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HEALTH AND SAFETY PLAN RESOURCE CONSERVATION AND RECOVERY ACT
CLOSURE OF BUILDINGS 1973, 2009, 2009A, 2009B, 2009C AND 2009D DEFENSE
REUTILIZATION AND MARKETING OFFICE NAVAL ACTIVITY PUERTO RICO
5/1/2004
AGVIQ/CH2M HILL

**Health and Safety Plan
for
Naval Activity Puerto Rico**

**RCRA Closure of Buildings 1973, 2009, & 2009A through 2009D
Defense Reutilization and Marketing Office
U. S. Naval Activity Puerto Rico**

Prepared for:

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Contents

1. Introduction	1-1
1.1 Base Background	1-1
1.1.1 Building 1973	1-1
1.1.2 Building 2009	1-2
1.1.3 Building 2009A	1-2
1.1.4 Buildings 2009B, C, and D	1-2
1.2 Objectives and Scope of Work	1-3
1.3 Project Safety Responsibilities	1-1
1.4 Key Safety Personnel	1-1
2. Project Hazard Analysis	2-1
2.1 Chemical Hazards	2-1
2.2 Hazard Communication	2-2
2.2.1 Container Labeling	2-2
2.2.2 Material Safety Data Sheets (MSDSs)	2-2
2.2.3 Employee Information and Training	2-3
2.3 Physical Hazards	2-3
2.4 Activity Hazard Analyses	2-4
3. Work and Support Areas	3-1
4. Protective Equipment	4-1
4.1 Anticipated Protection Levels	4-1
4.2 Protection Level Descriptions	4-1
4.2.1 Level D	4-2
4.2.2 Modified Level D	4-2
4.2.3 Level C	4-2
4.3 Air Purifying Respirators	4-2
5. Decontamination Procedures	5-1
5.1 Personnel Decontamination	5-1
5.1.1 Suspected Contamination	5-1
5.1.2 Personal Hygiene	5-1
5.2 Equipment Decontamination	5-1
5.3 Disposal	5-1
6. Air Monitoring	6-1
6.1 Confined Space Air Monitoring	6-1
6.1.1 Direct Reading Air Monitoring	6-1
6.2 Instrumentation	6-1
6.2.1 Real-Time Aerosol Monitor (Miniram Model PDM-3 and Model Pr100 Data Ram)	6-2
6.2.2 Photoionization Detector (PID)	6-2
6.3 Air Monitoring Log	6-3

6.4	Calibration Requirements	6-3
6.5	Air Monitoring Results	6-3
7.	Emergency Response	7-1
7.1	Pre-emergency Planning	7-1
7.2	Emergency Recognition and Prevention.....	7-1
	7.3.1 Responsibilities and Duties	7-2
	7.3.2 On-Site Emergency Coordinator Duties	7-2
7.4	Safe Distances and Places of Refuge	7-5
7.5	Evacuation Routes and Procedures	7-5
	7.5.1 Evacuation Signals and Routes	7-6
	7.5.2 Evacuation Procedures.....	7-6
7.6	Emergency Spill Response Procedures and Equipment	7-7
	7.6.1 Notification Procedures	7-8
	7.6.2 Procedure for Containing/Collecting Spills	7-8
	7.6.3 Emergency Response Equipment	7-9
	7.6.4 Emergency Spill Response Clean-Up Materials and Equipment.....	7-10
7.7	Emergency Response Contingency Plan.....	7-10
	7.7.1 Medical Emergency Contingency Measures.....	7-10
	7.7.2 Fire Contingency Measures	7-11
	7.7.3 Hazardous Weather Contingency Measures	7-12
	7.7.4 Spill/Release Contingency Measures	7-13
8.	Training Requirements	8-1
9.	Medical Surveillance Program.....	9-1

Appendices

- A Activity Hazard Analyses
- B Site-Specific Accident Prevention Plan
- C Hurricane Preparedness Plan
- D Material Safety Data Sheets (MSDS)

Tables

- 7-1 Emergency Telephone Numbers

Exhibits

- 1-1 Site Location Map
- 1-2 Vicinity Map
- 7-1 Hospital Route Map
- 7-2 Emergency Coordinator Organization Chart

SECTION 1

Introduction

AGVIQ-CH2M HILL Joint Venture I (JV I) has been contracted by the United States Navy, Atlantic Division, Naval Facilities Engineering Command (LANTDIV NAVFACENGCOM) to provide Resource Conservation and Recovery Act (RCRA) closure services for the Defense Reutilization and Marketing Office (DRMO) facility at Naval Activity Puerto Rico (NAPR), formerly Naval Station Roosevelt Roads (NSRR). The specific RCRA closure services include decontamination of hazardous waste storage facilities, sampling and analysis, and, if required, remediation of contaminated concrete surfaces and soil. The specific DRMO facilities that are subject to the RCRA closure actions are Buildings 1973, 2009, and 2009A, B, C, and D. This work will be performed under the terms and conditions of the existing JV I contract number N62470-03-D-4401, Task Order 025.

1.1 Base Background

The NSRR RCRA Part B Permit was in the process of being renewed. However, due to the NSRR closure and NAPR transfer, NSRR withdrew its permit renewal request and the 1994 permit is in effect. Closure of the permitted buildings (Buildings 1973, 2009, 2009A, 2009B, 2009C, 2009D) is scheduled for May 2004.

1.1.1 Building 1973

Building 1973 consists of a one-story warehouse building constructed of concrete block with a concrete slab floor. The building contains administrative offices, a non-hazardous waste storage area, and a hazardous waste storage area. The total area of Building 1973 is 11,150 square feet (sf), and the hazardous waste storage area occupies 2,400 sf.

The hazardous waste storage area (or conforming area) is located on the south side of the building is secured with a locked gate and isolated from administrative offices and non-hazardous waste storage areas in the front (or north side) of the building. It includes four storage bays for acids, caustics, general toxics, and oxidizers. It also includes a reactive waste storage room.

The conforming area is separated from the rest of the building by concrete block walls extending to the roof, and the storage bays for acids, caustics, general toxics, and oxidizers are separated from each other by 8-foot (ft) high concrete block walls. The reactive waste storage area is an enclosed room with the walls extending to the roof.

The bays and the reactive waste room each have their own spill containment structure consisting of a concrete sump along the entrance to each bay and along the inside of the doorway leading into the reactive waste storage room. The sumps are covered with removable steel grates, and are self-contained with no outlet pipes. The floor in each bay/room slopes 0.25 inches per ft toward the floor sump to collect potential waste spills and leaks for subsequent removal and disposal. The surface of the floor and sumps in the entire hazardous waste storage

area is coated with an epoxy sealant to prevent potential releases of hazardous wastes from soaking into the underlying concrete.

Metal racks are located along the sides of each bay and in the reactive waste storage room, and were used to store hazardous waste containers. No hazardous wastes are currently stored in Building 1973.

1.1.2 Building 2009

Building 2009 consists of a 1-story building constructed with a concrete slab floor and corrugated metal walls. The building contains a sump in the center with drum storage space against the interior walls. Building 2009 occupies 360 square feet (sf) in one continuous open area.

Building 2009 was constructed and designated for the storage of ignitable hazardous wastes in containers. The structure conforms to the standards required for storage of hazardous wastes in containers. The building is equipped with a spill containment structure, consisting of concrete curbing around its perimeter and a floor sump, covered by a steel grate. The floor in the building slopes toward the sump so that any spills or leaks are collected in the sump. The sump is fully contained with no outlet pipes. The floor and sump are coated with an epoxy sealant to protect the concrete surface. Expansion joints were constructed in the floor slab to minimize cracking and the floor joints have been filled with a weatherproofing epoxy sealant. The floor joints are not evident as they are covered with the epoxy coating.

Hazardous waste containers were stored either on pallets or directly on the floor surface in Building 2009. No hazardous wastes are currently stored in Building 2009.

1.1.3 Building 2009A

Building 2009A is prefabricated, portable storage building constructed of heavy gauge steel. The building rests on concrete pavement adjacent to the western side of Building 2009. The floor of the structure consists of metal grating equipped with secondary containment beneath the grating. Building 2009A is 198 sf in size and is separated into three compartments with three exterior doors on one side of the building.

Building 2009A was designed for the storage of containerized ignitable hazardous waste. The structure conforms to the standards required for storage of hazardous wastes in containers. The drums were stored without pallets directly on the metal grate. This configuration allowed for a maximum equivalent storage capacity of 24 55-gallon drums of ignitable wastes. The drums were stacked single height along the walls. Spill containment was provided by an 830-gallon sump located beneath the grating floor. The sump is fully contained with no outlet pipes.

No hazardous wastes are currently stored in Building 2009A.

1.1.4 Buildings 2009B, C, and D

Buildings 2009B, C, and D are prefabricated, portable storage buildings constructed of heavy gauge steel. The buildings rest on concrete supports adjacent to the eastern side of Building 2009 and are surrounded by unpaved, gravel areas with patches of grass. Buildings 2009B, C, and D are each 67 sf in size with one exterior door on one side of the building. The floors of the buildings consist of metal grating equipped with secondary containment beneath the grating.

Buildings 2009B, C, and D were designed for the storage of containerized ignitable hazardous waste. The structures conform to the standards required for storage of hazardous wastes in containers. The drums were stored without pallets directly on the metal grate. This configuration allowed for a maximum equivalent storage capacity of 495 gallons of ignitable wastes (or nine 55-gallon drums) in each building. The drums were stacked single height along the walls. Spill containment was provided by a 175-gallon sump located beneath each grating floor. The sumps are fully contained with no outlet pipes.

No hazardous wastes are currently being stored in Buildings 2009B, C, and D.

See Exhibit 1-1 For the Site Location Map and Exhibit 1-2 for the Site Vicinity Map.

1.2 Objectives and Scope of Work

JV I will provide all labor, equipment, and materials required to complete the activities pursuant to the RCRA closure of the permitted hazardous waste storage facility at NSRR (Buildings 1973, 2009, 2009A, 2009B, 2009C, 2009D to be referred to as “the permitted buildings”) in accordance with the approved Closure Plan included in the RCRA Part B permit and Statement of Work. This will be phased, initially starting with preparation of the Health & Safety Plan; additional work related to RCRA closure of these sites will be facilitated via modification to this delivery order.

The work includes all labor, supervision, tools, materials, equipment, and transportation required to perform/provide such tasks as:

- Decontamination of hazardous waste storage areas/buildings
- Collection of wipe, concrete core, and soil samples for laboratory analysis
- Demolition of Buildings 2009B, C, and D
- Removal of contaminated concrete (if required) and replacement of concrete
- Excavation and removal of contaminated soil (if required), and backfill of excavated areas
- Transport of wastes to 90-day waste storage facility on NAPR (as designated by Navy)
- Site restoration

