Letter of Transmittal

Environmental
Construction
Operation &
Remediation

ECOR Federal Services, LLC
21 S. High Street
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Date: 5/20/09

Projeet #: EF031.002

To:
Facilities Engineering Command
Mid-Atlantic Facilities
Engineering Command Building Z-144
9742 Maryland Avenue
Norfolk, VA 23511-3095

Attention:

Lora Fly
Remedial Project Manager
(Code OPNEEV)

We are sending you:

☒ Attached ☐ Under separate cover via:
☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples
☐ Specifications ☐ Copy of letter ☐ Change order ☐ other

Copies	Date	No.	Description
1	5/20/09		Final Removal Action Work Plan Hardcopy
1	5/2009		Final Removal Action Work Plan CD

These are transmitted as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit ___ copies for approval
☒ For your use ☐ Approved as noted ☐ Submit ___ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Returned ___ corrected prints
☐ For review and comment ☐ Prints returned after loan to us
☐ For bids due: _____ ☐ (other)

_____

Remarks

Copy to:
Richard Smith, VSE Corp.
Steven Scharf, NYDEC
Christopher Shukis, New London Public Works (2)

Signed:

If enclosures are not as noted, kindly notify us at once.

- FINAL -

REMOVAL ACTION WORK PLAN

FOR

Installation Restoration (IR) IRP Site 1 – Former Drum Marshalling Area

Non-Time Critical Removal Action

Naval Weapons Industrial Reserve Plant, Bethpage, NY

Contract No. N62472-05-D-0031

Delivery Order No. 0002

Prepared for:

NAVFAC
Naval Facilities Engineering Command

Naval Facilities Engineering Command Mid-Atlantic Division
Northeast IPT
9472 Maryland Avenue, Building Z-144
Norfolk, Virginia 23511

Prepared by:

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ECOR Federal Services, LLC
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May 2009

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LIST OF ABBREVIATIONS AND ACRONYMS

ACM	Asbestos Containing Material
AS	Air Sparging
BMP	Best Management Practices
CIH	Certified Industrial Hygienist
CFR	Code of Federal Regulations
CO	Contracting Officer
COR	Contracting Officer's Representative
DFW	Definable Features of Work
DOT	U.S. Department of Transportation
EFS	ECOR Federal Services, LLC
EPA	Environmental Protection Agency
EPP	Environmental Protection Plan
GOCO	Government-Owned Contractor-Operated
HazCom	Hazard Communication
IRP	Installation Restoration Program
MIDLANT	Mid-Atlantic Division
MSDS	Material Safety Data Sheets
NAVFAC	Naval Facilities Engineering Command
NCR	Noncompliance Report
NGC	Northrop Grumman Corporation
NWIRP	Naval Weapons Industrial Reserve Plant
NYSDEC	New York State Department of Environmental Conservation
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PGM	Program Manager
PM	Project Manager

POC	Point of Contact
PPE	Personal Protective Equipment
QA	Quality Assurance
RCRA	Resource Conservation and Recovery Act
S&H	Safety and Health
SHM	Safety and Health Manager
SOW	Statement of Work
SS	Site Superintendent
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SVE	Soil Vapor Extraction
IR	Installation Restoration
QC	Quality Control
VOC	Volatile Organic Compound
WP	Work Plan

1.0 INTRODUCTION

The Naval Facilities Engineering Command Mid-Atlantic Division (NAVFAC MIDLANT) has contracted with ECOR Federal Services, LLC (EFS) to implement a removal action at Installation Restoration Program IRP Site 1 (IRP Site 1), Former Drum Marshalling Area, located at the Naval Weapons Industrial Reserve Plant (NWIRP), Bethpage, New York. The work to be performed includes decontamination, demolition, transportation and disposal of structures at IRP Site 1. Specific demolition and well abandonment activities, as outlined in the Statement of Work (Appendix A), will include the following:

- Demolition of Building 03-13
- Demolition of Building 03-38
- Demolition of Building 03-31
- Demolition of Building 03-33
- Demolition of 7 concrete pads
- Demolition of settling tank adjacent to Building 03-13
- Abandonment of 33 Air Sparge (AS) / Soil Vapor Extraction (SVE) Wells

EFS developed this Work Plan (WP) and Site Safety and Health Plan (SSHP) in accordance with the project requirements set forth in the *Installation Restoration (IR) IRP Site 1 – Former Drum Marshalling Area, Non-Time Critical Removal Action, Naval Weapons Industrial Reserve Plant, Bethpage, NY Statement of Work (SOW)* – dated 23 July 2008.

1.1 Site Location and Description

NWIRP Bethpage is located in east-central Nassau County, Long Island, New York, approximately 30 miles east of New York City (Figure 1). The Navy's property originally totaled approximately 109.5 acres and was formerly a Government-Owned Contractor-Operated (GOCO) facility that was operated by the Northrop Grumman Corporation (NGC) until September 1998. By April 2008, all of the property except for 9 acres was transferred to Nassau County. This project is being conducted on the 9-acre parcel retained by the Navy (Figure 2). NWIRP Bethpage is bordered on the north, west, and south by property owned, or formerly owned by NGC. The NGC property covered approximately 605 acres. The property on the east consists of a residential neighborhood. The activities associated with this Demolition Plan are to be completed at IRP Site 1 located east of Plant No. 3 (Figure 3 and 3A).

NWIRP Bethpage is currently listed by New York State Department of Environmental Conservation (NYSDEC) as an "inactive hazardous waste site" (#1-30-003B) as is the Northrop Grumman Corporation (#1-30-003A) and the Hooker/RUCO site (#1-30-004) located less than one-half mile west of NWIRP Bethpage. The United States

Environmental Protection Agency (EPA) Identification Number for NWIRP Bethpage is NYD002047967.

1.2 Project Location and Background – IRP Site 1

Various solvents were stored at IRP Site 1. Cadmium and cyanide wastes were also stored in the area from the early 1950's through 1974. Approximately 200 to 300 drums were stored at these locations at any given time. Reportedly, all drums of waste which were stored at these areas were taken offsite by a private contractor for treatment and disposal.

Investigations at the site identified elevated concentrations of volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), pesticides, and metals in the soils at IRP Site 1, which may pose unacceptable risk to specific future human receptors. Some soils contain PCBs at a concentration greater than 50 milligrams per kilogram (a New York State value for Resource Conservation and Recovery Act (RCRA) hazardous waste). As part of this removal action, the Navy is demolishing surface structures at IRP Site 1 as the first step in an over all program to address contaminants in surface and subsurface soils.

All demolition activities associated with this Work Plan (WP) will take place within IRP Site 1, and be conducted within the top 6 feet of the existing ground surface. Figure 4 presents the horizontal extent of total PCB contamination within the IRP Site 1 surface soil (0 to 2 feet below ground surface), Figure 5 presents the estimated horizontal extent of total PCB contamination within the IRP Site 1 subsurface soil (2 to 15 feet below ground surface), Figure 6 presents the horizontal extent of chromium contamination at the IRP Site 1 surface soil, and Figure 7 presents the horizontal extent of cadmium contamination within the IRP Site 1 surface soil.

2.0 PROJECT ORGANIZATION

This section identifies key project personnel and their specific roles and responsibilities for each activity. It identifies and defines responsibilities of the principal decision-makers and all persons responsible for implementing the work. Refer to Figure 8 for the project organizational chart.

2.1 EFS

A list of EFS personnel anticipated for this project and their corresponding job titles follows. (Specific project roles and responsibilities are listed below.)

2.1.1 Program Manager

The Program Manager (PGM), Arnon Garonzik, has the overall responsibility for all technical, contractual, safety, and administrative matters for EFS under this contract. He will ensure a high degree of client responsiveness is maintained. Additionally, he will be responsible for reviewing and approving project work plans, overseeing staff selection, monitoring contract and task funds and schedules, and ensuring quality assurance processes are being implemented. The PGM will delegate day-to-day project management to the Project Manager (PM) and Safety and Health (S&H) management to the Site Safety and Health Officer (SSHO).

2.1.2 Project Manager

Mr. Gregory Birch will serve as the PM for this project and is responsible for implementing the design and plans and ensuring all work requirements are completed in accordance with the approved design and plans. The PM, who reports to the PGM, has the following responsibilities:

- Serve as the primary EFS Point of Contact (POC) for the NAVFAC MIDLANT and other technical and project management personnel
- Identify and provide the manpower, supplies, and equipment necessary to perform field sampling tasks and to conduct the soil sampling activities
- Oversee the preparation of the design, project plans and technical report documents. Ensure all the necessary elements from the SOW are addressed in project plans.
- Provide regular schedule updates and cost tracking reports to the client.

2.1.3 Site Superintendent

Mr. John Hudacek will serve as the Site Superintendent (SS) and will be responsible for coordinating and managing all site-related labor, materials, supplies, equipment, and subcontract services. The SS, who reports to the PM, is responsible for:

- Directing all demolition and well abandonment efforts and oversight of all subcontractors associated with completion of the objectives of the SOW, including, but not limited to, site preparation, excavation, asbestos and hazardous materials removal, all mechanical installation, electrical installation, controls and site restoration.

- Ensuring that EFS and its subcontractors conduct their activities in conformance with contract requirements, site-specific plans and procedures, applicable environmental laws and regulations, and applicable U.S. Department of Transportation (DOT) regulations for transporting wastes.

2.1.4 Safety and Health Manager (Certified Industrial Hygienist)

Mr. David Jones, Certified Industrial Hygienist (CIH), will act as the S&H Manager (SHM) and will be responsible for overseeing project safety performance. He will authorize all aspects of the Site Safety and Health Plan (SSHP). Any proposed deviations from the approved SSHP or changes in expected site conditions are immediately presented to the SHM for consideration/approval. The SHM receives data directly from the SSHO. The SHM coordinates with the PM, but reports directly to EFS's Program Manager. Duties of the SHM include, but are not limited to, the following:

- Ensuring that the appropriate training occurs and that appropriate training and medical records are kept current and on site

- Overseeing the administration of the S&H program

- Serving as the liaison between Corporate S&H and the PM

- Determining what resources are required to adequately address S&H issues and communicating those resource requirements to the PM.

2.1.5 Site Safety and Health Officer

Mr. Matthew Bard will serve as the SSHO for the project and will be responsible for all day-to-day onsite aspects of S&H related to the project and will advise the PM on all S&H aspects on the site. The SSHO will conduct inspections to determine whether

operations are being performed in accordance with the SSHP, NAVFAC MIDLANT requirements, and Occupational Safety and Health Administration (OSHA) regulations. The SSHO is assigned to the PM during execution of project activities, but reports directly to the SHM with functional safety issues. An open dialogue is kept between the SSHO and project supervisory personnel to ensure that safety issues are quickly addressed and corrective actions are taken. The SSHO has the authority to suspend operations at the site as a result of nonconformance to the SSHP. The SSHO's duties include, but are not limited to, the following:

- Implementing the SSHP and addressing site hazards and controls necessary to safeguard construction personnel and visitors
- Upgrading or downgrading levels of protection, as described in the SSHP
- Ensuring the procurement and distribution of personal protective equipment (PPE), inspecting PPE, and maintaining documentation of PPE
- Ensuring procurement of required air monitoring instrumentation and performing air monitoring including calibration and documentation
- Ensuring that subcontract personnel performing work are properly trained and certified, and are knowledgeable of the SSHP and its requirements
- Conducting tailgate safety meetings
- Conducting random S&H audits in the field
- Reporting to accident review boards, if necessary.

Specifics to be provided to construction personnel for this project include:

- Environmental training and certification
- A Hazard Communication (HazCom) program including Material Safety Data Sheets (MSDSs) with corresponding inventory of all hazardous substances used at the site
- Waste management procedures for handling waste
- Procedures for spill response and cleanup of hazardous substances used and encountered at the site
- Instructions on where PPE is stored, how it is maintained, and how it will be used for the various construction tasks

- Instructions on safeguards for heavy equipment
- Current spill and emergency response contact list.
- Whenever the SSHO is not onsite, the duties will be assumed by the SS.

