH2MHILL or subcontract personnel must notify supervisors or safety representatives of preexisting medical conditions that may be aggravated or re-injured by lifting activities, especially lifting operation involving repetitive motions.</li> <li>When lifting objects, lift using knees not back. For repetitive lifting tasks, the use of lifting braces/supports may be considered. Use heavy equipment to transfer heavy or awkward loads wherever possible. Have someone assist with the lift – especially for heavy (&gt; 40lbs.) or awkward loads. Do not attempt to manually lift objects that should otherwise be lifted with heavy equipment.</li> <li>Plan storage and staging to minimize lifting or carrying distances. Make sure the path of travel is clear prior to the lift. Avoid carrying heavy objects above shoulder level.</li> </ul>	L
	Slips, Trips, Falls/ housekeeping	<ul style="list-style-type: none"> <li>Be aware of poor footing, potential slipping/tripping hazards in the work area, such as wet surfaces on piers/ramps, unprotected holes, drainage areas, rip rap, utilities, ground protrusions. Observe, mark and avoid any of these identified conditions. Use sturdy hard-toe work boots with sufficient ankle support.</li> <li>Institute and maintain good housekeeping practices. Clean Work Areas as activities proceed. Clear/removed materials and debris from pathways and commonly traveled areas as soon as possible.</li> <li>Three points of contact when enter/exiting equipment or when using stairways/ladders.</li> </ul>	L
	Visible Lighting	<ul style="list-style-type: none"> <li>Perform tasks in daylight hours whenever possible. If dawn, dusk or dark work is to be performed portable lighting must be provided to sufficient illuminate work area(s).</li> </ul>	L
Hand Augering and Soil Sampling	Adverse Weather	<ul style="list-style-type: none"> <li>Frequently observe the skyline for rain squalls and thunder storms systems that may develop.</li> <li>Bring clothing suitable for anticipated daily weather conditions.</li> <li>Shut down operations during heavy rain/lightning events or high wind conditions. For storms producing lightning, seek safe haven in a grounded structure or rubber vehicle. Implement 30 - 30 rule. Do not seek refuge under trees during electrical or high wind storm events.</li> <li>Do not use telephones during electrical storms, except in the case of emergency.</li> </ul>	L

## ACTIVITY HAZARD ANALYSIS

<b>1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)</b>	<b>2. Contract Number: N62470-08-D-1006</b> <b>3. Contract Task Order Number: JM35</b>
<b>4. Project Location: NAS Whiting Field</b>	<b>5. Job/Task: Soil Sampling</b>
<b>6. Prepared By: Josh Painter</b> <b>7. Date Prepared: 12/23/11</b>	<b>8. Reviewed By:</b> <b>9. Date Reviewed:</b>
<b>10. Modified By:</b> <b>11. Date Modified:</b>	

**12. Personal Protective Clothing and Equipment: Modified Level D PPE**  
 Modified D1: (contact with site COCs is limited to the hands only) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves)  
 Modified D2: (contact with site COCs is not limited to the hands only) Coveralls: Uncoated Tyvek® (or equivalent) chemical resistant disposable coveralls, Boots: Hard-toe work boots that provide sufficient ankle support (preferable leather); with outer rubber boot covers, Gloves: Inner nitrile chemical-resistant nitrile gloves.

**13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.**  
**14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.**

**Overall RAC: L**

Job Steps	Hazards	Controls	RAC
	Biological	<ul style="list-style-type: none"> <li>Prior to starting field activities, notify supervisors of known allergies to stinging insects and location of antidotes.</li> <li>Use insect repellent with DEET or other insect repellent to deter being bit by mosquitoes or other stinging/biting insects.</li> <li>Avoid exposure to blood borne pathogens if first aid must be provided. Use universal precautions against exposure to blood borne pathogens.</li> </ul>	L
	Buried Utilities/Objects	<ul style="list-style-type: none"> <li>Contact Sunshine State One Call of Florida, Inc. to secure utility owner verification request number at (800) 432-4770 for utility clearance verification. Keep copies of any written documentation (faxes, email printouts) regarding utility location verification provided by utilities owners in the office project file and in a working field file onsite.</li> <li>Photo document owner provided field utility mark-outs as related to proposed limits of ground disturbing activities prior to the start of work.</li> <li>Conduct "third" party utility clearance when the locations of utilities may be in question and document results of third party utility location.</li> <li>Determine if an NASWF "Excavator Permit" is required prior to performing any ground disturbing activities.</li> <li>Review base engineering records or drawings against utility owner or third party utility mark-out to verify any potential differences.</li> <li>Protect and preserve the markings of approximate locations of facilities until the markings are no longer required for safe and proper excavations. If the markings of utility locations are destroyed or removed before excavation commences or is completed, utilities must be relocated/marked.</li> <li>Where unknown or unanticipated buried objects are encountered (i.e. drums, tanks, cylinders, munitions of explosive concern, soil with unusual staining or odor) AGVIQ-CH2M HILL JV or subcontractor personnel shall 1) secure equipment to the extent possible, without causing bodily injury, 2) evacuate the work area and 3) immediately notify the site manager, SSHO or PM of the encountered condition. Work may only resume with appropriate documentation/notification that exposure hazards (physical or chemical) do not exist. Notify AGVIQ-CH2M HILL JV PM and program officials and applicable NAVFAC POCs and do not resume work until authorized to do so.</li> </ul>	L
	Contaminant Exposure	<ul style="list-style-type: none"> <li>All personnel performing this task shall be trained and enrolled in a medical surveillance program in accordance with 29CFR1910.120.</li> <li>Do not allow dermal contact or incidental ingestion of impacted soil.</li> <li>Do not kneel or step in potentially contaminated media (soil or water) without first donning proper PPE.</li> <li>Exercise good hygiene practices. Always wash hands before eating, drinking, smoking and leaving site. Shower as soon as possible after leaving the site.</li> <li>Only eat, drink, smoke or chew tobacco in designated areas.</li> <li>Adhere to PPE and action monitoring requirements identified in Attachment 1 of the APP, Site Safety and Health Plan for HTRW Work.</li> </ul>	L
	Cuts/Abrasions	<ul style="list-style-type: none"> <li>Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp/cut edges or hand tools.</li> <li>Avoid use of razor knives.</li> <li>When cutting with knives, cut away from the body and never towards another worker.</li> </ul>	L

## ACTIVITY HAZARD ANALYSIS

1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)		2. Contract Number: N62470-08-D-1006	
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13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			<b>Overall RAC: L</b>
14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			

Job Steps	Hazards	Controls	RAC
	Electric Safety	<ul style="list-style-type: none"> <li>• Ensure that electric connections from generator set to temporary construction facilities are performed by qualified electricians.</li> <li>• Inspect all electrical power circuits are sufficient prior to connection.</li> <li>• If/when electrical extension cords are required to complete work, extension cords must be: <ul style="list-style-type: none"> <li>✓ Equipped with third-wire grounding.</li> <li>✓ Covered, elevated, or protected from damage when passing through work areas.</li> <li>✓ Protected from pinching if routed through doorways.</li> <li>✓ Extension cords and electrical power tools, must have ground fault circuit interrupters (GFCIs) installed.</li> <li>✓ Rated to handle the voltage/amperage of equipment.</li> </ul> </li> </ul>	M
	Excavations	<ul style="list-style-type: none"> <li>• Excavations will be too small to enter. No inspection or competent person requirements.</li> <li>• Do not leave holes open. Backfill or cover before moving to next location.</li> </ul>	L
	Fire Prevention	<ul style="list-style-type: none"> <li>• Use only metal safety cans for storage and transfer of fuel.</li> <li>• Use funnels and nozzles during fueling operations.</li> <li>• Appropriately sized, easily accessible fire extinguisher in work area.</li> <li>• Fire extinguishers must be inspected monthly (inspection tag) and have an annual maintenance/inspection certification (tag) attached to the extinguisher.</li> <li>• Fire extinguishers shall be approved by a nationally recognized testing laboratory and labeled to identify the listing and labeling organization and the fire test and performance standard that the fire extinguisher meets or exceeds.</li> <li>• Only smoke in designated areas. Designated area must be free of combustible/flammable materials.</li> </ul>	L
	Hand Tools	<ul style="list-style-type: none"> <li>• Select and use the proper tool for the task.</li> <li>• Do not use tools that have been damaged or repaired in a manner which is not consistent with manufacturer's requirements.</li> </ul>	L
	High Ambient Temperature	<ul style="list-style-type: none"> <li>• Provide and drink fluids to prevent worker dehydration.</li> <li>• Minimize intake of caffeinated fluids.</li> <li>• Institute a proper work-break regiment in a cool area to avoid heat stress symptoms and overexertion.</li> <li>• Monitor for signs and symptoms of heat stress (maintain use of buddy system) when the ambient air temperature exceeds 70°F, the relative humidity is high (&gt;50 percent), or when workers exhibit symptoms of heat stress and especially when wearing disposable or other types of coveralls.</li> </ul>	L

### ACTIVITY HAZARD ANALYSIS

<b>1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)</b>	<b>2. Contract Number: N62470-08-D-1006</b> <b>3. Contract Task Order Number: JM35</b>
<b>4. Project Location: NAS Whiting Field</b>	<b>5. Job/Task: Soil Sampling</b>
<b>6. Prepared By: Josh Painter</b> <b>7. Date Prepared: 12/23/11</b>	<b>8. Reviewed By:</b> <b>9. Date Reviewed:</b>
<b>10. Modified By:</b> <b>11. Date Modified:</b>	

**12. Personal Protective Clothing and Equipment: Modified Level D PPE**  
 Modified D1: (contact with site COCs is limited to the hands only) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves)  
 Modified D2: (contact with site COCs is not limited to the hands only) Coveralls: Uncoated Tyvek® (or equivalent) chemical resistant disposable coveralls, Boots: Hard-toe work boots that provide sufficient ankle support (preferable leather); with outer rubber boot covers, Gloves: Inner nitrile chemical-resistant nitrile gloves.

**13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.**  
**14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.**

**Overall RAC: L**

Job Steps	Hazards	Controls	RAC
	Low Ambient Temperature	<ul style="list-style-type: none"> <li>Be aware of the symptoms of cold-related disorders, and wear proper, layered clothing for the anticipated fieldwork. Appropriate rain gear is a must in cool weather.</li> <li>Frequent intake of non-caffeinated fluids to maintain body core temperature.</li> <li>Frequent intake of non-caffeinated to prevent dehydration.</li> <li>Obtain and review weather forecast— be aware of predicted weather systems.</li> <li>Observe one (buddy system) another for initial signs of cold-related disorders.</li> <li>Frequent observance of Wind Chill Chart (HSP) to assist with work warming regimen determination and frostbite avoidance</li> </ul>	L
	Housekeeping	<ul style="list-style-type: none"> <li>During the course of executed project operations all debris, shall be kept cleared from work areas and passageways. Establish common paths of travel and keep them free from the accumulation of materials. Store tools, equipment, materials, and supplies in an orderly manner.</li> </ul>	L
	Manual Lifting	<ul style="list-style-type: none"> <li>AGVIQ-CH2MHILL or subcontract personnel must notify supervisors or safety representatives of preexisting medical conditions that may be aggravated or re-injured by lifting activities, especially lifting operation involving repetitive motions.</li> <li>When lifting objects, lift using knees not back. Do not manually handle any loads that should be moved, lifted transferred via the use heavy.</li> <li>Have someone assist with manually lifting— especially for heavy (&gt; 40lbs.) or awkward loads.</li> </ul>	L
	Noise	<ul style="list-style-type: none"> <li>Personnel exposed to loud working environments or in open cabs of heavy equipment or adjacent to operating heavy equipment shall wear hearing protection.</li> </ul>	L
	Sample Handling	<ul style="list-style-type: none"> <li>Caution should be exercised when filling bottles containing acid or base preservatives. Both liquid and vapor phases of acid can cause severe burns.</li> <li>Following sample collection, sample container lids should be tightened securely to prevent any leaks, and the containers should be rinsed with clean water to ensure that they are free of chemical constituents. Sample activities, sample collection, and equipment decontamination procedures.</li> </ul>	L
	Slips, Trips, Falls/ housekeeping	<ul style="list-style-type: none"> <li>Be aware of poor footing, potential slipping/tripping hazards in the work area, such as wet surfaces on piers/ramps, unprotected holes, drainage areas, rip rap, utilities, ground protrusions. Observe, mark and avoid any of these identified conditions. Use sturdy hard-toe work boots with sufficient ankle support.</li> <li>Institute and maintain good housekeeping practices. Clean Work Areas as activities proceed. Clear/removed materials and debris from pathways and commonly traveled areas as soon as possible.</li> <li>Three points of contact when enter/exiting equipment or when using stairways/ladders.</li> </ul>	L
	Visible Lighting	<ul style="list-style-type: none"> <li>Perform tasks in daylight hours whenever possible. If dawn, dusk or dark work is to be performed portable lighting must be provided to sufficient illuminate work area(s).</li> </ul>	L

## ACTIVITY HAZARD ANALYSIS

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13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task. 14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			Overall RAC: L
Job Steps	Hazards	Controls	RAC
Transport of Samples to Lab	Driving	<ul style="list-style-type: none"> <li>Always using a seat belt while driving on military/government facilities. Always observe posted speed limits, traffic signs and signals. Never using a cell phone or two way radio while driving on military/government facilities. Violating these rules may result in loss of military/government facility driving privileges.</li> </ul>	L
	Manual Lifting	<ul style="list-style-type: none"> <li>AGVIQ-CH2MHILL or subcontract personnel must notify supervisors or safety representatives of preexisting medical conditions that may be aggravated or re-injured by lifting activities, especially lifting operation involving repetitive motions.</li> <li>When lifting objects, lift using knees not back. For repetitive lifting tasks, the use of lifting braces/supports may be considered. Use heavy equipment to transfer heavy or awkward loads wherever possible. Have someone assist with the lift—especially for heavy (&gt; 40lbs.) or awkward loads. Do not attempt to manually lift objects that should otherwise be lifted with heavy equipment.</li> <li>Plan storage and staging to minimize lifting or carrying distances. Make sure the path of travel is clear prior to the lift. Avoid carrying heavy objects above shoulder level.</li> </ul>	L
	Contaminant Exposure	<ul style="list-style-type: none"> <li>All personnel performing this task shall be trained and enrolled in a medical surveillance program in accordance with 29CFR1910.120.</li> <li>Do not allow dermal contact or incidental ingestion of impacted soil/sediment or water.</li> <li>Skin contact with contaminated water, sediment, debris, or equipment shall be avoided at all times. Do not kneel or step in potentially contaminated media (soil or water) without first donning proper PPE.</li> <li>Exercise good hygiene practices. Always wash hands before eating, drinking, smoking and leaving site. Shower as soon as possible after leaving the site.</li> <li>Only eat, drink, smoke or chew tobacco in designated areas.</li> <li>Adhere to PPE and action monitoring requirements identified in Attachment 1 of the APP, Site Safety and Health Plan for HTRW Work. <ul style="list-style-type: none"> <li>➤ Upgrade to Level C PPE if there are potential exposures to fly ash dust cannot be controlled during sediment consolidation/solidification I stabilization operations: LEVEL C PPE.</li> <li>➤ All personnel who wear a respirator, shall be fit tested in accordance with the employers Respiratory Protection Program on each make, model, type and size of respirator prior to use and be medical evaluated in accordance with 29CFR1910.134.</li> </ul> </li> </ul>	L

### ACTIVITY HAZARD ANALYSIS

<b>1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)</b>	<b>2. Contract Number: N62470-08-D-1006</b> <b>3. Contract Task Order Number: JM35</b>
<b>4. Project Location: NAS Whiting Field</b>	<b>5. Job/Task: Soil Sampling</b>
<b>6. Prepared By: Josh Painter</b> <b>7. Date Prepared: 12/23/11</b>	<b>8. Reviewed By:</b> <b>9. Date Reviewed:</b>
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**13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.**  
**14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.**

**Overall RAC: L**

Job Steps	Hazards	Controls	RAC
	Spill Prevention	<ul style="list-style-type: none"> <li>Ensure that spill control and spill clean-up and materials are on hand prior to initiating any heavy equipment or fueling operations to prevent entry into sensitive receptors.</li> <li>Understand notification processes in the event a spill occurs. If a spill should occur on the project implement the following:                             <ul style="list-style-type: none"> <li>- Put on protective clothing and equipment. (Per MSDS, as necessary to chemical exposure).</li> <li>- Only properly trained personnel should respond to/mitigate a spill or release</li> <li>- If a flammable/combustible material is involved, remove all ignition sources, and use spark- and explosion-proof equipment for recovery of material.</li> <li>- Remove all surrounding materials that could be especially reactive with materials in the waste.</li> <li>- Control released materials from reaching sensitive environmental receptors which are not protected by the inner/outer turbidity curtain booms.</li> <li>- Place all small quantities of recovered liquid wastes (55 gallons or less) and contaminated soil into drums for incineration or removal to an approved disposal site.</li> <li>- Apply appropriate spill control media (e.g. clay, sand, lime, etc.) to absorb discharged liquids if on non-water surfaces.</li> </ul> </li> </ul>	L
	Visible Lighting	<ul style="list-style-type: none"> <li>Perform tasks in daylight hours whenever possible. If dawn, dusk or dark work is to be performed portable lighting must be provided to sufficient illuminate work area(s).</li> </ul>	L
	Other	<ul style="list-style-type: none"> <li>Report all unsafe conditions and acts, injury/illness or property damage to supervisors immediately.</li> </ul>	L

EQUIPMENT REQUIRED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
<ul style="list-style-type: none"> <li>Fire extinguisher (with fuel and electrical sources)</li> <li>Eye wash (small portable type)</li> <li>Miscellaneous power and manual hand tools.</li> <li>First Aid/BbPK/CPR shield</li> <li>Sample coolers and glass ware</li> <li>Hand Auger</li> <li>Communication devices</li> </ul>	<ul style="list-style-type: none"> <li>Visual Inspections of designated work areas identify and address hazardous conditions.</li> <li>Equipment inspections and maintenance.</li> <li>Emergency Response equipment Inspections</li> <li>(Fire Extinguishers, Eye wash First Aid/CPR etc.)</li> <li>Inspections of hand tools (power) and extension cords if used.</li> </ul>	<ul style="list-style-type: none"> <li>Review AHA with all task personnel</li> <li>Review Site Specific Health and Safety Plan for new site personnel.</li> <li>1st Aid/CPR (2 per site when medical attention a medical facility or physician is more than 5 minutes away to two or more employees.</li> <li>Supervisors - BBLPS, 10 hour OSHA Construction Safety Training or equivalent</li> <li>Competent Person Requirement &amp; Name: NA</li> </ul>

NOTES (Field Notes, Review Comments, etc.):

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

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

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

**Probability:** Likelihood of the hazard to cause an incident, near miss, or accident.

- Frequent - Occurs very often, known to happen regularly
- Likely - Occurs several times, a common occurrence
- Occasional - Occurs sporadically, but is not uncommon
- Seldom - Remotely possible, could occur at some time
- Unlikely - Can assume will not occur, but not impossible