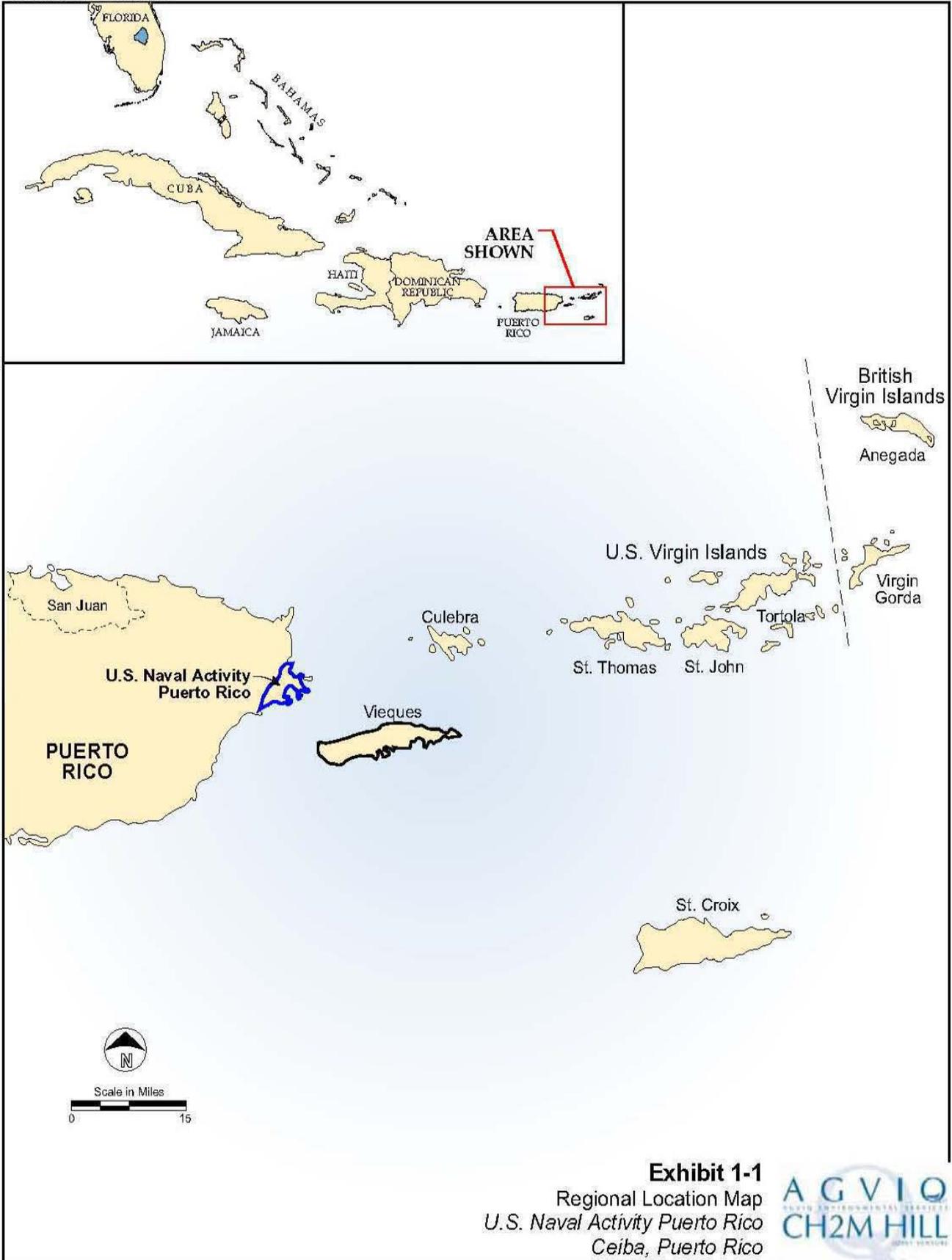
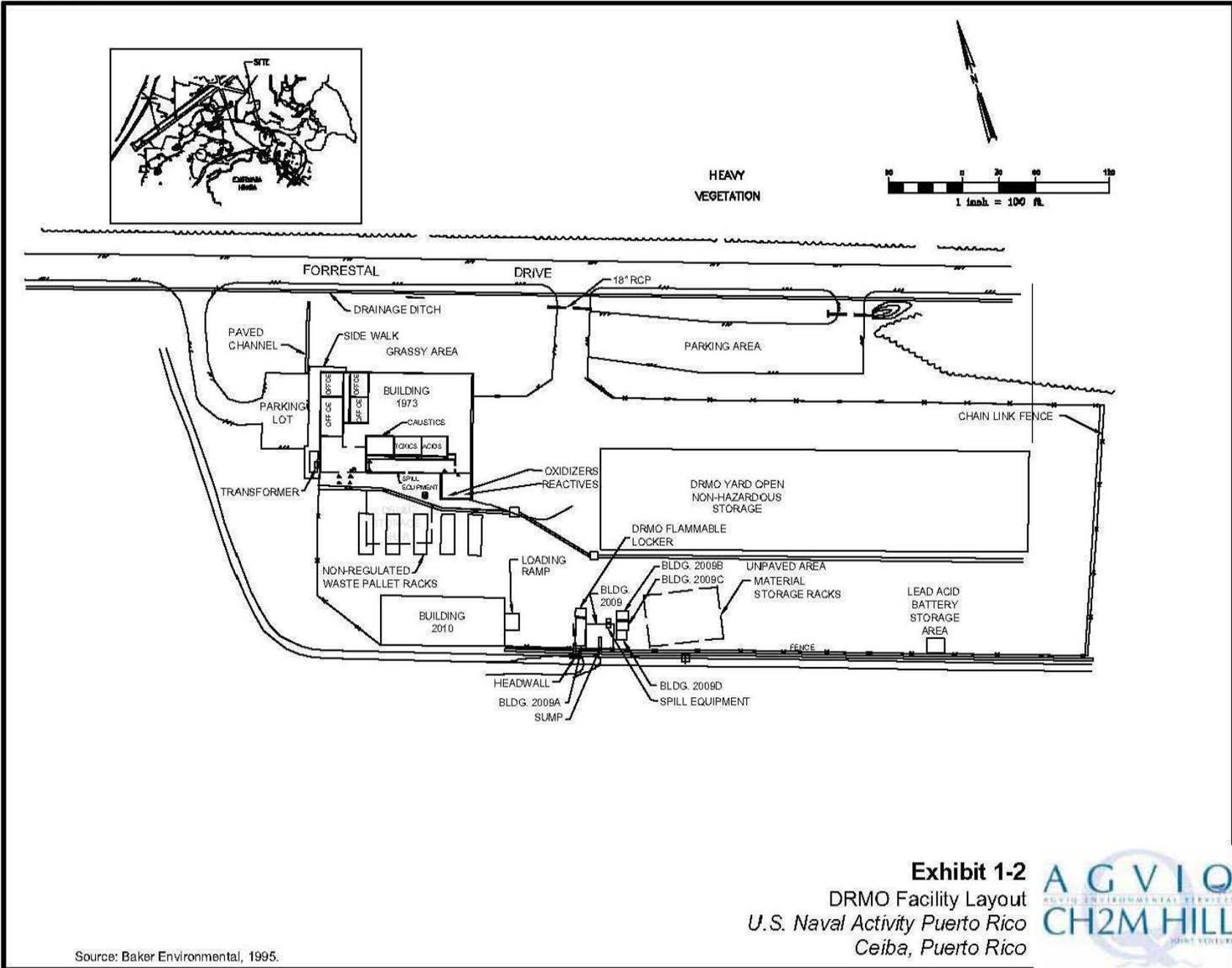


Exhibit 1-1
Regional Location Map
U.S. Naval Activity Puerto Rico
Ceiba, Puerto Rico





Source: Baker Environmental, 1995.



1.3 Project Safety Responsibilities

The Project Manager (PM) has the overall responsibility for this project and will assure that the requirements of the contract are attained in a manner consistent with this Health and Safety Plan (HASP) and other contract specific requirements. The PM will coordinate with the Site Safety Officer (SSO) to assure that the work is completed in a manner consistent with the HASP. The SSO will be the main contact in any on-site emergency situation and will insure off-site emergency agencies have been contacted prior to the start of work. The Certified Industrial Hygienist (CIH) and/or the Corporate Operations Officer (COM) are responsible for formulating and reviewing the HASP and ensuring that the HASP is complete and accurate. The CIH and/or the COM also provide technical and administrative support for the Naval Activity Health and Safety Program and will be available for consultation when required. Each employee is responsible for personal safety as well as the safety of others in the work area.

1.4 Key Safety Personnel

The following individuals share responsibility for health and safety at the site:

Project Manager	Russ Bowen 813-874-0777
Project Superintendent/Site Safety Officer	TBD
Quality Control Representative	TBD

SECTION 2

Project Hazard Analysis

This section outlines the potential chemical and physical hazards, which workers may be exposed to during work on this project. The assessment of hazards in this section is based on the information provided in the work plan. Some of the anticipated hazards would include heavy equipment operations, high ambient temperature, and insects. A list of chemicals, which may be brought to the site for which an MSDS is necessary, is included in Appendix C of this HASP and will be updated as new materials are brought to site.

2.1 Chemical Hazards

Work activities involve potential exposure to the following waste types: diesel fuel contaminated with silver; gasoline; kerosene; aviation fuel; petroleum distillates; mineral spirits; Otto fuel containing cyanide; paint remover (containing phenol); corrosive liquids containing chromium and mercury; and solid wastes containing cadmium, lead, lithium, and silver. Exposure to these chemicals may occur during building decontamination, concrete and soil sampling, and possible concrete and/or soil removal activities. Exposure hazards and appropriate protection will be addressed as part of the JVI Hazard Communication Program HS060. The table below lists potential contaminants; a more complete list of the individual constituents can be found in Exhibit 3-1 of the Sampling and Analysis Plans.

Chemical	Exposure Routes	PEL	Health Hazards
Petroleum hydrocarbons (Fuel Oils)	Skin, eye, inhalation, ingestion	5mg/m ³ (mineral oil mist)	Irritating to skin, eyes, respiratory tract; headache, dizziness, nausea, vomiting and loss of coordination; an acne like rash, pimples around hair follicles; ingredients of fuel oils may be carcinogens Incompatible with strong oxidizing agents; thermal decomposition releases, toxic gases
Metals (e.g., Lead)	Inhalation, ingestion	0.050 mg/m ³	Weakness, insomnia; loss of appetite, loss of weight, abdominal pain; anemia; tremors; weakness of wrists/ankles; kidney damage; low blood pressure Incompatible with strong oxidizers, hydrogen peroxide and acids
Silver	Inhalation, Ingestion	0.01mg/m ³	Blue-grey eyes, skin irritation Incompatible with ammonia, hydrogen peroxide and acids
Cyanide	Inhalation, Ingestion Absorption	5 mg/m ³	Weakness, vomiting, confusion, asphyxiation and death can occur Incompatible with strong oxidizers, such as acids

Chemical	Exposure Routes	PEL	Health Hazards
Benzene	Inhalation, absorption, Contact	3.25mg/m ³	Irritates eyes, nose, respiratory system, nausea Incompatible with strong oxidizers, many fluorides.
TCE	Inhalation, ingestion, contact	1080mg/m ³	Tremors, vomiting, visual distortion, cardiac arrhythmia Incompatible with strong caustics & alkalis, barium, lithium, sodium
Phenols	Inhalation, absorption, ingestion	19mg/m ³	Irritates eyes, nose and throat: muscle ache, tremors Incompatible with strong oxidizers,
Mercury	Inhalation, absorption, contact	0.01mg/m ³	Vision/hearing distorted, dizzy, nausea, vomiting Incompatible with strong oxidizers such as chlorine

The following general symptoms may indicate exposure to a hazardous chemical. Personnel will be removed from the work site and provided immediate medical attention if the following symptoms occur:

- Dizziness or stupor
- Nausea, headaches, or cramps
- Irritation of the eyes, nose, or throat
- Euphoria
- Chest pains and coughing
- Rashes or burns

2.2 Hazard Communication

The purpose of hazard communication (Employee Right-to-Know) is to ensure that the hazards of all chemicals located at this field project site are transmitted (communicated) according to 29 CFR 1926.59 to all JVI personnel and JVI subcontractors. Hazard communication will include the following:

2.2.1 Container Labeling

JVI personnel will ensure that all drums and containers are labeled according to contents. These drums and containers will include those from manufacturers and those produced on site by operations. All incoming and outgoing labels shall be checked for identity, hazard warning, and name and address of responsible party.

2.2.2 Material Safety Data Sheets (MSDSs)

There will be an MSDS located on site for each hazardous chemical to be used on site. All chemical MSDSs will be appended into Appendix D of this HASP.

2.2.3 Employee Information and Training

Training employees on chemical hazards is accomplished through an ongoing corporate training program. Additionally, chemical hazards are communicated to employees through daily safety meetings held at JVI field projects and by an initial site orientation program.

At a minimum, JVI and related subcontractor employees will be instructed on the following:

- Chemicals and their hazards in the work area
- How to prevent exposure to these hazardous chemicals
- What the company has done to prevent workers' exposure to these chemicals
- Procedures to follow if they are exposed to these chemicals
- How to read and interpret labels and MSDSs for hazardous substances found on JVI sites
- Emergency spill procedures
- Proper storage and labeling

Before any new hazardous chemical is introduced on site, each JVI and associated subcontractor employee will be given information in the same manner as during the safety class. The site supervisor will be responsible for seeing that the MSDS on the new chemical is available for review by on-site personnel. The information pertinent to the chemical hazards will be communicated to project personnel.

Morning safety meetings will be held and the hazardous materials used on site will be discussed. Attendance is mandatory for all on-site employees.

Refer to Appendix C of the site safety plan to find a list of hazardous chemicals anticipated to be brought to the site.

2.3 Physical Hazards

To minimize physical hazards, JVI has developed standard safety protocols that will be followed at all times. Failure to follow safety protocols will result in removal of an employee from the site and appropriate disciplinary actions.

The Site Safety Officer (SSO) will observe the general work practices of each crew member and equipment operator, and enforce safe procedures. The SSO and crew leaders will inspect work areas daily. All hazards will be corrected in a timely manner. A variety of physical hazards may be encountered during work activities at this site. Activity Hazard Analyses (AHAs) will be developed for each principal activity and will identify all major hazards to which employees may be exposed. Hard hats, safety glasses, and steel-toe safety boots are required in all construction areas of the site. Site-specific hazards and all necessary precautions will be discussed at the daily tailgate safety meetings.

Physical hazards include safety and environmental hazards. The following physical hazards may be present during project activities:

- Heat stress
- Explosion
- Biological hazards (ticks, mosquitoes, bees)
- Severe weather (hurricane season)

- Manual lifting/back strain
- Noise
- Fire
- Electrical shock
- Vehicle/equipment traffic
- Excavation hazards
- Heavy equipment operation

Heat stress prevention procedures will be implemented according to the appropriate JVI procedure. Personal noise will be controlled by instituting the Hearing Conservation Program in accordance with JVI procedures.

2.4 Activity Hazard Analyses

Appendix A of this HASP contains AHA's for primary site tasks. These pre-mobilization AHA's are general in nature and must be made project specific by the PM and SSO prior to field work involving each task. They contain detailed information on site hazards, and provide control measures for these hazards. The AHA's will be field checked by the SSO on an ongoing basis and revised as necessary. All revisions will be communicated to the work crew.

SECTION 3

Work and Support Areas

Work areas will be delineated and controlled as per 29 CFR 1926 for construction sites, EM 385-1-1.

A log of all personnel visiting, entering or working on the site shall be maintained in the JVI field office location. No visitor will be allowed in the active site areas without authorization and escort. Visitors will attend a site orientation given by the SSO and sign the Safety Plan Acknowledgement in Appendix C.

The following are standard safe work practices that apply to all site personnel and will be discussed in the safety briefing prior to initiating work on the site:

- Eating, chewing tobacco, smoking are prohibited in any active work area unless otherwise designated by the SSO.
- Hands must be washed upon leaving the Work Area and before eating, chewing tobacco, and smoking.
- A buddy system will be used. Hand signals will be established to maintain communication.
- During site operations, each worker will consider himself as a safety backup to their partner. Off-site personnel provide emergency assistance.
- Visual contact will be maintained between buddies on site when performing hazardous duties.
- No personnel will be admitted to the site without proper authorization from JVI or the owner.
- All personnel must comply with established safety procedures. Any staff member who does not comply with safety policy, as established by the SSO, will be immediately dismissed from the site.
- Proper decontamination procedures, when required, must be followed before any equipment leaves the site.
- All employees and visitors must sign in and out of the site.

SECTION 4

Protective Equipment

This section specifies the levels of personal protective equipment (PPE) which are or may be required for each principal activity performed at this site. All site personnel must be trained in the use of all PPE utilized. The PPE program will be applied to project activities.

4.1 Anticipated Protection Levels

The following protection levels have been established for the site work activities at DRMO, Naval Activity Puerto Rico. Tape barriers/insect repellent or PPE, where prescribed, will be used as a deterrent to exposure to biting insects. Results of site air monitoring (for confined space entry) and visual inspection of the work activities may indicate the need for changes in PPE level(s).