2.2 Subcontractors

EFS will direct and control all subcontractors that are used on this project. Contractual agreements between EFS and its subcontractors contain flow-down clauses that require subcontractors to meet all appropriate Federal, State, local laws, regulations, and requirements. Onsite subcontractors will coordinate their activities through the SS and will be required to submit daily logs documenting their activities. Specific subcontracted activities and major procurement items will include:

- Environmental consultant for hazardous material building inspections
- Asbestos and lead abatement contactor for hazardous building material abatement and transportation and disposal of hazardous wastes
- Well drilling contractor for well abandonment
- Demolition contractor for removal of buildings and concrete pads, and transportation and disposal of demolition wastes

3.0 PROJECT ACTIVITIES

3.1 Definable Features of Work (DFW)

For the purposes of this plan, EFS has organized the project into the following primary fieldwork activities:

- Plans and Reports
- Mobilization and Site Preparation
- Structure Decontamination
- Structure Demolition
- Well Abandonment
- Transportation and Disposal of Waste
- Site Restoration
- Demobilization

3.2 Plans & Reports

Before initiating any field activities, preparation and submittal of all site-specific planning documents will be completed. This includes, but not limited to the Work Plan, Site Safety and Health Plan, field activities schedule, design drawings & specifications, and applicable figures.

Upon completion of IRP Site 1 work, EFS will prepare a Construction Completion Report summarizing the field activities through all stages of the project.

3.2.1 Work Schedule

EFS has anticipated a mobilization start date of May 2009 (see the project schedule provided as Figure 9). A pre-construction meeting will be conducted before any field construction activities take place.

3.2.2 Permits

Because the individual removal sites are less than 1 acre, it will not be necessary to file a Notice of Intent for Storm Water Discharges Associated with Construction Activity; however, erosion and sediment control measures will be implemented by EFS, as identified below in Section 3.2.3 (Soil Erosion and Sediment Control). All other Federal, State, and local permits required to complete the removal activities associated with the SOW will be obtained by EFS prior to initiation of field work. A complete list of required permits will be developed by EFS and presented to the Navy following approval of this Work Plan.

3.2.3 Soil Erosion and Sediment Control

3.2.3.1 General Criteria and Requirements

Erosion and sedimentation control best management practices (BMPs) have been incorporated into the project to prevent sediment migration from the Site. These BMPs include only temporary measures, and will be implemented in accordance with manufacturer's specifications, and good engineering practices. Temporary measures serve to meet short-term goals of minimizing erosion and restricting the transport of sediment within and from the limits of an active work area. The general criteria and requirements of the erosion and sediment control measures and BMPs include:

- Conduct the project in accordance with this section, and in compliance with state and local requirements;
- Provide temporary erosion control measures during all construction activities;
- Add or adjust/modify installed measures as required to coordinate with actual work conditions;
- Inspect and maintain erosion and sedimentation control measures throughout the duration of project;
- Install permanent erosion control measures upon completion of the project to provide long term stabilization of IRP Site 1; and
- Locate soil stockpiles with associated sediment barriers at least 50 feet from surface waters and drainage channels.

The NYSDEC has jurisdictional responsibility for soil erosion and sediment control at IRP Site 1.

Prior to the initiation of demolition or soil disturbance activities, the area will be surrounded with silt-fence, as appropriate, to control localized disturbances until areas have been restored and/or stabilized. EFS will comply with state and local guidance for erosion control at IRP Site 1.

3.2.3.2 General Stabilization BMPs

The following narrative discusses stabilization BMPs for this project in general terms. Site-specific features, measures, and procedures for stabilization practices are discussed below as well as detailed on the Soil Erosion and Sediment Control Drawings.

Generally, stabilization practices for this project will include the following measures:

- Minimizing the size of disturbed areas at any one time to the extent possible;

- Maintaining existing vegetation and utilizing buffer zones to the extent possible;
- Implementing measures and procedures for dust minimization and control;
- Stabilizing areas after final grading by installing permanent vegetative cover for all disturbed areas.

3.2.3.3 General Structural BMPs

The following narrative discusses structural BMPs for this project in general terms. Site-specific features, measures, and procedures for structural practices are discussed below as well as detailed on the Soil Erosion and Sediment Control Drawings.

Temporary erosion and sedimentation structural controls have been incorporated into the project through the use of performance standards which demonstrate the use of such features. All construction activities will be performed in accordance with BMPs to reduce the potential for erosion through practical and sound work efforts. Generally, temporary erosion control structural controls include:

- Stabilized construction entrances to minimize the transport of soil and sediment from active construction areas onto adjacent roadways;
- Sediment barriers (silt fence, filter berms, and/or rock filters) installed as necessary to isolate capture areas of erosion and minimize sediment transport beyond IRP Site 1;
- Collecting runoff to centralized locations for sediment control where feasible;
- Diversion berms or drainage channels, if deemed necessary, to divert and convey run on around disturbed areas and discharge it to a stable downgradient location;

3.2.4 Equipment and Subcontractors Site Access

EFS will coordinate with the Navy for site access and haul routes. EFS will submit a list of EFS and subcontractor personnel and other required information to the Navy Facility Manager for Bethpage. Any other personnel requiring site access including heavy equipment haulers and other subcontractor employees will be accompanied by EFS personnel.

3.2.5 Utility Identification/Marking Request/Electrical Disconnects

EFS will follow the procedures established by NWIRP for utility locations and marking before breaking ground. Each utility company will be contacted for locating their utilities at the IRP Site 1. Utility markings will be maintained for the duration of the project. Any active lines that cannot be disconnected will be subject to lock out/tag out.

3.2.6 Disposal/Recycling Facility Information

The following provides information on each Disposal/Recycling facility that will be used for this project:

Disposal Facilities

1) 110 Sand Company - Spagnoli Road, Melville, NY 11747, (631) 694-2822, NYSDEC Permit # 1-4726-00490000030
2) Emjay Environmental Recycling, Inc, 80 Emjay Blvd, Brentwood, NY 11717, (631) 952-8660, NYSDEC Permit# 1-4728-0400400001

Recycling Facilities

1) Tri-Town Recycling, Inc, 135 South 2nd Street, North Bayshore, NY 11706, (631) 243-1262
2) Kurass Materials, Inc, 90 Barthold Avenue, East Patchogue, NY 11772, (631) 286-0080
3) Superior Waste Services of NY, 445 St. James Street, Holbrook, NY 11741, (631) 580-5800

3.2.7 Spill Prevention and Response

EFS will be responsible for any spills or leaks caused by its operations during the performance of this contract. EFS will provide contingency measures for potential onsite spills of any potentially hazardous materials. EFS will provide the following:

- Methods, means, and facilities to prevent contamination of soil, water, air, structures, equipment, or material from a release due to EFS's operations
- Equipment and personnel to perform emergency measures to mitigate spills and control spreading
- A decontamination program to minimize the potential for contamination of adjacent areas.

The methods employed on this project to prevent spills include installing spill guard containers or high-density polyethylene liners with berms around storage tanks; inspecting equipment and hoses to ensure they have no leaks and are in good condition; inspecting vehicles before they leave a work area; and always using good work practices to avoid unnecessary spillage.

3.2.7.1 Spill Response

EFS will take all necessary precautions to ensure that spills and/or discharges do not occur. EFS will have adequate equipment, supplies, and materials at IRP Site 1 to effectively respond to any spill and/or discharge, including:

- Personal protective equipment
- Sorbent materials
- Hand tools (e.g., shovels, buckets)
- Decontamination equipment and supplies
- Miscellaneous supplies and equipment.

The following requirements will be met in the case of a spill of a hazardous material:

- Take immediate measures to control and contain the spill to prevent release into surface or ground waters
- Notify the Contracting Officer (CO), Contracting Officer's Representative (COR) and Navy Facility Manager for Bethpage immediately
- Notify the Federal Emergency Spill Hotline at 1-800-424-8802 within 2 hours for reportable spills
- Isolate and contain hazardous spill areas with absorbent pads, booms, and/or pillows
- For larger spills, dispatch vacuum tanker and/or emergency response team
- Deny entry to unauthorized personnel
- Do not allow anyone to touch the spilled material
- Stay upwind and keep out of low areas
- Keep combustibles away from the spilled material
- Collect environmental samples for analysis to determine that cleanup is adequate

3.2.7.2 Notification of Spills and Discharges

EFS will provide written notification to the Navy (Greg Pearman and Lora Fly) within 24 hours of the incident. The report will include the following items:

- Description of material spilled including identity and quantity
- Exact time and location of the spill, and a description of the area involved
- Containment procedures used
- Description of cleanup procedures used; and status of spill residues
- Summary of EFS communications with other agencies
- Determination if the spill is reportable to the EPA and/or NYSDEC, the date the report(s) to the appropriate agency was made, and the name of the agency representative who received the report.

EFS will notify the Navy of any releases regardless of the quantity (below the Reportable Quantities as defined in Title 40 of the Code of Federal Regulations (CFR), Subsection 302.4 (40 CFR 302.4)).

The report will be finalized between EFS and the Navy within 7 days of the spill, and the Navy will provide the report to the appropriate regulatory authorities.

3.2.8 Transportation Plan

Materials generated during the removal action will be loaded onto standard tri-axle dump trucks. Once loaded, the vehicles will be inspected for loose material along the tailgate, top and sides of the bed. If present, the material will be removed at the loading site utilizing dry decontamination methods with brooms and shovels. The vehicles will be covered with a secure tarp and all the tires will be inspected and decontaminated. Once cleared for departure, the onsite EFS representative will present a manifest or bill of lading, whichever is appropriate, for driver signature and release the appropriate copies for transportation and disposal. NWIRP Bethpage Security will be notified for all truck and subcontractor traffic on and off site.

All project personnel and subcontractors will be notified and directed to use the primary haul route when entering and exiting NWIRP Bethpage. The entrance is the 999 South Oyster Bay Road Gate. All vehicle traffic will check in with NWIRP Bethpage Security and travel (east) straight to IRP Site 1. Figure 3 presents the primary haul route that will be used by all vehicles associated with work at IRP Site 1.

3.3 Mobilization and Site Preparation

EFS anticipates a field mobilization date in May 2009 and will mobilize personnel and equipment. Work zones will be established in accordance with the SSHP.

A tailgate safety meeting will be conducted at the beginning of each workday and will discuss the day's activities, physical and chemical hazards, and a review of the emergency procedures and the hospital route. The tailgate safety meeting will be documented and all personnel will record their attendance. Personnel involved in onsite activities include the SS, SSHO, equipment operator(s), laborer(s), and subcontractor personnel.

Prior to initiation of site activities, EFS will provide the Navy with a list of the equipment and materials needed to complete the activities associated with the SOW. This list will be updated as necessary to reflect work being performed.

Figure 3A shows planned equipment and materials staging areas, temporary soil stockpile areas, decontamination pads, and construction entrance point. It should also be noted that since the site perimeter fencing will remain intact throughout the demolition and removal activities, EFS will construct an entrance gate (construction entrance) with adequate security devices to prevent unauthorized access to potentially hazardous materials.

3.4 Structure Decontamination

Of the four (4) buildings scheduled for demolition under the SOW (Buildings 03-13, 03-38, 03-31, and 03-33), only Building 03-13 has been identified as having asbestos containing material (ACM). An Asbestos Survey conducted by Dewberry and Davis (Appendix B) determined that Building 03-13 contained the following ACM:

- 550 square feet of vinyl floor tile
- 150 square feet of transite board
- 2 linear feet of transite pipe

On October 19, 2007, the asbestos abatement contractor, Boyle Services Inc., removed all suspected ACM flooring tile from Building 03-13 (Appendix C).

In order to confirm the current environmental status of all buildings scheduled for demolition (including Building 03-13), EFS (prior to any demolition activities) will assess, and determine the presence or absence of any environmental issues. Should any environmental issues other than those presented in Appendix B (Asbestos Survey) be identified, they will be addressed in accordance with all applicable Federal, State, and local laws and regulations.

3.5 Structure Demolition

As previously mentioned, demolition activities will include the following:

- Demolition of Building 03-13

- Demolition of Building 03-38
- Demolition of Building 03-31
- Demolition of Building 03-33
- Demolition of 7 concrete pads
- Demolition of settling tank adjacent to Building 03-13

The following subsections describe each facility/structure and define the actions EFS will take to complete the demolition.