**Severity:** Outcome/degree of the incident, near miss, or accident.

- Catastrophic - Death or permanent total disability; Major property damage
- Critical - Permanent partial disability or temporary total disability; Extensive damage to equipment or systems
- Marginal - Lost workdays due to injury or illness; Minor damage to equipment or systems, property, or the environment
- Negligible - First aid or minor medical treatment; Slight equipment or system damage, but fully functional or serviceable; Little or no property or environmental damage



## ACTIVITY HAZARD ANALYSIS

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4. Project Location: NAS Whiting Field		5. Job/Task: XRF Field Screening	
6. Prepared By: Josh Painter 7. Date Prepared: 12/23/11	8. Reviewed By: 9. Date Reviewed:	10. Modified By: 11. Date Modified:	
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13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			Overall RAC: L
14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			
Job Steps	Hazards	Controls	RAC
Soil Screening	Preparedness	<ul style="list-style-type: none"> <li>Verify that EMS services are available and can respond in a prompt manner prior to the start of work.</li> <li>Base or Local Emergency medical Service and Fire Dispatch numbers programmed into cellular phones. Have hospital route maps readily available.</li> <li>Buddy System maintained for all phases of work.</li> </ul>	L
	Adverse Weather	<ul style="list-style-type: none"> <li>Frequently observe the skyline for rain squalls and thunder storms systems that may developing.</li> <li>Bring clothing suitable for anticipated daily weather conditions.</li> <li>Shut down operations during heavy rain/lightning events or high wind conditions. For storms producing lightning, seek safe haven in a grounded structure or rubber vehicle. Implement 30 - 30 rule. Do not seek refuge under trees during electrical or high wind storm events.</li> <li>Do not use telephones during electrical storms, except in the case of emergency.</li> </ul>	L
	Biological	<ul style="list-style-type: none"> <li>Prior to starting field activities, notify supervisors of known allergies to stinging insects and location of antidotes.</li> <li>Use insect repellent with DEET or other insect repellent to deter being bit by mosquitoes or other stinging/biting insects.</li> <li>Avoid exposure to blood borne pathogens if first aid must be provided. Use universal precautions against exposure to blood borne pathogens.</li> </ul>	L
	Contaminant Exposure	<ul style="list-style-type: none"> <li>All personnel performing this task shall be trained and enrolled in a medical surveillance program in accordance with 29CFR1910.120.</li> <li>Do not allow dermal contact or incidental ingestion of impacted soil.</li> <li>Do not kneel or step in potentially contaminated media (soil or water) without first donning proper PPE.</li> <li>Exercise good hygiene practices. Always wash hands before eating, drinking, smoking and leaving site. Shower as soon as possible after leaving the site.</li> <li>Only eat, drink, smoke or chew tobacco in designated areas.</li> <li>Adhere to PPE and action monitoring requirements identified in Attachment 1 of the APP, Site Safety and Health Plan for HTRW Work.</li> </ul>	L
	Electric Safety	<ul style="list-style-type: none"> <li>Ensure that electric connections from generator set to temporary construction facilities are performed by qualified electricians.</li> <li>Inspect all electrical power circuits are sufficient prior to connection.</li> <li>If/when electrical extension cords are required to complete work, extension cords must be: <ul style="list-style-type: none"> <li>✓ Equipped with third-wire grounding.</li> <li>✓ Covered, elevated, or protected from damage when passing through work areas.</li> <li>✓ Protected from pinching if routed through doorways.</li> <li>✓ Extension cords and electrical power tools, must have ground fault circuit interrupters (GFCIs) installed.</li> <li>✓ Rated to handle the voltage/ampereage of equipment.</li> </ul> </li> </ul>	M
	Hand Tools	<ul style="list-style-type: none"> <li>Select and use the proper tool for the task.</li> <li>Do not use tools that have been damaged or repaired in a manner which is not consistent with manufacturer's requirements.</li> </ul>	L

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**14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.**

**Overall  
RAC: L**

Job Steps	Hazards	Controls	RAC
	High Ambient Temperature	<ul style="list-style-type: none"> <li>Provide and drink fluids to prevent worker dehydration.</li> <li>Minimize intake of caffeinated fluids.</li> <li>Institute a proper work-break regiment in a cool area to avoid heat stress symptoms and overexertion.</li> <li>Monitor for signs and symptoms of heat stress (maintain use of buddy system) when the ambient air temperature exceeds 70°F, the relative humidity is high (&gt;50 percent), or when workers exhibit symptoms of heat stress and especially when wearing disposable or other types of coveralls.</li> </ul>	L
	Low Ambient Temperature	<ul style="list-style-type: none"> <li>Be aware of the symptoms of cold-related disorders, and wear proper, layered clothing for the anticipated fieldwork. Appropriate rain gear is a must in cool weather.</li> <li>Frequent intake of non-caffeinated fluids to maintain body core temperature.</li> <li>Frequent intake of non-caffeinated to prevent dehydration.</li> <li>Obtain and review weather forecast— be aware of predicted weather systems.</li> <li>Observe one (buddy system) another for initial signs of cold-related disorders.</li> <li>Frequent observance of Wind Chill Chart (HSP) to assist with work warming regiment determination and frostbite avoidance</li> </ul>	L
	Housekeeping	<ul style="list-style-type: none"> <li>During the course of executed project operations all debris, shall be kept cleared from work areas and passageways. Establish common paths of travel and keep them free from the accumulation of materials. Store tools, equipment, materials, and supplies in an orderly manner.</li> </ul>	L
	Manual Lifting	<ul style="list-style-type: none"> <li>AGVIQ-CH2MHILL or subcontract personnel must notify supervisors or safety representatives of preexisting medical conditions that may be aggravated or re-injured by lifting activities, especially lifting operation involving repetitive motions.</li> <li>When lifting objects, lift using knees not back. Do not manually handle any loads that should be moved, lifted transferred via the use heavy.</li> <li>Have someone assist with manually lifting— especially for heavy (&gt; 40lbs.) or awkward loads.</li> </ul>	L
	Noise	<ul style="list-style-type: none"> <li>Personnel exposed to loud working environments or in open cabs of heavy equipment or adjacent to operating heavy equipment shall wear hearing protection.</li> </ul>	L

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13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			Overall RAC: L
14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			
Job Steps	Hazards	Controls	RAC
	Exposure to radiation (X-rays)	<ul style="list-style-type: none"> <li>Use the time, distance, and shielding rules of thumb. Minimize the amount of time unit is used, maximize the distance between yourself and the unit, and use shielding.</li> <li>For distancing yourself, use supplied or optional test stands when samples are either small or of low density. Small samples don't block the entire beam path and cause scattering.</li> <li>Never hold samples during analysis.</li> <li>Do not point or hold the unit near or against any part of the body during operation.</li> <li>Do not point the unit at anyone when in operation.</li> <li>For shielding, use the backscatter shield accessory when necessary for small or low density samples. This may not be necessary since the samples consist of soil.</li> <li>Read and follow the manufacturer's operation manual.</li> <li>Store and calibrate the instrument per the manufacturer's requirements.</li> <li>Do not ship the analyzer with the battery pack connected to the analyzer.</li> <li>If the unit becomes damaged during field use, stop using the analyzer, remove the battery, notify the PM and Radiation Safety Officer (Jeff Thompson (720) 286-0444 and Thermo Fisher Scientific (800)-875-1578. An incident report will need to be completed on the CH2M HILL HITS system on the virtual office.</li> </ul>	M
	Sample Handling	<ul style="list-style-type: none"> <li>Caution should be exercised when filling bottles containing acid or base preservatives. Both liquid and vapor phases of acid can cause severe burns.</li> <li>Following sample collection, sample container lids should be tightened securely to prevent any leaks, and the containers should be rinsed with clean water to ensure that they are free of chemical constituents. Sample activities, sample collection, and equipment decontamination procedures.</li> </ul>	L
	Slips, Trips, Falls/ housekeeping	<ul style="list-style-type: none"> <li>Be aware of poor footing, potential slipping/tripping hazards in the work area, such as wet surfaces on piers/ramps, unprotected holes, drainage areas, rip rap, utilities, ground protrusions. Observe, mark and avoid any of these identified conditions. Use sturdy hard-toe work boots with sufficient ankle support.</li> <li>Institute and maintain good housekeeping practices. Clean Work Areas as activities proceed. Clear/removed materials and debris from pathways and commonly traveled areas as soon as possible.</li> <li>Three points of contact when enter/exiting equipment or when using stairways/ladders.</li> </ul>	L
	Visible Lighting	<ul style="list-style-type: none"> <li>Perform tasks in daylight hours whenever possible. If dawn, dusk or dark work is to be performed portable lighting must be provided to sufficient illuminate work area(s).</li> </ul>	L
	Other	<ul style="list-style-type: none"> <li>Report all unsafe conditions and acts, injury/illness or property damage to supervisors immediately.</li> </ul>	L
EQUIPMENT REQUIRED		INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS

### ACTIVITY HAZARD ANALYSIS

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<b>4. Project Location: NAS Whiting Field</b>		<b>5. Job/Task: XRF Field Screening</b>	
<b>6. Prepared By: Josh Painter</b> <b>7. Date Prepared: 12/23/11</b>	<b>8. Reviewed By:</b> <b>9. Date Reviewed:</b>	<b>10. Modified By:</b> <b>11. Date Modified:</b>	
<b>12. Personal Protective Clothing and Equipment: Modified Level D PPE</b> Modified D1: (contact with site COCs <u>is limited to the hands only</u> ) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves) Modified D2: (contact with site COCs <u>is not limited to the hands only</u> ) Coveralls: Uncoated Tyvek® (or equivalent) chemical resistant disposable coveralls, Boots: Hard-toe work boots that provide sufficient ankle support (preferable leather); with outer rubber boot covers, Gloves: Inner nitrile chemical-resistant nitrile gloves.			
<b>13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.</b>			<span style="background-color: #90EE90; padding: 2px;"><b>Overall RAC: I</b></span>
<b>14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.</b>			
Job Steps	Hazards	Controls	RAC
<ul style="list-style-type: none"> <li>Fire extinguisher (with fuel and electrical sources)</li> <li>Eye wash (small portable type)</li> <li>XRF</li> <li>First Aid/BbPK/CPR shield</li> <li>Communication devices</li> </ul>	<ul style="list-style-type: none"> <li>Visual Inspections of designated work areas identify and address hazardous conditions.</li> <li>XRF inspection in accordance with Manufactures Recommendations.</li> <li>Emergency Response equipment Inspections (Fire Extinguishers, Eye wash First Aid/CPR etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Review AHA with all task personnel</li> <li>Review APP for new site personnel.</li> <li>1st Aid/CPR 1st Aid/CPR</li> <li>Supervisors - BBLPS, SC-HW (29CFR1910.120(e)(4), 10 hour OSHA Construction Safety Training or equivalent</li> <li>Radiation Safety and XRF Operators Manuel</li> <li>Training and medical surveillance per 29CFR1910.120.</li> <li>Competent Person Requirement &amp; Name: NA</li> </ul>	

NOTES (Field Notes, Review Comments, etc.):

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

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

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

**Probability:** Likelihood of the hazard to cause an incident, near miss, or accident.

- Frequent - Occurs very often, known to happen regularly
- Likely - Occurs several times, a common occurrence
- Occasional - Occurs sporadically, but is not uncommon
- Seldom - Remotely possible, could occur at some time
- Unlikely - Can assume will not occur, but not impossible

**Severity:** Outcome/degree of the incident, near miss, or accident.

- Catastrophic - Death or permanent total disability; Major property damage
- Critical - Permanent partial disability or temporary total disability; Extensive damage to equipment or systems
- Marginal - Lost workdays due to injury or illness; Minor damage to equipment or systems, property, or the environment
- Negligible - First aid or minor medical treatment; Slight equipment or system damage, but fully functional or serviceable; Little or no property or environmental damage

PRINT

SIGNATURE

Date/Time

Supervisor Name: \_\_\_\_\_

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SSHO Name: \_\_\_\_\_

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**SITE PERSONNEL**

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## ACTIVITY HAZARD ANALYSIS

1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)		2. Contract Number: N62470-08-D-1006 3. Contract Task Order Number: JM35	
4. Project Location: NAS Whiting Field		5. Job/Task: IDW Characterization and Management	
6. Prepared By: Josh Painter 7. Date Prepared: 12/23/11	8. Reviewed By: 9. Date Reviewed:	10. Modified By: 11. Date Modified:	
12. Personal Protective Clothing and Equipment: Modified Level D PPE Modified D1: (contact with site COCs <u>is limited to the hands only</u> ) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves) Modified D2: (contact with site COCs <u>is not limited to the hands only</u> ) Coveralls: Uncoated Tyvek® (or equivalent) chemical resistant disposable coveralls, Boots: Hard-toe work boots that provide sufficient ankle support (preferable leather); with outer rubber boot covers, Gloves: Inner nitrile chemical-resistant nitrile gloves.			
13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			Overall RAC: L
14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			
Job Steps	Hazards	Controls	RAC
Waste Characterization Sampling	Preparedness	<ul style="list-style-type: none"> <li>Verify that EMS services are available and can respond in a prompt manner prior to the start of work.</li> <li>Base or Local Emergency medical Service and Fire Dispatch numbers programmed into cellular phones. Have hospital route maps readily available.</li> <li>Buddy System maintained for all phases of work.</li> </ul>	L
	Adverse Weather	<ul style="list-style-type: none"> <li>Frequently observe the skyline for rain squalls and thunder storms systems that may develop.</li> <li>Bring clothing suitable for anticipated daily weather conditions.</li> <li>Shut down operations during heavy rain/lightning events or high wind conditions. For storms producing lightning, seek safe haven in a grounded structure or rubber vehicle. Implement 30 - 30 rule. Do not seek refuge under trees during electrical or high wind storm events.</li> <li>Do not use telephones during electrical storms, except in the case of emergency.</li> </ul>	L
	Biological	<ul style="list-style-type: none"> <li>Prior to starting field activities, notify supervisors of known allergies to stinging insects and location of antidotes.</li> <li>Use insect repellent with DEET or other insect repellent to deter being bit by mosquitoes or other stinging/biting insects.</li> <li>Avoid exposure to blood borne pathogens if first aid must be provided. Use universal precautions against exposure to blood borne pathogens.</li> </ul>	L
	Contaminant Exposure	<ul style="list-style-type: none"> <li>All personnel performing this task shall be trained and enrolled in a medical surveillance program in accordance with 29CFR1910.120.</li> <li>Do not allow dermal contact or incidental ingestion of impacted soil.</li> <li>Do not kneel or step in potentially contaminated media (soil or water) without first donning proper PPE.</li> <li>Exercise good hygiene practices. Always wash hands before eating, drinking, smoking and leaving site. Shower as soon as possible after leaving the site.</li> <li>Only eat, drink, smoke or chew tobacco in designated areas.</li> <li>Adhere to PPE and action monitoring requirements identified in Attachment 1 of the APP, Site Safety and Health Plan for HTRW Work.</li> </ul>	L
	Cuts/Abrasions	<ul style="list-style-type: none"> <li>Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp/cut edges or hand tools.</li> <li>Avoid use of razor knives.</li> <li>When cutting with knives, cut away from the body and never towards another worker.</li> </ul>	L
	Electric Safety	<ul style="list-style-type: none"> <li>Ensure that electric connections from generator set to temporary construction facilities are performed by qualified electricians.</li> <li>Inspect all electrical power circuits are sufficient prior to connection.</li> <li>If/when electrical extension cords are required to complete work, extension cords must be: <ul style="list-style-type: none"> <li>✓ Equipped with third-wire grounding.</li> <li>✓ Covered, elevated, or protected from damage when passing through work areas.</li> <li>✓ Protected from pinching if routed through doorways.</li> <li>✓ Extension cords and electrical power tools, must have ground fault circuit interrupters (GFCIs) installed.</li> <li>✓ Rated to handle the voltage/amperage of equipment.</li> </ul> </li> </ul>	M

**ACTIVITY HAZARD ANALYSIS**

1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)		2. Contract Number: N62470-08-D-1006 3. Contract Task Order Number: JM35	
4. Project Location: NAS Whiting Field		5. Job/Task: IDW Characterization and Management	
6. Prepared By: Josh Painter 7. Date Prepared: 12/23/11	8. Reviewed By: 9. Date Reviewed:	10. Modified By: 11. Date Modified:	

**12. Personal Protective Clothing and Equipment: Modified Level D PPE**  
 Modified D1: (contact with site COCs is limited to the hands only) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves)  
 Modified D2: (contact with site COCs is not limited to the hands only) Coveralls: Uncoated Tyvek® (or equivalent) chemical resistant disposable coveralls, Boots: Hard-toe work boots that provide sufficient ankle support (preferable leather); with outer rubber boot covers, Gloves: Inner nitrile chemical-resistant nitrile gloves.