Task	Initial PPE Level	Upgrade PPE Level	Skin Protection	Respiratory Protection	Other PPE
Site Setup Building Washing/Rinsing Soil Excavation Concrete Demolition	Level D		Generally none; Some activities may require Tyvek coveralls to prevent incidental contact with insects / poison ivy.	None	Hard-hat, steel-toe work boots, safety eyewear (safety glasses with side shields or goggles and face shield), leather work gloves and hearing protection >85 dBA
Soils Load –out Concrete-Load Out	Level D		None	None	Hard-hat, steel-toe work boots, safety eyewear (safety glasses with side shields, goggles, or face shields for chain saw work), hearing protection > 85 dBA
Equipment Decontamination	Level D+	Level C	PVC rain-suit and splash shield for pressure washing operations.	None	Hard-hat, steel-toe work boots latex gloves, latex boots and hearing protection > 85 dBA
General Site Activities	Level D		None	None	Hard-hat, steel-toe work boots, leather work gloves, safety glasses

4.2 Protection Level Descriptions

This section lists the minimum requirements for each protection level. Modification to these requirements may have been noted above.

4.2.1 Level D

Level D consists of the following:

- Safety glasses with side shields
- Hard hat
- Steel-toed work boots
- Work clothing as prescribed by weather
- Leather gloves

4.2.2 Modified Level D

Modified Level D consists of the following:

- Safety glasses with side shields
- Hard hat
- Steel-toed work boots
- Nitrile, neoprene, latex or PVC overboots
- Outer nitrile, neoprene, or PVC gloves over latex sample gloves
- Face shield (when projectiles or splashes pose a hazard)
- Tyvek coverall [Polyethylene-coated Tyveks required when workers have a potential to be exposed to contaminated liquids or sludge.]

4.2.3 Level C

Level C consists of the following:

- Full-face, half face, or powered air-purifying respirator with appropriate cartridges
- Hooded Tyvek Coveralls [Polyethylene-coated Tyveks required when workers have a potential to be exposed to contaminated liquids or sludge].
- Hard hat
- Steel-toed work boots
- Nitrile, neoprene, latex or PVC overboots
- Nitrile, neoprene, or PVC gloves over latex sample gloves
- Face shield (when projectiles or splashes pose a hazard)

4.3 Air Purifying Respirators

A NIOSH approved full-face respirator with appropriate air purifying cartridges will be used for level C work. The crew members working in Level C will wear respirators equipped with air-purifying cartridges approved for: dusts, fumes and mists with a TWA <0.05 mg/m³.

SECTION 5

Decontamination Procedures

This section describes the general decontamination procedures necessary to ensure that both personnel and equipment are free from contamination when they leave the work site.

5.1 Personnel Decontamination

Decontamination procedures will ensure that materials which workers or vehicles may have contacted in site work are not transmitted off site. General decontamination will consist of removing and discarding of disposable clothing and washing of the hands and face.

5.1.1 Suspected Contamination

Any employee suspected of sustaining skin contact with chemical materials will first use an emergency shower. Following a thorough drenching, the worker will proceed to an established decontamination facility. Here the worker will remove clothing, shower, don clean clothing, and immediately be taken to the first aid station. Medical attention will be provided as determined by the degree of injury.

5.1.2 Personal Hygiene

Before any eating, smoking, or drinking, personnel will wash hands, arms, neck and face.

5.2 Equipment Decontamination

All equipment, when required, will be decontaminated before leaving the site. Decontamination procedures will vary depending upon the contaminant involved, but may include hosing, or steaming the exterior of the equipment. Personnel performing this task will wear the proper PPE as prescribed by the Site Safety Officer (SSO).

5.3 Disposal

All decontamination liquids and disposable clothing that are contaminated with chemical materials (e.g., motor fuels/gasoline) will be handled as contaminated waste unless determined otherwise by accepted testing methods. Hazardous wastes generated will be disposed of according to Commonwealth and federal regulations.

SECTION 6

Air Monitoring

Air monitoring will be conducted in order to characterize potential personnel exposures during confined space entry procedures.

6.1 Confined Space Air Monitoring

Air monitoring at DRMO, NAPR is not anticipated to be required nor implemented based on historical information and analytical data. In the event an air monitoring program is required, the following section would apply.

6.1.1 Direct Reading Air Monitoring

During soil stabilization, excavation and load-out activities, direct reading air monitoring shall be performed to determine potential exposure to workers. A summary of air monitoring information is provided in the table below.

Monitoring Device	Monitoring Location/Personnel	Monitoring Frequency	Action Level	Action
Mini-RAM (total dust)	TBD	continuous during Soil excavation and load-out activities	<0.025 mg/m ³ (TWA)	Level D
			0.025 mg/m ³	Level C
			2.5 mg/m ³ (TWA)	Stop work, consult Project CIH
			>2.5mg/m ³ (TWA)	
PID	TBD	Periodically during Soil excavation and load-out activities	<10ppm	Level D
			≥10 ppm; <25 ppm*	Level C; consult Program HSM/CIH
			≥2.5 ppm	Level B; stop work consult Program HSM/CIH

*Sustained levels above background for 5 minutes.

6.2 Instrumentation

The following is a description of the direct reading air monitoring equipment to be used at this site.

6.2.1 Real-Time Aerosol Monitor (Miniram Model PDM-3 and Model Pr100 Data Ram)

6.2.1.1 Type and Operational Aspects

- Detection of light in the near infrared region back-scattered to a sensor (photovoltaic detector) by airborne particulate in a sensing volume
- The higher the dust concentration the more back-scattering of light to the sensor, resulting in increased readings
- Device calibrated at the factory against an air sampling filter/gravimetric analysis reference method

6.2.1.2 Calibration Methods/Frequencies

There is no calibration method or procedure for calibrating the Mini-RAM monitor. However, it is recommended that the Mini-RAM monitor be re-zeroed once a week. During a zero check, the sampled air passes through the purge air filter and dryer to effect a self-cleaning of the optical chamber.

6.2.1.3 Preventative Maintenance

Maintenance of the Mini-RAM consists of replacement of filters and desiccant; battery replacement; and cleaning of the optical detection assembly.

6.2.2 Photoionization Detector (PID)

6.2.2.1 Type and Operational Aspects

PID Model PI 101 or equivalent

Principle of Operation

- Ionization potential (IP) - The energy required to remove the outermost electron from a molecule; measured in electron volts (eV); characteristic property of a specific chemical.
- Photoionization - Using ultraviolet (UV) light to remove the outermost electron from a molecule.
- Energy of UV light (10.2, 9.5, 11.7 eV) must be equal to or greater than the IP to photoionize the molecule.
- Fan or pump is used to draw air into the detector where the contaminants are exposed to a UV light source (lamp).
- Ions are collected on a charged plate and produce a current directly proportional to the number of ionized molecules; current is amplified and displayed on the meter.

6.2.2.2 Calibration Method/Frequencies

The PID Model PI 101 is designed for trace gas analysis in ambient air and is calibrated at HNU with certified standards of benzene, vinyl chloride, and isobutylene. Other optional calibrations are available (e.g., ammonia, H₂S, etc.).

JVI will use a PID with a 10.2 eV lamp. This lamp has been determined to be most responsive to the contaminants on site. Optional probes containing lamps of 9.5 and 11.7 eV are interchangeable in use within individual read-out assemblies for different applications.

The approximate span settings for the probe that would give different readings of the amounts of trace gas of a particular species in a sample are based upon the relative photoionization sensitivities of various gases twice daily (beginning and end of shift).

It is recommended that calibration be checked twice each day (beginning and end of shift). The SSO will record and log such calibration information into an air monitoring notebook.

6.2.2.3 Preventative Maintenance

Maintenance of the PID Model PI 101 consists of cleaning the lamp and ion chamber, and replacement of the lamp or other component parts or sub-assemblies.

6.3 Air Monitoring Log

The SSO will ensure that all air monitoring data is logged into a monitoring notebook. Data will include instrument used, wind direction, work process, etc. The COM and/or the CIH may periodically review this data.

6.4 Calibration Requirements

The LEL/02 and PID will be calibrated daily before and after use. A separate log will be kept detailing date, time, span gas, or other standard, and name of person performing the calibration.

6.5 Air Monitoring Results

Air monitoring results will be posted for personnel inspection, and will be discussed during morning safety meetings. Air sampling results will be forwarded to the COM to be incorporated into the employee(s)' medical records.

Emergency Response

7.1 Pre-emergency Planning

Prior to engaging in construction activities at the site, JV I will plan for possible emergencies and have available adequate supplies and manpower to respond. The nearest hospital is San Pablo del Este located in Fajardo, PR. The hospital map and directions are found in Exhibit 7-1. In addition, site personnel will receive training during the site orientation concerning proper emergency response procedures.

The following situations would warrant implementation of the Emergency Response and Contingency Plan (ERCP) summarized here in Section 7.

Fire/Explosion	<p>The potential for human injury exists.</p> <p>Toxic fumes or vapors are released.</p> <p>The fire could spread on site or off site and possibly ignite other flammable materials or cause heat-induced explosions.</p> <p>The use of water and/or chemical fire suppressants could result in contaminated run-off.</p> <p>An imminent danger of explosion exists.</p>
Spill or Release of Hazardous Materials	<p>The spill could result in the release of flammable liquids or vapors, thus causing a fire or gas explosion hazard.</p> <p>The spill could cause the release of toxic liquids or fumes in sufficient quantities or in a manner that is hazardous to or could endanger human health.</p>
Natural Disaster	<p>A rainstorm exceeds the flash flood level.</p> <p>The facility is in a projected hurricane path or a hurricane has damaged facility property (see Appendix E)</p> <p>Severe wind gusts are forecasted or have occurred and have caused damage to the facility</p>
Medical Emergency	<p>Overexposure to hazardous materials.</p> <p>Trauma injuries (broken bones, severe lacerations/bleeding, burns).</p> <p>Eye/skin contact with hazardous materials.</p> <p>Loss of consciousness.</p> <p>Heat stress (Heat stroke).</p> <p>Heart attack.</p> <p>Respiratory failure.</p> <p>Allergic reaction.</p>

Emergency Directions for Naval Activity, Puerto Rico
Hospital San Pablo del Este
Phone: 787-863-0505



Travel north on highway #3 towards Fajardo
Turn right onto Conquistador Ave
Turn right onto General Valero Ave.
Hospital is located on the right.

The following measures will be taken to assure the availability of adequate equipment and manpower resources:

- Sufficient equipment and materials will be kept on site and dedicated for emergencies only. The inventory will be replenished after each use.
- On-site emergency responders will be current in regards to training and medical surveillance programs. Copies of all applicable certificates will be kept on file for on-site personnel required to respond.
- It will be the responsibility of the emergency coordinator to brief the on-site response team on anticipated hazards at the site. The emergency coordinator shall also be responsible for anticipating and requesting equipment that will be needed for response activities.
- Emergency response activities will be coordinated with the Local Emergency Management Agency (EMA) in compliance with SARA Title III requirements.

Communications will be established prior to commencement of any activities at the remediation site. Communication will be established so that all responders on site have availability to all pertinent information to allow them to conduct their activities in a safe and healthful manner. Air horns may be used to alert personnel of emergency conditions. A telephone will be located at the command post to summon assistance in an emergency.

Primary communication with local responders in the event of an emergency will be accomplished using commercial telephone lines.

7.2 Emergency Recognition and Prevention

Because unrecognized hazards may result in emergency incidents, it will be the responsibility of the Site Safety Officer (SSO), through daily site inspections and employee feedback (Safety Observation Program), daily safety meetings, and Activity Hazard Analyses to recognize and identify all hazards that are found at the site. These may include:

Chemical Hazards	Materials at the site Materials brought to the site
Physical Hazards	Fire/explosion Slip/trip/fall Electrocution Confined space IDLH atmospheres Excessive noise
Mechanical Hazards	Heavy equipment Stored energy system Pinch points Electrical equipment Vehicle traffic
Environmental Hazards	Electrical Storms High winds Heavy Rain/Snow Temperature Extremes (Heat/Cold Stress) Poisonous Plants/Animals

Once a hazard has been recognized, the SSO will take immediate action to prevent the hazard from becoming an emergency. This may be accomplished by the following:

- Daily safety meeting
- Task-specific training prior to commencement of activity
- Lock-out/tag-out
- Personal Protective Equipment (PPE) selection/use
- Written and approved permits for hot work, confined space
- Trenching/shoring procedure
- Air monitoring
- Following all JVI standard operating procedures
- Practice drills for fire, medical emergency, and hazardous substances spills.

7.3 Personnel Roles, Lines of Authority, and Communications

This section of the HASP (ERCP) describes the various roles, responsibilities, and communication procedures that will be followed by personnel involved in emergency responses.

The primary emergency coordinator for this site is the SSO. In the event an emergency occurs and the emergency coordinator is not on site, the Alternate Superintendent/Site Safety Officer or the highest-ranking employee on site will serve as the emergency coordinator until he arrives. The emergency coordinator will determine the nature of the emergency and take appropriate action as defined by this HASP (ERCP). Exhibit 7-2 presents the organization chart for the Emergency Coordinator and response team.

The emergency coordinator will implement the HASP (ERCP) immediately as required. The decision to implement the plan will depend upon whether the actual incident threatens human health or the environment. Immediately after being notified of an emergency incident, the emergency coordinator or his designee will evaluate the situation to determine the appropriate action.

7.3.1 Responsibilities and Duties

This section describes the responsibilities and duties assigned to the emergency coordinator.

It is recognized that the structure of the "Incident Command System" will change as additional response organizations are added. JVI will follow procedures as directed by the Fire Department, LEPC, Commonwealth and Federal Agencies as required. JVI will defer to the local Fire Department chief to assume the role of Incident Commander upon arriving on site. Additional on-site personnel may be added to the Site Emergency Response Team as required to respond effectively.