It should be noted that prior to any demolition activities, EFS will remove and dispose of all materials located within the buildings scheduled for demolition. As identified in Appendix B (Asbestos Survey), ACM is still located within Building 03-13.

Prior to demolition all hazardous materials will be removed as stated in Appendix D (Pre-Demolition Asbestos and Hazardous Material Removal Plan).

3.5.1 Building 03-13 Demolition Activities

This frame constructed block building was previously used as an industrial waste water treatment facility. Treated water was discharged to the settling tank adjacent to the building and to the leach field located south of the building. This building is one and a half stories and measures approximately 100 feet by 40 feet. The building includes a side garage, access doors on three sides, flat roof, concrete floor, interior block and wood walls, and water and sewage service lines. This building is known to have ACM in the form of transite pipe, transite board, floor tile and pipe insulation, possible mercury in lamps and switches, possible lead paint on walls, and possible PCB in fluorescent light ballast. Most of the known ACM was removed from this building in 2007 (Appendix C). Additional hazardous materials may exist under the building's siding, roofing and floors.

As mentioned in Section 2.5.8, an environmental survey will be conducted at Building 03-13. Should any environmental issues be identified, they will be addressed prior to any demolition activities.

Upon completion of the environmental survey, EFS will begin demolition, which will include:

- The building structure
- Concrete pads adjacent to the building
- Concrete foundation
- Removal of utilities to 2 feet below concrete foundation

EFS will begin demolition by removing all loose materials within the building structure. These materials will be stockpiled outside the building in preparation for

disposal/recycling. Once all materials have been removed from the interior of the building, the structure will be demolished. All appropriate demolition material will be broken, resized, and stockpiled in preparation for disposal/recycling. The next step in the demolition process will include the removal of the concrete pads (adjacent to the building), as well as the concrete foundation of the building. As with the structure itself, all appropriate demolition materials will be broken, resized, and stockpiled in preparation for disposal/recycling. EFS will transport all the demolition material to the appropriate disposal/recycling facility listed in Section 3.2.6. The final step in the demolition of Building 03-13 will be to remove all utilities to a depth of 2 feet below the foundation.

All stockpiled materials will be sampled for characterization purposes in order to satisfy the land disposal requirements of the New York State licensed landfills.

3.5.2 Building 03-38 Demolition Activities

This building is a concrete pad that was used as a drum storage area, and consists of 3 walls, with access to the building from the west through two large garage doors. The walls do not come to the floor (about 1 foot of clearance between the bottom of each of the three walls and the top of the concrete pad). This building measures approximately 30 feet by 15 feet and 11 feet high (12 feet at roof peak) and includes the following characteristics;

- Steel framed aluminum siding.
- Roof is steel or corrugated metal.
- The concrete floor contains a large floor drain that drains to a sump that contains liquids (i.e., the sump does not drain).
- No utilities to the building.
- Nothing located within the building.

As mentioned in Section 2.5.8, an environmental survey will be conducted at Building 03-38. Should any environmental issues be identified, they will be addressed prior to any demolition activities.

Upon completion of the environmental survey, EFS will begin demolition, which will include:

- The building structure
- Concrete foundation
- Concrete sump
- Removal of utilities to 2 feet below foundation

EFS will begin demolition by removing the building structure. All appropriate demolition material will be broken, resized, and stockpiled in preparation for disposal/recycling. The next step in the demolition process will include the removal of the concrete foundation and sump. As with the structure itself, all appropriate demolition materials will be broken, resized, and stockpiled in preparation for disposal/recycling. EFS will transport all the demolition material to the appropriate disposal/recycling facility listed in Section 3.2.6. The final step in the demolition of Building 03-38 will be to remove all utilities to a depth of 2 feet below the foundation.

All stockpiled materials will be sampled for characterization purposes in order to satisfy the land disposal requirements of the New York State licensed landfills.

3.5.3 Building 03-31 Demolition Activities

This building is a corrugated metal building constructed on a concrete pad. The building has a peaked roof, was used for storage and housed the original AS/SVE system building (prior to moving the system equipment to Building 03-33). This building measures approximately 40 feet by 24 feet and 10 feet high (11.5 feet at roof peak) and includes the following characteristics.

- The building is steel framed corrugated metal siding.
- Roof is constructed of corrugated metal.
- No floor drains observed (no lights within the building during inspection).
- Miscellaneous equipment within building.
- No water or sewage utilities service to the building.
- All electrical has been cut and the fire suppression line deactivated.

As mentioned in Section 2.5.8, an environmental survey will be conducted at Building 03-31. Should any environmental issues be identified, they will be addressed prior to any demolition activities.

Upon completion of the environmental survey, EFS will begin demolition, which will include:

- Building Structure
- Concrete Foundation
- Removal of utilities to 2 feet below foundation

EFS will begin demolition by removing the building structure. All appropriate demolition material will be broken, resized, and stockpiled in preparation for disposal/recycling. The next step in the demolition process will include the removal of the concrete foundation and sump. As with the structure itself, all appropriate demolition

materials will be broken, resized, and stockpiled in preparation for disposal/recycling. EFS will transport all the demolition material to the appropriate disposal/recycling facility listed in Section 3.2.6. The final step in the demolition of Building 03-31 will be to remove all utilities to a depth of 2 feet below the foundation.

All stockpiled materials will be sampled for characterization purposes in order to satisfy the land disposal requirements of the New York State licensed landfills.

3.5.4 Building 03-33 Demolition Activities

This building is a pre-engineered steel building. The roof is peeked and slopes from the center. This building was constructed within the past 10 years and was used to house the AS/SVE system. This building is approximately 50 feet by 50 feet and is 25 feet high (27 feet at roof peak) and includes the following characteristics.

- The building is steel framed corrugated metal siding.
- Roof is constructed of corrugated metal.
- There were not observed floor drains.
- Water and sanitary lines serviced the building when in use.
- Miscellaneous equipment is stored within the building.
- There are several electrical panels.
- There is a small office area within the building (material type not determined during inspection).
- All electrical has been cut and the fire suppression line deactivated.
- There is a small restroom along the western wall.
- There is an electrical transformer located on the west interior wall.

As mentioned in Section 2.5.8, an environmental survey will be conducted at Building 03-33. Should any environmental issues be identified, they will be addressed prior to demolition activities.

Upon completion of the environmental survey, EFS will begin demolition, which will include:

- The building structure
- Concrete foundation
- Removal of utilities to 2 feet below concrete foundation

EFS will begin demolition by removing all loose materials within the building structure. These materials will be stockpiled outside the building in preparation for

disposal/recycling. Once all materials have been removed from the interior of the building, the structure will be demolished. All appropriate demolition material will be broken, resized, and stockpiled in preparation for disposal/recycling. The next step in the demolition process will include the removal of the concrete foundation of the building. As with the structure itself, all appropriate demolition materials will be broken, resized, and stockpiled in preparation for disposal/recycling. EFS will transport all the demolition material to the appropriate disposal/recycling facility listed in Section 3.2.6. The final step in the demolition of Building 03-33 will be to remove all utilities to a depth of 2 feet below the foundation.

All stockpiled materials will be sampled for characterization purposes in order to satisfy the land disposal requirements of the New York State licensed landfills.

3.6 Concrete Pad Demolition

There are a total of six concrete pads at IRP Site 1 that will be removed (Figure 10). Although the exact thicknesses are not known, it is assumed that each of the pads is eight inches thick. The following chart identifies each pad, its size, and location.

Concrete Pad	Length (feet)	Width (feet)	Location
Pad 1	90	80	Near Steel Wall (North)
Pad 2	21	13	Near Bldg. 03-38 (East)
Pad 3	52	33	Next to Bldg. 03-38 (West)
Pad 4	65	42	Next to Bldg. 03-31 (North)
Pad 5	60	25	Next to Bldg. 03-33 (West)
Pad 6	140	75	Next to Bldg. 03-33 (South)
Pad 7	50	50	South End of Site (near Pad 6)

Each concrete pad will be demolished in place, visually inspected for soil contaminants, size-reduced, and stockpiled in preparation for off-site disposal. However, it should be noted that prior to stockpiling, the concrete will be decontaminated using dry methods or wet methods (i.e. power washed to remove all soil), if required.

3.7 Steel Sheet Wall Removal

Located to the south and west of Concrete Pad 1 (Figure 10), there is a 5 foot high, 1 foot thick, 115 foot long steel sheet wall. This wall acts a retaining barrier that was thought to have been used to create a truck loading ramp.

EFS will remove, size-reduce, and stockpile the wall in preparation for disposal/recycling. Following removal of the wall, EFS will re-grade the area.

3.8 Settling Tank

Located along the southern wall of Building 03-13 there is the exposed portion of a settling tank measuring approximately 50 feet x 50 feet. According to construction drawings and the Navy, the settling tank is approximately 15 feet deep and composed of multiple chambers which have all been filled with sand. Along the flat concrete exposed top of the settling tank are a series of steel manway covers which have all been welded shut. Although, not confirmed, it is thought that piping exists between the settling tank and Building 03-13.

As outlined in the SOW, EFS will demolish and dispose of (off-site) the upper 6 feet of the concrete structure, including the manway covers and any piping that connects the tank to the building (piping and concrete structure below 6 feet will not be addressed).

All stockpiled materials will be sampled for characterization purposes in order to satisfy the land disposal requirements of the New York State licensed landfills.

3.9 Well Abandonment

As shown on Figure 11 there are 24 AS/SVE wells located within IRP Site 2. EFS will abandon these wells in accordance with all applicable Federal, State, and local laws and regulations.

As identified in the SOW, the wells are 2-inch diameter PVC casing and screen. Of the 24 wells, 11 are AS wells (2-foot screen intervals; approximately 65 feet deep) and 13 are SVE wells (15-foot screen intervals; approximately 60 feet deep). In addition to the well abandonment, EFS will also remove all connector piping between the existing wells.

As specified in the SOW the wells will be abandoned in the following manner:

- Fill screened intervals with No. 2 (20/30 mesh) well gravel to 2 feet above top of screen
- Fill well with a cement/bentonite grout mix (7 gallons water/94 pounds cement and 6 pounds bentonite mixture) to 2-3 feet below ground surface
- Cut well casing at 2-3 feet below ground surface

For wells located within the limits of structure demolition (buildings, pads, etc.), the cement/bentonite grout mix will be filled to approximately 6 feet bgs (the excavation depth) and the top of the well will be cut at this depth.

3.10 Equipment Decontamination

A decontamination pad will be located at IRP Site 1and will be used to decontaminate the site equipment. EFS will perform gross vehicle decontamination near the Concrete Pad 4 area at the south side of IRP Site 1. Excavation equipment will be decontaminated between uses to prevent any possibility of cross-contamination.

Decontamination will be completed with a combination of removal methods and cleaning agents. It is expected that the majority of decontamination will require gross removal of dust, dirt, and/or mud with brooms. The SSHO will ensure that decontamination personnel have adequate training and use appropriate controls for the hazards of any chemical products they may encounter.

Personnel decontaminating the equipment will be instructed to ensure that they know what contaminants may be present and what the hazard categorization requirements are. They will then ensure that there has been adequate inspection and that they are aware of the results before they initiate decontamination. Decontamination activities will be followed by a final tire cleaning, if appropriate, just before leaving the pad.

The SSHO will inspect all vehicles and equipment before they are permitted to go off site. The inspection will include a visual inspection of various surfaces, including the blade, bucket, or other items that may have directly contacted contaminated equipment, tracks, tires, cab interior, and other areas as deemed appropriate.

Any indications of contamination will result in a rejection notice of the decontamination effort. Personnel who perform the equipment/vehicle decontamination will be shown the residual debris causing the rejection. The SSHO will inspect each piece of equipment prior to being taken off site. Wastes generated from decontamination activities will be containerized, sampled, profiled, and transported off site for disposal.