**13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.**  
**14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.**

**Overall  
RAC: L**

Job Steps	Hazards	Controls	RAC
	Fire Prevention	<ul style="list-style-type: none"> <li>Use only metal safety cans for storage and transfer of fuel.</li> <li>Use funnels and nozzles during fueling operations.</li> <li>Appropriately sized, easily accessible fire extinguisher in work area.</li> <li>Fire extinguishers must be inspected monthly (inspection tag) and have an annual maintenance/inspection certification (tag) attached to the extinguisher.</li> <li>Fire extinguishers shall be approved by a nationally recognized testing laboratory and labeled to identify the listing and labeling organization and the fire test and performance standard that the fire extinguisher meets or exceeds.</li> <li>Only smoke in designated areas. Designated area must be free of combustible/flammable materials.</li> </ul>	L
	Hand Tools	<ul style="list-style-type: none"> <li>Select and use the proper tool for the task.</li> <li>Do not use tools that have been damaged or repaired in a manner which is not consistent with manufacturer's requirements.</li> </ul>	L
	High Ambient Temperature	<ul style="list-style-type: none"> <li>Provide and drink fluids to prevent worker dehydration.</li> <li>Minimize intake of caffeinated fluids.</li> <li>Institute a proper work-break regiment in a cool area to avoid heat stress symptoms and overexertion.</li> <li>Monitor for signs and symptoms of heat stress (maintain use of buddy system) when the ambient air temperature exceeds 70°F, the relative humidity is high (&gt;50 percent), or when workers exhibit symptoms of heat stress and especially when wearing disposable or other types of coveralls.</li> </ul>	L
	Low Ambient Temperature	<ul style="list-style-type: none"> <li>Be aware of the symptoms of cold-related disorders, and wear proper, layered clothing for the anticipated fieldwork. Appropriate rain gear is a must in cool weather.</li> <li>Frequent intake of non-caffeinated fluids to maintain body core temperature.</li> <li>Frequent intake of non- caffeinated to prevent dehydration.</li> <li>Obtain and review weather forecast – be aware of predicted weather systems.</li> <li>Observe one (buddy system) another for initial signs of cold-related disorders.</li> <li>Frequent observance of Wind Chill Chart (HSP) to assist with work warming regiment determination and frostbite avoidance</li> </ul>	L
	Housekeeping	<ul style="list-style-type: none"> <li>During the course of executed project operations all debris, shall be kept cleared from work areas and passageways. Establish common paths of travel and keep them free from the accumulation of materials. Store tools, equipment, materials, and supplies in an orderly manner.</li> </ul>	L
	Manual Lifting	<ul style="list-style-type: none"> <li>AGVIQ-CH2MHILL or subcontract personnel must notify supervisors or safety representatives of preexisting medical conditions that may be aggravated or re-injured by lifting activities, especially lifting operation involving repetitive motions.</li> <li>When lifting objects, lift using knees not back. Do not manually handle any loads that should be moved, lifted transferred via the use heavy.</li> <li>Have someone assist with manually lifting – especially for heavy (&gt; 40lbs.) or awkward loads.</li> </ul>	L

ACTIVITY HAZARD ANALYSIS			
1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)		2. Contract Number: N62470-08-D-1006 3. Contract Task Order Number: JM35	
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13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			Overall RAC: L
14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			
Job Steps	Hazards	Controls	RAC
	Noise	<ul style="list-style-type: none"> <li>Personnel exposed to loud working environments or in open cabs of heavy equipment or adjacent to operating heavy equipment shall wear hearing protection.</li> </ul>	L
	Sample Handling	<ul style="list-style-type: none"> <li>Caution should be exercised when filling bottles containing acid or base preservatives. Both liquid and vapor phases of acid can cause severe burns.</li> <li>Following sample collection, sample container lids should be tightened securely to prevent any leaks, and the containers should be rinsed with clean water to ensure that they are free of chemical constituents. Sample activities, sample collection, and equipment decontamination procedures.</li> </ul>	L
	Slips, Trips, Falls/ housekeeping	<ul style="list-style-type: none"> <li>Be aware of poor footing, potential slipping/tripping hazards in the work area, such as wet surfaces on piers/ramps, unprotected holes, drainage areas, rip rap, utilities, ground protrusions. Observe, mark and avoid any of these identified conditions. Use sturdy hard-toe work boots with sufficient ankle support.</li> <li>Institute and maintain good housekeeping practices. Clean Work Areas as activities proceed. Clear/removed materials and debris from pathways and commonly traveled areas as soon as possible.</li> <li>Three points of contact when enter/exiting equipment or when using stairways/ladders.</li> </ul>	L
	Visible Lighting	<ul style="list-style-type: none"> <li>Perform tasks in daylight hours whenever possible. If dawn, dusk or dark work is to be performed portable lighting must be provided to sufficient illuminate work area(s).</li> </ul>	L
Waste Management	Adverse Weather	<ul style="list-style-type: none"> <li>Frequently observe the skyline for rain squalls and thunder storms systems that may develop.</li> <li>Bring clothing suitable for anticipated daily weather conditions.</li> <li>Shut down operations during heavy rain/lightning events or high wind conditions. For storms producing lightning, seek safe haven in a grounded structure or rubber vehicle. Implement 30 - 30 rule. Do not seek refuge under trees during electrical or high wind storm events.</li> <li>Do not use telephones during electrical storms, except in the case of emergency.</li> </ul>	L
	Biological	<ul style="list-style-type: none"> <li>Prior to starting field activities, notify supervisors of known allergies to stinging insects and location of antidotes.</li> <li>Use insect repellent with DEET or other insect repellent to deter being bit by mosquitoes or other stinging/biting insects.</li> <li>Avoid exposure to blood borne pathogens if first aid must be provided. Use universal precautions against exposure to blood borne pathogens.</li> </ul>	L
	Contaminant Exposure	<ul style="list-style-type: none"> <li>All personnel performing this task shall be trained and enrolled in a medical surveillance program in accordance with 29CFR1910.120.</li> <li>Do not allow dermal contact or incidental ingestion of impacted soil.</li> <li>Do not kneel or step in potentially contaminated media (soil or water) without first donning proper PPE.</li> <li>Exercise good hygiene practices. Always wash hands before eating, drinking, smoking and leaving site. Shower as soon as possible after leaving the site.</li> <li>Only eat, drink, smoke or chew tobacco in designated areas.</li> <li>Adhere to PPE and action monitoring requirements identified in Attachment 1 of the APP, Site Safety and Health Plan for HTRW Work.</li> </ul>	L
	Hand Tools	<ul style="list-style-type: none"> <li>Select and use the proper tool for the task.</li> <li>Do not use tools that have been damaged or repaired in a manner which is not consistent with manufacturer's requirements.</li> </ul>	L

### ACTIVITY HAZARD ANALYSIS

<b>1. Contractor: AGVIQ-CH2M HILL Joint Venture</b> (Small Business Remedial Action Contract)	<b>2. Contract Number: N62470-08-D-1006</b> <b>3. Contract Task Order Number: JM35</b>
<b>4. Project Location: NAS Whiting Field</b>	<b>5. Job/Task: IDW Characterization and Management</b>
<b>6. Prepared By: Josh Painter</b> <b>7. Date Prepared: 12/23/11</b>	<b>8. Reviewed By:</b> <b>9. Date Reviewed:</b>
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**13. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.**  
**14. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.**

**Overall RAC: L**

Job Steps	Hazards	Controls	RAC
	Housekeeping	<ul style="list-style-type: none"> <li>During the course of executed project operations all debris, shall be kept cleared from work areas and passageways. Establish common paths of travel and keep them free from the accumulation of materials. Store tools, equipment, materials, and supplies in an orderly manner.</li> </ul>	L
	Manual Lifting	<ul style="list-style-type: none"> <li>AGVIQ-CH2MHILL or subcontract personnel must notify supervisors or safety representatives of preexisting medical conditions that may be aggravated or re-injured by lifting activities, especially lifting operation involving repetitive motions.</li> <li>When lifting objects, lift using knees not back. Do not manually handle any loads that should be moved, lifted transferred via the use heavy.</li> <li>Have someone assist with manually lifting – especially for heavy (&gt; 40lbs.) or awkward loads.</li> </ul>	L
	Slips, Trips, Falls/ housekeeping	<ul style="list-style-type: none"> <li>Be aware of poor footing, potential slipping/tripping hazards in the work area, such as wet surfaces on piers/ramps, unprotected holes, drainage areas, rip rap, utilities, ground protrusions. Observe, mark and avoid any of these identified conditions. Use sturdy hard-toe work boots with sufficient ankle support.</li> <li>Institute and maintain good housekeeping practices. Clean Work Areas as activities proceed. Clear/removed materials and debris from pathways and commonly traveled areas as soon as possible.</li> <li>Three points of contact when enter/exiting equipment or when using stairways/ladders.</li> </ul>	L
	Visible Lighting	<ul style="list-style-type: none"> <li>Perform tasks in daylight hours whenever possible. If dawn, dusk or dark work is to be performed portable lighting must be provided to sufficient illuminate work area(s).</li> </ul>	L
	Other	<ul style="list-style-type: none"> <li>Report all unsafe conditions and acts, injury/illness or property damage to supervisors immediately.</li> </ul>	L

EQUIPMENT REQUIRED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
<ul style="list-style-type: none"> <li>Fire extinguisher (with fuel and electrical sources)</li> <li>Eye wash (small portable type)</li> <li>Miscellaneous power and manual hand tools.</li> <li>First Aid/BbPK/CPR shield</li> <li>Sampling supplies</li> <li>Spill Kit</li> <li>Communication devices</li> </ul>	<ul style="list-style-type: none"> <li>Inspect heavy equipment before use.</li> <li>Visual Inspections of designated work areas identify and address hazardous conditions.</li> <li>Emergency Response equipment Inspections (Fire Extinguishers, Eye wash First Aid/CPR etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Review APP for new site personnel.</li> <li>1<sup>st</sup> Aid/CPR 1<sup>st</sup> Aid/CPR (2 per site when medical attention a medical facility or physician is more than 5 minutes away to two or more employees.</li> <li>Supervisors - BBLPS, SC-HW (29CFR1910.120(e)(4), 10 hour OSHA Construction Safety Training or equivalent</li> <li>Training and medical surveillance per 29CFR1910.120.</li> </ul>

NOTES (Field Notes, Review Comments, etc.):

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

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart	
E = Extremely High Risk	
H = High Risk	
M = Moderate Risk	
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**Probability:** Likelihood of the hazard to cause an incident, near miss, or accident.

- Frequent - Occurs very often, known to happen regularly
- Likely - Occurs several times, a common occurrence
- Occasional - Occurs sporadically, but is not uncommon
- Seldom - Remotely possible, could occur at some time
- Unlikely - Can assume will not occur, but not impossible

**Severity:** Outcome/degree of the incident, near miss, or accident.

- Catastrophic - Death or permanent total disability; Major property damage
- Critical - Permanent partial disability or temporary total disability; Extensive damage to equipment or systems
- Marginal - Lost workdays due to injury or illness; Minor damage to equipment or systems, property, or the environment
- Negligible - First aid or minor medical treatment; Slight equipment or system damage, but fully functional or serviceable; Little or no property or environmental damage

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Date/Time

Supervisor Name: \_\_\_\_\_

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SSHO Name: \_\_\_\_\_

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**SITE PERSONNEL**

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ACTIVITY HAZARD ANALYSIS			
1. Contractor: AGVIQ-CH2M HILL Joint Venture (Small Business Remedial Action Contract)		2. Contract Number: N62470-08-D-1006 3. Contract Task Order Number: JM35	
4. Project Location: NAS Whiting Field		5. Job/Task: Site Restoration	
15. Prepared By: Josh Painter 16. Date Prepared: 12/23/11	17. Reviewed By: 18. Date Reviewed:	19. Modified By: 20. Date Modified:	
21. Personal Protective Clothing and Equipment: Modified Level D PPE D: Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots, hearing and hand protection (inner and outer chemical resistant gloves) Modified D1: (contact with site COCs is limited to the hands only) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves)			
22. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.			Overall RAC: L
23. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.			
Job Steps	Hazards	Controls	RAC
Sample Backfill	Preparedness	<ul style="list-style-type: none"> <li>Verify that EMS services are available and can respond in a prompt manner prior to the start of work.</li> <li>Base or Local Emergency medical Service and Fire Dispatch numbers programmed into cellular phones. Have hospital route maps readily available.</li> <li>Buddy System maintained for all phases of work.</li> </ul>	L
	Adverse Weather	<ul style="list-style-type: none"> <li>Frequently observe the skyline for rain squalls and thunder storms systems that may develop.</li> <li>Bring clothing suitable for anticipated daily weather conditions.</li> <li>Shut down operations during heavy rain/lightning events or high wind conditions. For storms producing lightning, seek safe haven in a grounded structure or rubber vehicle. Implement 30 - 30 rule. Do not seek refuge under trees during electrical or high wind storm events.</li> <li>Do not use telephones during electrical storms, except in the case of emergency.</li> </ul>	L
	Biological	<ul style="list-style-type: none"> <li>Prior to starting field activities, notify supervisors of known allergies to stinging insects and location of antidotes.</li> <li>Use insect repellent with DEET or other insect repellent to deter being bit by mosquitoes or other stinging/biting insects.</li> <li>Avoid exposure to blood borne pathogens if first aid must be provided. Use universal precautions against exposure to blood borne pathogens.</li> </ul>	L
	Contaminant Exposure	<ul style="list-style-type: none"> <li>All personnel performing this task shall be trained and enrolled in a medical surveillance program in accordance with 29CFR1910.120.</li> <li>Do not allow dermal contact or incidental ingestion of impacted soil.</li> <li>Do not kneel or step in potentially contaminated media (soil or water) without first donning proper PPE.</li> <li>Exercise good hygiene practices. Always wash hands before eating, drinking, smoking and leaving site. Shower as soon as possible after leaving the site.</li> <li>Only eat, drink, smoke or chew tobacco in designated areas.</li> <li>Adhere to PPE and action monitoring requirements identified in Attachment 1 of the APP, Site Safety and Health Plan for HTRW Work.</li> </ul>	L
	Cuts/Abrasions	<ul style="list-style-type: none"> <li>Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp/cut edges or hand tools.</li> <li>Avoid use of razor knives.</li> <li>When cutting with knives, cut away from the body and never towards another worker.</li> </ul>	L
	Driving	<ul style="list-style-type: none"> <li>Always using a seat belt while driving on military/government facilities. Always observe posted speed limits, traffic signs and signals. Never using a cell phone or two way radio while driving on military/government facilities. Violating these rules may result in loss of military/government facility driving privileges.</li> </ul>	L
	Fire Prevention	<ul style="list-style-type: none"> <li>Use only metal safety cans for storage and transfer of fuel.</li> <li>Use funnels and nozzles during fueling operations.</li> <li>Appropriately sized, easily accessible fire extinguisher in work area.</li> <li>Fire extinguishers must be inspected monthly (inspection tag) and have an annual maintenance/inspection certification (tag) attached to the extinguisher.</li> <li>Fire extinguishers shall be approved by a nationally recognized testing laboratory and labeled to identify the listing and labeling organization and the fire test and performance standard that the fire extinguisher meets or exceeds.</li> <li>Only smoke in designated areas. Designated area must be free of combustible/flammable materials.</li> </ul>	L

### ACTIVITY HAZARD ANALYSIS

<b>1. Contractor: AGVIQ-CH2M HILL Joint Venture</b> (Small Business Remedial Action Contract)	<b>2. Contract Number: N62470-08-D-1006</b> <b>3. Contract Task Order Number: JM35</b>
<b>4. Project Location: NAS Whiting Field</b>	<b>5. Job/Task: Site Restoration</b>
<b>15. Prepared By: Josh Painter</b> <b>16. Date Prepared: 12/23/11</b>	<b>17. Reviewed By:</b> <b>18. Date Reviewed:</b>
<b>19. Modified By:</b> <b>20. Date Modified:</b>	

**21. Personal Protective Clothing and Equipment: Modified Level D PPE**  
 D: Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots, hearing and hand protection (inner and outer chemical resistant gloves)  
 Modified D1: (contact with site COCs is limited to the hands only) Work clothes, reflective vests, hard hat, safety glasses and sturdy hard toed work boots with boot covers, hearing and hand protection (inner resistant gloves and work gloves)

**22. Competent Person Requirement: Not Applicable. There is no Competent Person requirement for this task.**

**23. Competent Person Name: Not Applicable. There is no Competent Person requirement for this task.**

**Overall RAC: L**

Job Steps	Hazards	Controls	RAC
	Hand Tools	<ul style="list-style-type: none"> <li>Select and use the proper tool for the task.</li> <li>Do not use tools that have been damaged or repaired in a manner which is not consistent with manufacturer's requirements.</li> </ul>	L
	Housekeeping	<ul style="list-style-type: none"> <li>During the course of executed project operations all debris, shall be kept cleared from work areas and passageways. Establish common paths of travel and keep them free from the accumulation of materials. Store tools, equipment, materials, and supplies in an orderly manner.</li> </ul>	L
	Manual Lifting	<ul style="list-style-type: none"> <li>AGVIQ-CH2MHILL or subcontract personnel must notify supervisors or safety representatives of preexisting medical conditions that may be aggravated or re-injured by lifting activities, especially lifting operation involving repetitive motions.</li> <li>When lifting objects, lift using knees not back. Do not manually handle any loads that should be moved, lifted transferred via the use heavy.</li> <li>Have someone assist with manually lifting— especially for heavy (&gt; 40lbs.) or awkward loads.</li> </ul>	L
	Slips, Trips, Falls/ housekeeping	<ul style="list-style-type: none"> <li>Be aware of poor footing, potential slipping/tripping hazards in the work area, such as wet surfaces on piers/ramps, unprotected holes, drainage areas, rip rap, utilities, ground protrusions. Observe, mark and avoid any of these identified conditions. Use sturdy hard-toe work boots with sufficient ankle support.</li> <li>Institute and maintain good housekeeping practices. Clean Work Areas as activities proceed. Clear/removed materials and debris from pathways and commonly traveled areas as soon as possible.</li> <li>Three points of contact when enter/exiting equipment or when using stairways/ladders.</li> </ul>	L
	Visible Lighting	<ul style="list-style-type: none"> <li>Perform tasks in daylight hours whenever possible. If dawn, dusk or dark work is to be performed portable lighting must be provided to sufficient illuminate work area(s).</li> </ul>	L
	Other	<ul style="list-style-type: none"> <li>Report all unsafe conditions and acts, injury/illness or property damage to supervisors immediately.</li> </ul>	L

EQUIPMENT REQUIRED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
<ul style="list-style-type: none"> <li>Fire extinguisher (with fuel and electrical sources)</li> <li>Eye wash (small portable type)</li> <li>Miscellaneous power and manual hand tools.</li> <li>First Aid/BbPK/CPR shield</li> <li>Sampling supplies</li> <li>Spill Kit</li> <li>Communication devices</li> </ul>	<ul style="list-style-type: none"> <li>Inspect heavy equipment before use.</li> <li>Visual Inspections of designated work areas identify and address hazardous conditions.</li> <li>Emergency Response equipment Inspections (Fire Extinguishers, Eye wash First Aid/CPR etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Review APP for new site personnel.</li> <li>1<sup>st</sup> Aid/CPR 1<sup>st</sup> Aid/CPR (2 per site when medical attention a medical facility or physician is more than 5 minutes away to two or more employees.</li> <li>Supervisors - BBLPS, SC-HW (29CFR1910.120(e)(4), 10 hour OSHA Construction Safety Training or equivalent</li> <li>Training and medical surveillance per 29CFR1910.120.</li> </ul>

NOTES (Field Notes, Review Comments, etc.):

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

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

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

**Probability:** Likelihood of the hazard to cause an incident, near miss, or accident.

- Frequent - Occurs very often, known to happen regularly
- Likely - Occurs several times, a common occurrence
- Occasional - Occurs sporadically, but is not uncommon
- Seldom - Remotely possible, could occur at some time
- Unlikely - Can assume will not occur, but not impossible

**Severity:** Outcome/degree of the incident, near miss, or accident.

- Catastrophic - Death or permanent total disability; Major property damage
- Critical - Permanent partial disability or temporary total disability; Extensive damage to equipment or systems
- Marginal - Lost workdays due to injury or illness; Minor damage to equipment or systems, property, or the environment
- Negligible - First aid or minor medical treatment; Slight equipment or system damage, but fully functional or serviceable; Little or no property or environmental damage

PRINT

SIGNATURE

Date/Time

Supervisor Name: \_\_\_\_\_

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SSHO Name: \_\_\_\_\_

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**SITE PERSONNEL**

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**Attachment 1**  
**Site Specific Health and Safety Plan**

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**Site Specific Health & Safety Plan**  
**Supplemental Site Inspection Soil Sampling**  
**Munitions Response UXO1 Former Gunnery Area**  
**and Former Skeet Range Farm**

**Naval Air Station Whiting Field**  
**Milton, Florida**

Revision No. 00

Contract No. N62470-08-D-1006  
Task Order No. JM35

Submitted to:



Prepared by:



December, 2011

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# Acronyms and Abbreviations

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APP	Accident Prevention Plan
AGVIQ-CH2M HILL	AGVIQ-CH2M HILL Joint Venture III (Small Business Remedial Action Contract)
APP	Accident Prevention Plan
BBLPS	Behavior Based Loss Prevention System
CBRNE	Chemical, Biological, Nuclear, Radiological, Explosive
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
COC	Constituents of Concern
CRZ	Contamination Reduction Zone
CTO	Contract Task Order
DFOW	Definable Feature of Work
DFWP	Drug Free Workplace Program
EMS	Emergency Medical Services
EZ	Exclusion Zone
GDA	Government Designated Authority
HSPA	Health and Safety Program Administrator
LLC	Limited Liability Company
mg/m <sup>3</sup>	milligrams per cubic meter
NASWF	Naval Air Station Whiting Field
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PEL	Permissible Exposure Limit (OSHA)
PPE	Personal Protective Equipment
ppm	Parts per million
PTSP	Pre-Task Safety Plan

SBRAC	Small Business Remedial Action Contract
SOH	Safety and Occupational Health
SSHO	Site Safety and Health Officer
SSHSP	Site Specific Health and Safety Plan
SZ	Support Zone

# 1.0 9.gg Site Safety and Health Plan of HRTW Work (28.B)

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## 1.1 28.B.01.a Occupational Safety and Health Hazards with Site Clean-up

Several occupational physical and chemical hazards are associated with the execution of this Contact Task Order (CTO) as follows:

- Physical hazards associated with slips, trips and falls or manual lifting.
- Physical hazards associated with Driving Vehicles on the base.
- Incidental dermal exposure to, incidental ingestion of, or inhalation of soil impacted by site Constituents of Concern (COCs).
- Physical and chemical hazards associated with soil sampling

All site work shall be performed in accordance with the project Accident Prevention Plan (APP) and this Site Specific Health and Safety Plan (SSHSP). In accordance with the allowance of EM 385 1-1, section 28.B.02 *“general information adequately covered in the APP (introduction, site background, SOH organization and lines of authority, general site control and layout and general site safety procedures, logs, reports and inspections) need not be duplicated.”* Health and safety hazard control measures policies and procedures, and means and methods or other information presented throughout this APP that sufficiently addresses the requirements of EM 385 1-1, section 28.B.02 will not be further elaborated upon in this SSHSP.