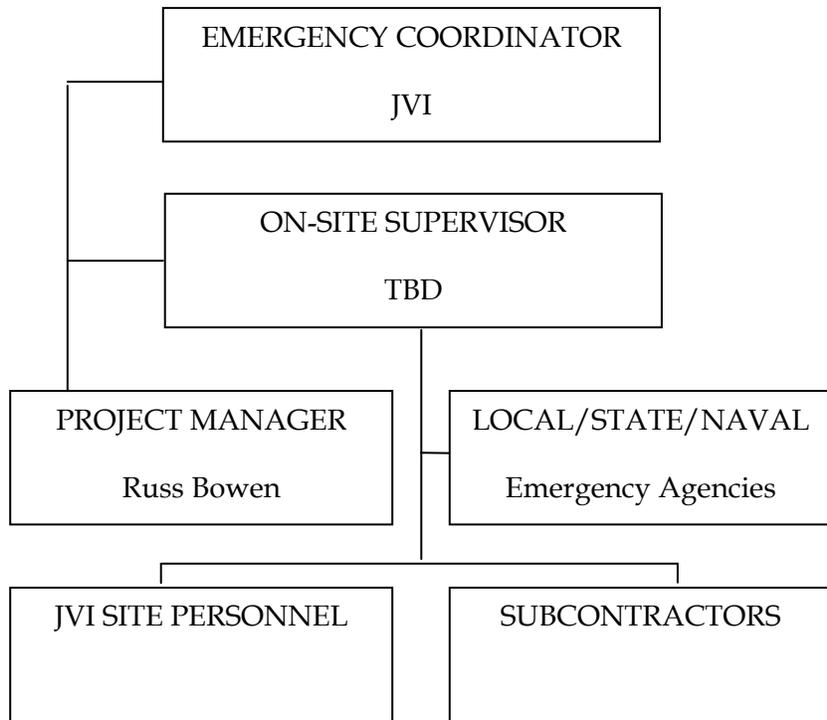
7.3.2 On-Site Emergency Coordinator Duties

The on-site emergency coordinator is responsible for implementing and directing the emergency procedures. All emergency personnel and their communications will be coordinated through the emergency coordinator. Specific duties are as follows:

- Identify the source and character of the incident, type and quantity of any release. Assess possible hazards to human health or the environment that may result directly from the problem or its control.
- Discontinue operations in the vicinity of the incident if necessary to ensure that fires, explosions, or spills do not recur or spread to other parts of the site. While operations are dormant, monitor for leaks, pressure build-up, gas generation, or ruptures in valves, pipes, or other equipment, where appropriate.
- Notify local Emergency Response Teams if their help is necessary to control the incident. Telephone numbers for emergency assistance are provided in Section 7.6.
- Direct on-site personnel to control the incident until, if necessary, outside help arrives.

EXHIBIT 7-2 EMERGENCY COORDINATOR ORGANIZATION CHART

Naval Activity Puerto Rico



- Ensure that the building or area where the incident occurred and the surrounding area are evacuated and shut off possible ignition sources, if appropriate. The Emergency Response Team is responsible for directing site personnel such that they avoid the area of the incident and leave emergency control procedures unobstructed.
- If fire or explosion is involved, notify facility Fire Department.
- Notify JVI Project Manager and the owner's designated Representative.
- Have protected personnel, in appropriate PPE, on standby for rescue.

If the incident may threaten human health or the environment outside of the site, the emergency coordinator should immediately determine whether evacuation of area outside of the site may be necessary and, if so, notify the Police Department and the Office of Emergency Management.

When required, assist the Client with notification at the National Response Center. The following information should be provided to the National Response Center:

- Name and telephone number
- Name and address of facility
- Time and type of incident
- Name and quantity of materials involved, if known
- Extent of injuries
- Possible hazards to human health or the environment outside of the facility.

The emergency telephone number for the National Response Center is 800-424-8802.

If hazardous waste has been released or produced through control of the incident, ensure that:

- Waste is collected and contained.
- Containers of waste are removed or isolated from the immediate site of the emergency.
- Treatment or storage of the recovered waste, contaminated soil or surface water, or any other material that results from the incident or its control is provided.
- Ensure that no waste that is incompatible with released material is treated or stored in the facility until cleanup procedures are completed.
- Ensure that all emergency equipment used is decontaminated, recharged, and fit for its intended use before operations are resumed.
- Notify the USEPA Regional Administrator that cleanup procedures have been completed and that all emergency equipment is fit for its intended use before resuming operations in the affected area of the facility. The USEPA Regional Administrator's telephone number is included in the Emergency Contacts.
- Record time, date, and details of the incident, and submit a written report to the USEPA Regional Administrator. Report is due to USEPA within 15 days of the incident.

7.4 Safe Distances and Places of Refuge

The emergency coordinator for all activities will be the SSO. No single recommendation can be made for evacuation or safe distances because of the variety of emergencies, which could occur. Safe distances can only be determined at the time of an emergency based on a combination of site and incident-specific criteria. However, the following measures are established to serve as general guidelines.

In the event of minor hazardous materials releases (small spills of low toxicity), workers in the affected area will report initially to the contamination reduction zone. Small spills or leaks (generally less than 55 gallons) will require initial evacuation of at least 50 feet in all directions to allow for cleanup and to prevent exposure. After initial assessment of the extent of the release and potential hazards, the emergency coordinator or his designee will determine the specific boundaries for evacuation. Appropriate steps such as caution tape, rope, traffic cones, barricades, or personal monitors will be used to secure the boundaries.

In the event of a major hazardous material release (large spills of high toxicity/greater than 55 gallons), workers will be evacuated from the building/site. Workers will assemble at the entrance to the site for a head count by their foremen and to await further instruction.

If an incident may threaten the health or safety of the surrounding community, the public will be informed and, if necessary, evacuated from the area. The emergency coordinator, or his designee will inform the proper agencies in the event that this is necessary. Places of refuge will be established prior to the commencement of activities. These areas must be identified for the following incidents:

- Chemical release
- Fire/explosion
- Power loss
- Medical emergency
- Hazardous weather

In general, evacuation will be made to the crew trailers, unless the emergency coordinator determines otherwise. It is the responsibility of the emergency coordinator to determine when it is necessary to evacuate personnel to off-site locations.

In the event of an emergency evacuation, all the employees will gather at the entrance to the site until a head count establishes that all are present and accounted for. No one is to leave the site without notifying the emergency coordinator.

7.5 Evacuation Routes and Procedures

All emergencies require prompt and deliberate action. In the event of an emergency, it will be necessary to follow an established set of procedures. Such established procedures will be followed as closely as possible. However, in specific emergencies, the emergency coordinator may deviate from the procedures to provide a more effective plan for bringing the situation under control. The emergency coordinator is responsible for determining which situations require site evacuation.

7.5.1 Evacuation Signals and Routes

Two-way radio communication and an air horn will be used to notify employees of the necessity to evacuate an area or building involved in a release/spill of a hazardous material. Total site evacuation will be initiated only by the emergency coordinator, however, in his absence, decision to preserve the health and safety of employees will take precedence. Evacuation routes will be posted in each outside work area. Signs inside buildings will be posted on walls or other structural element of a building. Periodic drills will be conducted to familiarize each employee with the proper routes and procedures.

7.5.2 Evacuation Procedures

In the event evacuation is necessary, the following actions will be taken:

- The emergency signal will be activated.
- No further entry of visitors, contractors, or trucks will be permitted. Vehicle traffic within the site will cease in order to allow safe exit of personnel and movement of emergency equipment.
- Shut off all machinery if safe to do so.
- ALL on-site personnel, visitors, and contractors in the site work areas will assemble at the designated rally points for a head count and await further instruction from the emergency coordinator.
- ALL persons in the active work zones or regulated areas will be accounted for by their immediate crew leaders (e.g., foreman). Leaders will determine the safest exits for employees and will also choose an alternate exit if the first choice is inaccessible.
- During exit, the crew leader should try to keep the group together. Immediately upon exit, the crew leader will account for all employees in his crew.
- Upon completion of the head count, the crew leader will provide the information to the emergency coordinator.
- Contract personnel and visitors will also be accounted for.
- The names of emergency response team members involved will be reported to the emergency spill control coordinator.
- A final tally of persons will be made by the emergency coordinator or designee. No attempt to find persons not accounted for will involve endangering lives of JVI or other employees by reentry into emergency areas.

In all questions of accountability, immediate crew leaders will be held responsible for those persons reporting to them. Visitors will be the responsibility of those employees they are seeing. Contractors and truck drivers are the responsibility of the Project Superintendent. Personnel will be assigned by the emergency coordinator to be available at the main gate to direct and brief emergency responders.

Re-entry into the site will be made only after clearance is given by the emergency coordinator. At his direction, a signal or other notification will be given for re-entry into the facility.

Drills will be held periodically to practice all of these procedures and will be treated with the same seriousness as an actual emergency.

7.6 Emergency Spill Response Procedures and Equipment

In the event of an emergency involving a hazardous material spill or release, the following general procedures will be used for rapid and safe response and control of the situation. Emergency contacts are listed in **Table 7-1**, which provides a quick reference guide to follow in the event of a major spill.

Table 7-1

Emergency Telephone Numbers

NAPR Emergency Response (Fire/Police/Emergency Medical) 911 or extension 4333 by regular telephone on base (not cellular phone)

Local Agencies

Ambulance	911 (cell phone)
Fire	911 (cell phone)
Police	911 (cell phone)
Hospital	787-863-0505

See Exhibit 7-1 for directions to the hospital

Regional Poison Control Center

Federal Agencies

Center for Disease Control	404-639-3311
LANTDIV- LeeAnne Rapp- COR	757-322-4814
ROICC – TBD	TBD
RPM – TBD	TBD

JVI Personnel

Project Manager – Russ Bowen	813-874-0777
Site Supervisor – TBD	TBD
Site Safety Officer – TBD	TBD
Program Health and Safety Manager – TBD	TBD

7.6.1 Notification Procedures

If an employee discovers a chemical spill or process upset resulting in a vapor or material release, he or she will immediately notify the on-site emergency coordinator. On-site Emergency Coordinator will obtain information pertaining to the following:

- The material spilled or released.
- Location of the release or spillage of hazardous material.
- An estimate of quantity released and the rate at which it is being released.
- The direction in which the spill, vapor or smoke release is heading.
- Any injuries involved.
- Fire and/or explosion or possibility of these events.
- The area and materials involved and the intensity of the fire or explosion.

This information will help the on-site emergency coordinator to assess the magnitude and potential seriousness of the spill or release.

7.6.2 Procedure for Containing/Collecting Spills

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 within a dike or sump area, an area of isolation will be established around the spill. The size of the area will generally depend on the size of the spill and the materials involved. If the spill is large (greater than 55 gallons) and involves a tank or a pipeline rupture, an initial isolation of at least 100 ft. in all directions will be used. Small spills (less than or equal to 55 gallons) or leaks from a tank or pipe will require evacuation of at least 50 ft. in all directions to allow cleanup and repair and to prevent exposure. When any spill occurs, only those persons involved in overseeing or performing emergency operations will be allowed within the designated hazard area. If possible the area will be roped off or otherwise blocked off.

If the spill results in the formation of a toxic vapor cloud (by reaction with surrounding materials or by outbreak of fire) and its release (due to high vapor pressures under ambient conditions), further evacuation will be enforced. In general an area at least 500 feet wide and 1,000 feet long will be evacuated downwind if volatile materials are spilled. (Consult the DOT Emergency Response Guide for isolation distances for listed hazardous materials.)

If an incident may threaten the health or safety of the surrounding community, the public will be informed and possibly evacuated from the area. The on-site emergency coordinator will inform the proper agencies in the event this is necessary. (Refer to **Table 7-1**)

As called for in regulations developed under the comprehensive Environmental Response Compensation Liability Act of 1980 (Superfund), JVI's practice is to report a spill of a pound or more of any hazardous material for which a reportable quantity has not been established and which is listed under the Solid Waste Disposal Act, Clean Air Act, Clean Water Act, or TSCA. JVI also follows the same practice for any substances not listed in the Acts noted above but which can be classified as a hazardous waste under RCRA.

Clean up personnel will take the following measures:

- Make sure 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 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.
- If wastes reach a storm sewer, try to dam the out-fall by using sand, earth, sandbags, etc. If this is done, 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.
- Spray the spill area with foam, if available, if volatile emissions may occur.
- Apply appropriate spill control media (e.g. clay, sand, lime, etc.) 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.

7.6.3 Emergency Response Equipment

The following equipment will be staged in the support zone and throughout the site, as needed, to provide for safety and first aid during emergency responses. (Emergency eyewash equipment must meet the applicable ANSI Standard);

- ABC-type fire extinguisher
- First-aid kit, industrial size
- Eyewash
- Emergency signal horn
- Emergency shower
- Blood born Pathogen Kit

In addition to the equipment listed above, JVI will have access to a direct reading instrumentation that may be used in emergency situations to assess the degree of environmental hazard. This equipment will only be used by the Site Safety Officer or other specially trained personnel. This equipment will be stored, charged and ready for immediate use in evaluating hazardous chemical concentrations. The equipment will primarily be located at a nearby office location.

Portable H-NU Photoionization Meter	Measures selected inorganic and organic chemical concentrations
MIE Data RAM	Measures total/respirable particulates in air

7.6.4 Emergency Spill Response Clean-Up Materials and Equipment

A sufficient supply of appropriate emergency response clean-up and personal protective equipment will be inventoried and inspected, visually, on a weekly basis.

The materials listed below may be kept on site for spill control, depending on the types of hazardous materials present on site. The majority of this material will be located in the support zone, in a supply trailer, storage area, or warehoused by a subcontractor.

- Sand or clay to solidify/absorb liquid spills.
- Appropriate solvents, e.g., CITRIKLEEN, for decontamination of structures or equipment.

**NOTE: All contaminated soils, absorbent materials, solvents and other materials resulting from the clean-up of spilled or discharged substances shall be properly stored, labeled, and disposed of off-site.*

7.7 Emergency Response Contingency Plan

This section of the ERCP details the contingency measures JVI will take to prepare for and respond to fires, explosions, spills and releases of hazardous materials, hazardous weather, and medical emergencies. An Accident Prevention Plan is included as **Appendix F**.

7.7.1 Medical Emergency Contingency Measures

The procedures listed below will be used to respond to medical emergencies. The SSO will contact the local hospital and inform them of the site hazards and potential emergency situations. First-Aid/CPR trained personnel will be maintained on site per shift.