3.11 Backfill and Site Restoration

Site restoration includes backfilling and regrading. All material required for backfilling will be obtained from off-site sources. The use of backfill material will be limited to areas where materials were removed from more than 12 inches below ground surface (estimated 160 cubic yards). As stated in the SOW, soils brought in from an off site source for use as backfill will be from a State approved borrow pit or be tested and demonstrated to be clean, and will not be brought on site until approval by the Navy. EFS will test backfill material in accordance with ASTM C 136 for conformance to ASTM D 2487 gradation limits. The material to backfill will be ASTM 2487, classification SP (poorly graded sand), which is similar to the native soil being excavated. Backfilling operations will not begin until confirmation sample results have been approved by the Navy and NYSDEC Region 1.

EFS personnel will be working within an area that is identified as containing contaminated soil, and during regrading activities, and will take appropriate measures to ensure that contaminated soil is not move beyond the limits of existing contamination. The chain link fencing around IRP Site 1 will remain intact, and where needed, new chain link fence will be added.

As stated in the SOW, storm water that accumulates within the boundaries of IRP Site 1 is expected to infiltrate into the groundwater and not runoff the site to existing storm water collection systems. In order to ensure no storm water runoff reaches existing collection systems, EFS will regrade the area so that the site is sloped or channels toward the center rather than toward the surrounding areas, thus providing positive drainage toward the center of the site.

4.0 SAMPLING AND ANALYSIS

During site activities, certain data sets are needed to properly identify and dispose of demolition materials. Samples will be taken from the stockpiled materials prior to disposal. Disposal of hazardous materials that are unexpectedly encountered during this project is not included. Waste characterized as hazardous will be stockpiled in a location specified by the Navy for disposal by others at a later date.

4.1 Waste Characterization Samples

Waste characterization samples will be collected for disposal purposes as needed from areas representing the highest degree of potential contamination. Care will be taken to ensure the outside of each sample container is thoroughly cleaned before packing and shipping to the laboratory. Field QC samples (i.e. duplicates, etc.) will not be collected with the waste profile samples. All waste characterization analysis will be conducted by a local approved materials testing laboratory.

4.2 Field Sampling Quality Control

No QC or QA samples will be required in association with this sample collection since this data will be used for disposal purposes only. Analytical error shall be evaluated based on laboratory internal QC sample results.

4.3 Sample Chain of Custody

The sample chain-of-custody procedure summarized below will ensure that the samples will arrive at the laboratory with the chain of custody intact. The protocols for project-specific sample numbering systems are also described below.

- The field sampler is personally responsible for the care and custody of the samples until they are transferred or properly dispatched. As few people as possible should handle the samples
- All bottles will be identified by use of sample labels with sample numbers, sampling locations, date/time of collection, and type of analysis
- Sample labels are to be completed for each sample using waterproof ink unless inhibited by weather conditions. For example, a logbook notation would explain that a pencil was used to fill out the sample label because the ballpoint pen would not function in freezing weather
- Samples will be accompanied by a properly completed chain-of-custody form. The sample numbers and locations will be listed on the chain-of-custody form. When transferring the possession of samples, the individuals relinquishing and receiving will sign, date, and note the time on the record. This record documents transfer of custody of samples from the

sampler to another person, to a mobile laboratory, to the permanent laboratory, or to/from a secure storage area

- Samples will be properly packaged on ice at approximately 4 degrees Celsius for shipment and dispatched to the appropriate laboratory for analysis, with a separate signed custody record enclosed in and secured to the inside top of each sample box or cooler. Shipping containers will be locked and secured with strapping tape and custody seals for shipment to the laboratory. The preferred procedure includes use of a custody seal attached to the front right and back left of the cooler. The custody seals are covered with clear plastic tape. The cooler is strapped shut with strapping tape in at least two locations
- Whenever QA samples are collected, a separate sample receipt is prepared for those samples and marked to indicate by whom the samples are being collected. The person relinquishing the samples to the facility or agency should request the representative's signature acknowledging sample receipt. If the representative is unavailable or refuses to sign, this is noted in the "Received By" space
- All shipments will be accompanied by the chain-of-custody record identifying the contents. The original record will accompany the shipment, and the pink and yellow copies will be retained by the sampler for returning to the sampling office
- If the samples are sent by common carrier, a bill of lading should be used. Receipts of bills of lading will be retained as part of the permanent documentation. If sent by mail, the package will be registered with return receipt requested. Commercial carriers are not required to sign off on the custody form as long as the custody forms are sealed inside the sample cooler and the custody seals remain intact
- Samples will be transported to the laboratory, directly or by overnight carrier, the same day the samples are collected in the field.

4.4 Sample Numbering

A unique sample identification number including site identification, location identification, and the station identification, will be assigned before sample collection. Sample numbers will be used for coding, tracking, and reporting chemical data. Sample numbers will encode sample type, site identification, and boring number or monitoring well sequence.

All chemical data produced by the project laboratory will be reported using the sample number. Samples will be numbered as follows (no spaces in actual sample numbers):

AAA BBBBBB DD

Conventions for generating sample numbers are presented below:

- AAA: Location Identification Code: Each sample shall be identified by a three-digit alpha-numeric code. Examples include:

- B13, B38, B31

- BBBBBB: Station Identification Code: Each sample shall be identified by a six-digit alpha-numeric code corresponding to the sample station Examples are:
  - PAD1NE – for concrete pad 1 northeast section
- DD: Sample Depth: Each sample depth shall be identified by a two-digit numerical code corresponding to the sample depth on the settling tank wall (below ground surface [bgs]). Examples are as follows:
  - 02 sampling depth 2 feet bgs

4.5 Documentation, Packaging and Shipping

Procedures are in place to ensure the custody and integrity of the samples begin at the time of sampling and continue through transport, sample receipt, preparation, analysis and storage, data generation and reporting, and sample disposal. Records concerning the custody and condition of the samples are maintained in field and laboratory records. Refer to Section 4.4 for chain-of-custody procedures.

4.6 Field Logbook

Field logs will summarize daily activities and the field logbook will record site activities with sufficient information to reconstruct daily activities. Entries in the field logs will include the following information:

- Name of author, date, and time of entry
- Location of activity
- Names and affiliations of personnel on-site
- Sample collection or measurement methods
- Number of samples collected
- Sample identification numbers
- Field observations and comments

4.7 Photographs

Typical sampling points as well as other distinct conditions such as stained soil, surface water, or excavation conditions will be photographed. A photographic record of the sampling event will allow positive identification of the sampling point(s). Photographs will include two or more reference points to facilitate relocating the point at a later date. Photographs will also include a clear, readable picture of the sample label. For each photograph taken, the following items will be noted in the field logbook:

- Date
- Time
- Photographer (signature)
- Name of site
- Location
- General direction faced and description of the subject taken
- Sequential number of the photograph

4.8 Sample Packaging and Shipment

Immediately after samples are collected and labeled for off-site laboratory analysis, they will be placed in a sealed plastic bag then in a sturdy ice chest and shipped offsite for analysis. The samples will be packed with shock-absorbent materials, such as bubble wrap, to prevent movement of sample containers during transport. The ice chest will be packed with resealable double-bagged ice packs and sealed with packaging tape. Custody seals will be affixed over the front and back of the ice chest lid to prevent or indicate tampering.

Samples and ice will be placed in a cooler along with the appropriate chain-of-custody records. The chain-of-custody sample log sheet(s) will be filled out in indelible ink, placed in a resealable plastic bag, and taped to the inside lid of the cooler. Sample containers will be packaged to minimize potential breakage. Sample packaging for off-site laboratory shipping will meet U.S. DOT requirements. The sample coolers will be hand delivered or submitted for overnight shipment to a local approved materials testing laboratory.

5.0 WASTE MANAGEMENT AND DISPOSAL

EFS will track, stage, and dispose of the liquid and solid waste generated under this contract. EFS personnel, or the appropriate subcontractor, will prepare manifest for all regulated materials and submit the manifest to the Navy personnel for review. Waste manifest, waste profile sheets, and land disposal restriction notification and certification forms will list NWIRP as the generator. An authorized representative of the Navy will sign the manifest. The authorized representative will not be an EFS employee. Disposal of hazardous materials that are unexpectedly encountered during this project is not included. Waste characterized as hazardous will be stockpiled in a location specified by the Navy for disposal by others at a later date.

5.1 Manifest Preparation

EFS will prepare manifests for the transportation and disposal of waste in accordance with EPA and DOT requirements. The principal components of the completed manifest package including the following:

Waste Profile Sheets
Waste Code
Waste Disposal Characterization
Waste Manifests
Shipping Papers
Land Disposal Restriction Notification and Certification Form.

The supporting information will contain the following information:

Date of Initial Waste Generation
Description of Process that Generated the Waste
All Analytical Data and/or Process Knowledge used to characterize the Waste
Date Samples were collected
Description of Sampling Location/s and Sampling Methods and Equipment used
Description of Sample Handling Techniques
Correspondence Supporting Waste Classification Determination (as approved)
Specific Type of Inner and Outer Packaging
Markings, Labeling, and Placards Offered to the Transporter.

EFS personnel will inspect the transport documentation prior to shipment of wastes to ensure that the packaging, marking, labeling, handling, and placarding of waste complies with Federal, State, and local laws and regulations. Additionally, EFS will inspect the transport vehicle prior to leaving the site. EFS will supervise all loading activities and monitor all on-site stages of waste handling by the disposal contractor.

5.2 Construction Debris

Construction debris generated during this project will be disposed off-site. Secondary wastes include non-hazardous trash, disposable PPE, plastic sheeting, and miscellaneous trash and expendable items generated by day-to-day operations that are not hazardous. EFS will obtain the services of a local waste management company to provide roll-off containers to contain the wastes. EFS's SS will coordinate the pickup and emptying of the roll-offs as needed throughout the project.

5.3 Waste Tracking

EFS will track wastes by weight for solid materials and by volume. EFS will submit the information to the COR before the close of the contract. EFS will dispose of all construction debris in accordance with local, State, and Federal regulations. EFS will report to the Navy the weights and volumes, as applicable, of all disposed and recycled materials.

5.4 Tabulated Waste Handling Information

EFS will maintain a list of all waste materials going off-site on a Waste Inventory Form. Where applicable, this list will include description, quantity, waste classification and if applicable, date the waste was shipped, receiving disposal facility, method of disposal, and date of disposal or destruction. If waste is destroyed, a certificate of destruction will be obtained for the records.

5.5 Transportation and Disposal Procedures

After the waste leaves IRP Site 1, EFS will maintain a clear audit trail of the entire disposal operation including, but not limited to, the following:

Manifest or Bill of Lading Copies
Route Map
Driver Information and Truck Numbers
Profile Sheet/s
Certificate of Transfer
Certificate of Disposal.

5.6 Discrepancies

Any discrepancies due to differences between the quantities or types of wastes designated on the manifest or shipping papers, and the quantity and type of wastes a facility actually receives will be reported. EFS will investigate any such discrepancies to determine the cause and will report the findings of the investigation. Reconciled records or other findings resulting from the investigation will be presented in the final project report.

6.0 ENVIRONMENTAL PROTECTION PLAN

EFS is responsible for ensuring adherence to the Environmental Protection Plan (EPP). The SS will work to implement the EPP while on site.

6.1 Waste Disposal Proeedures

Waste removal activities will be conducted as to prevent disturbance of adjacent work activities, onsite transportation activities, completed construction, and the general public. Among waste materials that may be produced include, but may not be limited to the following: garbage, sewage, miscellaneous construction and debris waste, and any and all residual waste from activities conducted during this removal action. Such wastes will be disposed of as discussed in the following paragraphs.

6.1.1 Sewage Wastes

Chemical port-a-johns will be used on site for temporary toilet facilities. The port-a-johns will be supplied by Relief Rentals, who will also be handling sewage waste pickup, transport, and off-post disposal.

6.1.2 Garbage Disposal

Garbage containers will be located by EFS at convenient areas throughout IRP Site 1. Trash bins for garbage and recyclables. Various onsite containers used for nonhazardous wastes will be emptied into dumpsters and managed as residual waste.

6.2 Pest Control

The application of pesticides is not anticipated to be necessary during the course of removal activities. If conditions require pesticide application, specific application procedures and personnel, as well as pesticide products, will need to be coordinated with and approved by the Navy.