## 1.2 28.B.02.a Site Description and Contamination Characterization

A site description for the project site is provided in section 2.0 “Background Information” of the APP and will not be further elaborated upon in this section of the SSHSP.

Summarized site contamination characterization data is provided by the list of maximum site COC concentrations identified below and has been summarized from information supplied by the client.

Constituents	Maximum Concentration	Exposure (PEL)	IDLH ppm	Symptoms and Effects of Exposure	PIP <sup>d</sup> (eV)
Arsenic (metal)	Gunnery Range SB: 3.79 mg/kg Skeet Range SB: 6.49 mg/kg	C =15 min, Ca 0.01 mg/m <sup>3</sup> (PEL)	5 mg/m <sup>3</sup> Ca	Ulceration of nasal septum, respiratory irritation, dermatitis, gastrointestinal disturbances, peripheral neuropathy, hyperpigmentation	NA
Lead	Gunnery Range SB: 1490 mg/kg Skeet Range SB: 455 mg/kg	0.05 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>	Weakness lassitude, facial pallor, pal eye, weight loss, malnutrition, abdominal pain, constipation, anemia, gingival lead line, tremors, paralysis of wrist and ankles, encephalopathy, kidney disease, irritated eyes, hypertension	NA
Polyaromatic Hydrocarbons (as coal tar pitch volatiles)	Gunnery Range SB: 392 mg/kg Skeet Range SB: 27.5 mg/kg	0.2 mg/m <sup>3</sup> (benzene-soluble fraction)	Ca, 80 mg/m <sup>3</sup>	dermatitis, bronchitis, [potential occupational carcinogen]	NA
<p>Footnotes:</p> <p><sup>a</sup> Specify sample-designation and media: SB (Soil Boring/Subsurface Soil), A (Air), D (Drums), GW (Groundwater), L (Lagoon), TK (Tank), S (Surface Soil/Sediment), SL (Sludge), SW (Surface Water), SD (Sediment), SG (Soil Gas)</p> <p><sup>b</sup> Appropriate value of PEL, REL, or TLV listed.</p> <p><sup>c</sup> IDLH = immediately dangerous to life and health (units are the same as specified "Exposure Limit" units for that contaminant); NL = No limit found in reference materials; CA = Potential occupational carcinogen.</p> <p><sup>d</sup> PIP = photoionization potential; NA = Not applicable; UK = Unknown.</p> <p><sup>e</sup> Denotes a ceiling value ( C ) (15 minutes) unless otherwise identified.</p> <p><sup>f</sup> Denotes a value established by the ACGIH.</p> <p><sup>g</sup> Denotes a value established by the ACGIH and a ceiling value (15 minutes).</p> <p>ppb Denotes sample concentration is in Parts per Billion unless otherwise noted.</p> <p>PEL = Denotes OSHA Permissible Exposure Limit unless otherwise identified.</p> <p>Ca = Potential Occupational Carcinogen</p> <p>ST = Short Term Exposure Limit or "excursion limit usually a 15 minute duration unless otherwise noted.</p> <p>SKIN = Indicates the potential for dermal absorption; skin exposure should be prevented as necessary through the use of good work practices, gloves, coveralls, goggles, and other appropriate equipment.</p>					

### 1.2.1.1 Potential Routes of COC Exposure

**Dermal:** Contact with contaminated media. This route of exposure is minimized through proper use of personal protective equipment (PPE), as specified in Table 1-1 of this Site Specific Health and Safety Plan (SSHSP).

**Inhalation:** Air Bourne particulates impacted by heavy metals or other particulates. This route of exposure is minimized through proper use of dust control during executed site operations and by monitoring particulate (dust) concentrations in the worker breathing zone in accordance with the requirements of Table 1-2 of this SSHSP.

**Other:**

**Inadvertent ingestion of contaminated media:** This route should not present a concern if good hygiene practices are followed (e.g., wash hands/face before eating, drinking, or smoking).

*Inadvertent injection of contaminated media:* This route should not present a concern unless a puncture of contaminated PPE were to occur, which resulted in breaking the employees skin and the resulting wound was impacted by contaminated media.

1.2.1.2 Radiological Hazards and Controls

(Reference CH2M HILL Core Standard, Radiological Control and Radiological Controls Manual for additional requirements)

Hazards	Controls
<b>Au anode 50 kV maximum, 40 uA maximum</b> X-ray tube for XRF hand held analyzer Model XL3T600	Training, Shielding, Time, and Distance

As part of the site investigation that will be performed, a hand held Thermo Scientific Niton XL3T600 X-ray Fluorescence (XRF) Analyzer will be used to screen soils for evidence of elevated metals concentrations using EPA Method 6200. This hand held analyzer contains an X-ray tube as part of the operating/analyzing mechanism.

The U.S. Nuclear Regulatory Commission (NRC) has established standards that allow exposures of up to 5,000 mrem per year for those who work with and around radioactive material, and 100 millirem (mrem) per year for members of the public (in addition to the radiation we receive from natural background sources). Even though it is not expected that use of the XRF analyzer would result in worker exposures in excess of 100 mrm, several hazard control factors will be instituted to ensure that overexposure to the X-rays does not occur, as follows.

- 1) All operators will be trained to the manufactures operating protocols.
- 2) All required guards will be in place prior to use;
- 3) Workers using the XRF unit will receive use specific basic radiological awareness training associated with this project;

Exposure monitoring using finger or wrist thermo luminescent dosimeters (TLD) has been performed on our workers during similar past operations.

The designated Radiation Safety Officer (RSO) for this activity is as follows:

**RSO - Jeff Thompson: (720) 286-0444**

Personnel utilizing this device shall receive use specific basic radiological awareness training and training on the operation of the XRF. The curriculum provided by this training will meet the intent of Florida Administrative Code 64E-5.704. This will include;

- (1) Identification of radiation hazards associated with the use of the equipment.
- (2) Significance of the various radiation warning and safety devices incorporated into the equipment, or the reasons they have not been installed on certain pieces of equipment, and the extra precautions necessary if the devices are absent or bypassed.
- (3) Written operating and emergency procedures for the equipment.
- (4) Symptoms of an acute localized radiation exposure.

- (5) Procedures for reporting an actual or suspected exposure.
- (6) Use of survey and personnel monitoring equipment.
- (7) The applicable regulations of this article and those incorporated by reference.

The Thermo Scientific XRF analyzers proposed for use in connection with the execution of this CTO will be rented. Additional information will be provided by the rental agency including operation manuals and restriction of use.

In the state of Florida, the use of an analytical x-ray machine (XRF) is regulated under Florida Administrative Code 64E.

- When utilizing the XRF unit, the following standard operating procedures shall be implemented.
- Keep regulatory paperwork/general user agreement with unit.
- Always use the safety wrist strap when using the unit.
- Lock analyzer when not in use and maintain the analyzer in a secure location when not in use.
- When the XRF is in the case, ensure that the metal shield is in front of the point source/sample field.
- Do not point the X-ray source at yourself or anyone else and never hold the unit over your hands.
- Review the radiation safety section of the user manual
- Verify instrument accuracy on a daily basis using the reference standard and understand the unit accuracy calibration values
- Verify no federal, state or local permitting is required of use and transport.
- Perform a calibration/accuracy checks each time the unit is turned on when being used for the detection of lead sources.
- Do not place the XRF unit close to your computer during daily calibration checks and do not perform calibration/accuracy checks in areas of loud noise or where there are vibrations

Monitor values during each accuracy/calibration check and notify an authorized manufacturer service vendor when values are more than +/- 20 units of the deviation resolution values.

### **1.2.2 28.B.02.b Hazard/Risk Analysis**

Hazard/Risk Analysis for this project is provided in section 10.6 "Project Specific Activity Hazard Analyses" of the APP and will not be elaborated upon further in this section.

### **1.2.3 28.B.02.c Staff Organization, Qualifications, and Responsibilities**

Staff organization, qualifications and responsibilities is identified in section 4.0 “Responsibilities and Lines of Authority” and section 6.0 “Training” of the APP and will not be elaborated upon further in this section.

Qualifications of key site personnel must be provided to the government designated authority (GDA), under separate cover for review well in advance

### **1.2.4 28.B.02.d Training, General and Project-Specific**

General and project specific training is identified in section 6.0 “Training” of the APP and will not be elaborated upon further in this section.

### **1.2.5 28.B.02.f Medical Surveillance**

Site worker medical surveillance requirements is identified in section 6.0 “Training” of the APP and will not be further elaborated upon in this section of the SSHSP.

### **1.2.6 28.B.02.e &g Personal Protective Equipment and Exposure Monitoring/Air Sampling**

The requirements for the use of PPE and worker exposure monitoring and air sampling in connection with the execution of identified project definable features of work (DFOWs) are provided in Tables 1-1 and Table 1-2, respectively, below.

TABLE 1-1  
PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS<sup>A</sup>

Task	Level	Body	Head	Respirator <sup>b</sup>
<ul style="list-style-type: none"> <li>Mobilization, Demobilization, and Site Setup</li> <li>Utility and Land Survey</li> <li>Site Restoration</li> </ul>	D	<ul style="list-style-type: none"> <li>Designated and appropriate work clothes</li> <li>Hard-toe work boots that provide sufficient ankle support (preferable leather)</li> <li>Work gloves (cut resistant) or liquid resistant for wet work environments</li> <li>Reflective traffic vest</li> </ul>	<ul style="list-style-type: none"> <li>Hardhat<sup>c</sup></li> <li>Safety glasses</li> <li>Hearing protection (as applicable)<sup>d</sup></li> </ul>	None required
<p>Any function identified in this APP where potential dermal contact with site COCs <b>IS limited to the hands only.</b></p> <ul style="list-style-type: none"> <li>Land Survey</li> <li>Soil Sampling</li> <li>XRF Field Screening</li> <li>Waste Characterization and Management</li> </ul>	Modified D1	<ul style="list-style-type: none"> <li>Designated and appropriate work clothes;</li> <li>Boots: Hard-toe work boots that provide sufficient ankle support (preferable leather); with outer rubber boot covers or hard-toe chemically resistant rubber boots with steel shank</li> <li>Work gloves (cut resistant) when handling items that pose a cut hazard</li> <li>Reflective safety vest;</li> <li>Inner surgical-style nitrile chemical resistant nitrile gloves.</li> </ul>	<ul style="list-style-type: none"> <li>Hardhat<sup>c</sup></li> <li>Safety glasses</li> <li>Ear protection (as applicable)<sup>d</sup></li> <li>Face shields (as applicable)</li> </ul>	None required.
<p>Any function identified in this APP where potential dermal contact with site COCs is <b>NOT limited to the hands only.</b></p> <ul style="list-style-type: none"> <li>Land Survey</li> <li>Soil Sampling</li> <li>XRF Field Screening</li> <li>Waste Characterization and Management</li> </ul>	Modified D2	<ul style="list-style-type: none"> <li>Coveralls: Uncoated Tyvek® (or equivalent) chemical resistant disposable coveralls.</li> <li>Boots: Hard-toe work boots that provide sufficient ankle support (preferable leather); with outer rubber boot covers or hard-toe chemically resistant rubber boots with steel shank</li> <li>Gloves: Inner and Outer surgical-style nitrile chemical-resistant nitrile gloves.</li> </ul>	<ul style="list-style-type: none"> <li>Hardhat<sup>c</sup></li> <li>Safety glasses (non chemical injections)</li> <li>Ear protection (as applicable)<sup>d</sup></li> <li>Face shields and goggles</li> </ul>	None required.
<p>Contact HSPA/CIH prior to implementing Level C PPE upgrade.</p> <ul style="list-style-type: none"> <li>Site conditions where defined Action Levels of Table 1-2 of the SSHSP are exceeded, or where unknown site conditions are encountered and confirmed by AGVIQ-CH2MHILL program CIH that Level C PPE is required to ensure a negative exposure to site workers.</li> </ul>	C	<ul style="list-style-type: none"> <li>Coveralls: Tyvek®</li> <li>Boots: Hard-toe work boots that provide sufficient ankle support (preferable leather); with outer rubber boot covers or hard-toe chemically resistant rubber boots with steel shank</li> <li>Gloves: Inner surgical-style nitrile and outer chemical resistant nitrile gloves.</li> </ul>	<ul style="list-style-type: none"> <li>Hardhat<sup>c</sup></li> <li>Ear protection (as applicable)<sup>d</sup></li> <li>Spectacle inserts (as applicable)</li> </ul>	NIOSH approved Full Face APR with P100 Cartridge. Contact HSPA/CIH prior to implementing a Level C upgrade.
<b>Reasons for Upgrading or Downgrading Level of Protection</b>				
<b>Upgrade<sup>f</sup></b>		<b>Downgrade</b>		
<ul style="list-style-type: none"> <li>Request from individual performing tasks.</li> <li>Change in work tasks that will increase contact or potential contact with hazardous materials.</li> <li>Occurrence or likely occurrence of gas or vapor emission.</li> <li>Known or suspected presence of dermal hazards.</li> <li>Instrument action levels exceeded (when implemented).</li> </ul>		<ul style="list-style-type: none"> <li>New information indicating that situation is less hazardous than originally thought.</li> <li>Change in site conditions that decrease the hazard.</li> <li>Change in work task that will reduce contact with hazardous materials.</li> </ul>		

<sup>A</sup> Modifications are as indicated. AGVIQ-CH2M HILL will provide PPE only to AGVIQ-CH2M HILL employees.

<sup>B</sup> No facial hair that would interfere with respirator fit is permitted.

<sup>C</sup> Hardhat and splash-shield areas are to be determined by the SSHO.

<sup>D</sup> Ear protection should be worn when conversations cannot be held at distances of 3 feet or less without shouting.

<sup>E</sup> Cartridge change-out schedule is at least every 8 hours (or one work day), except if relative humidity is > 85%, or if organic vapor measurements are > midpoint of Level C range --then at least every 4 hours.

If encountered conditions are different than those anticipated in this APP, contact the HSPA/CIH. **Where AGVIQ-CH2M HILL personnel are required to use a respirator to provide respiratory protection, AGVIQ-CH2M HILL personnel shall receive respiratory protection awareness training. Contact the HSPA/CIH to receive this training, prior to using any respiratory protective device.**

<sup>F</sup> Performing a task that requires an upgrade to a higher level of protection (e.g., Level D to Level D modified/Level C) is permitted only when the PPE requirements have been approved by the HSPA/CIH, and an SSHO qualified at that level is present.

ATTACHMENT 1, TABLE 1-2  
AIR MONITORING EQUIPMENT REQUIREMENTS

Instrument	Tasks	Action Levels <sup>a</sup>	Level of Protection/ Response Action	Frequency <sup>b</sup>	Calibration
MIE PDR 1000 or equivalent aerosol monitor	<ul style="list-style-type: none"> <li>• Land Survey(if in contaminated area)</li> <li>• Soil Sampling</li> <li>• XRF Field Screening</li> </ul>	0 – 1 mg/m <sup>3</sup> (TWA) (in worker BZ)	Level D, Modified D1, or D2 as identified by Table 9-33-1 for dermal protection. Continue work.	Continuously	Daily
		> 1.0 mg/m <sup>3</sup> (TWA) (sustained 5 mins. in worker BZ)	Stop work. If dust cannot controlled to an acceptable condition (below 1 mg/m <sup>3</sup> ) with the typical dust control measures, more substantial dust control measures or implementation of Level C PPE may be required and a revision to and re-approval of this APP by the Program CIH will be necessary.		

<sup>a</sup> Action levels apply to sustained breathing-zone measurements, above background.

<sup>b</sup> The exact frequency of monitoring depends on field conditions and is to be determined by the SSHO; generally, every 5 to 15 minutes is acceptable; more frequently may be appropriate. Monitoring results shall be recorded in the Air Monitoring Log contained in **Attachment 3 of APP** and included in the final project record. Documentation shall include instrument and calibration information, time, measurement results, personnel/area monitored, and place/location where measurement is taken (e.g., "Breathing Zone/MW-3", "at surface/SB-2", etc.).

<sup>c</sup> **Note: Worker breathing zone ambient air monitoring results must be logged on an Air Monitoring Log (See Attachment 3 of APP).**

### 1.2.6.1 Air Monitoring Equipment Calibration Requirements

Air Monitoring equipment calibration specifications for air monitoring equipment identified in Table 1-2 are listed in Table 1-3, below.

TABLE 1-3  
Air Monitoring Equipment Calibration Requirements

<b>Instrument</b>	<b>Gas</b>	<b>Span</b>	<b>Reading</b>	<b>Method</b>
<b>Aerosol Monitor:</b> MIE PDR 1000 or equivalent	Dust-free air	Not applicable	0.00 mg/m3 in "Measure" mode	Dust-free area OR Z-bag with HEPA filter

*Note: Air monitoring equipment calibration measures must be logged on the Project Air Monitoring Logs (See Attachment 3 of APP) and included in the final project record.*

### 1.2.7 28.B.02.h Heat and Cold Stress

The procedures for heat and cold stress monitoring are presented in section 9.14 "Heat and Cold Stress Monitoring Program" of the APP and will not be further elaborated upon in this section of the SSHSP.

### 1.2.8 28.B.02.i Standard Operating Safety Procedures, Engineering Controls, and Work Practices

#### 1.2.8.1 28.B.02.i(1) Site Rules and Prohibitions

Site rules and prohibitions and requirements are defined by the sections identified below and will not be further elaborated upon in this section of this SSHSP.

Section 8.0 of the APP:	Accident Reporting and Investigation
Section 9.2 of the APP:	Emergency Response Plans
Section 9.7 of the APP:	Health Hazard Control Program
Section 1.2.8.7 of the SSHSP:	Site Control Measures
Section 10.5 of the APP:	Drug Free Work Place Program

#### 1.2.8.2 28.B.02.i(2) Work Permit Requirements

Any work permit requirements necessary to execute the assigned work is identified in section 7.1 "External Inspections/Certifications" of the APP and will not be further elaborated upon in this section of the SSHSP.