7.7.1.1 Response

The nearest workers will immediately assist a person who shows signs of medical distress or who is involved in an accident. The work crew supervisor will be summoned. The work crew supervisor will immediately make contact with the on-site emergency coordinator to alert him of a medical emergency situation. The supervisor will advise the following information:

- Location of the victim at the work site
- Nature of the emergency
- Whether the victim is conscious
- Specific conditions contributing to the emergency, if known

The following actions will then be taken depending on the severity of the incident:

Life-Threatening Incident

If an apparent life-threatening condition exists, the crew supervisor will inform the emergency coordinator and the local Emergency Response Services (ERS) will be immediately called. An on-site person will be appointed who will meet the ERS and have him/her quickly taken to the victim. Any injured person within the regulated areas will be evacuated by JVI personnel to a clean area for treatment by (ERS) personnel. No one will be able to enter the regulated area without showing proof of training, medical surveillance and site orientation.

Non Life-Threatening Incident

If it is determined that no threat to life is present, the SSO will, if applicable, direct the injured person through decontamination procedures (see below) appropriate to the nature of the illness or accident. Appropriate first aid or medical attention will then be administered.

**NOTE: The area surrounding an accident site must not be disturbed until the scene has been cleared by the SSO.*

Any personnel requiring emergency medical attention will be evacuated from active work zones or regulated areas if doing so would not endanger the life of the injured person or otherwise aggravate the injury. Personnel will not enter the area to attempt a rescue if their own lives would be threatened. The decision whether or not to decontaminate a victim prior to evacuation is based on the type and severity of the illness or injury and the nature of the contaminant. For some emergency victims, immediate decontamination may be an essential part of life-saving first aid. For others, decontamination may aggravate the injury or delay life-saving first aid. Decontamination will be performed if it does not interfere with essential treatment.

If decontamination can be performed, observe the following procedures:

- Wash external clothing and cut it away.

If decontamination cannot be performed, observe the following procedures:

- Wrap the victim in blankets or plastic to reduce contamination of other personnel.
- Alert emergency and off site medical personnel to potential contamination, instruct them about specific decontamination procedures.
- Send site personnel familiar with the incident and chemical safety information, e.g. MSDS, with the affected person.

All injuries, no matter how small, will be reported to the SSO and the PM. An accident/injury/illness report will be completely and properly filled out and submitted to the COM, in accordance with JVI's reporting procedures.

A list of emergency telephone numbers is given in **Table 7-1**.

7.7.1.2 Notification

The following personnel/agencies will be notified in the event of a medical emergency:

- Local Fire Department or EMS
- On-site Emergency Coordinator
- Workers in the affected areas
- Naval Activity Puerto Rico ROICC Representative

7.7.2 Fire Contingency Measures

JVI personnel and subcontractors are not trained professional firefighters. Therefore, if there is any doubt that a fire can be quickly contained and extinguished, personnel will notify the emergency coordinator by radio and vacate the structure or area. The emergency coordinator will immediately notify the local Fire Department.

The following procedures will be used to prevent the possibility of fires and resulting injuries:

- Sources of ignition will be kept away from where flammable materials are handled or stored.
- The air will be monitored for explosivity before and during hot work and periodically where flammable materials are present. Hot work permits will be required for all such work.
- “No smoking” signs will be conspicuously posted in areas where flammable materials are present.
- Fire extinguishers will be placed in all areas where a fire hazard may exist.
- Before workers begin operations in an area the foreman will give instruction on egress procedures and rally points. Egress routes will be posted in work areas and exit points clearly marked.

7.7.2.1 Response

The following procedures will be used in the event of a fire:

- Anyone who sees a fire will notify their supervisor who will then contact the Emergency Coordinator. The emergency coordinator will activate the emergency air horns and contact the Base Fire Department.
- When the emergency siren sounds, workers will disconnect electrical equipment in use (if possible) and proceed to the nearest fire exit, or pre-designated rally point.
- Work crews will be comprised of pairs of workers (buddy system) who join each other immediately after hearing the fire alarm and remain together throughout the emergency. Workers will assemble at a predetermined rally point for a head count.
- When a small fire has been extinguished by a worker, the emergency coordinator will be notified.

7.7.3 Hazardous Weather Contingency Measures

Operations conducted outdoors will not be started or continued when the following hazardous weather conditions are present:

- Lightning
- Heavy Rains
- High Winds

7.7.3.1 Response

- Excavation/soil stock piles will be covered with plastic liner.
- All equipment will be shut down and secured to prevent damage.
- Personnel will be moved to safe refuge, initially crew trailers. The emergency coordinator will determine when it is necessary to evacuate personnel to off-site locations and will coordinate efforts with fire, police and other agencies.

7.7.3.2 Notification

The emergency coordinator will be responsible for assessing hazardous weather conditions and notifying personnel of specific contingency measures. Notifications will include:

- JVI employees and subcontractors
- Naval Activity Puerto Rico Representative
- Local Emergency Management Agency (if conditions warrant)

7.7.4 Spill/Release Contingency Measures

In the event of release or spill of a hazardous material the following measures will be taken:

7.7.4.1 Response

Any person observing a spill or release will act to remove and/or protect injured/contaminated persons from any life-threatening situation. First aid and/or decontamination procedures will be implemented as appropriate.

First aid will be administered to injured/contaminated personnel. Unsuspecting persons/vehicles will be warned of the hazard. All personnel will act to prevent any unsuspecting persons from coming in contact with spilled materials by alerting other nearby persons. Attempt to stop the spill at the source, if possible. Without taking unnecessary risks, personnel will attempt to stop the spill at the source. This may involve activities such as uprighting a drum, closing a valve or temporarily sealing a hole with a plug.

The emergency coordinator will be notified of the spill/release, including information on material spilled, quantity, personnel injuries and-immediate life-threatening hazards. Air monitoring will be implemented by the SSO to determine the potential impact on the surrounding community. Notification procedures will be followed to inform on-site personnel and off-site agencies. The emergency coordinator will make a rapid assessment of the spill/release and direct confinement, containment and control measures. Depending upon the nature of the spill, measures may include:

- Construction of a temporary containment berm utilizing on-site clay absorbent earth
- Digging a sump, installing a polyethylene liner and
- Diverting the spill material into the sump placing drums under the leak to collect the spilling material before it flows over the ground
- Transferring the material from its original container to another container

The emergency coordinator will notify the Base representative of the spill and steps taken to institute clean-up. Emergency response personnel will clean-up all spills following the spill clean-up plan developed by the emergency coordinator. Supplies necessary to clean up a spill will be immediately available on-site. Such items may include, but are not limited to:

- Shovel, rake
- Clay absorbent
- Polyethylene liner
- Personal safety equipment
- Steel drums

- Pumps and miscellaneous hand tools

The major supply of material and equipment will be located in the designated support area (TBD). Smaller supplies will be kept at active work locations. The emergency coordinator will inspect the spill site to determine that the spill has been cleaned up to the satisfaction of the Base representative. If necessary, soil, water or air samples may be taken and analyzed to demonstrate the effectiveness of the spill clean-up effort. The emergency coordinator will determine the cause of the spill and determine remedial steps to ensure that recurrence is prevented. The emergency coordinator will review the cause with the Base representative and obtain his concurrence with the remedial action plan.

SECTION 8

Training Requirements

Site-specific training for Naval Activity Puerto Rico will include Hazard Communication as per 29 CFR 1926, site physical and environmental hazards, emergency response and evacuation procedures, and emergency telephone numbers will be held at the site location by the SSO before any site work activities begin.

An outline of the orientation for JVI subcontract personnel and visitors is presented below:

- HASP review and sign off
- Sign in/out procedures
- Site background
- Chain of command
- Rules and regulations
- Hours of work
- Absences
- Equipment open to visitors
- Emergency Information
- Emergency signal
- Gathering point
- Responsibilities/roles
- Emergency phone numbers
- Work Areas
- Material Safety Data Sheets (MSDS) [Hazard Communication Program]
- AHA's (Activity Hazard Analyses)
- Forms, site-specific
- Incident Reporting
- Sign in/out procedures
- Review of Site map
- Work Areas
- Hazard Communication
- Emergency plan/signals
- Training/medical requirements
- Work zones and regulated areas open to visitors
- Hazwoper 1910.120
- First Aid/CPR for designated persons

SECTION 9

Medical Surveillance Program

All JVI field personnel participate in a medical and health monitoring program. The COM will be immediately notified of any suspected exposures.

Appendix A
Activity Hazard Analyses

Job Safety Analysis for Site Preparation

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Equipment/Facility Set-up	Slips, Trips, Falls	<ul style="list-style-type: none"> • Clear walkways work areas of equipment, tools, vegetation, excavated material and debris • Mark, identify, or barricade other obstructions • Evaluate fall hazards above 4 ft; use fall protection equipment (harness/lanyard), standard guardrails or other fall protection systems when working on elevated platforms above 6 ft. • Use “heavy duty industrial” (type 1A) ladders • Tie-off all straight/extension ladders or manually hold by co-worker at base • Halt roof, exterior scaffold work in high winds, severe weather 	Body harnesses/lanyard (elevated platforms above 6 ft.)	
	Electrical Shock	<ul style="list-style-type: none"> • De-energize or shut off utility lines at their source before work begins • Use double insulated or properly grounded electric power-operated tools • Maintain tools in a safe condition • Provide an equipment-grounding conductor program or employ ground-fault circuit interrupters • Use qualified electricians to hook up electrical circuits • Inspect all extension cords daily for structural integrity, ground continuity, and damaged insulation • Cover or elevate electric wire or flexible cord passing through work areas to protect from damage • Keep all plugs and receptacles out of water • Use approved water-proof, weather-proof type if exposure to moisture is likely • Inspect all electrical power circuits prior to commencing work • Follow Lockout-Tagout procedures in accordance with JVI policies 	Lockout/Tagout Devices	Voltage Meter or ATic≅ Tracer

Job Safety Analysis for Site Preparation

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Equipment/Facility Set-up (Continued)	Struck By/Against Heavy Equipment	<ul style="list-style-type: none"> Wear reflective warning vests when exposed to vehicular traffic Isolate equipment swing areas Make eye contact with operators before approaching equipment Understand and review hand signals 	Warning vests, Hard hat, Safety glasses, Steel toe work boots	
	Handling Heavy Objects	<ul style="list-style-type: none"> Observe proper lifting techniques Obey sensible lifting limits (60 lb. Maximum per person manual lifting) Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads 		
	Sharp Objects	<ul style="list-style-type: none"> Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects Maintain all hand and power tools in a safe condition Keep guards in place during use 	Leather gloves	
	High Noise Levels	<ul style="list-style-type: none"> Use hearing protection when exposed to excessive noise levels (greater than 85 dBA over an 8-hour work period) Assess noise level with sound level meter if possibility exists to exceed 85 dBA TWA 	Ear plugs	Sound Level Meter
	High/Low Ambient Temperature	<ul style="list-style-type: none"> Monitor for Heat/Cold stress in accordance with JVI policies Provide fluids to prevent worker dehydration 	Insulated Clothing (subject to ambient temperature)	Meteorological Equipment
Cleaning/Decontamination of Buildings	Sharp Objects	<ul style="list-style-type: none"> Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects Maintain all hand and power tools in a safe condition Keep guards in place during use 	Leather gloves	

Job Safety Analysis for Site Preparation

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Cleaning Decontamination Of Buildings (Continued)	Handling Heavy Objects	<ul style="list-style-type: none"> Observe proper lifting techniques Obey sensible lifting limits (60 lb. Maximum per person manual lifting) Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads 		
	Slips, Trips, Falls	<ul style="list-style-type: none"> Clear walkways, work areas of equipment, tools, vegetation, excavated material, and debris Mark, identify, or barricade other obstructions 		
	Inhalation and Skin Contact with Hazardous Substances	<ul style="list-style-type: none"> Provide workers proper skin, eye and respiratory protection based on the exposure hazards present Review hazardous properties of site contaminants with workers before operations begin Monitor breathing zone air to determine levels of contaminants Follow proper procedures for handling/preserving/packaging/labeling analytical samples; chemicals/preserving agents Follow proper decontamination procedures to prevent ingestion of contaminants 	Tyvek coveralls, latex or neoprene boots, nitrile gloves (see Section 5.0 HASP)	PID, Mini-RAM
	High/Low Ambient Temperature	<ul style="list-style-type: none"> Monitor for Heat/Cold stress in accordance with JVI policies Provide fluids to prevent worker dehydration 	Insulated Clothing (subject to ambient temperature)	Meteorological Equipment
Sampling Concrete and Soils	Underground/Overhead Utilities	<ul style="list-style-type: none"> Identify all utilities around the site before work commences Cease work immediately if unknown utility markers are uncovered Use manual excavation within 3 feet of known utilities Utility clearance shall conform with 29 CFR 1926.955 (high voltage >700 kv) 15 feet phase to ground clearance; 31 feet phase to phase clearance 		

Job Safety Analysis for Site Preparation

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Sampling Concrete and Soils (Continued)	Struck By/Against Heavy Equipment	<ul style="list-style-type: none"> • Wear reflective warning vests when exposed to vehicular traffic • Isolate equipment swing areas • Make eye contact with operators before approaching equipment • Understand and review hand signals 	Warning vests, hard hat, safety glasses, steel toe work boots	
	Sharp Objects	<ul style="list-style-type: none"> • Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects • Maintain all hand and power tools in a safe condition • Keep guards in place during use 	Leather gloves	
	High Noise Levels	<ul style="list-style-type: none"> • Use hearing protection when exposed to excessive noise levels (greater than 85 dBA over an 8-hour work period) • Assess noise level with sound level meter if possibility exists that level may exceed 85 dBA TWA 	Ear plugs	
	Handling Heavy Objects	<ul style="list-style-type: none"> • Observe proper lifting techniques • Obey sensible lifting limits (60 lb. maximum per person manual lifting) • Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads 		
	Slips, Trips, Falls	<ul style="list-style-type: none"> • Clear walkways, work areas of equipment, vegetation, excavated material, tools, and debris • Mark, identify, or barricade other obstructions 		