6.3 Dust Control

Earthwork activities performed during the activities associated with the SOW will have the potential to cause periods of on and offsite dusting, particularly when performed during dry conditions. To avoid the hazards of low visibility and air pollution, the following measures will be taken to control dust created as a result of contract activities:

- Onsite and offsite locations affected by dusting due to project-related construction and/or hauling activities will be visually monitored by the SSHO.

- Provisions will be made during dry, dusty periods to ensure that sufficient watering or dust-control equipment is located on site or is easily accessible to react quickly to excessive dust conditions. These provisions will ensure that dust can effectively be controlled and will allow scheduled activities to continue with minimal delay or disturbance.

- Onsite and offsite traffic speed requirements will be stressed with all project employees during the daily tailgate safety meeting.

- When conditions require, onsite traffic/construction areas will be watered by EFS to reduce levels of dust. Intermittent watering, as deemed necessary by the SSHO, will occur in such situations as often as necessary to control visibility and air quality.

- Watering techniques and applications will be discussed with and approved by the Navy.

6.4 Air Pollution Prevention

To promote satisfactory air quality during activities at the project site, the following provisions will apply:

- Debris and onsite Dumpsters will be covered and enclosed to the fullest extent possible. This includes any subcontractor debris.

- Construction machinery will not be allowed to idle for extended periods of time.

- Construction machinery used on the project will be properly maintained to control excessive exhaust.

- Dusting from hauling activities or other onsite activities will be adequately controlled as described above.

6.5 Hotwork

Burning is not anticipated during the course of activities at the project site. If burning becomes necessary during demolition activities, EFS will follow safety procedures in Section 3.2.1 of the Site Specific Safety and Health Plan (SSHP).

6.6 Petroleum Products

6.6.1 Equipment Fueling

Equipment and heavy machinery used during removal actions in the project area will be fueled with a fuel truck. During equipment fueling, the contractor will supply and deploy secondary containment/spill control devices. Equipment fueling will generally occur in the morning before the initiation of any other project activities and will be conducted by personnel trained in fueling procedures (in relation to environmental protection and safety considerations).

6.6.2 Maintenance Procedure

Equipment operators will perform a daily equipment inspection on their machine each morning before work activities. Inspections will occur in the 1/2 hour preceding daily activities. Any debris or waste resulting from maintenance operations will be placed in

enclosable containers so that it can be compiled and disposed of accordingly. At no time will waste oils or petroleum products be dumped or left uncovered and exposed to the environment.