#### 1.2.8.3 28.B.02.i(3) Material Handling Procedures

Hazard Control Measures for excavation operations, haul truck activities, rigging and working around material handling equipment are included in section 9.7 "Health and Safety Hazard Control Program" of the APP and will not be further elaborated upon in this SSHSP.

#### 1.2.8.4 28.B.02.i(4) Drum, Container, Tank Handling

(Reserved)

There will be no significant drum, container or tank handling during the execution of this CTO.

#### 1.2.8.5 28.B.02.i(5) Comprehensive AHA of Treatment Technologies

(Reserved)

No treatment technologies will be executed during this CTO.

#### 1.2.9 28.B.02.j Site Control Measures - General

Because of the secure nature of Naval Air Station Whiting Field (NASWF) general access is restricted. Access to sample site will be limited to only those authorized personnel designated to work at the site. Site workers and visitors shall sign-in and sign-out as they enter and exit the site work boundaries (see **Attachment 3 of APP**). In addition to these procedures, the following measures shall be implemented as general site control processes.

- Project managers and team leaders are to:
  - 1) Evaluate and ensure worker safety in remote/secluded work areas,
  - 2) Confirm if potentially dangerous activities (i.e. coincidence of hunting seasons, live ordinance use, military field exercises/activities, transfer of dangerous or explosive cargo/materials, location of explosive arc zones etc.) could be occurring in or adjacent to any AGVIQ-CH2MHILL work areas that may jeopardize worker health and safety and
  - 3) Reschedule field activities when potentially dangerous activities are not occurring adjacent to AGVIQ-CH2MHILL work locations. Ensure proper two communications with workers in remote work areas. Utilize buddy system.
- Evaluate and ensure worker safety in remote/secluded work areas.
- Confirm if potentially dangerous activities (such as hunting seasons, live ordinance use, military field exercises/activities, transfer of dangerous or explosive cargo/materials, location of explosive arc zones) could be occurring in or adjacent to any AGVIQ-CH2M HILL work areas that may jeopardize worker health and safety.
- Reschedule field activities when potentially dangerous activities are occurring adjacent to AGVIQ-CH2M HILL work locations. Ensure proper two-way communications with workers in remote work areas.
- **Establish and maintain the “Buddy System.”**
- **Designate an emergency evacuation route (see Figure 9-1 of the APP).**
- **Designate an evacuation assembly area.**
- Topics for briefing on site safety: Review the site Accident Prevention, site-specific hazards, locations of work zones, site contaminants, PPE and air requirements, equipment, special procedures, emergencies.
- The SSHO records safety briefing attendance in a logbook and documents the topics discussed.
- Ensure that applicable AGVIQ-CH2M HILL personnel have received the behavior based loss prevention system (BBLPS) training.

- Be aware of any potential for hazardous chemical exposure and know what precautions/training are required.
- Establish support, decontamination, and exclusion zones. Delineate with flags or cones as appropriate. Support zone should be upwind of the site. Use access control at entry and exit from each work zone.
- Know how an emergency should be reported.
- Identify exact facility location and position (where possible) when contacting Emergency Medical System (EMS)/Fire Dispatch.
- Have readily available copy of the Hospital Route Map.
- Establish onsite communication consisting of the following:
  1. Line-of-sight and hand signals
  2. Air horn
  3. Two-way radio or cellular telephone if available
- Establish offsite communication.
- Know how, what, when injuries/accidents are reported and treated.

The site supervisor, SSHO or other authorized designee is to conduct periodic inspections of work practices and site conditions to determine the effectiveness of this plan. Such inspections should identify site conditions or actions that are not consistent with the policies and procedures of the H&S program, report to the AGVIQ-CH2M HILL Project Manager (overall) and the AGVIQ-CH2M HILL Certified Industrial Hygienist (CIH) or health and safety program administrator (HSPA). The project team shall develop and implement corrective action procedures in a timely manner.

#### 1.2.9.1 Site Control Measures - Hazwoper

For the tasks executed under this CTO that are designated as “Hazwoper Regulated”, only personnel trained in accordance with 29 CFR 1910.120/29 CFR 1926.65, that possess skills, experience and knowledge to execute tasks without risk for exposure to site COCs or create an increased risk of cross contamination of areas of the site not previously impacted by site COCs will be allowed in active site work. As such, the implementation of a three (3) zone site control and decontamination process for site personnel and equipment must be established for the execution of designated Hazwoper regulated activities. Establishment of this three zone site control and decontamination process shall be implemented in accordance with the guidelines set below and utilizing the steps illustrated in Section 1.10 “Personal Hygiene and Decontamination” of this SSHSP.

This APP recommends that the area surrounding each of the work areas be divided into three (3) distinct zones; the exclusion zone (EZ), the contamination reduction zone (CRZ), and the support zone (SZ).

#### 1.2.9.2 Exclusion Zone

Where it is necessary to establish an EZ at the site, it will be constructed to surround the entire sampling area where the greatest potential for worker exposure to identified site COCs may

exist. For this CTO the EZ may need to be transient as the work progresses. The EZ may also incorporate any available “permanent” perimeter fencing or other established physical barriers (curbing, fencing, etc). Other temporary barriers (i.e. caution tape, cones), maybe used to supplement existing permanent barriers to demarcate the EZ to identify the restricted access. To prevent both exposure of unprotected personnel and migration of contamination, work areas and personal protective equipment requirements should be clearly identified/delineated. Access to the EZ will be restricted to personnel wearing the prescribed level of protective equipment and meeting the training and medical criteria of this plan

Only individuals who meet the requirements of 29 CFR 1910.120/29CFR1926.65 and who are authorized by the AGVIQ-CH2MHILLsite supervisor or SSHO shall be allowed entry into the EZ and CRZ. Suitable means and methods (high visibility fencing, caution tape signage, other physical barriers) shall be employed to demarcate the EZ and CRZ boundaries at this site to prevent unauthorized entry into these controlled work zones. A CRZ for decontamination shall be established adjacent to the EZ. The SZ shall be kept free from contamination.

#### **1.2.9.3 Contamination Reduction Zone**

Each CRZ zone should be established as a clearly marked corridor between the EZ and the SZ in which tools and equipment are decontaminated and personnel can don, doff and dispose of and/or decontaminate PPE. The CRZ for each area will be located immediately adjacent to the EZ. This area should also demarcated/identified from support areas with yellow tape, high visibility construction fencing or other suitable barriers.

The CRZ is where personnel will begin the sequential decontamination process when exiting the EZ. To prevent cross contamination and for accountability purposes, all personnel must enter and leave the EZ through the CRZ.

Contaminated personnel tools and equipment will exit the EZ directly to the CRZ. Each CRZ will contain a constructed decontamination stations for personnel and equipment. If possible, the CRZ will be located upwind of each EZ, however due to site constraints this may not be possible. Temporary support zones for each work area will be located adjacent to the CRZs.

#### **1.2.9.4 Support Zone**

Temporary support zones and staging areas will be established at the entrance of each control area. Potable water, an eye wash, and first aid supplies will be located at each temporary support zone. No hazardous or potentially hazardous materials will be allowed in the support zone unless it is in a properly labeled container that has no external contamination. Eating, drinking and smoking will only be allowed in this area, at designated locations.

Portable bathroom facilities will be located near the work areas. In addition, potable water and water and soap for hand washing will be available at the support zone, along with containers for solid waste for use by site personnel, in addition to first aid stations and administrative information.

#### **1.2.9.5 HAZWOPER Compliance Plan**

Certain parts of the site work are covered by state or federal Hazardous Waste Operations and Emergency Response (HAZWOPER) standards and therefore require training and medical monitoring. Anticipated HAZWOPER tasks (Section 2.4 or otherwise determined) might occur consecutively or concurrently with respect to non-HAZWOPER tasks. This

section outlines procedures to be followed when approved activities specified in Section 2.4 of this APP do not require 24- or 40-hour training. Non-HAZWOPER-trained personnel also must be trained in accordance with all other state and federal OSHA requirements.

- In many cases, air sampling, in addition to real-time monitoring, must confirm that there is no exposure to vapors, particulates or mist before non-HAZWOPER-trained personnel are allowed on the site, or while non-HAZWOPER-trained staff are working in proximity to HAZWOPER designated activities. Other data (e.g., soil) also must document that there is no potential for exposure. The Program CIH must approve the interpretation of these data.
- When non-HAZWOPER-trained personnel are at risk of exposure, the site Supervisor or SSHO must post the exclusion zone and inform non-HAZWOPER-trained personnel of the:
  - Nature of the existing contamination and its locations
  - Limitations of their access
  - Emergency action plan for the site
- Periodic air monitoring with direct-reading instruments conducted during regulated tasks also should be used to ensure that non-HAZWOPER-trained personnel (e.g., in an adjacent area) are not exposed to airborne contaminated media.

When exposure is possible, non-HAZWOPER-trained personnel must be removed from the site until it can be demonstrated that there is no longer a potential for exposure to health and safety hazards.

### **1.2.10 28.B.02.k Personal Hygiene and Decontamination**

Regardless of whether a CRZ or other decontamination zones must be established to ensure proper decontamination or personnel or equipment, established procedures must be adhered to ensure that direct and indirect worker contact with COCs or hazardous materials does not occur. This is generally achieved by workers adhering to good personal hygiene practices. These practices include but are not limited to the following:

- 1) Eating, drinking, smoking and tobacco use shall only be conducted in designated areas and not in areas where there is any exposure to hazardous material/waste, flammable/combustible liquids and gases may exist;
- 2) Wash hands and face, before eating, drinking, smoking or using tobacco and at the end of the work-shift.
- 3) shower as soon as feasible after completing field activities.

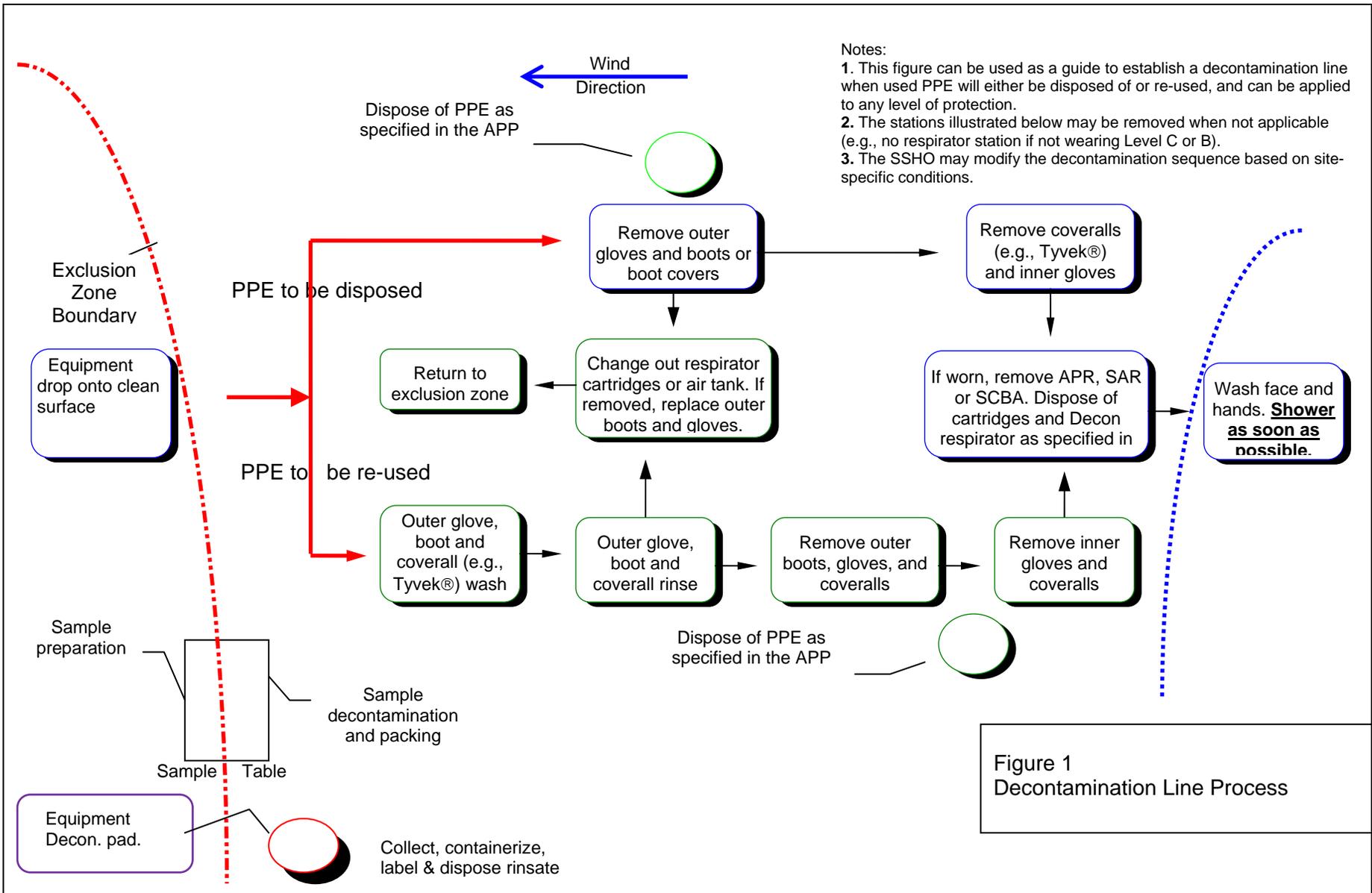
The site supervisor or SSHO shall establish areas for eating, drinking, and smoking at the site so that incident exposure to site COCs does not possibly occur.

#### **1.2.10.1 Decontamination Specifications**

When the establishment of an EZ and CRZ is required, the site supervisor or SSHO must establish and monitor the decontamination procedures and their effectiveness. Decontamination procedures found to be ineffective will be modified by site supervisor or

SSHO. The site supervisor or SSHO must ensure that procedures are established for disposing of materials generated on the site. Where the establishment of EZ(s) or CRZ(s) are required on the site, the use of contact lenses are not permitted in exclusion or decontamination zones. For this project, the use of Modified Level D<sub>1</sub> or D<sub>2</sub> will be required, depending on the actual site conditions that are encountered and whether contact with excavated material can be limited to the hands. If it is determined that the establishment of decontamination coordinators (i.e. EZ/CRZ) are needed, then it is essential for workers to maintain good positive personal hygiene practices and proper containerization, labeling, storage, disposal and overall management of spent disposable PPE. Where the establishment of an EZ and CRZ decontamination corridors are required the detail below identifies a typical worker/equipment decontamination sequence. Figure 1, below, graphically represents personnel and equipment decontamination processes.

Personnel	Sample Equipment	Equipment (if needed)
<ul style="list-style-type: none"> <li>- Boot wash/rinse</li> <li>- Glove wash/rinse</li> <li>- Outer-glove removal</li> <li>- Body-suit removal</li> <li>- Inner-glove removal</li> <li>- Hand wash/rinse</li> <li>- Face wash/rinse</li> <li>- Shower ASAP</li> <li>- Collect, properly containerize, label and dispose of all spent of PPE</li> <li>- Collect, properly containerize, label and dispose of all spent decontamination fluid contain for offsite disposal</li> </ul> <p><b>(Do not dispose of spent PPE or similar waste in government disposal receptacles.)</b></p>	<ul style="list-style-type: none"> <li>- Wash/rinse equipment</li> <li>- Solvent-rinse equipment</li> <li>- Contain solvent waste for offsite disposal</li> <li>- Collect, properly containerize, label and dispose of all spent of decontamination fluid and residual solids for offsite disposal</li> </ul>	<ul style="list-style-type: none"> <li>- Power wash</li> <li>- Steam clean</li> <li>- Collect, properly containerize, label and dispose of all spent of decontamination fluid or residual solids</li> </ul>



### **1.2.11 28.B.02.l Equipment Decontamination**

The sequence and location of equipment decontamination is defined by section 1.2.10.1 and Figure 1, Decontamination Procedure. Procedures for establishment of site control zones, such as EZ or CRZ, as related to equipment decontamination processes are defined in sections 1.2.9 through 1.2.9.4 in this SSHSP.

### **1.2.12 28.B.02.m Emergency Equipment and First Aid**

The requirements for emergency preparedness, equipment and supplies is provided in section 9.2 "Emergency Response Plans" of the APP and will not be elaborated upon further in this SSHSP.

### **1.2.13 28.B.02.n Emergency Response and Contingency Procedures**

The requirements for emergency preparedness, equipment and supplies is provided in section 9.2 "Emergency Response Plans" of the APP and will not be elaborated upon further in this SSHSP.

#### **1.2.13.1 28.B.02.n(1) Pre-Emergency Planning**

The requirements for emergency response and contingency procedures are provided in section 9.2 "Emergency Response Plans" of the APP and will not be elaborated upon. The requirements for pre-emergency planning are provided in section 9.2 "Emergency Response Plans" of the APP and will not be elaborated upon further in this SSHSP.

#### **1.2.13.2 28.B.02.n(2) Personnel and Lines of Authority - Emergency Situations**

Personnel and lines of authority for both chain of command and emergency situations are included in section 4.0 "Responsibilities and Lines of Authority" of the APP and will not be elaborated upon further in this SSHSP.

#### **1.2.13.3 28.B.02.n(3) Criteria and Procedures for Emergency Recognition and Site Evacuation**

Procedures of emergency recognition and site evacuation is outline in section 9.2 "Emergency Response Plans" of the APP and will not be elaborated upon further in this SSHSP.

#### **1.2.13.4 28.B.02.n(4) Decontamination and Medical Treatment of Injured Personnel**

In the event a worker in an Exclusion Zone (EZ) needs medical assistance primary consideration must be given to remove all site contaminants before transfer of the employee to an uncontaminated area or atmosphere or before being handled by untrained/protected medical response personnel. Decontamination of personnel exposed to site COCs should be decontaminated as quickly as possible via the following procedures:

- After removal from the contaminated area, the exposed individual(s) will be decontaminated by washing the contaminated areas with appropriate decontamination solutions and flushing with potable water. In particular, direct skin (dermal) contact must be addressed via decontamination with soapy water. Decontamination operations must be performed as quick as possible, as time is off the essence in emergency medical situations. Field team personnel shall utilize disposable PPE wherever possible to promote rapid decontamination of personnel in the EZ.

- If a respirator is used in the EZ, the respirator mask is left on the exposed individual until decontamination has been completed unless it has been determined that areas of the face were contaminated and the mask must be removed to decontaminate.
- After decontamination, the contaminated clothing is removed and skin contamination washed away. If possible, decontamination is completed before the exposure individual is taken to a medical facility.
- ONLY potable water will be used when flushing the eyes or mouth.
- All receptacles used for containing protective clothing shall be equipped with lids that can be closed to prevent the release of contaminants and the introduction of rainfall.
- Initiate first aid and CPR, upon completion of decontamination operations.
- Make certain that the injured person is accompanied to the emergency room.
- When contacting the medical consultant, give your name and telephone number, the name of the injured person, the extent of the injury or exposure, and the name and location of the medical facility where the injured person was taken.
- Report incident as outlined in Section 8.0 “Accident Reporting and Investigation” of the APP.
- A map showing the route to the local hospital is shown on Figure 9-2 of the APP and will not be reproduced in this SSHSP.