Job Safety Analysis for Site Preparation

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Sampling of Concrete and Soils (Continued)	Inhalation and Contact with Hazardous Substances	<ul style="list-style-type: none"> • Provide workers proper skin, eye and respiratory protection based on the exposure hazards present • Review hazardous properties of site contaminants with workers before operations begin • Monitor breathing zone air to determine levels of contaminants • Dampen soil using light water spray to prevent fugitive dust emissions • Cover stockpiled soil with plastic sheeting to prevent fugitive dust emissions • Conduct air monitoring/sampling to determine exposure levels 	Tyvek coveralls, nitrile gloves, neoprene boots	PID, Mini-RAM
	High/Low Ambient Temperature	<ul style="list-style-type: none"> • Monitor for Heat/Cold stress in accordance with JVI policies • Provide fluids to prevent worker dehydration 	Insulated Clothing (subject to ambient temperature)	Meteorological Equipment
Concrete and/or Soil Removal/ Replacement	Slips, Trips, Falls	<ul style="list-style-type: none"> • Clear walkways, work areas of equipment, tools, construction debris, and other materials • Mark, identify, or barricade other obstructions 		
	Handling Heavy Objects	<ul style="list-style-type: none"> • Observe proper lifting techniques • Obey sensible lifting limits (60 lb. maximum per person manual lifting) • Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads 		
	Struck by/Against Heavy Equipment, Flying Debris, Protruding Objects	<ul style="list-style-type: none"> • Wear reflective warning vests when exposed to vehicular traffic • Isolate equipment swing areas • Make eye contact with operators before approaching equipment • Barricade or enclose the work area • Restrict work area entry to authorized personnel only during construction activities • Wear hard hats, safety glasses with side shields, and steel-toe safety boots • Understand and review hand signals 	Warning vests, Hard hat, Safety glasses, Steel toe work boots	

Job Safety Analysis for Site Preparation

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Concrete and/or Soil Removal/ Replacement	Vibration	<ul style="list-style-type: none"> • Rotate compaction tasks to minimize work exposure to equipment vibration • Use compactors with vibration dampening devices 	Anti-vibration gloves	
	High Noise Levels	<ul style="list-style-type: none"> • Use hearing protection when exposed to excessive noise levels (greater than 85 dBA over an 8-hour work period) • Assess noise level with sound level meter if possibility exists that level may exceed 85 dBA TWA 	Ear plugs	Sound Level Meter
	High/Low Ambient Temperature	<ul style="list-style-type: none"> • Monitor for Heat/Cold stress in accordance with JVI policies • Provide fluids to prevent worker dehydration 	Insulated Clothing (subject to ambient temperature)	Meteorological Equipment
Equipment Decontamination	Slips, Trips, Falls	<ul style="list-style-type: none"> • Clear walkways, work areas of equipment, vegetation, tools and debris • Mark, identify, or barricade other obstructions 		
	Struck by/Against Heavy Equipment, Protruding Objects	<ul style="list-style-type: none"> • Wear reflective warning vests when exposed to vehicular traffic • Isolate equipment swing areas • Make eye contact with operators before approaching equipment • Understand and review hand signals 	Warning vests, hard hat safety glasses, goggles and face shield, steel toe work boots	
	Inhalation and Contact with Hazardous Substances & Splashes	<ul style="list-style-type: none"> • Provide workers proper skin, eye and respiratory protection based on the exposure hazards present • Review hazardous properties of site contaminants with workers before operations begin • Wear hard hats, safety glasses with side shields, or goggles with splash shields and steel-toe safety boots 	PVC rain suit or Tyvek coveralls, nitrile or latex gloves, neoprene or latex boots (See Section 5.0 HASP)	
	Burns	<ul style="list-style-type: none"> • Wear proper gloves, face shield/safety goggles, shin and toe guards, and splash suits to protect workers from skin burns and injury when operating laser (high pressure washers) 	Goggles and face shield, shin and toe guards	

Job Safety Analysis for Site Preparation

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Equipment Decontamination (Continued)	Handling Heavy Objects	<ul style="list-style-type: none"> Observe proper lifting techniques Obey sensible lifting limits (60 lb. maximum per person manual lifting) Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads 		
	Sharp Objects	<ul style="list-style-type: none"> Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects Maintain all hand and power tools in a safe condition Keep guards in place during use 	Leather gloves	
	High Noise Levels	<ul style="list-style-type: none"> Use hearing protection when exposed to excessive noise levels (greater than 85 dBA over an 8-hour work period) Assess noise level with sound level meter if possibility exists that level may exceed 85 dBA TWA 	Ear plugs	Sound Level Meter
	High/Low Ambient Temperature	<ul style="list-style-type: none"> Monitor for Heat/Cold stress in accordance with JVI policies Provide fluids to prevent worker dehydration 	Insulated Clothing (subject to ambient temperature)	Meteorological Equipment
Site Restoration and Seeding	Struck by/Against Heavy Equipment, Protruding Objects	<ul style="list-style-type: none"> Wear reflective warning vests when exposed to vehicular traffic Isolate equipment swing areas Make eye contact with operators before approaching equipment Wear hard hats, safety glasses with side shields, or splash/face shields and goggles, and steel-toe safety boots at all times Understand and review hand signals 	Warning vests, Hard hat, Safety glasses, Steel toe work boots	
	Slips, Trips, Falls	<ul style="list-style-type: none"> Clear walkways of equipment, tools, debris, other materials Mark, identify, or barricade other obstruction 		
	High Noise Levels	<ul style="list-style-type: none"> Use hearing protection when exposed to excessive noise levels (greater than 85 dBA over an 8-hour work period) Assess noise level with sound level meter if possibility exists that level may exceed 85 dBA TWA 	Ear plugs	Sound Level Meter
Site Restoration	Handling Heavy	<ul style="list-style-type: none"> Observe proper lifting techniques 		

Job Safety Analysis for Site Preparation

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
and Seeding (Continued)	Objects	<ul style="list-style-type: none"> • Obey sensible lifting limits (60 lb. per person for manual lifting) • Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads 	Insulated Clothing (subject to ambient temperature)	Meteorological Equipment
	High/Low Ambient Temperature	<ul style="list-style-type: none"> • Monitor for Heat/Cold stress in accordance with JVI policies • Provide fluids to prevent worker dehydration 		

Appendix B
Site Specific Accident Prevention Plan

**Site-Specific Accident Prevention Plan
for
Naval Activity Puerto Rico**

**RCRA Closure of Buildings 1973, 2009, & 2009A through 2009D
Defense Reutilization and Marketing Office
U.S. Naval Activity Puerto Rico**

Prepared for:

**Department of the Navy
Atlantic Division
Naval Facilities Engineering Command**

Contract No: N62470-03-D-4401

May 2004

Prepared by:



Contents

1	Signature Sheets	1-1
2	Background Information.....	2-1
3	Statement of Safety and Health Policy.....	3-1
3.1	Corporate Policy Statement	3-1
3.1.1	Objective.....	3-1
3.1.2	Purpose.....	3-1
3.1.3	Primary Environmental Health and Safety Program Functions	3-1
3.1.4	Safety Organization and Responsibility	3-1
3.1.5	Regulator Compliance Policy	3-3
3.1.6	Safety Goals.....	3-3
3.1.7	Safety Training	3-3
3.1.8	Medical Surveillance.....	3-4
3.1.9	Accident Investigation.....	3-4
3.1.10	Position Statement on Modified Work.....	3-4
3.1.11	Field Safety Inspections.....	3-4
3.1.12	First Aid.....	3-5
3.1.13	Review of Health and Safety Statistics.....	3-5
3.1.14	Specific Written Safety Procedures/Permits.....	3-5
3.1.15	State, OSHA, and Other Regulations	3-5
3.1.16	Changes	3-5
4	Responsibilities and Lines of Authorities.....	4-1
5	Subcontractors and Suppliers	5-1
5.1	Subcontractor/Supplier Coordination and Control.....	5-1
5.2	Subcontractor/Supplier Safety Responsibilities	5-1
6	Training.....	6-1
6.1	Safety Indoctrination Subjects:	6-1
6.2	Mandatory Training and Certifications.....	6-1
6.3	Supervisory and Employee Safety Meetings.....	6-1
7	Safety and Health Inspections	7-1
7.1	Safety Inspections	7-1
7.2	External Inspections/Certifications.....	7-1
8	Safety and Health Expectations, Incentive Programs, and Compliance	8-1
8.1	Company Safety Program Goals	8-1
8.2	JVI Employee Safety Responsibility Requirements.....	8-1
8.3	Managers and Supervisors Safety Accountability.....	8-1
9	Accident Reporting	9-1
9.1	Exposure Data (Man-hours Worked)	9-1
9.2	Accident Investigations, Reports, and Logs	9-1

9.3	Immediate Notification of Major Incidents	9-1
10	Medical Support	10-1
11	Personal Protective Equipment.....	11-1
11.1	Hazard Assessment Procedures/Written Certifications for Personal Protective Equipment	11-1
12	Plans Required by the Safety Manual.....	12-1
12.1	Hazard Communication Program	12-1
12.2	Emergency Response Plans.....	12-1
12.3	Layout Plans.....	12-1
12.4	Respiratory Protection Plan	12-1
12.5	Lead Abatement Plan.....	12-1
12.6	Asbestos Abatement Plan.....	12-1
12.7	Abrasive Blasting.....	12-2
12.8	Confined Space	12-2
12.9	Hazardous Energy Control Plan	12-2
12.10	Critical Lift Procedures.....	12-4
12.11	Contingency Plan for Severe Weather.....	12-4
12.12	Access and Haul Rod Plan	12-4
12.13	Demolition Plan.....	12-4
12.14	Emergency Rescue (Tunneling).....	12-4
12.15	Underground Construction Fire Prevention and Protection Plan	12-4
12.16	Compressed Air Plan.....	12-5
12.17	Form Work and Shoring Erection and Removal Plans	12-5
12.18	Lift Slab Plans.....	12-5
12.19	SSH	12-5
12.20	Blasting Plan.....	12-5
12.21	Diving Plan.....	12-5
12.22	Alcohol and Drug Abuse Prevention Plan	12-5
13	Contractor Information to Meet the Requirements of the Major Sections of EM-385-1-1.....	13-1

Appendixes

A	Hurricane Preparedness Plan
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SECTION 1

Signature Sheets

Plan Prepared By:

Name: David R. Leadenham, Program Manager JVI
Title: Program Manager
Company: AGVIQ Environmental
Telephone: 757-318-9420
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This Site Specific Accident Prevention Plan was prepared in part by:

Signature: _____
David R. Leadenham, Program Manager

Designated Project Manager:

Name: Russ Bowen
Title: Project Manager
Company: CH2M HILL
Telephone: 813-874-0777

I hereby acknowledge that I have reviewed and fully understand the tenets of this Accident Prevention Plan and my responsibilities as they are specified herein.

Signature: _____
Russ Bowen, Project Manager

Designated Site Safety Officer:

Name: TBD
Title: Superintendent / Site Safety Officer
Company: JVI
Telephone:
Fax:

I hereby acknowledge that I have reviewed and fully understand the tenets of this Accident Prevention Plan and my responsibilities as they are specified herein.

Signature: _____
TBD, Superintendent / Site Safety Officer

Alternate Site Safety Officer:

Name: TBD
Title: Superintendent / Site Safety Officer (Alternate)
Company: JVI
Telephone:
Fax:

I hereby acknowledge that I have reviewed and fully understand the tenets of this Accident Prevention Plan and my responsibilities as they are specified herein.

Signature: _____
TBD, Superintendent / Site Safety Officer

SECTION 2

Background Information

Background information for this project is detailed in the Site Specific Health and Safety Plan, Section 1.1, Introduction.

Statement of Safety and Health Policy

3.1 Corporate Policy Statement

3.1.1 Objective

To provide a Safe Work Place for all employees by developing and administering an overall Environmental Health and Safety (EH&S) Program. To establish written policies and procedures that serve as vehicles through which the program will be implemented.

3.1.2 Purpose

This statement describes the JVI Health and Safety Program and the responsibilities of the supervisors, employees, and subcontractors. It will address applicable United States Occupational Safety and Health Administration (OSHA) standards set forth in 29 CFR 1910 and 29 CFR 1926 as well as various consensus standards and JVI policies by the use of referenced procedures.

3.1.3 Primary Environmental Health and Safety Program Functions

The primary functions of the Environmental Health and Safety program are:

- Defining the health and safety responsibilities of JVI personnel
- Administration of the medical surveillance program
- Preparation of the site safety plans
- Providing safety training/ maintaining training records
- Providing safety procedures and protocols to be used at project sites, shops, and offices
- Conduct accident investigations and maintaining records
- Verifying OSHA compliance under 29 CFR 1910 and 1926
- Providing guidance and assistance with preparation of safety protocols for specific tasks
- Promoting safety and health consciousness within the company
- Designating the functional organization of safety committees to serve corporate and project specific safety and health program needs

3.1.4 Safety Organization and Responsibility

With JVI, the safety and protection of employees, clients, and the community is the first priority. This concern for safety is not restricted to field operations but extends to laboratories, the offices, and shop facilities. If an activity or condition is unsafe, the task will not proceed until the situation is corrected.

The Company President is the primary operational safety official in the company.

The Corporate Operations Manager (COM) administers the safety program for JVI and reports directly to the company president. The COM, or his designee, is responsible to support and assist site supervisors in executing the Environmental Health and Safety Program.

The Site Safety Officer (SSO) is responsible for administration and enforcement of the safety procedures and protocols on project sites. The SSO is the primary safety official at the working level. The responsibility for safety is delegated and shared by project managers, alternate site safety officers, and subcontractors' supervisors. At a minimum, the SSO must perform, or otherwise supervise the performance of, the following:

- Motivate employees and supervisors of subcontractors to adhere to JVI's safety policy in each work situation.
- Schedule, organize, and lead preparatory phase meetings prior to all activities relevant to definable features of work and have a working knowledge of the safe procedure for all jobs and tasks under their supervision. When in doubt, they shall seek assistance prior to initiating a task. This is the only acceptable manner in which to perform the task. If the task cannot be accomplished safely, it will not be attempted.
- Explain the safety procedure involved with a task to each employee and check frequently to see that the employee understands and works as instructed.
- Allocate sufficient time for the training and coaching of all employees to insure that everyone knows the correct procedure for safely accomplishing required tasks. New employees will not be allowed to perform any k until required training is completed.
- Immediately correct unsafe conditions that involve JVI employees or subcontractors.
- Ensure that employees are outfitted with and wear personal protective equipment as specified by this plan, EM385-1-1, and other JVI procedures.
- Set a good safety example.
- Obtain the cooperation of employees and sub-contractors. Sub-contractor safety performance records will be verified prior to contract award and will be continually monitored during operations.
- Report all accidents, near misses and property damage in accordance with the Incident Management and Reporting Procedure.