FIGURES

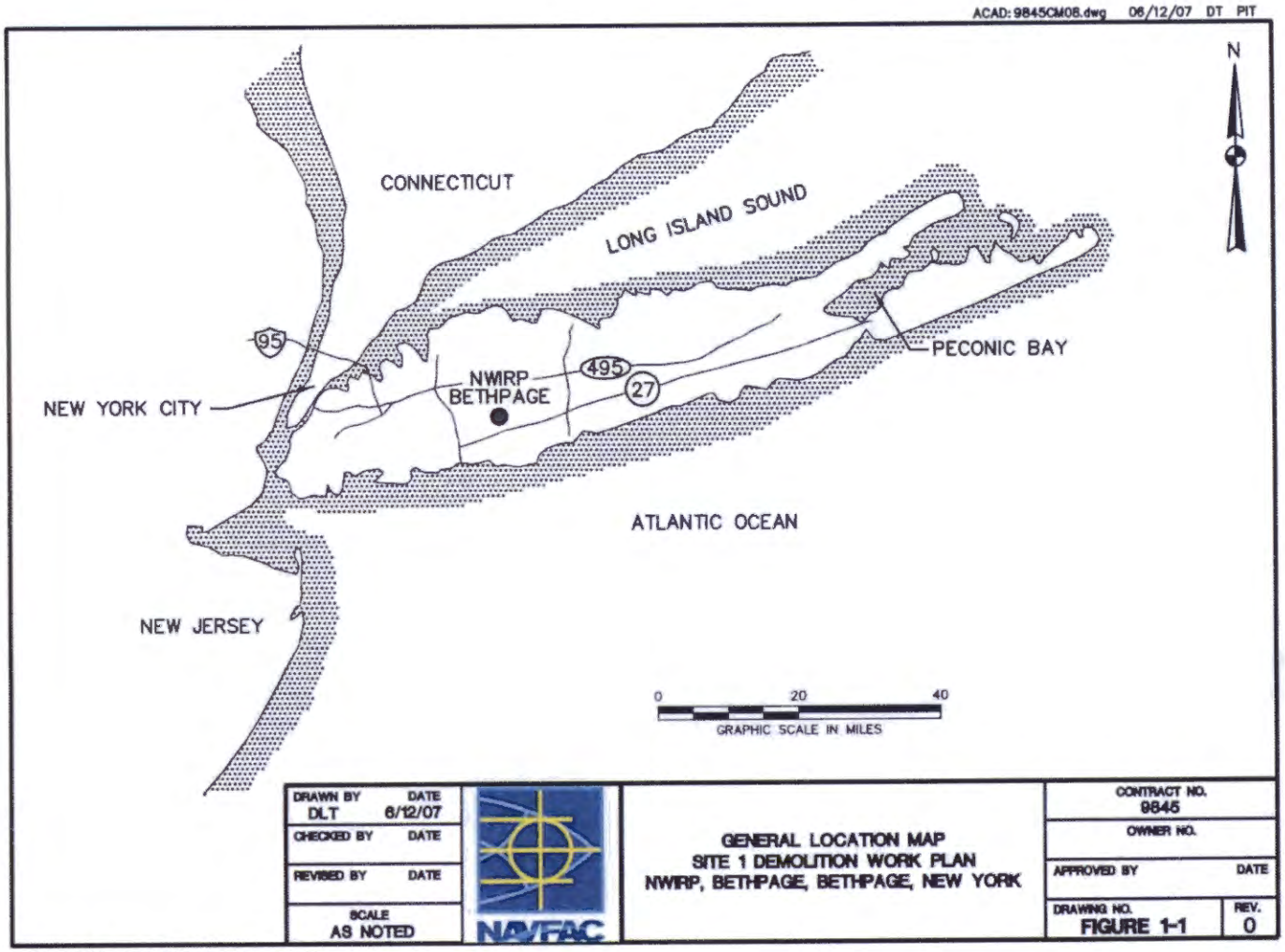


Figure 1. NWIRP IRP Site 1 Regional Map

Figure 2. NWIRP IRP Site 1, Current Condition

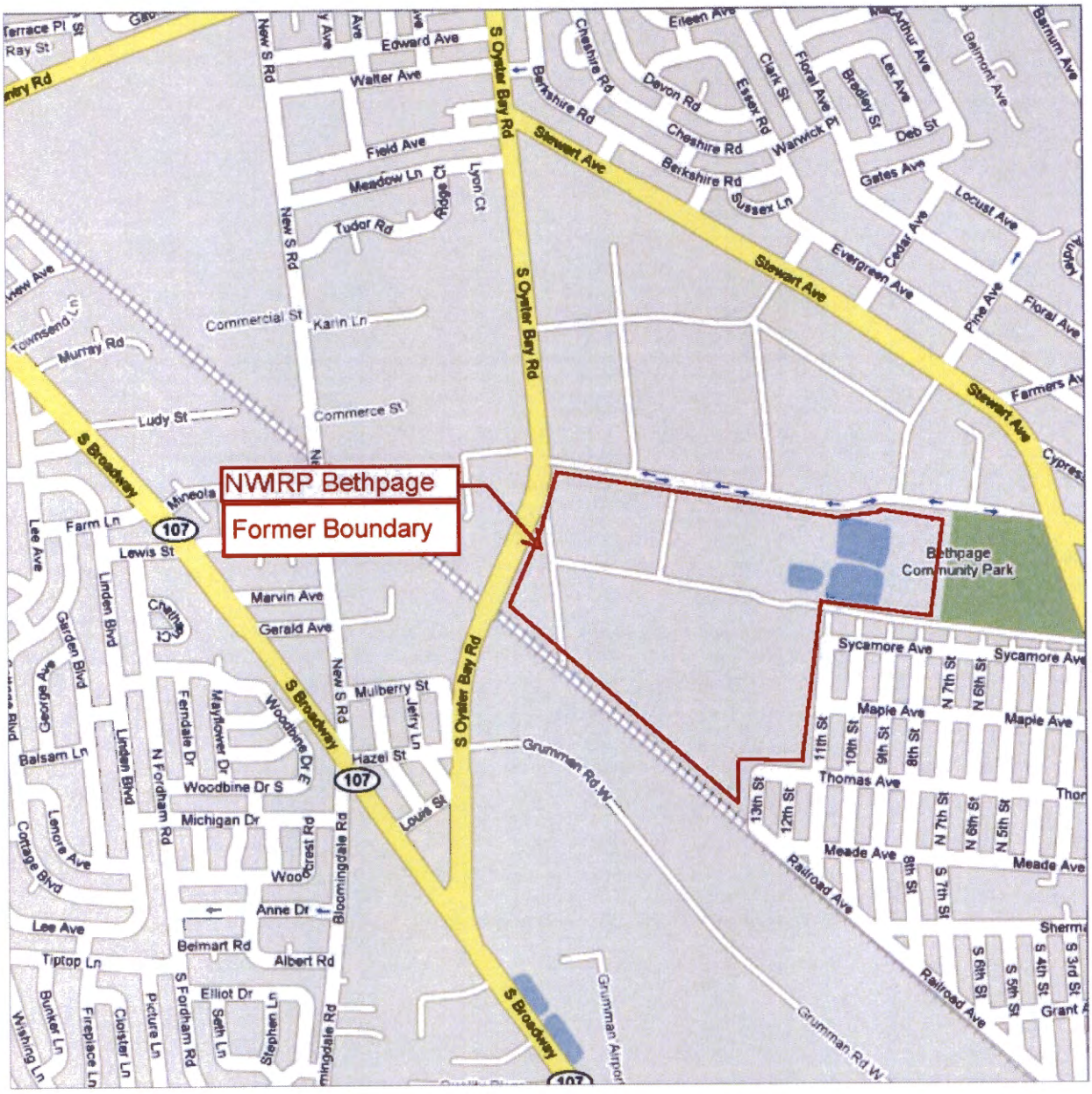


Figure 3. NWIRP IRP Site 1 Location Map

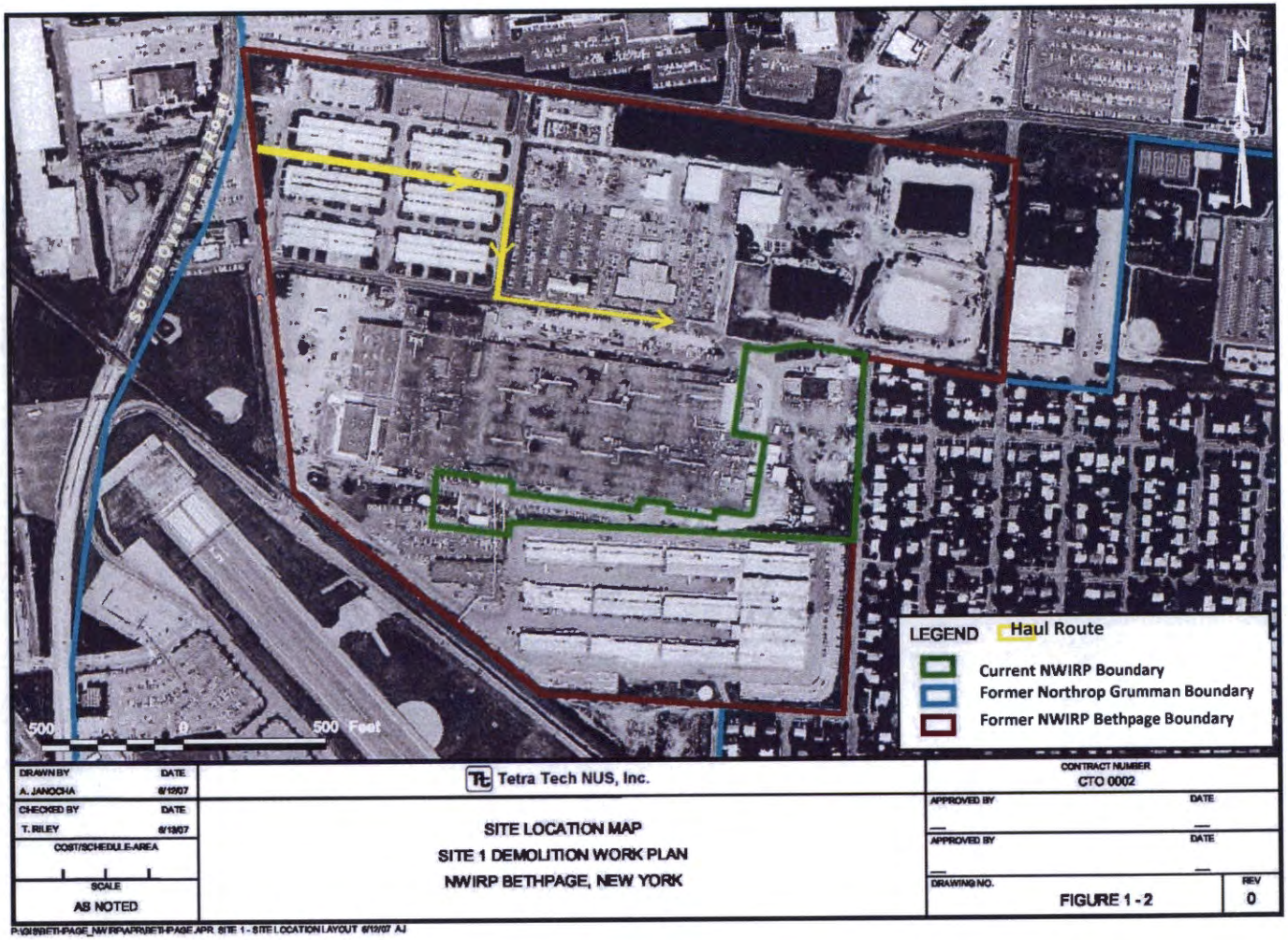


FIGURE 3

Figure 3A. NWIRP IRP Site 1 Equipment and Material Staging Area

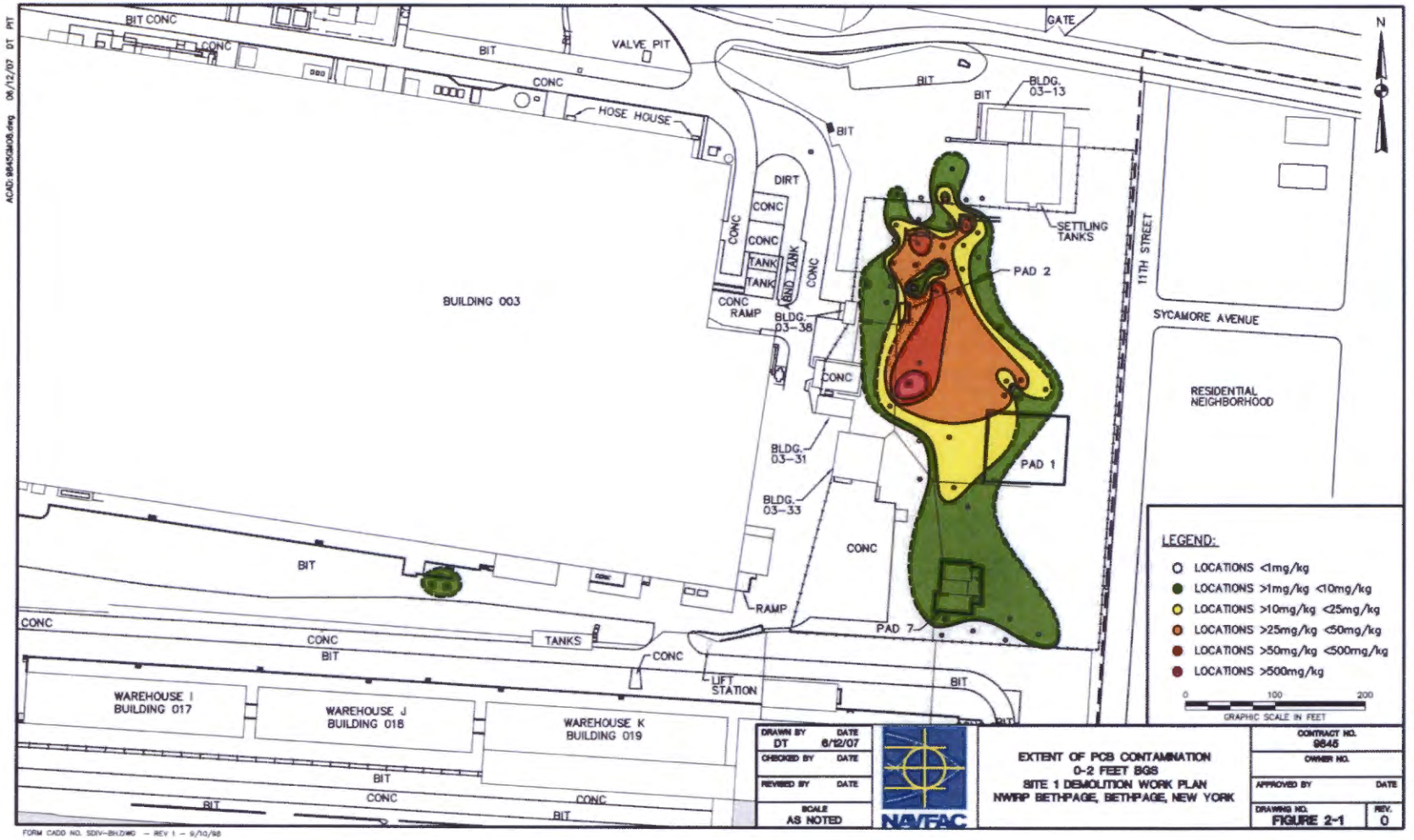


Figure 4. PCB Contamination 0-2 feet below Ground Surface