Note: For CH2M HILL personnel who experience a minor non-life threatening emergency that requires medical attention, please refer to for the “Emergency Nurse Instructions” and “Initial Medical Treatment Form” in Attachment 9 of the APP.

#### **1.2.14 28.B.02.n(5) Route Map to Emergency Medical Facilities**

The route map to area emergency medical facilities is provided by Figure 9-2 of section 9.2.9 “Medical Support” of the APP and need not be reproduced in this SSHSP.

#### **1.2.15 28.B.02.n(6) Criteria for Alerting Medical Facilities**

There are no specific or unusual hazards [i.e. Chemical, Biological, Radiological, Nuclear, Explosive (CBRNE)] that requires notification to area responders prior to the start of site operations. Any unanticipated medical, fire or security issue that may result during the execution of this

#### **1.2.16 28.C Responsibilities**

The responsibilities for HAZWOPER regulated activities will be the same as for non-HAWOPER regulated activities. Both project level and AGVIQ-CH2M HILL program level responsibilities for all operations are included in section 4.0 “Responsibilities and Lines of Authority” of the APP and will not be further elaborated upon in this SSHSP.

#### **1.2.17 28.D Training**

All training requirements for this project are discussed in section 6.0 “Training” of the APP and will not be elaborated upon further in this SSHSP.

### **1.2.18 28.E Medical Surveillance**

All worker surveillance requirements for this project are discussed in section 6.0 "Training" of this APP and will not be elaborated upon further in this SSHSP.

### **1.2.19 28.F RCRA TSD Facilities**

Not Applicable. The criteria of EM 385 1-1, section 28 are not applicable to the site operations nor are Treatment, Storage and Disposal (TSD) facility conditions under the requirements of 40 CFR 264/265 applicable to this project.

### **1.2.20 28.G Facility/Construction Project Emergency Response**

Facility/construction project emergency response emergency procedures is outlined in section 9.2 "Emergency Response Plans" of the APP and will not be elaborated upon further in this SSHSP.

**Attachment 2**  
**Accident Prevention Plan & Site Specific Health**  
**and Safety Plan Acknowledgement Form**

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**Attachment 3**  
**Subcontractor H&S Tracking Form**

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**Attachment 4**  
**Project H&S Forms/Permits**

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## EQUIPMENT INSPECTION FORM

This form will be used to document AGVIQ-CH2MHILL earthmoving equipment inspections. Earthmoving equipment will be inspected each day and shift prior to use. All components will be inspected for damage and proper operation. Any component failing the inspection will be corrected prior to earthmoving equipment use. Check each box after passing inspection and initial bottom of form each day.

Equipment Name: \_\_\_\_\_ Identification #: \_\_\_\_\_ Week of: \_\_\_\_\_

INSPECTION ITEM	Mon	Tue	Wed	Thu	Fri	Sa	Sun
<b>Visual Checks</b>							
Operating manual – present							
Controls - labeled as to their function, visible and legible, safety latches/guards present							
Tires/tracks – proper inflation/tension, not excessively worn or damaged							
Fluid levels/leaks - engine, transmission, hydraulic, radiator, swing motor and PTO oils.							
Lubrication - to the manufacturer's specifications							
Air filter gauge - gauge is not in the red zone.							
Hydraulics – no fluid leaks, connections tight, hoses, cylinders free of damage.							
Hoses/belts – held securely, not loose or rubbing, no excessive wear or crimping							
Fuel system - tank free of damage, all valves/hoses secure, no leaks							
Body & ground-engaging tools – no damage, cracks, bends, or excessive wear.							
Cylinders/articulation joints– no worn pins, loose connections or other damage.							
Roll-over protective structures (ROPS) - no damage, no cracks or bends							
Seat belt/bar – required unless operator stands or no ROPS							
Handrails, steps, platforms – clean, free from grease, oil, clear of obstructions.							
Cab glass – safety glass, clean, no cracks or visible distortion							
Mirrors – properly adjusted, no cracks or visible distortion							
Windshield wipers, fluid, and defroster - functioning							
Machine guards – present and in good condition							
Fire extinguisher – present and charged							
<b>Operational Checks – check items through normal maneuvers</b>							
Horn & back-up alarm – operating and distinguishable from surrounding noise							
Lights, directional signals, and brake lights - functioning							
Gauges/indicators – visible and working properly							
Operating controls - lift and tilt functioning properly							
Outriggers, if present – functioning properly							
Accelerator - even acceleration, does not stick							
Brakes (service & parking) - brings to complete stop, holds in fixed position							
Steering – responsive, minimal looseness							
Exhaust system – guarded if potential for contact, no signs of sparks/leaks							
<b>Inspector's Initials</b>							







# Stop Work Order Form

**REPORT PREPARED BY:**

<b>Name:</b>	<b>Title:</b>	<b>Signature:</b>	<b>Date:</b>

**ISSUE OF NONPERFORMANCE**

<b>Description:</b> _____ _____ _____ _____ _____ _____	<b>Date of Nonperformance:</b> _____
--	---

**SUBCONTRACTOR SIGNATURE OF NOTIFICATION:**

<b>Name:</b>	<b>Title:</b>	<b>Signature:</b>	<b>Date:</b>

*\* Corrective action is to be taken immediately. Note below the action taken, sign and return to CCI.*

**SUBCONTRACTOR'S CORRECTIVE ACTION**

<b>Description:</b> _____ _____ _____ _____ _____ _____	<b>Date of Corrective Actions:</b> _____
--	---

**SUBCONTRACTOR SIGNATURE OF CORRECTION:**

<b>Name:</b>	<b>Title:</b>	<b>Signature:</b>	<b>Date:</b>

**Attachment 5**  
**Emergency Contact List**

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# Emergency Contact List

**24-hour CH2M HILL Serious Incident Reporting Contact/Pager: 720-286-4911**  
**CH2M HILL 24-hour Nurse Number: 866-893-2514**  
 (See attached instructions \*)

<p><b>Fire, Security: 911</b>  <b>Or</b></p> <p><b>Base FIRE: (850) 623-7333</b>  <b>Base SECURITY: (850) 623-7333</b></p> <p><b>Base Emergency Operations Center : (850)623-7324</b></p>	<p><b>CH2M HILL- Medical Consultant</b>          WorkCare          Dr. Peter Greaney M.D.          300 S. Harbor Blvd, Suite 600          Anaheim , CA 92805          800-455-6155          714-978-7488          (After hours calls will be returned within 20 minutes)  <b>AGVIQ Medical Consultant(s)</b>          Refer to AGVIQ VBO office for a detailed list of Medical Facilities/contacts.</p>
<p><b>AGVIQ-CH2M HILL SBRAC Program Manager</b>          Name: Sidney Allison AGVIQ          Phone (843) 242-8018 / (843) 813-2672 (cell)</p> <p><b>Project Manager (overall)</b>          Amy Twitty : (850) 232-0320</p>	<p><b>AGVIQ-CH2M HILL SBRAC Deputy Program Manager</b>          Name: Michael Halil CH2M HILL – (JXO)          Phone: (904) 777-4812 x 233/(904) 219-6277 (cell)</p>
<p><b>AGVIQ-CH2M HILL Site Superintendent</b>          Name: John Towns          Phone: (850) 939-8300          Cell Phone: (850) 686-2921 (cell)</p> <p><b>AGVIQ-CH2M HILL Joint Venture Program SSHO</b>          Name: Chad Diamond          Phone:(850) 939-8300</p>	<p><b>AGVIQ-CH2M HILL Program CIH</b>          Name: Angelo Liberatore          Phone: (678) 530-4210/(770) 335-2076 (cell)</p> <p><b>AGVIQ-CH2M HILL HSPA</b>          Name: Mark Orman          Phone: (414) 847-0597/ (414) 712-4138 (Cell)</p> <p><b>AGVIQ-CH2M HILL HSPA</b>          Name: Josh Painter          Cell Phone: (303) 993-9274</p>
<p><b>AGVIQ Corporate Human Resources Department &amp; AGVIQ Worker's Compensation &amp; Auto Claims</b>          Name: Sabrina Ben          TIKIGAQ Corp. Anchorage, AK          Phone: (907) 365 6129/ (907) 341-6139 (fax)</p> <p>AGVIQ personnel to report all accidents or injuries to AGVIQ Corporate HSM or HSO immediately but no later than 24 hrs. Fatalities and hospitalizations shall require immediate notification to AGVIQ Corporate HSM.</p>	<p><b>CH2M HILL Worker's Compensation &amp; Auto Claims</b>          Zurich American Ins. Co          1400 American Lane          Schaumburg IL 60196-1056          1800-987-3373          Contact Business Group Human Resources Dept. to have form completed or contact Albert Jerman after hours: 303/741-5927          Rental: Linda Anderson/COR 720/286-2401          CH2M HILL owned vehicle: Linda George 720-286-2057          Fatalities and hospitalizations shall require immediate notification to AGVIQ-CH2M HILL Program CIH.</p>
<p><b>AGVIQ Corporate HSM</b>          Name: Troy Izatt          Office phone # (907) 365-6182          Cell phone # (907) 748-3697</p>	<p><b>Federal Express Dangerous Goods Shipping</b>          Phone: 800/238-5355</p> <p><b>Emergency Number for Shipping Dangerous Goods</b>          Phone: 800/255-3924</p>
<p><b>Facility Alarms:</b>          Sound vehicle horn three times. (Site 4A)</p>	<p><b>Evacuation Assembly Area(s):</b>          See Figure 9-1 of this APP.</p>
<p><b>Facility/Site Evacuation Assembly Area/Route:</b> See Figure 9-1 of this APP.</p>	
<p><b>Hospital Name/Address</b>      <b>Baptist Hospital</b> (See Figure 9-2 of this APP)          3874 Highway 90, Pace, FL 32571 (850) 982-1056</p>	

**Attachment 6**  
**Material Safety Data Sheets** (provided onsite)

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**Attachment 7**  
**Chemical Specific Training Form and**  
**Project Specific Chemical Product Hazard**  
**Communication Form**

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# CHEMICAL-SPECIFIC TRAINING FORM

Location:	Task Order:
SSHO:	Trainer:

## TRAINING PARTICIPANTS:

NAME	SIGNATURE	NAME	SIGNATURE

## REGULATED PRODUCTS/TASKS COVERED BY THIS TRAINING:


The SSHO will use the product MSDS 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.)

Training participants will 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 MSDSs, chemical inventories, and the written hazard communication program will be made available for employee review in the facility/project hazard communication file.



**Attachment 8**  
**Pre-Task Safety Plan**

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EXAMPLE ONLY

**DAILY PRE-TASK SAFETY PLAN (PTSP)**

Page 1 of 3

Project: _____	Location: _____	Date: _____
Site Safety & Health Officer: _____	Job Activity: _____	Site #: _____

Task Personnel:

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List Tasks:

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Tools/Equipment/Materials required (ladders, scaffolds, fall protection, cranes/rigging, heavy equipment, power tools, cords, generators, compressed gases, regulated chemical products, etc.):

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<b>Potential H&amp;S Hazards, including chemical, physical, safety, biological and environmental (Check all that apply):</b>		
<input type="checkbox"/> <b>Chemical burns/contact</b> Dermal protection (hands), eye protection. See APP for PPE requirements per task.	<input type="checkbox"/> <b>Trench, excavations, cave-ins</b>	<input type="checkbox"/> <b>Ergonomics</b>
<input type="checkbox"/> <b>Pressurized lines/equipment</b>	<input checked="" type="checkbox"/> <b>Overexertion</b> Work/break regiment as dictated by task. Maintain fluid intake for hydration	<input checked="" type="checkbox"/> <b>Chemical splash</b> Use PPE in accordance with the APP. Protect hands from splash during decon. activities.
<input checked="" type="checkbox"/> <b>Thermal burns</b> Watch for warm engine/muffler components on generators.	<input type="checkbox"/> <b>Pinch points</b>	<input checked="" type="checkbox"/> <b>Poisonous plants/insects</b> Review APP for identification of poisonous snakes in the geographic area. Long sleeves in areas where poison ivy, sumac or oak may exist. Use insect repellent. Tape pant legs to boots (ticks).
<input checked="" type="checkbox"/> <b>Electrical</b> GCFIs for generators, inspect. & protect extension cords, cords rated for use & have 3 <sup>rd</sup> wire grounding	<input checked="" type="checkbox"/> <b>Cuts/abrasions</b> Do not use razor knives. Cut away from body. Identify and avoid rusty/jagged or sharp surfaces from above ground features (brush, pipe chases/supports, utility structures, doors)	<input checked="" type="checkbox"/> <b>Eye hazards/flying projectile</b> Use eye protection at all times. Ensure head protection is used in areas where heavy brush, trees, thorns, vines exist when accessing well heads.
<input type="checkbox"/> <b>Weather conditions</b> Foul and cold weather clothing as dictated by expected conditions	<input checked="" type="checkbox"/> <b>Spills</b> Use funnels & nozzles during fueling of generators.	<input type="checkbox"/> <b>Inhalation hazard</b>
<input type="checkbox"/> <b>Heights/fall &gt; 6'</b>	<input type="checkbox"/> <b>Overhead Electrical hazards</b>	<input checked="" type="checkbox"/> <b>Heat/cold stress</b> Work/break regiment as dictated by heat exposure. Provide sufficient fluids for employee intake. Recommended employees begin with 16 oz. of water before initiating field work.
<input checked="" type="checkbox"/> <b>Noise</b> Use hear protection in loud work environments	<input type="checkbox"/> <b>Elevated loads</b>	<input type="checkbox"/> <b>Water/drowning hazard</b>
<input checked="" type="checkbox"/> <b>Explosion/fire</b> Metal safety cans for fuel storage, No open flame, sparks ignition in hazardous/flammable/combustible storage areas. Let engine surfaces cool before fueling.	<input checked="" type="checkbox"/> <b>Slips, trip and falls</b> Exercise good general housekeeping practices. Identify/remove slip/trip falls hazards in work area. Watch for and avoid holes, ground protrusions. Watch for entanglement of feet around vines and brush.	<input type="checkbox"/> <b>Heavy equipment</b>
<input checked="" type="checkbox"/> <b>Radiation</b> Solar. UV protection on skin and UV eye protection. ANSI rated safety eye protection only.	<input checked="" type="checkbox"/> <b>Manual lifting</b> >50 lbs or awkward loads, get assistance. If employee not capable of lifting 40 lbs. seek assistance.	<input type="checkbox"/> <b>Aerial lifts/platforms</b>
<input type="checkbox"/> <b>Confined space entry</b>	<input type="checkbox"/> <b>Welding/cutting</b>	<input type="checkbox"/> <b>Demolition</b>

**Continue on page 3 of 3 (if necessary)**

**Hazard Control Measures (Check all that apply):**

<p><b>PPE</b></p> <p><input checked="" type="checkbox"/> Head protection</p> <p><input type="checkbox"/> Face protection</p> <p><input checked="" type="checkbox"/> Hard toe work boots</p> <p><input type="checkbox"/> Thermal/lined</p> <p><input checked="" type="checkbox"/> Eye</p> <p><input checked="" type="checkbox"/> Dermal/hand</p> <p><input type="checkbox"/> Hearing</p> <p><input type="checkbox"/> Respiratory</p> <p><input checked="" type="checkbox"/> Reflective vests</p>	<p><b>Protective Systems</b></p> <p><input type="checkbox"/> Locate buried utilities</p> <p><input type="checkbox"/> Competent person</p> <p><input type="checkbox"/> Daily inspections</p> <p><input type="checkbox"/> Sloping</p> <p><input type="checkbox"/> Shoring</p> <p><input type="checkbox"/> Trench box</p> <p><input type="checkbox"/> Barricades</p>	<p><b>Fire Protection</b></p> <p><input type="checkbox"/> Fire extinguishers</p> <p><input type="checkbox"/> Fire watch</p> <p><input type="checkbox"/> Non-spark tools</p> <p><input type="checkbox"/> Grounding/bonding</p> <p><input type="checkbox"/> Intrinsically safe equipment</p> <p><input type="checkbox"/> Combustible materials storage</p> <p><input type="checkbox"/> Chemical Storage</p>	<p><b>Electrical</b></p> <p><input type="checkbox"/> Lockout/tagout</p> <p><input type="checkbox"/> Grounded</p> <p><input type="checkbox"/> Panels covered</p> <p><input checked="" type="checkbox"/> GFCI/extension cords</p> <p><input type="checkbox"/> Power tools/cord inspected</p> <p><input type="checkbox"/> Insulated tools/gloves</p>
<p><b>Fall Protection</b></p> <p><input type="checkbox"/> Harness/lanyards</p> <p><input type="checkbox"/> Adequate anchorage</p> <p><input type="checkbox"/> Guardrail system</p> <p><input type="checkbox"/> Covered opening</p> <p><input type="checkbox"/> Fixed barricades</p> <p><input type="checkbox"/> Warning system</p>	<p><b>Air Monitoring</b></p> <p><input type="checkbox"/> PID/FID</p> <p><input type="checkbox"/> Detector tubes</p> <p><input type="checkbox"/> Radiation</p> <p><input type="checkbox"/> Personnel sampling</p> <p><input type="checkbox"/> LEL/O2</p> <p><input type="checkbox"/> Other</p>	<p><b>Proper Equipment</b></p> <p><input type="checkbox"/> Aerial lift/ladders/scaffolds</p> <p><input type="checkbox"/> Forklift/ Heavy equipment</p> <p><input type="checkbox"/> Backup alarms</p> <p><input type="checkbox"/> Hand/power tools</p> <p><input type="checkbox"/> Crane w/current inspection</p> <p><input type="checkbox"/> Proper rigging</p> <p><input type="checkbox"/> Operator qualified</p>	<p><b>Welding &amp; Cutting</b></p> <p><input type="checkbox"/> Cylinders secured/capped</p> <p><input type="checkbox"/> Cylinders separated/upright</p> <p><input type="checkbox"/> Flash-back arrestors</p> <p><input type="checkbox"/> No cylinders in CSE</p> <p><input type="checkbox"/> Flame retardant clothing</p> <p><input type="checkbox"/> Appropriate goggles</p>
<p><b>Confined Space Entry</b></p> <p><input type="checkbox"/> Isolation</p> <p><input type="checkbox"/> Air monitoring</p> <p><input type="checkbox"/> Trained personnel</p> <p><input type="checkbox"/> Permit completed</p> <p><input type="checkbox"/> Rescue provisions</p>	<p><b>Medical/Emerg. Response</b></p> <p><input checked="" type="checkbox"/> First-aid &amp; BBP kit</p> <p><input checked="" type="checkbox"/> Eye wash</p> <p><input checked="" type="checkbox"/> FA-CPR training</p> <p><input checked="" type="checkbox"/> Route to hospital</p>	<p><b>Heat/Cold Stress</b></p> <p><input checked="" type="checkbox"/> Work/rest regime</p> <p><input checked="" type="checkbox"/> Rest area</p> <p><input checked="" type="checkbox"/> Liquids available</p> <p><input checked="" type="checkbox"/> Monitoring</p> <p><input type="checkbox"/> Training</p>	<p><b>Vehicle/Traffic</b></p> <p><input type="checkbox"/> Traffic Awareness</p> <p><input type="checkbox"/> Traffic control</p> <p><input type="checkbox"/> Barricades</p> <p><input type="checkbox"/> Flags</p> <p><input type="checkbox"/> Signs</p>
<p><b>Permits</b></p> <p><input type="checkbox"/> Hot work</p> <p><input type="checkbox"/> Confined space</p> <p><input type="checkbox"/> Lockout/tagout</p> <p><input type="checkbox"/> Excavation</p> <p><input type="checkbox"/> Demolition</p> <p><input type="checkbox"/> Energized work</p> <p><input type="checkbox"/> Local/Environmental</p>	<p><b>Demolition</b></p> <p><input type="checkbox"/> Pre-demolition survey</p> <p><input type="checkbox"/> Structure condition</p> <p><input type="checkbox"/> Isolate area/utilities</p> <p><input type="checkbox"/> Competent person</p> <p><input type="checkbox"/> Hazmat present</p>	<p><b>Inspections</b></p> <p><input type="checkbox"/> Ladders/aerial lifts</p> <p><input type="checkbox"/> Lanyards/harness</p> <p><input type="checkbox"/> Scaffolds</p> <p><input type="checkbox"/> Heavy equipment</p> <p><input type="checkbox"/> Cranes and rigging</p> <p><input type="checkbox"/> Other per Field Safety Plan</p>	<p><b>Training</b></p> <p><input checked="" type="checkbox"/> Hazwaste</p> <p><input type="checkbox"/> Construction</p> <p><input type="checkbox"/> Equipment</p> <p><input type="checkbox"/> Competent person</p> <p><input checked="" type="checkbox"/> Task-specific (AHA)</p> <p><input checked="" type="checkbox"/> Hazcom</p>

**Field Notes:**

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**DAILY PRE-TASK SAFETY PLAN (PTSP)**

Page 3 of 3

Additional Space for Project Specific Hazard Awareness (if necessary):

- 1) Observe government/military facility posted speed limits.
- 2) Wear seat belts in vehicles while on government/military facilities.
- 3) Do not use cell phones or two way radios while driving or actively operating equipment on government/military facilities.
- 4) Failure to do so may result in loss of driving privileges on government/military facilities.
- 5) Report all accidents/injuries and property damage to the Project Manager and Program CIH immediately.
- 6) Maintain hospital route maps in site vehicles. Know facility EMS, Fire and Security dispatch #s.
- 7) Secure any loads to hauling vehicle (pick-up truck) with appropriate rated tie down straps.
- 8) Use reflective vests/ high visibility clothing in high traffic areas or in areas were material handling operations are occurring.