Every Employee, regardless of job title, shares the responsibility for safety and should report any unsafe work condition without fear of reprisal. It is imperative that employees observe the following minimum requirements in order to achieve a safe and healthy workplace:

- Each employee must be familiar with this Accident Prevention Plan and the general safety rules herein.
- Each employee shall practice safe procedures and follow all safety rules and regulations for the successful completion of any job task.

- All employees shall wear the necessary personal protective equipment required for the job or task as specified by this plan, EM385-1-1, and other JVI procedures.
- The employee shall notify the immediate supervisor of any potential hazard or unsafe work practice that could result in injury or destruction of property.
- The employee shall report all accidents to an immediate supervisor regardless of whether injury or property damage resulted. This includes all near misses (accidents without injury or damage). This requirement serves to bring unsafe conditions to the attention of management.
- Each employee shall be subject to contraband search for safety purposes and for the safety of fellow employees.
- Violations of published safety policies and procedures may be cause for disciplinary actions up to and including dismissal.
- All employees who are taking prescribed medications that could affect work performance or might alter the manner in which they could be treated in an emergency shall so advise their supervisor prior to beginning work.

3.1.5 Regulator Compliance Policy

The policy of JVI will be to comply with all federal, state, local, and client regulations. It is the responsibility of all personnel to perform all work in full compliance with appropriate regulations. Safety and health personnel will immediately bring any condition regarding safety and health compliance to the attention of supervisory operating personnel.

JVI will insure regulatory compliance by all of its subcontractors, including OSHA 200 forms, safety records, OSHA training, and medical surveillance, when applicable.

3.1.6 Safety Goals

The goal of the safety and health program is to ensure a safe working environment, protect workers from harm, and protect the company from liability associated with an unsafe working environment.

Other goals are to eliminate workplace accidents, gain worker acceptance through cooperation and training, and provide our clients with a responsible, well-trained, safety-oriented work force.

JVI has adopted a “zero accidents” goal for all operations. All activities will be planned and performed with this goal foremost.

3.1.7 Safety Training

JVI engages in environmental remediation, construction, and other services, and must comply with numerous health and safety training requirements, mandated by governmental agencies, clients, and internal policies.

All personnel will be provided sufficient training to execute their jobs in a safe and healthy manner.

Direct supervisors are responsible to determine the training requirements of a task and ensure employees have the necessary training to complete the task safely. Environmental health and safety personnel will assist with this determination and training.

The corporate personnel department will maintain training records and documentation.

3.1.8 Medical Surveillance

All employees who perform work at hazardous waste sites or perform emergency response will be subject to the JVI medical surveillance program. This program conforms to the requirements established by 29 CFR 1910.120/1926.65 (f).

3.1.9 Accident Investigation

All accidents will be thoroughly investigated by the supervisor of the person(s) involved in the accident. The employee and the site supervisor will forward a signed copy of the accident investigation form to the corporate health and safety office to comply with JVI requirements.

The COM may investigate serious accidents, such as those involving hospitalization or injuries requiring more than one visit to a physician. The COM may also request that a specific written accident investigation be conducted in case of an unusual or serious injury or accident.

3.1.10 Position Statement on Modified Work

JVI will attempt to eliminate all accidents through strict compliance with OSHA regulations and JVI health and safety procedures, as well as supervisor and employee safety training, safety audits, and constant attention to safety. Should employee be injured or become ill in the course of and arising from his employment, JVI will attempt to provide modified work. Modified work (light duty) will be made available in order to bring the injured employee back to the work environment, for the benefit of the employee and the company, whenever medically appropriate.

Employees are expected to return to modified work when medically capable. The work assigned to the injured employee will meet the restrictions set forth by the treating and/or company physician. Examples of modified work include but are not limited to office work, dispatching, and light shop work.

3.1.11 Field Safety Inspections

Weekly safety inspections will be made of the work area. The inspection will be made by the Project Manager and/or the SSO, or a designated representative. These inspections are in addition to the daily inspections to be held by the SSO and crew leaders. Discrepancies found during inspections will be corrected as soon as practicable. Serious safety violations will be corrected immediately. Inspection records will be maintained in the safety log.

Additionally, the COM or his designated representative may make periodic unannounced inspections of work sites on their own discretion or at the request of an employee, supervisor, manager, or client.

3.1.12 First Aid

Each facility and work location must be evaluated to determine the potential requirement for medical emergencies. At a minimum, an industrial first-aid kit will be provided. An adequate number of employees with current certification in first aid and cardiopulmonary resuscitation (CPR) will be maintained on the project sites.

The SSO shall ensure that emergency medical attention is readily available. For emergency response and remediation operations, the SSO shall establish the requirement for medical emergency response and identify an emergency medical facility with chemical contamination trauma capability. If site conditions require, a subcontract emergency medical technician (EMT) and/or the availability of ambulance service on site will be implemented.

3.1.13 Review of Health and Safety Statistics

A designated representative from JVI will review and tabulate safety statistics as necessary:

- OSHA 200 form
- Workers' Compensation Experience Modification Ratings

3.1.14 Specific Written Safety Procedures/Permits

In order to provide a safe work place and communicate specific work requirements for regulatory compliance, specific tasks are incorporated by reference to this procedure. These procedures deal with specific areas such as confined space, hot work, lock out tag out, etc.

All JVI personnel who may be subject to these procedures will receive appropriate training and will be held accountable for compliance with procedure requirements.

3.1.15 State, OSHA, and Other Regulations

Where state regulations differ from federal regulation cited in this manual, the more stringent regulation will apply.

3.1.16 Changes

Any user of this plan is welcome to recommend changes. Changes normally result from finding errors, regulatory changes, equipment modification, new equipment purchases, and changes to operation procedures or site conditions. The format for making a recommended change is:

Submit a written recommendation to the COM via your immediate supervisor. The COM will review the recommendation.

After review, the COM will determine if the suggestions should be included as an amendment or new procedure in this plan. Changes to this plan will be distributed immediately upon approval.

SECTION 4

Responsibilities and Lines of Authorities

The following listed JVI personnel shall have the authority to intervene and suspend work in the interest of safety policy compliance;

- a. David Leadenham Program Manager
- b. Lee J. Kellam Deputy Program Manger
- c. TBD QC Representative
- d. TBD Superintendent/Site Safety Officer

Safety responsibilities, accountability and lines of authority are further discussed in Section 2.1 of the SSHASP, Project Safety Responsibilities.

Subcontractors and Suppliers

5.1 Subcontractor/Supplier Coordination and Control

JVI subcontractors will be screened for safety performance and compliance with Federal Alcohol and Drug testing requirements prior to being issued any contract for site work. JVI subcontractors will comply with the requirements for site safety as outlined in JVI health and Safety Procedures.

5.2 Subcontractor/Supplier Safety Responsibilities

All subcontractor employees are subject to the same training and medical surveillance requirements as JVI personnel depending on job activity. All activities involving the potential for exposure to hazardous waste materials will require medical and training certification as mandated by 29 CFR 1910.120. All subcontractor personnel will be required to sign in daily and be required to attend a daily meeting discussing operations and safety issues. All subcontractors involved in construction/remedial activities will complete a Subcontractor Pre-Job Safety Checklist prior to the start of work at the site. Subcontractors will submit Activity Analyses for their work activities to the JVI SSO. The subcontractor reports directly to the JVI Project Manager. All incidents involving subcontractor employees shall be reported to the JVI Site Safety Officer and a copy of the subcontractor's injury/illness report shall be submitted to the JVI SSO within 24 hours.

JVI subcontractors are required to sign off and comply with all requirements of the JVI Site-Specific Health and Safety Plan, which includes this Accident Prevention Plan, Hurricane Preparedness Plan. Plans to address specific hazards may be added to the APP by during the course of work. JVI subcontractors will be required to sign off and comply with any such supplemental plans. Contractors not in compliance will be immediately dismissed from the site.

Suppliers delivering various materials to the project site or providing equipment/equipment maintenance will comply with all rules and regulations specified by the owner. Supplier personnel will not be permitted into contaminated areas unless training and medical surveillance is in accordance with 29 CFR 1910.120. Contractors will not ride on tractors, forklifts or similar vehicles unless specific seats are provided. They will follow Facility hot work rules if hot work is required for vehicle or equipment maintenance. Trucks will be loaded and unloaded in a safe and effective manner and materials will be stored safely in designated locations only. Associated packaging will be properly disposed of and litter will not be permitted to be scattered or blown from truck beds. Operators of mobile equipment on site must observe all traffic rules such as speed limits and right-of-ways of pedestrians.

Training

6.1 Safety Indoctrination Subjects:

Outlines of the site safety orientation for JVI and subcontractor personnel and visitors are provided in Section 9.0 of the SSHASP, Training Requirements.

6.2 Mandatory Training and Certifications

Mandatory training and certifications are discussed in Section 9.0 of the SSHASP, Training Requirements.

All personnel entering an exclusion zone will be trained in the provisions of this Accident Prevention Plan and be required to sign the Accident Prevention Plan. Site-specific training for Site 22 is included in Section 9.0 of the SSHASP, Training Requirements.

6.3 Supervisory and Employee Safety Meetings

The JVI SSO will conduct daily safety meetings at the start of each work shift for on site personnel and will require subcontractors to follow similar meeting procedures or participate in the JVI daily safety meetings.

Safety and Health Inspections

7.1 Safety Inspections

The JVI Project Manager and Site Safety Officer are required to perform site safety inspections using the Site Safety Inspection Checklist. The SSO is responsible for conducting and preparing reports of daily safety inspections of work processes, site conditions, equipment conditions and submitting them for the project record. The SSO will discuss any necessary corrective actions with the PM and review new procedures. Copies of these reports are maintained on file at the project locations. Additionally, copies will be forwarded to the program COM.

The JVI Safety Manager or his designated representative will periodically conduct site visits and perform Site Safety Assessments. These reports are kept on file and are tracked in a database for each -Project Manager and Supervisor/ Superintendent, including the number of action items noted during the visit and written confirmation of the corrective actions for each item. These responses are compiled and provided to program management for review.

7.2 External Inspections/Certifications

JVI does not anticipate, but may consider the use of, outside sources to provide safety inspections on an as necessary basis.

As required, JVI safety equipment will comply with appropriate OSHA (Occupational Safety and Health Administration), NIOSH (National Institute for Occupational Safety and Health), ANSI (American National Standards Institute), ASTM (American Society for Testing and Materials), and US Coast Guard or other recognized certification organizations.

Safety and Health Expectations, Incentive Programs, and Compliance

8.1 Company Safety Program Goals

JVI considers safety the highest priority during work at all project sites and its business offices and has established a goal of **zero incidents**. All projects will be conducted in a manner which minimizes the probability of near misses, equipment/property damage or injury. JVI will establish programs to recognize people and projects that demonstrate excellence in safety performance. JVI will use safety observation programs to identify and correct unsafe acts and conditions. Safety awareness programs will be used to provide continuous training and development of good safety practices. JVI site supervision will investigate all incidents to determine root causes and institute corrective actions to prevent recurrence. JVI will provide and enforce safety rules to protect employees, subcontractors, clients and the public. Project managers and superintendents that demonstrate superior safety performance will be rewarded.

8.2 JVI Employee Safety Responsibility Requirements

Each employee is responsible for personal safety as well as the safety of others in the area and is expected to participate fully in the *Safety Improvement Process*, particularly the Safety Observation Program. The employee use all equipment provided in a safe and responsible manner as directed by the SSO. All JVI personnel will follow the policies set forth in the JVI Health and Safety Plan. Site personnel concerned with any aspect of health and safety shall bring it to the attention of the PM or SSO. All project personnel have the authority to stop work if it is their judgement serious injury could result from continued activity. The SSO shall be notified immediately if this becomes necessary. To protect the health and safety of all personnel, employees that knowingly disregard safety policies/procedures may be subject to disciplinary actions up to and including termination.

8.3 Managers and Supervisors Safety Accountability

It is the duty of the first line supervisor to motivate employees to adhere to JVI's safety policy in each work situation. A first line supervisor for these purposes is defined as that person designated to give immediate on-site supervision to personnel involved in a task.

All supervisors shall have complete knowledge of the safe procedure for all jobs and tasks under their supervision. When in doubt, they shall seek assistance prior to initiating a task. This is the only acceptable manner in which to perform the task. If the task cannot be accomplished safely, it will not be attempted.

Supervisors will:

- Explain the safety procedure involved with a task to each employee and check frequently to see that the employee understands and works as instructed.
- Allocate sufficient time for the training and coaching of all employees to insure that everyone knows the correct procedure for safely accomplishing required tasks.
- Prevent new employees from performing any tasks until required training is completed.
- Immediately correct unsafe conditions, which involved JVI employees or contractors.
- Ensure that the employees are outfitted with and wear personal protective equipment as specified by this APP, site-specific health and safety plan, other JVI procedures or as directed by the COM, PM, SSO, or CIH.
- Set a good safety example.
- Obtain the cooperation of employees and contractors.
- Provide a safe work environment for employees and contractors.
- Confirm contractor safety performance records have been verified prior to contract award and monitor contractor performance during operations.
- Report all accidents, near misses and property damage in accordance with the Incident Management and Reporting Procedure.
- Establish a safety culture, using the elements of the JVI Safety Improvement -process, which promotes awareness, encourages participation and recognizes excellence.

SECTION 9

Accident Reporting

9.1 Exposure Data (Man-hours Worked)

The JVI COM with assistance from the JVI designated responsible partner tracks and maintains incident records as to Federal reporting requirements (OSHA 200 Log). Incident Rates and Workers Compensation losses are tracked for each Project, Project Manager and Site Supervisor.