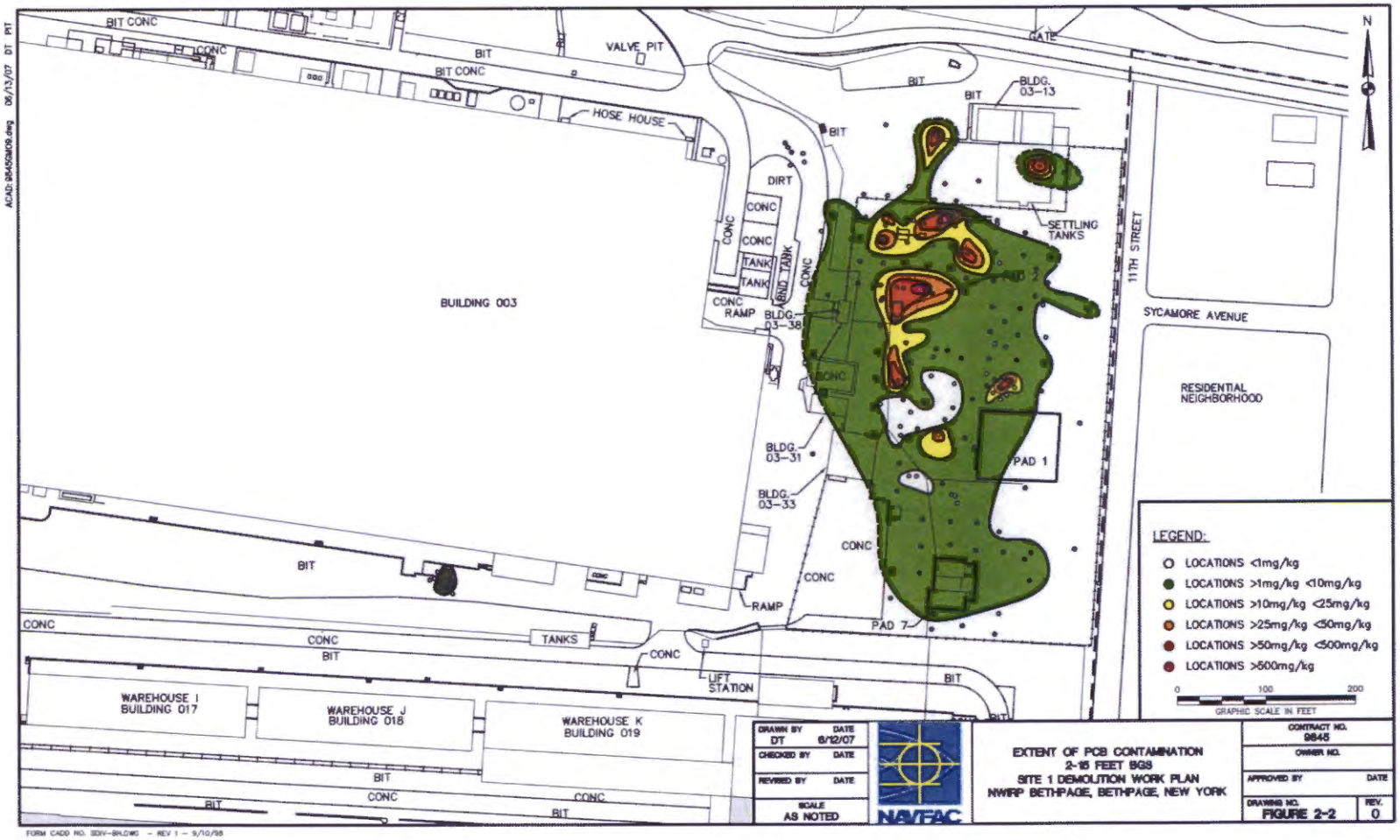


Figure 5. PCB Contamination 2-15 feet Below Ground Surface

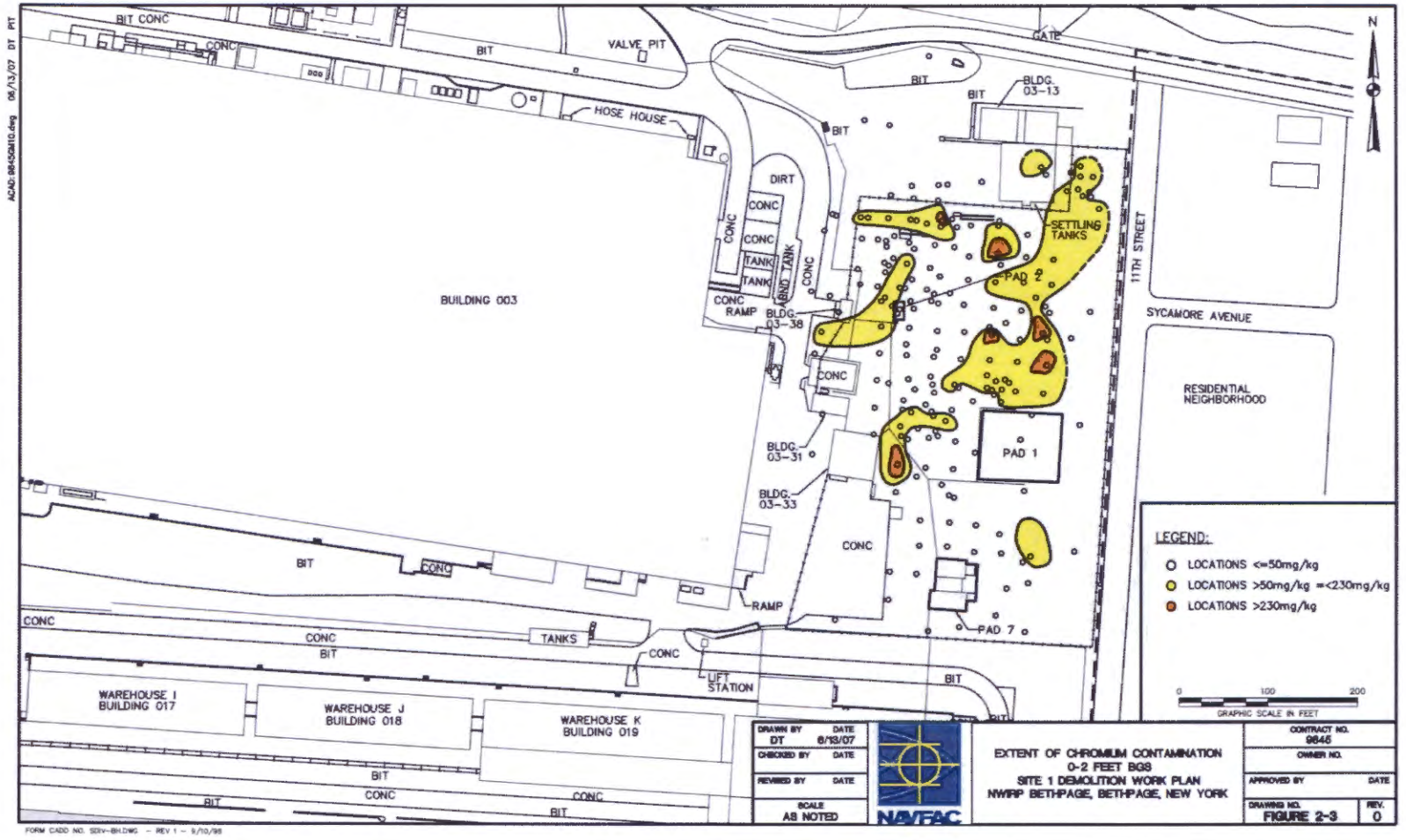


Figure 6. Chromium Contamination, Surface Soils

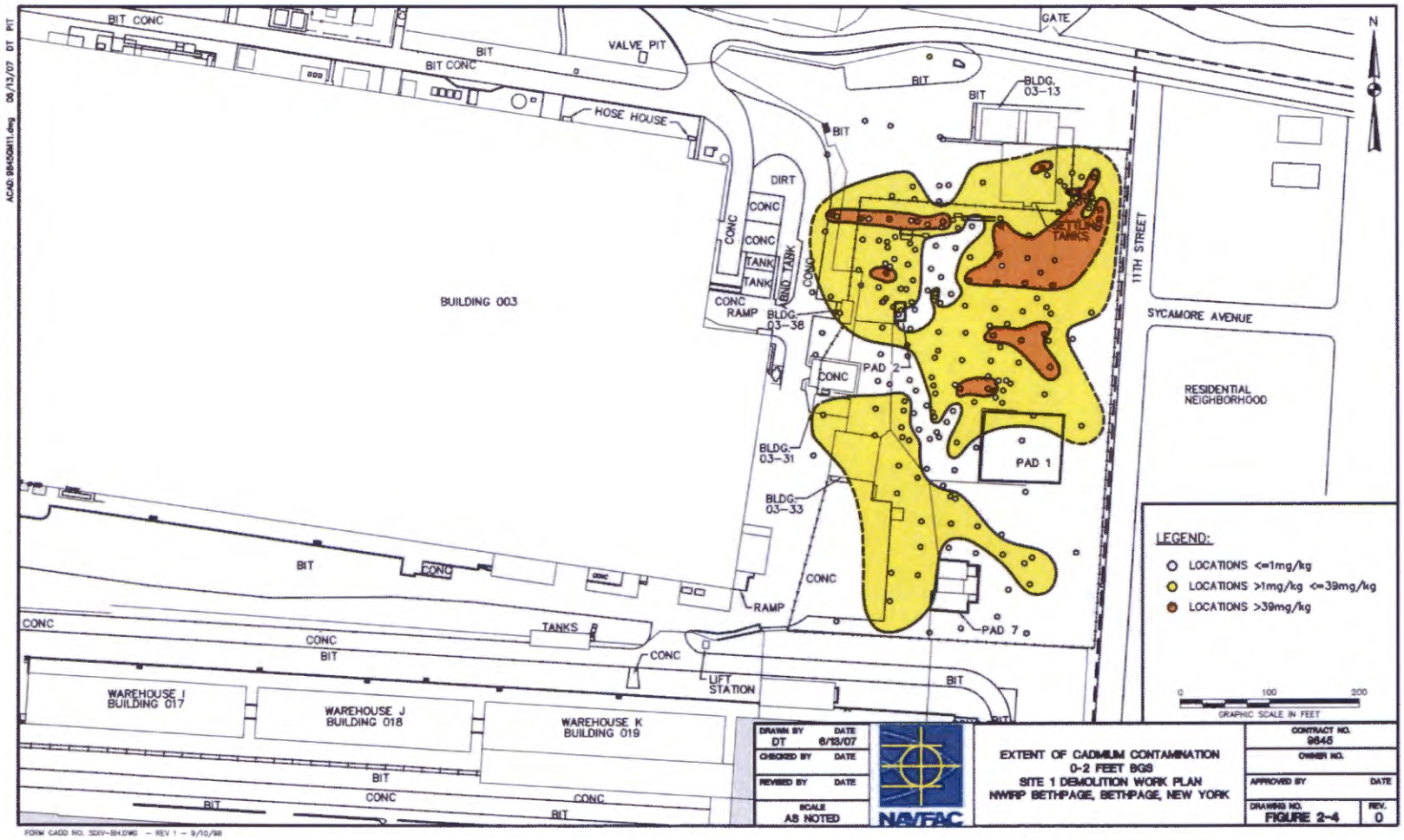


Figure 7. Cadmium Contamination, Surface Soils

Figure 8. Project Organizational Chart

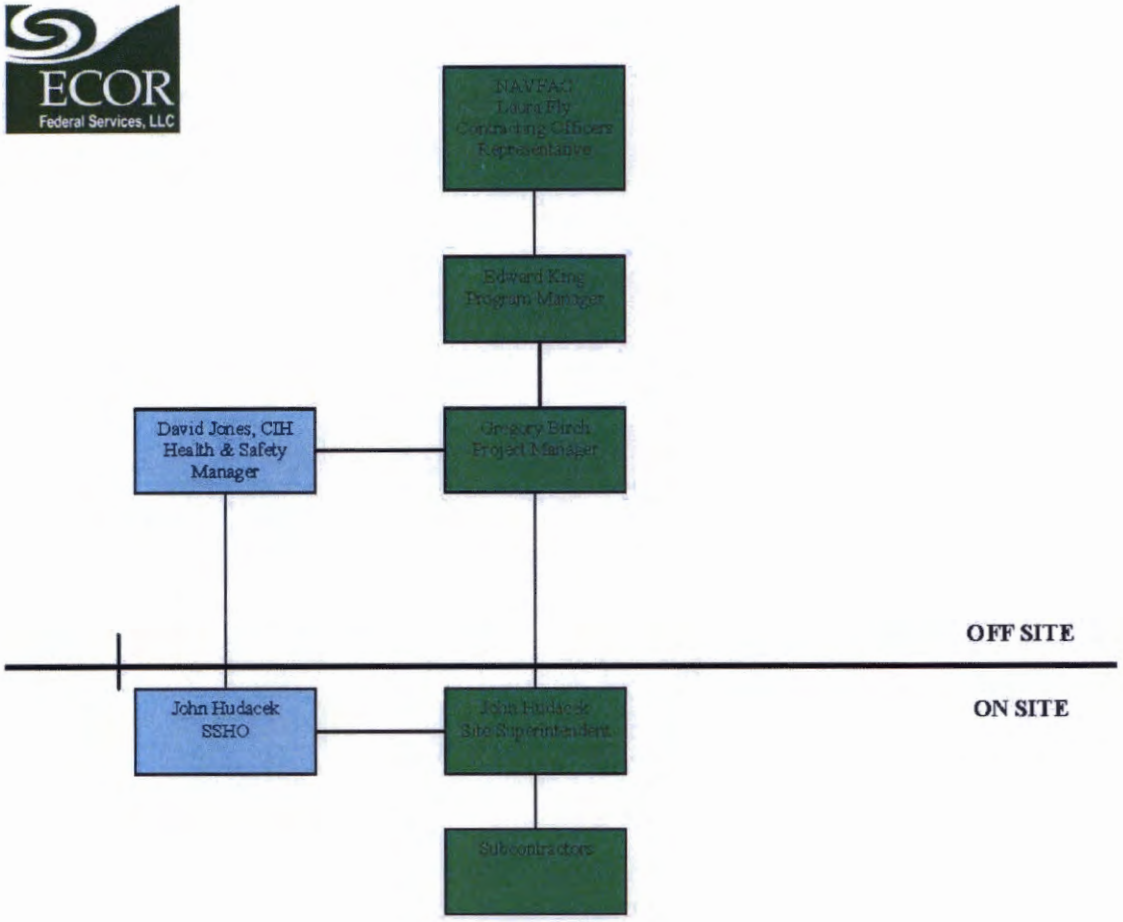
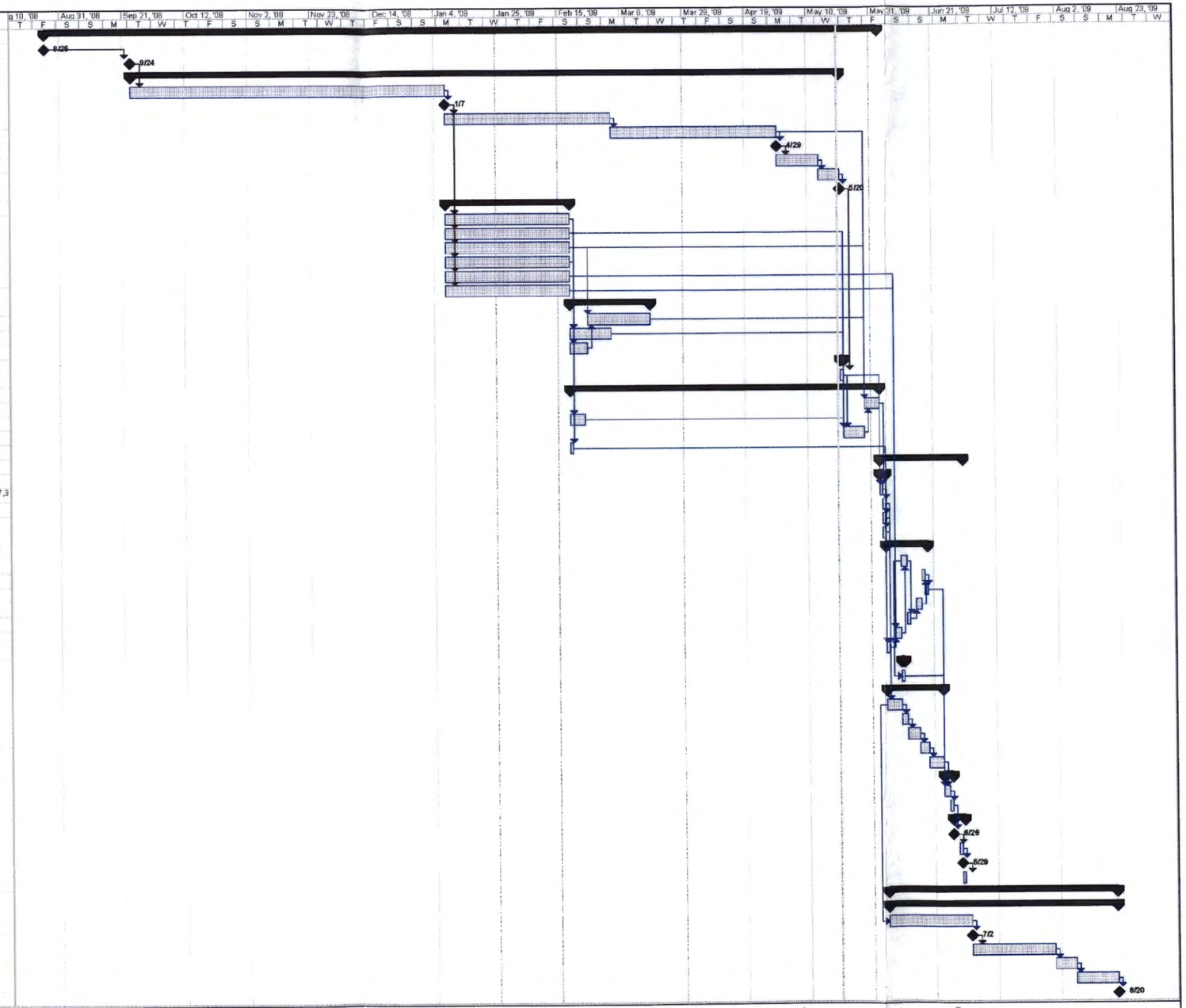