**Attendees:**

Name (Printed):

Signature:

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Meeting Conducted By:

\_\_\_\_\_  
Name Printed

\_\_\_\_\_  
Signature

**Attachment 9**  
**Loss Prevention Observation Form**

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**Loss Prevention Observation Form**



Project:  
 Position/Title of worker observed:  
 Task/Observation Observed:

Observer:  
 Background Information/comments:  
 Date:

- Identify and reinforce safe work practices/behaviors
- Identify and improve on at-risk practices/acts
- Identify and improve on practices, conditions, controls, and compliance that eliminate or reduce hazards
- Proactive PM/Site Manager support facilitates eliminating/reducing hazards (material/personnel resources)
- Positive, corrective, cooperative, collaborative feedback/recommendations

Actions & Behaviors	Consistent w/ H&S Program	Not Consistent w/ H&S Program	Observations/Comments
Current & accurate Pre-Task Planning/Briefing (Project safety plan, AHA, PTSP, tailgate briefing, c., as needed)			<b>Positive Work Practices Observed:</b>
Personnel properly trained/qualified/experienced			
Tools/equipment available and adequate			
Proper use of tools			<b>Questionable Activity/Condition Observed:</b>
Barricades/work zone control			
Housekeeping			
Communication			
Work Approach/Habits			
Attitude			
Focus/attentiveness			<b>Actions/Comments:</b>
Pace			
Uncomfortable position			
Inconvenient location			
Position/Line of fire			
Apparel (hair, loose clothing, jewelry)			<b>Observed Worker's Corrective Actions/Comments:</b>
Repetitive motion			
Other...			

**Safety and Occupational Health Deficiency Tracking Log**

<b>Item</b>	<b>Date Identified</b>	<b>Identified By</b>	<b>Deficiency Description</b>	<b>Resolution Date</b>	<b>Corrected By</b>	<b>Actual Correction Date</b>
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

**Attachment 10**  
**Loss/Near Loss Incident Report Form**

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# Incident Report Form

### **Type of Incident** (Select at least one)

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Injury/Illness             | <input type="checkbox"/> Property Damage | <input type="checkbox"/> Spill/Release |
| <input type="checkbox"/> Environmental/Permit Issue | <input type="checkbox"/> Near Miss       | <input type="checkbox"/> Other         |

### **General Information** (Complete for all incident types)

Preparer's Name: \_\_\_\_\_ Preparer's Employee Number: \_\_\_\_\_  
 Date of Report: \_\_\_\_\_ Date of Incident: \_\_\_\_\_ Time of Incident: \_\_\_\_\_ am/pm

### **Type of Activity** (Provide activity being performed that resulted in the incident)

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Asbestos Work                     | <input type="checkbox"/> Excavation Trench-Haz Waste | <input type="checkbox"/> Other (Specify) _____     |
| <input type="checkbox"/> Confined Space Entry              | <input type="checkbox"/> Excavation Trench-Non Haz   | <input type="checkbox"/> Process Safety Management |
| <input type="checkbox"/> Construction Mgmt- Haz Waste      | <input type="checkbox"/> Facility Walk Through       | <input type="checkbox"/> Tunneling                 |
| <input type="checkbox"/> Construction Mgmt - Non-Haz Waste | <input type="checkbox"/> General Office Work         | <input type="checkbox"/> Welding                   |
| <input type="checkbox"/> Demolition                        | <input type="checkbox"/> Keyboard Work               | <input type="checkbox"/> Wetlands Survey           |
| <input type="checkbox"/> Drilling-Haz Waste                | <input type="checkbox"/> Laboratory                  | <input type="checkbox"/> Working from Heights      |
| <input type="checkbox"/> Drilling-Non Haz Waste            | <input type="checkbox"/> Lead Abatement              | <input type="checkbox"/> Working in Roadways       |
| <input type="checkbox"/> Drum Handling                     | <input type="checkbox"/> Motor Vehicle Operation     | <input type="checkbox"/> WWTP Operation            |
| <input type="checkbox"/> Electrical Work                   | <input type="checkbox"/> Moving Heavy Object         |  |

### **Location of Incident** (Select one)

- Company Premises (JVI Office: \_\_\_\_\_)
- Field (Project #: \_\_\_\_\_ Project/Site Name: \_\_\_\_\_ Client: \_\_\_\_\_)
- In Transit (Traveling from: \_\_\_\_\_ Traveling to: \_\_\_\_\_)
- At Home

### **Geographic Location of Incident** (Select region where the incident occurred)

- |                                    |                                    |   |
|------------------------------------|------------------------------------|---|
| <input type="checkbox"/> Northeast | <input type="checkbox"/> Southwest | <input type="checkbox"/> Asia Pacific       |
| <input type="checkbox"/> Southeast | <input type="checkbox"/> Corporate | <input type="checkbox"/> Europe Middle East |
| <input type="checkbox"/> Northwest | <input type="checkbox"/> Canadian  | <input type="checkbox"/> Latin America      |

If an AGVIQ-CH2MHILL subcontractor was involved in the incident, provide their company name and phone number:

\_\_\_\_\_

Describe the Incident (Provide a brief description of the incident): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### **Injured Employee Data** (Complete for Injury/Illness incidents only)

If AGVIQ-CH2M HILL employee injured

Employee Name: \_\_\_\_\_ Employee Number: \_\_\_\_\_

If AGVIQ-CH2M HILL Subcontractor employee injured

Employee Name: \_\_\_\_\_ Company: \_\_\_\_\_

## Injury Type

- Allergic Reaction
- Amputation
- Asphyxia
- Bruise/Contusion/Abrasion
- Burn (Chemical)
- Burn/Scald (Heat)
- Cancer
- Carpal Tunnel
- Concussion
- Cut/Laceration
- Dermatitis
- Dislocation

- Electric Shock
- Foreign Body in eye
- Fracture
- Freezing/Frost Bite
- Headache
- Hearing Loss
- Heat Exhaustion
- Hernia
- Infection
- Irritation to eye
- Ligament Damage

Multiple (Specify) \_\_\_\_\_

- Muscle Spasms
- Other (Specify) \_\_\_\_\_

- Poisoning (Systemic)
- Puncture
- Radiation Effects
- Strain/Sprain
- Tendonitis
- Wrist Pain

## Part of Body Injured

- Abdomen
- Ankle(s)
- Arms (Multiple)
- Back
- Blood
- Body System
- Buttocks
- Chest/Ribs
- Ear(s)
- Elbow(s)
- Eye(s)
- Face
- Finger(s)

- Foot/Feet
- Hand(s)
- Head
- Hip(s)
- Kidney
- Knee(s)
- Leg(s)
- Liver
- Lower (arms)
- Lower (legs)
- Lung
- Mind

- Multiple (Specify) \_\_\_\_\_
- Neck
- Nervous System
- Nose
- Other (Specify) \_\_\_\_\_

- Reproductive System
- Shoulder(s)
- Throat
- Toe(s)
- Upper Arm(s)
- Upper Leg(s)
- Wrist(s)

## Nature of Injury

- Absorption
- Bite/Sting/Scratch
- Cardio-Vascular/Respiratory System Failure
- Caught In or Between
- Fall (From Elevation)
- Fall (Same Level)
- Ingestion

- Inhalation
- Lifting
- Mental Stress
- Motor Vehicle Accident
- Multiple (Specify) \_\_\_\_\_
- Other (Specify) \_\_\_\_\_

- Overexertion
- Repeated Motion/Pressure
- Rubbed/Abraded
- Shock
- Struck Against
- Struck By
- Work Place Violence

- Initial Diagnosis/Treatment Date: \_\_\_\_\_

## Type of Treatment

- Admission to hospital/medical facility
- Application of bandages
- Cold/Heat Compression/Multiple Treatment
- Cold/Heat Compression/One Treatment
- First Degree Burn Treatment
- Heat Therapy/Multiple treatment
- Multiple (Specify) \_\_\_\_\_

- Heat Therapy/One Treatment
- Non-Prescriptive medicine
- None
- Observation
- Other (Specify) \_\_\_\_\_

- Prescription- Multiple dose
- Prescription- Single dose
- Removal of foreign bodies
- Skin Removal
- Soaking therapy- Multiple Treatment
- Soaking Therapy- One Treatment
- Stitches/Sutures

- Tetanus
- Treatment for infection
- Treatment of 2<sup>nd</sup> /3<sup>rd</sup> degree burns
- Use of Antiseptics - multiple treatment
- Use of Antiseptics - single treatment
- Whirlpool bath therapy/ multiple treatment
- Whirlpool bath therapy/ single treatment
- X-rays negative
- X-rays positive/treatment of fracture

Number of days doctor required employee to be off work: \_\_\_\_\_  
Number of days doctor restricted employee's work activity: \_\_\_\_\_  
Equipment Malfunction: Yes  No  Activity was a Routine Task: Yes  No   
Describe how you may have prevented this injury:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

<u>Physician Information</u>	<u>Hospital Information</u>
Name: _____	Name: _____
Address: _____	Address: _____
City: _____	City: _____
Zip Code: _____	Zip Code: _____
Phone: _____	Phone: _____

**Property Damage** (Complete for Property Damage incidents only)

Property Damaged: \_\_\_\_\_ Property Owner: \_\_\_\_\_  
Damage Description: \_\_\_\_\_  
Estimated Amount: \$ \_\_\_\_\_

**Spill or Release** (Complete for Spill/Release incidents only)

Substance (attach MSDS): \_\_\_\_\_ Estimated Quantity: \_\_\_\_\_  
Facility Name, Address, Phone No.: \_\_\_\_\_

Did the spill/release move off the property where work was performed?:  
\_\_\_\_\_

Spill/Release From: \_\_\_\_\_ Spill/Release To: \_\_\_\_\_

**Environmental/Permit Issue** (Complete for Environmental/Permit Issue incidents only)

Describe Environmental or Permit Issue:  
\_\_\_\_\_

Permit Type:  
\_\_\_\_\_

Permitted Level or Criteria (e.g., discharge limit):  
\_\_\_\_\_

Permit Name and Number (e.g., NPDES No. ST1234):  
\_\_\_\_\_

Substance and Estimated Quantity:  
\_\_\_\_\_

Duration of Permit Exceedance:  
\_\_\_\_\_

**Verbal Notification** (Complete for all incident types)(Provide names, dates and times)

AGVIQ-CH2M HILL Personnel Notified: \_\_\_\_\_  
Client Notified: \_\_\_\_\_

# Root Cause Investigation

This attachment is provided to assist in accessing, completing, and reviewing an incident investigation. It is important to remember the following when conducting an investigation:

Gather relevant facts, focusing on fact-finding, not fault-finding.  
Draw conclusions, pitting facts together into a probable scenario.  
Determine incident root cause(s), the basic causes why an unsafe act/condition existed.  
Develop and implement solutions, matching all identified root causes with solutions.

## **Documentation**

The following should be included in the Incident Report Form (IRF) to document the incident.

## **Description**

Provide a description of the event and the sequence of events and actions that took place prior to the incident. Start with the incident event and work backwards in time through all of the preceding events that directly contributed to the incident. The information should identify why the event took place as well as who was involved, when and where the event took place, and what actions were taken.

## **Cause Analysis**

Using the form and flowchart in this attachment the root cause of the incident will be determined. This form must be retained in the project and/or regional HS&E files.

**Immediate Causes**—List the substandard actions or conditions that directly affected the incident. The following are examples of immediate causes:

***Substandard Actions:*** Operating equipment without authority; failure to warn; failure to secure; operating at improper speed; making safety device inoperable; using defective equipment; failing to use PPE; improper loading; improper lifting; improper position for task; under influence of alcohol or drugs; horseplay.

***Substandard Conditions:*** Exposure to hazardous materials; exposure to extreme temperatures; improper lighting; improper ventilation; congestion; exposure to fire and explosive hazard; defective tools, equipment or materials; exposure to extreme noise; poor ventilation; poor visibility; poor housekeeping.

**Basic Causes**—List the personal and job factors that caused the incident. The following are examples of basic causes:

***Personal Factors:*** Capability; knowledge; skill; stress; motivation.

***Job Factors:*** Abuse or misuse; engineering; maintenance; purchasing; supervision; tools and equipment; wear and tear; work standards.

## **Corrective Action Plan**

Include all corrective actions taken or those that should be taken to prevent recurrence of the incident. Include the specific actions to be taken, the employer and personnel responsible for implementing the actions, and a time frame for completion. Be sure the corrective actions address the causes. For example, training may prevent recurrence of an incident caused by a lack of knowledge, but it may not help an incident caused by improper motivation.

The following are examples of management programs that may be used to control future incidents. These programs should be considered when determining specific corrective actions.

***Management Programs:*** Accident/incident analysis; emergency preparedness; engineering controls; general promotion; group meetings; health control; hiring and placement; leadership and administration; management training; organizational rules; personal protective equipment; planned inspections; program audits; program controls; purchasing controls; task analysis and procedures; task observation.





Describe how this incident may have been prevented:

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Contributing Factors (Describe in detail why incident occurred):

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Date employer notified of incident: \_\_\_\_\_ To whom reported: \_\_\_\_\_

**Witness Information (First Witness)**

Name: \_\_\_\_\_  
Employee Number \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
Zip Code : \_\_\_\_\_  
Phone: \_\_\_\_\_

**Witness Information (Second Witness)**

Name: \_\_\_\_\_  
Employee Number \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
Zip Code : \_\_\_\_\_  
Phone: \_\_\_\_\_

Additional information or comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**A ROOT CAUSE ANALYSIS FORM MUST BE COMPLETED FOR ALL INJURIES AND ILLNESSES OR ACTUAL LOSSES.**

**COMPLETION OF THE ROOT CAUSE ANALYSIS FORM FOR NEAR LOSSES IS OPTIONAL, AT THE DISCRETION OF THE HEALTH AND SAFETY MANAGER.**

## Determination of Root Cause(s)

For losses or near losses the information may be gathered by the supervisor or other personnel immediately following the loss or near loss. Based on the complexity of the situation, this information may be all that is necessary to enable the investigation team to analyze the loss, to determine the root cause, and to develop recommendations. More complex situations may require the investigation team to revisit the loss site or re-interview key witnesses to obtain answers to questions that may arise during the investigation process.

Photographs or videotapes of the scene and damaged equipment should be taken from all sides and from various distances. This point is especially important when the investigation team will not be able to review the loss scene.

The investigation team must use the Root Cause Analysis Flow Chart to assist in identifying the root cause(s) of a loss. Any loss may have one or more “root causes” and “contributing factors”. The “root cause” is the primary or immediate cause of the incident, while a “contributing factor” is a condition or event that contributes to the incident happening, but is not the primary cause of the incident. Root causes and contributing factors that relate to the *person* involved in the loss, his or her peers, or the supervisor should be referred to as “personal factors”. Causes that pertain to the *system* within which the loss or injury occurred should be referred to as “job factors”.

### Personal Factors

1. Lack of skill or knowledge, lack of motivation
5. Correct way takes more time and/or requires more effort
6. Short-cutting standard procedures is positively reinforced or tolerated
7. Person thinks that there is no personal benefit to always doing the job according to standards

### Job Factors

2. Lack of or inadequate operational procedures or work standards.
3. Inadequate communication of expectations regarding procedures or standards
4. Inadequate tools or equipment

### Other

8. Uncontrollable Factors \*

The root cause(s) could be any one or a combination of these seven possibilities or some other “uncontrollable factor”. In the vast majority of losses, the root cause is very much related to one or more of these seven factors. \* **Uncontrollable factors should be used rarely and only after a thorough review eliminates “all” seven other factors.**

# Root Cause Analysis Form

## Root Cause Analysis (RCA)

Root Cause Categories (RCC): Select the RCC numbered below that applies for the root cause (RC) and/or contributing factor (CF) in the first column, then describe the specific root cause and corrective actions in each column.

1. Lack of skill or knowledge
2. Lack of or inadequate operational procedures or work standards
3. Inadequate communication of expectations regarding procedures or work standards
4. Inadequate tools or equipment
5. Correct way takes more time and/or requires more effort
6. Short-cutting standard procedures is positively reinforced or tolerated
7. Person thinks there is no personal benefit to always doing the job according to standards
8. Uncontrollable Factor (Note: Uncontrollable factors should be used rarely and only after a thorough review eliminates "all" seven other factors.)