9.2 Accident Investigations, Reports, and Logs

The Site Safety Office conducts accident/incident investigations. A report is completed by the SSO and is required to be reviewed and signed by the Project Manager. The report must be submitted to the COM within 24 hours.

9.3 Immediate Notification of Major Incidents

JVI will immediately notify the ROICC of any major incident, including injury, fire, equipment/property damage and environmental incident. A full report will be provided within 48 hours. Procedures to be followed in response to any major personal injury are detailed in the Site Specific Health and Safety Plan, Section 8.7.1.1, Response.

SECTION 10

Medical Support

On-site Medical Support/Off-site Medical Arrangements are provided in Section 8.0 of the SSHASP. Emergency phone numbers are listed in Table 8.2 in Section 8.2, Emergency Recognition and Prevention.

Personal Protective Equipment

11.1 Hazard Assessment Procedures/Written Certifications for Personal Protective Equipment

Protection levels provided in the SSHASP have been established for the anticipated scope of work. Once on-site, results of air monitoring and visual inspection of the work activities may indicate the need for changes in these PPE level(s). Any significant change in the PPE level will be approved by the SSO in consultation with the PM, CIH and/or COM. Personal Protective Equipment (PPE) selection criteria are outlined in the SSHASP, Section 5.0, Protective Equipment.

All personnel using respiratory protection will be cleared by a physician for use of a respirator and will be fit-tested to assure they can achieve an acceptable fit.

Plans Required by the Safety Manual

12.1 Hazard Communication Program

The Site-Specific Hazard Communication Program is included Section 3.2 of the SSHASP. JVI Hazard Communication Program complies with 29 CFR 1926.59/1910.1200.

12.2 Emergency Response Plans

The Site-Specific Emergency Response and Contingency Plan is included in Section 8.0 of the SSHASP.

12.3 Layout Plans

Site delineation including work zones and sketches are included with the SS Work Plan. This plan may be modified upon release of the Project Specification.

12.4 Respiratory Protection Plan

The primary objective of respiratory protection is to prevent employee exposure to atmospheric contamination. When engineering measures to control contamination are not feasible, or while they are being implemented, personal respiratory protective devices will be used.

The criteria for determining respirator need have been evaluated based on the site contaminants; expected levels of protection are outlined in Section 5.1. Air monitoring will be conducted to confirm that respiratory protection levels are adequate (see Section 7.0 SSHASP). All respirator users will be OSHA trained in proper respirator use and maintenance. The SSO and crew leaders will observe workers during respirator use for signs of stress. The SSO, PM, CIH, and COM will also evaluate the implementation of the SSHASP, periodically, to determine its continued effectiveness with regard to respiratory protection. All persons assigned to use respirators will have medical clearance to do so.

12.5 Lead Abatement Plan

Not Applicable.

12.6 Asbestos Abatement Plan

Not Applicable.

12.7 Abrasive Blasting

Not Applicable.

12.8 Confined Space

Confined Space Entry Procedures will be available if required.

12.9 Hazardous Energy Control Plan

This program establishes lockout practices of energy sources that could cause injury to personnel involved at the work site. The lockout program covers all employees and outside contractors affected by the cleaning, repairing, servicing and adjusting of prime movers, machinery, and equipment. Only authorized employees shall perform such work.

- a. Authorized employees shall be instructed in lockout/tagout procedures by their supervisor. Each new or transferred employee shall be instructed by the supervisor in lockout procedures. A sufficient number of tags and padlocks shall be supplied. During each phase of construction, a representative from JVI will be present while the electrical supervisor begins the lock out/tag out process.
- b. All equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy-isolating device bearing a lock.
- c. Documented periodic inspections shall be made periodically by supervisors to ensure that each procedure is being properly followed. The SSO will insure these inspections are being performed and keep on record the inspection reports on the job site. The inspection must include a review addressing the employee's responsibilities. Documentation is to include the date of the inspection, equipment on which the procedure was being utilized, the employees involved, and the person performing the inspection.
- d. Authorized employees shall be certain as to which switch, valve, or other energy isolating devices apply to the equipment being locked out. More than one energy source may be involved. Any questionable identification of sources shall be cleared through the supervisors.
- e. To begin the lockout process, use the following items as a guide. If for any reason the following items are in question, contact your immediate supervisor before moving forward. If more than one individual is required to lock out equipment, each person shall place his own personal lock on the energy isolating device(s). One authorized individual and a competent person from the prime contractor (JVI) with the knowledge of the crew, may lock out equipment for the whole crew. In such cases, it is the responsibility of the individual to carry out all steps of the lockout procedure and inform the crew when it is safe to work on the equipment. Additionally, the authorized individual shall not remove a crew lock until it has been verified that all individuals are clear and a prime contractor competent person is present.

- (1) Notify all affected employees that a lockout is required.
 - (2) If the equipment is operating, shut it down by the normal stopping procedure.
 - (3) Operate the switch, valve, or other energy isolating devices so that the energy source(s) is disconnected or isolated from the equipment.
 - (4) Stored energy, such as capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc., must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.
 - (5) Lockout energy isolating devices with an assigned individual lock. A second lock will be used if possible by the superintendent.
 - (6) After ensuring that no personnel are exposed and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. CAUTION: Return operating controls to the neutral position after the test.
 - (7) Attach a completed accident prevention tag and/or sign on the controls of the machine. The identification tag and/or sign will be coordinated with the electrical contractor and the prime contractor. A JVI representative will then make known to the facility personnel affected by this operation to familiarize them with the identification of these tags or signs and the procedures in which the contractors will be working by, and the point of contact of the electrical supervisor.
 - (8) The equipment is now locked out.
- f. To restore equipment to service, use the following items as a guide. If for any reason the following items are in question, contact your immediate supervisor before moving forward.
- (a) When the job is complete and equipment is ready for testing or normal service, check the equipment area to see that no one is exposed.
 - (b) When equipment is clear, remove all locks. The energy isolating devices may be operated to restore energy to the equipment. There must be a supervisor from the electrical contractor and the prime contractor present.
- g. The following checklist for lockout training is a minimum requirement to provide to new employees. The supervisors must sign, date, and retain in their own records this information. The supervisor must also delivery a copy of this training to the Site Safety Officer.
- (a) Explain the significance of why a machine is locked or tagged out.
 - (b) Explain what an employee is to do (and not do) when encountering a tag or lock on a switch or device they want to operate.
 - (c) Explain the importance of notification of affected employees.
 - (d) Show the employee the location of all locks, tags, and lockout devices.

- (e) Explain how to recognize the applicable hazardous energy sources.
- (f) Explain the type(s) and magnitude of energy to be isolated on the machinery and how to control that energy.
- (g) Explain the proper sequence of locking out.
- h. All utility outages will follow the contract specifications, EM 385-1-1 and OSHA standards. The contractors will follow the above information as well as the following:
 - (a) The contractor will supply the required tags and/or locks for each utility outage.
 - (b) PWC Utility outages will be conducted with PWC Utilities, ROICC, the Contractor and sub-contractor.
 - (c) Interior building/ facility utility outages will be coordinated with Facility Manager, ROICC, the Contractor and sub-contractor.
 - (d) A preparatory meeting will be held prior to all electrical work and utility outages, this meeting will also cover any safety issues that may pertain to the scope of work. The Activity Hazard Analysis will be reviewed and any additional concerns will be annotated on this form.

12.10 Critical Lift Procedures

Not Applicable.

12.11 Contingency Plan for Severe Weather

Contingency plans for severe weather are included in Section 8.0 and Appendix C. of the SSHASP, Hurricane Preparedness Plan.

12.12 Access and Haul Rod Plan

Site delineation, sketches, and traffic control are defined in the SS Work Plan.

12.13 Demolition Plan

Demolition activities are detailed in the SS Work Plan.

12.14 Emergency Rescue (Tunneling)

Not Applicable.

12.15 Underground Construction Fire Prevention and Protection Plan

Not Applicable

12.16 Compressed Air Plan

Not Applicable

12.17 Form Work and Shoring Erection and Removal Plans

Not Applicable

12.18 Lift Slab Plans

Not Applicable

12.19 SSH

The JVI Site Specific Health and Safety Plan is included with this submission.

12.20 Blasting Plan

Not Applicable

12.21 Diving Plan

Not Applicable

12.22 Alcohol and Drug Abuse Prevention Plan

JVI substance abuse procedures are on file.

SECTION 13

Contractor Information to Meet the Requirements of the Major Sections of EM-385-1- 1

In addition to this Accident Prevention Plan, JVI has prepared a Site-Specific Health and Safety Plan to meet the major requirements of USACE Manual 385-1-1.

Appendix C
Hurricane Preparedness Plan

**Hurricane Preparedness Plan
for
Naval Activity Puerto Rico**

**RCRA Closure of Buildings 1973, 2009, & 2009A through 2009D
Defense Reutilization and Marketing Office
U. S. Naval Activity Puerto Rico**

Prepared for:

**Department of the Navy
Atlantic Division
Naval Facilities Engineering Command**

Contract No: N62470-03-D-4401

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Prepared by:



Contents

1	Introduction.....	1-1
1.1	Purpose	1-1
1.2	Scope.....	1-1
1.3	Discussion.....	1-1
2	Definitions.....	2-1

Attachments

- A Hurricane Preparedness Responsibility Punch List
- B Emergency Phone Numbers
- C Hurricane Tracking Map

Introduction

1.1 Purpose

This procedure outlines the general responsibilities and actions to be taken in preparation for and response to a hurricane or hurricane warnings in the Naval Activity Puerto Rico area. All personnel should understand that predicting the occurrence and path of a hurricane is difficult, however the risk can be minimized and controlled by following the procedures in this plan.

1.2 Scope

This procedure is applicable to all contractor personnel, including JVI subcontractors, temporary construction facilities, and remediation equipment present at the Naval Activity Puerto Rico project sites.

1.3 Discussion

This procedure provides information on how to protect personnel and property in the event of a hurricane. In the Naval Activity Puerto Rico area, attention must be paid to all hurricanes, since there is no way to determine with 100 percent accuracy whether a hurricane will actually hit the area until a few hours before landfall.

The following table demonstrates accuracy of forecasting a hurricane landfall. Probability of a landfall occurrence is low more than 24 hours in advance of a storm.

Hours Before Landfall	Maximum Probability Values
72 Hours	10 Percent
48 Hours	13-18 Percent
36 Hours	20-25 Percent
24 Hours	35-45 Percent
12 Hours	60-70 Percent

SECTION 2

Definitions

The following definitions apply to various terms used in this document.

Conditions of Readiness (CORS):

Condition V - Destructive winds are possible at Naval Activity Puerto Rico within 96 hours. Normal daily jobsite cleanup and good housekeeping practices.

Condition IV - Destructive winds are possible at Naval Activity Puerto Rico within 72 hours. Normal daily jobsite cleanup and good housekeeping practices. Collect and store in piles or containers, scrap lumber, waste material, and rubbish. for removal and disposal at the end of each workday. Maintain the construction site, including storage areas, free of accumulation of debris. Stack form lumber in neat piles less than 4 feet high. Remove all trash debris and other objects which could become missile hazards. Contact ROICC for Condition requirements, updates, and completion of required actions.

Condition III - Destructive winds are possible at Naval Activity Puerto Rico within 48 hours. Maintain Condition IV requirements. Begin securing the jobsite for and taking those actions necessary for Condition I, which cannot be completed within 18 hours. Cease all routine activities which might interfere with securing operations. Begin collecting and stowing all gear and portable equipment. Make preparations for securing buildings. Review requirements pertaining to Condition II and continue action as necessary to attain Condition III readiness. Contact the weather station on base for weather and COR updates and completion of required actions.

Condition II - Destructive winds are possible at Naval Activity Puerto Rico within 24 hours. Curtail or cease routine activities until securing operations are complete. Reinforce or remove form work and scaffolding. Secure machinery, tools, equipment and materials, or remove from job site. Expend every effort to clear all missile hazards and loose equipment from the jobsite. Contact ROICC for weather and COR updates and completion of required actions.

Condition I - Destructive winds are possible at Naval Activity Puerto Rico within 12 hours. Perform and complete all remaining actions required for lower conditions of readiness. Secure the jobsite and leave the government premises.

Destructive Winds - Generally winds reaching or exceeding the force of a tropical storm (≥ 39 mph or 34 knots). Winds from any storm system (tropical or otherwise) that are determined to have the potential to cause property damage or personal injury which would warrant Naval Activity Puerto Rico to initiate a Condition IV alert.

Hurricane Watch - An announcement for specific areas where a hurricane or an incipient hurricane poses a possible threat to a coastal area, generally within 36 hours.

Hurricane Warning - A warning that sustained winds of 74 MPH (64 knots) or higher, associated with a hurricane are expected in a specified coastal area in 24 hours or less.

Hurricane - A tropical cyclone in which the maximum sustained surface wind is 64 knots (74 MPH) or greater.

Missile Hazard - Any object that may become airborne during high winds.

Severe Weather - Any storm of tropical or non-tropical origin that has the capacity to produce destructive winds

Storm Surge - An abnormal rise in sea level accompanying a hurricane or other intense storm, and whose height is the difference between the observed level of the sea surface and the level that would have occurred in the absence of the storm.

Storm Tide - The actual sea level resulting from the astronomical tide combined with the storm surge. This term is used interchangeably with "Hurricane Tide."

Tropical Depression - A tropical low pressure system in which the maximum sustained surface wind is 33 knots (38 MPH) or less.

Tropical Storm - A tropical low pressure system in which the maximum surface wind ranges from 34 to 63 knots (39 to 73 MPH) inclusive. This is the strength at which the National Hurricane Center applies a name to the storm.

Tropical Storm Watch - Tropical storm conditions pose a threat to a coastal area generally within 36 hours.

Tropical Storm Warning - A warning for tropical storm conditions with sustained winds within the range of 39 to 73 MPH which are expected in a specified coastal area within 24 hours or less.

Appendix D
Material Safety Data Sheets (MSDSs)