RCC #	Root Cause(s)	Corrective Actions	RC <sup>1</sup>	CF <sup>2</sup>	Due Date	Completion Date	Date Verified

<sup>1</sup> RC = Root Cause; <sup>2</sup> CF = Contributing Factors (check which applies)

## Investigation Team Members

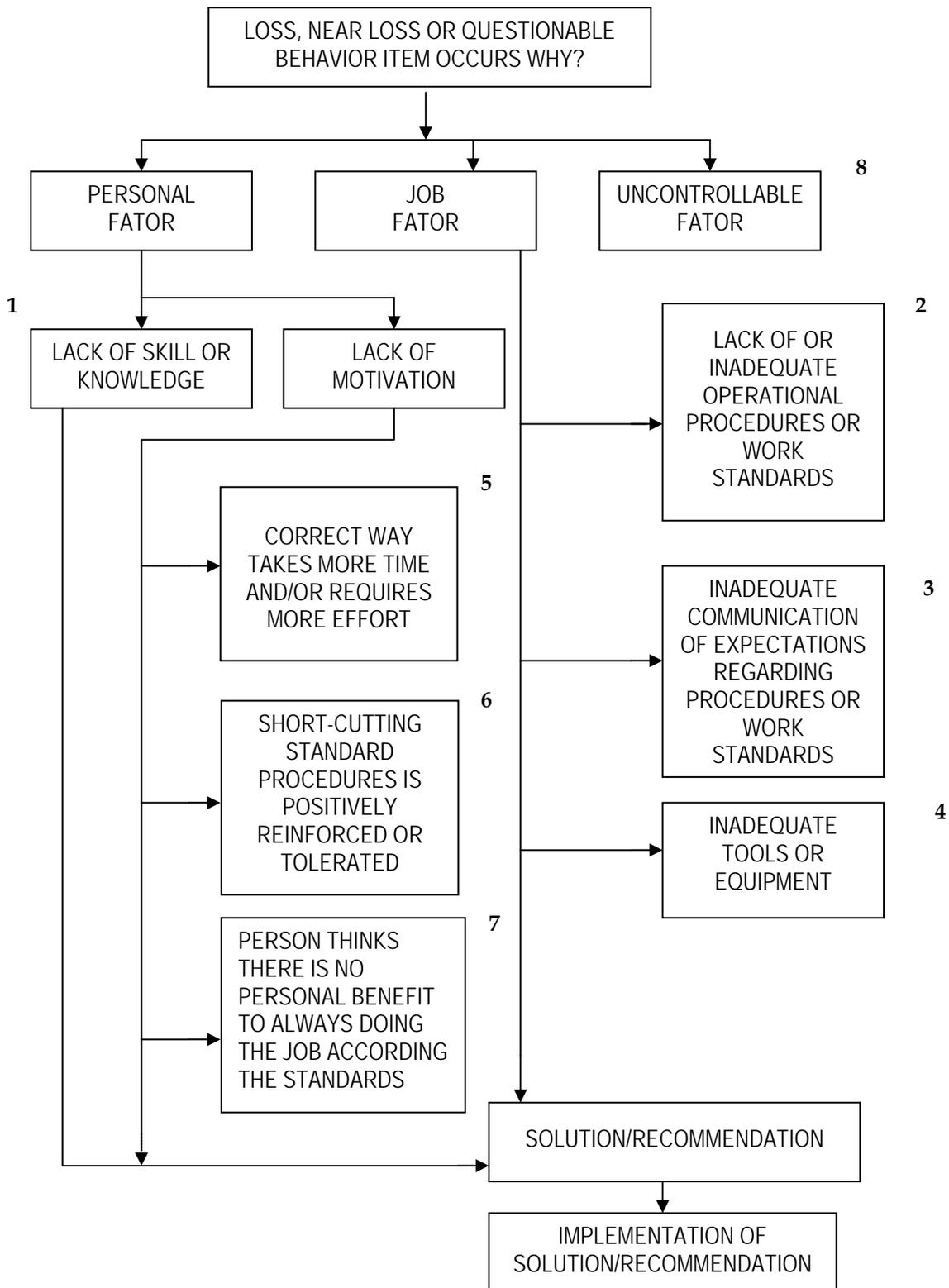
Name	Job Title	Date

## Results of Solution Verification and Validation


## Reviewed By

Name	Job Title	Date

# Root Cause Analysis Flow Chart



## Emergency Nurse Assistance Instructions (CH2M HILL personnel only)

- After informing their supervisor (AGVIQ-CH2M HILL Project Manager and/or AGVIQ-CH2M HILL Deputy Program Manager), the injured employee calls CH2M HILL's contracted Occupational Nurse.
- 24-hour CH2M HILL Emergency Nurse Assistance (1-866-893-2514)
- The Occupational Injury Nurse listens to the injured employee to understand the injury/illness.
- Employee is provided guidance on appropriate treatment options (triage).
- If instructed to visit a medical facility by the Occupational Injury Nurse, the Supervisor is responsible for instructing the injured employee to take a copy of the **CH2M HILL Initial Medical Treatment Form (Attachment 9- For Use by CH2M HILL Personnel Only)** with them to the physician, clinic or hospital.
- Appropriate treatment details are handled by the Occupational Injury Nurse, and Workers Compensation Groups.
- Nurse communicates and troubleshoots with and for employee through full recovery
- Upon any project incident (fire, spill, injury, near miss, death, etc.), immediately notify the AGVIQ-CH2M HILL PM (overall) and AGVIQ-CH2M HILL Program Manager, Project Manager and CIH/HSPA.
- For work-related injuries or illnesses to CH2M HILL personnel, contact and help Human Resources administrator complete a Hours and Incident Tracking System (HITS) Form. HITS must be completed within 24 hours of incident.

For AGVIQ-CH2M HILL subcontractor incidents, complete the IRF, Near Loss Investigation Report and Root Cause Analysis and submit to the AGVIQ-CH2M HILL PM and CIH/HSPA.

*To be completed by CH2M HILL Supervisor – Send with employee visiting medical facility or forward within 24 hours.*

Employee name: \_\_\_\_\_ Date of Injury: \_\_\_\_\_  
 Supervisor: \_\_\_\_\_ HS  
 Representative: \_\_\_\_\_  
 Visit Authorized by: \_\_\_\_\_ Phone #: \_\_\_\_\_

CH2M HILL Workers Compensation Administrator: Cambridge  
 Send Bills to: CH2M HILL  
 Attn: Jennifer Rindahl  
 P.O. Box 22508  
 Denver, Colorado 80222-0508

***To be completed by medical provider:***

Physician's name: \_\_\_\_\_ Phone #: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 CH2M HILL employee: \_\_\_\_\_ has been treated for: \_\_\_\_\_

**It is the policy of CH2M HILL to provide temporary modified duty whenever possible for employees with physical restrictions resulting from an occupational injury or illness.**

Released to full duty

Released to restricted duty only (list restrictions below)

Out of work until \_\_\_\_\_ (date)

Please list any physical restrictions:

\_\_\_\_\_

\_\_\_\_\_

Expected duration of restricted duty?

\_\_\_\_\_

**CH2M HILL would like the best and most efficient care extended to all our employees. Please recommend over-the-counter (OTC) medication as a suitable alternative when medically feasible.**

Prescribed medication: \_\_\_\_\_

Recommended OTC alternative: \_\_\_\_\_

Date of follow-up appointment: \_\_\_\_\_

Physician's signature: \_\_\_\_\_ Date: \_\_\_\_\_

***Please return this form to the injured employee and FAX to Health Resources at 1-800-853-2641. If you want to discuss the employee's work restrictions, please call the person listed in the "Visit Authorized by" field.***

**Attachment 12**  
**Hurricane Preparedness Plan**  

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**(RESERVED)**

# Appendix B

## Quality Control Attachments

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November 11, 2011

Mr. John Towns  
CH2M HILL, Inc.  
1766 Sea Lark Lane  
Navarre, Florida 32566-7472

RE: Contract No. N62470-08-D-1006  
Task Order No. JM35  
Naval Air Station (NAS) Whiting Field – Milton, Florida  
Project Quality Control Manager Letter of Appointment

Dear Mr. Towns:

Herein describes the responsibilities and authority delegated to you in your capacity as the Project QC Manager at NAS Whiting Field, Task Order (TO) No. JM35 under the Navy Atlantic Small Business (SB) RAC Contract No. N62470-08-D-1006.

In this position, you assist and represent the Program QC Manager in continued implementation and enforcement of the Project QC Plans. Your primary role is to ensure all requirements of the contract are met. Consistent with this responsibility, you will: (i) implement the QC program as described in the SB RAC contract; (ii) manage the site-specific QC requirements in accordance with the Project QC Plans; (iii) attend the coordination and mutual understanding meeting; (iv) conduct QC meetings; (v) oversee implementation of the three phases of control; (vi) perform submittal review and approval; (vii) ensure testing is performed; (viii) prepare QC certifications and documentation required in the SB RAC Contract; and, (ix) furnish a Completion Certificate to the Contracting Officer or designated representative, upon completion of work under a contract task order, attesting that “the work has been completed, inspected, and tested, and is in compliance with the contract.”

Your responsibilities further include identifying and reporting quality problems, rejecting nonconforming materials, initiating corrective actions, and recommending solutions for nonconforming activities.

You have the authority to control or stop further processing, delivery, or installation activities until satisfactory disposition and implementation of corrective actions are achieved. You have the authority to direct the correction of non-conforming work. All work requiring corrective action will be documented on daily reports, and, in the event non-conforming work is not immediately corrected you are required to submit a non-conformance report to the PM and copy the Program QC Manager. A status log will be kept of all non-conforming work. You shall immediately notify the Program QC Manager in the event of any stop work order.

It is imperative that you comply with all terms of the basic contract. In particular, Section C, Paragraph 6.5.2, which states:

“No work or testing may be performed unless the QC Program Manager or Project QC Manager is on the work site.”

In the event that you are not able to be at the work site when work or testing is to be performed, it is your responsibility to inform the Program QC Manager and Project Manager, in advance, so that other arrangements can be made.

Further, if you are requested to perform the duties of the Site Supervisor, it is your responsibility to inform the Program QC Manager so that approval can be obtained in advance from the Contracting Officer or designated representative, in accordance with Section C Paragraph 6.6.2.1 of the contract.

You are a key member of the Project Manager’s team. You ensure that work meets the specific requirements and intent of the work plan, the Navy’s scope of work and the basic contract. Should you have any questions regarding this role, you should immediately contact the Program QC Manager, Theresa Rojas. Your day-to-day activities on the site should be coordinated with all site personnel and the Project Manager. In event of any deficient items, the Superintendent and Project Manager should be advised immediately so they have opportunity to remedy the situation.

Sincerely,

CH2M HILL Constructors, Inc.



Michael Halil  
Deputy Program Manager

## Submittal Register

Contract Number: N62470-08-D-1006		TO No.: JM35			TO Title: Site MRP UXO-0001 Soil Removal					Location: NAS Whiting Field, Milton, Florida			Contractor: 			
Spec Section	Item Description	Para. Number	Approving Authority	Other Reviewers	Submittal Number	Scheduled Submission Date	AGVIQ-CH2MHILL Review Date	AGVIQ-CH2MHILL Disposition	AGVIQ-CH2M HILL Transmit Date	QC Admin Received Date	QC Disposition	QC Admin Transmit Date	Contracting Officer Received	Contracting Officer Disposition	Contracting Officer Return	Remarks
	<b>SD- 01 Data</b>															
	SD- Utility Locate Information/Sketch															
	SD- Navy Environmental Data Transfer Standards (NEDTS) Deliverables															
	SD- Dig Permit															
	SD-															
	SD-															
	SD-															
	SD-															
	SD- <b>02 Manufacturer's Catalog Data</b>															
	SD- MSDS Sheets															
	SD-															
	SD-															
	SD-															
	SD-															
	SD-															
	SD-															
	SD-															
	SD-															
	SD- <b>04 Drawings</b>															
	SD- Surveyor Drawings/As-builts															
	SD-															
	SD-															
	SD- <b>10 Test Reports</b>															
	SD- Laboratory Analytical Data															
	SD-															
	SD- <b>13 Certificates</b>															
	SD- Laboratory Accreditation															
	SD- Disposal Facility Permit															
	SD- Transporter Permit															
	SD-															
	SD-															
	SD- <b>18 Records</b>															
	SD- Environmental Protection Plan															
	SD- Waste Management Plan															
	SD- Site Health and Safety Plan															
	SD- Project Work Plan															
	SD- Project Schedule															
	SD- Uniform Federal Policy Sampling and Analysis Plan															
	SD-															
	SD- Contractor and Subcontractor Personnel List															
	SD- Waste Profile															
	SD- Original Waste Manifest															
	SD- Meeting Minutes															
	SD- Site-Specific Project QC Plan															
	SD- Photographic Records and Photo Log															

## Submittal Register

Contract Number: N62470-08-D-1006		TO No.: JM35			TO Title: Site MRP UXO-0001 Soil Removal					Location: NAS Whiting Field, Milton, Florida			Contractor: 			
Spec Section	Item Description	Para. Number	Approving Authority	Other Reviewers	Submittal Number	Scheduled Submission Date	AGVIQ-CH2MHILL Review Date	AGVIQ-CH2MHILL Disposition	AGVIQ-CH2M HILL Transmit Date	QC Admin Received Date	QC Disposition	QC Admin Transmit Date	Contracting Officer Received	Contracting Officer Disposition	Contracting Officer Return	Remarks
SD-	Subcontractor Field Notes															
SD-	Testing Plan and Log															
SD-	Submittal Register															
SD-	Monthly Summary Report of Field Tests															
SD-	Combined Contractor Quality Control Report and Contractor Production Report															
SD-	Rework Items List															
SD-	Living CD															
SD-																
SD-																
SD-	<b>20 Closure Report</b>															
SD-	Project Completion Report															
SD-																





# CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT:

REVISION NO:

REVISION DATE:

CTO NO: JM35	PROJECT NAME/LOCATION: MRP UXO-0001 Soil Removal/NAS Whiting Field	REPORT NO:
PROJECT NO: 411621	SUPERINTENDENT:	SITE H&S SPECIALIST:
AM WEATHER:	PM WEATHER:	MAX TEMP: F MIN TEMP: F

<div style="border: 2px solid black; border-radius: 50%; padding: 10px; width: 80px; margin: 0 auto;"> <b>JOB SAFETY</b> </div>	Was A Job Safety Meeting Held This Date? <input type="checkbox"/> Yes <input type="checkbox"/> No		including Continuation Sheets)
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report) <input type="checkbox"/> Yes <input type="checkbox"/> No		CH2MHILL On-Site Hours
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit) <input type="checkbox"/> Yes <input type="checkbox"/> No		AGVIQ On-Site Hours
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed) <input type="checkbox"/> Yes <input type="checkbox"/> No		Subcontractor On-Site Hours
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action) <input type="checkbox"/> Yes <input type="checkbox"/> No		Cumulative Total of Work Hours From Previous Report
		Total Work Hours From Start of Construction	

**SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED** (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted):

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB				
DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ LOT NUMBER	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.					
EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR

**CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED** (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.):

**VISITORS TO THE SITE:**

**LIST OF ATTACHMENTS** (OSHA report, confined space entry permit, incident reports, etc.):

SAFETY REQUIREMENTS HAVE BEEN MET

SUPERINTENDENT'S SIGNATURE

DATE





# CONTRACTOR QUALITY CONTROL REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

REPORT DATE:  
REVISION NO:  
REVISION DATE:

CTO NO: JM-35

PROJECT NAME/LOCATION: MRP UXO-0001 Soil Removal/NAS Whiting Field

REPORT NO:

PROJECT NO: 411621

PROJECT QC MANAGER:

SITE H&S SPECIALIST:

**SAFETY MEETINGS AND INSPECTIONS**

WAS A SAFETY MEETING HELD THIS DAY?     YES     NO    IF YES, ATTACH SAFETY MEETING MINUTES

WAS CRANE USED ON THE SITE THIS DAY?     YES     NO    IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST

**DEFINABLE FEATURES OF WORK STATUS**

DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WAS PREPARATORY PHASE WORK PERFORMED TODAY?     YES     NO

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.

<b>PREPARATORY</b>	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.	

**INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS**

DFOW No.(from list above)	Phase	Comment/Finding/Action
	Initial <input type="checkbox"/>	
	Follow up <input type="checkbox"/>	
	Initial <input type="checkbox"/>	
	Follow up <input type="checkbox"/>	
	Initial <input type="checkbox"/>	
	Follow up <input type="checkbox"/>	
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	Initial <input type="checkbox"/>	
	Follow up <input type="checkbox"/>	
	Initial <input type="checkbox"/>	
	Follow up <input type="checkbox"/>	

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN





SMALL BUSINESS RAC 	<b>PREPARATORY PHASE REPORT</b>	REPORT NO:	REPORT DATE: REVISION NO: REVISION DATE:	
PROJECT NO: 411621	DEFINABLE FEATURE OF WORK:	SITE/ACTIVITY:		
<b>PERSONNEL PRESENT</b>	NAME	POSITION	COMPANY/GOVERNMENT	
<b>SUBMITTALS</b>	REVIEW SUBMITTALS AND/OR SUBMITTAL REGISTER.	HAVE ALL SUBMITTALS BEEN APPROVED?	YES <input type="checkbox"/> NO <input type="checkbox"/>	
	IF NO, WHAT ITEMS HAVE NOT BEEN SUBMITTED?			
	ARE ALL MATERIALS ON HAND?	YES <input type="checkbox"/> NO <input type="checkbox"/>		
	IF NO, WHAT ITEMS ARE MISSING?			
CHECK APPROVED SUBMITTALS AGAINST DELIVERED MATERIAL. (THIS SHOULD BE DONE AS MATERIAL ARRIVES). COMMENTS:				
<b>MATERIAL STORAGE</b>	ARE MATERIALS STORED PROPERLY?	YES <input type="checkbox"/> NO <input type="checkbox"/>		
	IF NO, WHAT ACTION IS TAKEN?			
<b>SPECIFICATIONS</b>	REVIEW EACH PARAGRAPH OF SPECIFICATIONS.			
	DISCUSS PROCEDURE FOR ACCOMPLISHING THE WORK.			
CLARIFY ANY DIFFERENCES.				
<b>PRELIM WORK &amp; PERMITS</b>	ENSURE PRELIMINARY WORK IS CORRECT AND PERMITS ARE ON FILE.			
	IF NO, WHAT ACTION IS TAKEN?			

SMALL BUSINESS RAC 	<b>PREPARATORY PHASE REPORT</b>	REPORT NO:	REPORT DATE: REVISION NO: REVISION DATE:		
PROJECT NO:	DEFINABLE FEATURE OF WORK:	SITE/ACTIVITY:			
<b>TESTING</b>	IDENTIFY TEST TO BE PERFORMED, FREQUENCY, AND BY WHOM.				
	TEST	FREQUENCY	PERFORMER		
	WHEN REQUIRED?				
	WHERE REQUIRED?				
	REVIEW TESTING PLAN.				
HAVE TEST FACILITIES BEEN APPROVED?					
TEST FACILITY		APPROVED?			
		YES <input type="checkbox"/> NO <input type="checkbox"/>			
		YES <input type="checkbox"/> NO <input type="checkbox"/>			
<b>SAFETY</b>	ACTIVITY HAZARD ANALYSIS APPROVED? YES <input type="checkbox"/> NO <input type="checkbox"/>				
	REVIEW APPLICABLE PORTION OF EM 385-1-1 AND AHA.				
<b>MEETING COMMENTS</b>	NAVY/ROICC COMMENTS DURING MEETING.				
<b>OTHER ITEMS OR REMARKS</b>	OTHER ITEMS OR REMARKS:				
QC REPRESENTATIVE'S NAME		QC REPRESENTATIVE'S SIGNATURE			DATE