Figure 9. Project Schedule

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Pre-Construction Activities**	**201 days?**	**Tue 8/26/08**	**Tue 6/2/09**	
2	Contract Award	0 days	Tue 8/26/08	Tue 8/26/08	
3	Notice To Proceed	0 days	Wed 9/24/08	Wed 9/24/08	2
4	**Work Plans (RAWP,HASP)**	**171 days**	**Wed 9/24/08**	**Wed 5/20/09**	
5	Prepare Draft RAWP & HASP	76 days	Wed 9/24/08	Wed 1/7/09	3
6	Submit Draft RAWP & HASP to NAVFAC	0 days	Wed 1/7/09	Wed 1/7/09	5
7	NAVFAC Review Period Draft Plans	40 days	Thu 1/8/09	Wed 3/4/09	6
8	ECOR RTCs to NAVFAC Comments	40 days	Thu 3/5/09	Wed 4/29/09	7
9	Submit Draft Final RAWP/HASP to NAVFAC	0 days	Wed 4/29/09	Wed 4/29/09	8
10	NAVFAC Review Period Draft Final Work Plans	10 days	Thu 4/30/09	Wed 5/13/09	9
11	ECOR RTCs to NAVFAC Draft Final Comments	5 days	Thu 5/14/09	Wed 5/20/09	10
12	Submit Final RAWP/HASP to NAVFAC	0 days	Wed 5/20/09	Wed 5/20/09	11
13	**Procurement**	**30 days**	**Thu 1/8/09**	**Wed 2/18/09**	
14	Procure Industrial Hygiene Contractor	30 days	Thu 1/8/09	Wed 2/18/09	6
15	Procure Asbestos Abatement Contractor	30 days	Thu 1/8/09	Wed 2/18/09	6
16	Procure Well Abandonment Contractor	30 days	Thu 1/8/09	Wed 2/18/09	6
17	Procure Analytical Laboratory Contractor	30 days	Thu 1/8/09	Wed 2/18/09	6
18	Procure Demolition Contractor	30 days	Thu 1/8/09	Wed 2/18/09	6
19	Procure Waste Disposal Contractor	30 days	Thu 1/8/09	Wed 2/18/09	6
20	**Permits**	**19 days**	**Thu 2/19/09**	**Tue 3/17/09**	
21	NYSDEC Well Abandonment Permit (if required)	15 days	Wed 2/25/09	Tue 3/17/09	16,23
22	NYSDEC Asbestos Abatement Permit (if required)	10 days	Thu 2/19/09	Wed 3/4/09	15
23	Local Utility Clearance / Dig Permit	4 days	Thu 2/19/09	Tue 2/24/09	18
24	**Pre-Construction Meeting**	**1 day?**	**Thu 5/21/09**	**Thu 5/21/09**	
25	Pre-Con / H&S / Mutual Understanding Meetings	1 day?	Thu 5/21/09	Thu 5/21/09	12
26	**Pre-Mobilization Activities**	**74 days**	**Thu 2/19/09**	**Tue 6/2/09**	
27	Complete Well Abandonment at IR Site 1	3 days	Fri 5/29/09	Tue 6/2/09	16,8,21,25,29
28	Complete Haz Material Surveys for IR Site 1 Buildin	3 days	Thu 2/19/09	Mon 2/23/09	14
29	Complete Haz Material Abatement in Bldg 03-13	5 days	Fri 5/22/09	Thu 5/28/09	28,15,22,25
30	Complete Waste Characterization Sampling	1 day	Thu 2/19/09	Thu 2/19/09	17
31	**Construction Activities**	**20 days**	**Wed 6/3/09**	**Tue 6/30/09**	
32	**Mobilization**	**2 days**	**Wed 6/3/09**	**Thu 6/4/09**	
33	Mobilize Equipment and Work Crew	1 day	Wed 6/3/09	Wed 6/3/09	25FS+3 days,27,3
34	Install Sediment and Erosion Control Measures	1 day	Thu 6/4/09	Thu 6/4/09	33
35	Install Decontamination Pad	1 day	Thu 6/4/09	Thu 6/4/09	33
36	Install Exclusion Zone Site Controls	1 day	Thu 6/4/09	Thu 6/4/09	33
37	**Concrete Pads (Demo,Decon,Trans,Disposal)**	**10 days**	**Fri 6/5/09**	**Thu 6/18/09**	
38	Complete Demolition of Concrete Pad 1	2 days	Wed 6/10/09	Thu 6/11/09	43
39	Complete Demolition of Concrete Pad 2	1 day	Wed 6/17/09	Wed 6/17/09	41
40	Complete Demolition of Concrete Pad 3	1 day	Thu 6/18/09	Thu 6/18/09	39
41	Complete Demolition of Concrete Pad 4	2 days	Mon 6/15/09	Tue 6/16/09	42
42	Complete Demolition of Concrete Pad 5	1 day	Fri 6/12/09	Fri 6/12/09	38
43	Complete Demolition of Concrete Pad 6	2 days	Mon 6/8/09	Tue 6/9/09	44,19,18
44	Complete Demolition of Concrete Pad 7	1 day	Fri 6/5/09	Fri 6/5/09	34,35,36,30
45	**Steel Sheet Wall (Demo,Decon,Trans,Disposal)**	**1 day**	**Wed 6/10/09**	**Wed 6/10/09**	
46	Complete Demolition of Steel Sheet Wall	1 day	Wed 6/10/09	Wed 6/10/09	38SS
47	**IR Site 1 Buildings (Demo,Decon,Trans,Disposal)**	**13 days**	**Fri 6/5/09**	**Tue 6/23/09**	
48	Complete Demolition of Building 03-33	3 days	Fri 6/5/09	Tue 6/9/09	34,35,36
49	Complete Demolition of Building 03-31	2 days	Wed 6/10/09	Thu 6/11/09	48
50	Complete Demolition of Building 03-38	2 days	Fri 6/12/09	Mon 6/15/09	49
51	Complete Demolition of Building 03-13	3 days	Tue 6/16/09	Thu 6/18/09	50
52	Complete Demolition of Bldg 03-13 Settling Tank	3 days	Fri 6/19/09	Tue 6/23/09	51
53	**Site Restoration**	**3 days**	**Wed 6/24/09**	**Fri 6/26/09**	
54	Backfill / Regrade Areas for Positive Drainage	2 days	Wed 6/24/09	Thu 6/25/09	52,48,40
55	Hand Seed All Disturbed Soil Areas	1 day	Fri 6/26/09	Fri 6/26/09	54
56	**Final Inspection**	**2 days**	**Fri 6/26/09**	**Tue 6/30/09**	
57	Complete Pre-Final Inspection	0 days	Fri 6/26/09	Fri 6/26/09	55
58	Punchlist	1 day	Mon 6/29/09	Mon 6/29/09	57
59	Complete Final Inspection	0 days	Mon 6/29/09	Mon 6/29/09	58
60	Demobilization	1 day	Tue 6/30/09	Tue 6/30/09	59
61	**Post-Construction Activities**	**55 days**	**Fri 6/5/09**	**Thu 8/20/09**	
62	**Removal Action Completion Report**	**55 days**	**Fri 6/5/09**	**Thu 8/20/09**	
63	Prepare Draft RACR	20 days	Fri 6/5/09	Thu 7/2/09	48SS
64	Submit Draft RACR to NAVFAC	0 days	Thu 7/2/09	Thu 7/2/09	63
65	NAVFAC Review Period Draft RACR	20 days	Fri 7/3/09	Thu 7/30/09	64
66	ECOR RTCs to NAVFAC Comments	5 days	Fri 7/31/09	Thu 8/6/09	65
67	Submit Final RACRto NAVFAC	10 days	Fri 8/7/09	Thu 8/20/09	66
68	IR Site 1 Project Completion	0 days	Thu 8/20/09	Thu 8/20/09	67



Project: IR Site 1 Baseline Schedule 1
Date: Wed 5/20/09

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

Figure 10. Site Layout Map

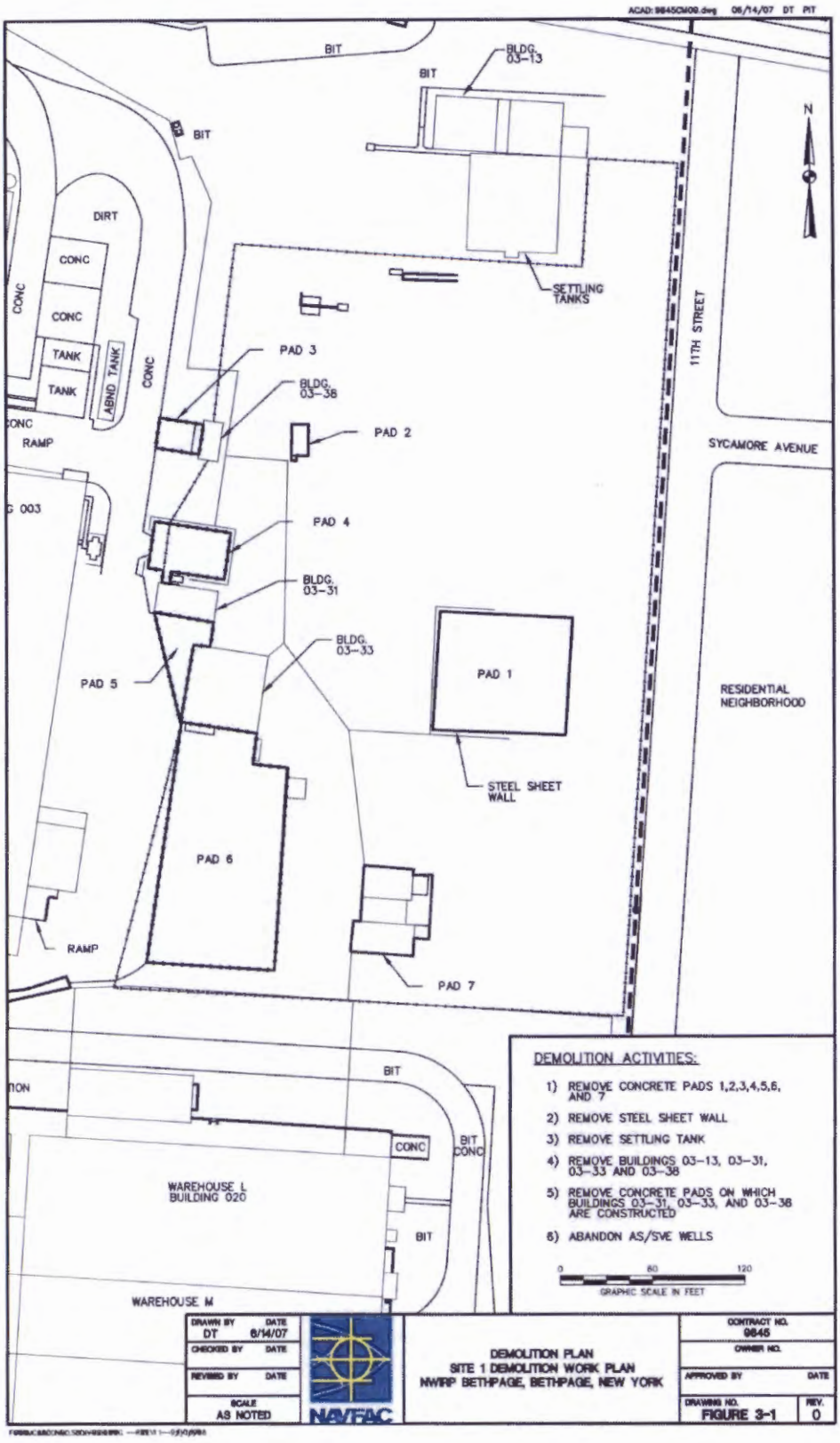
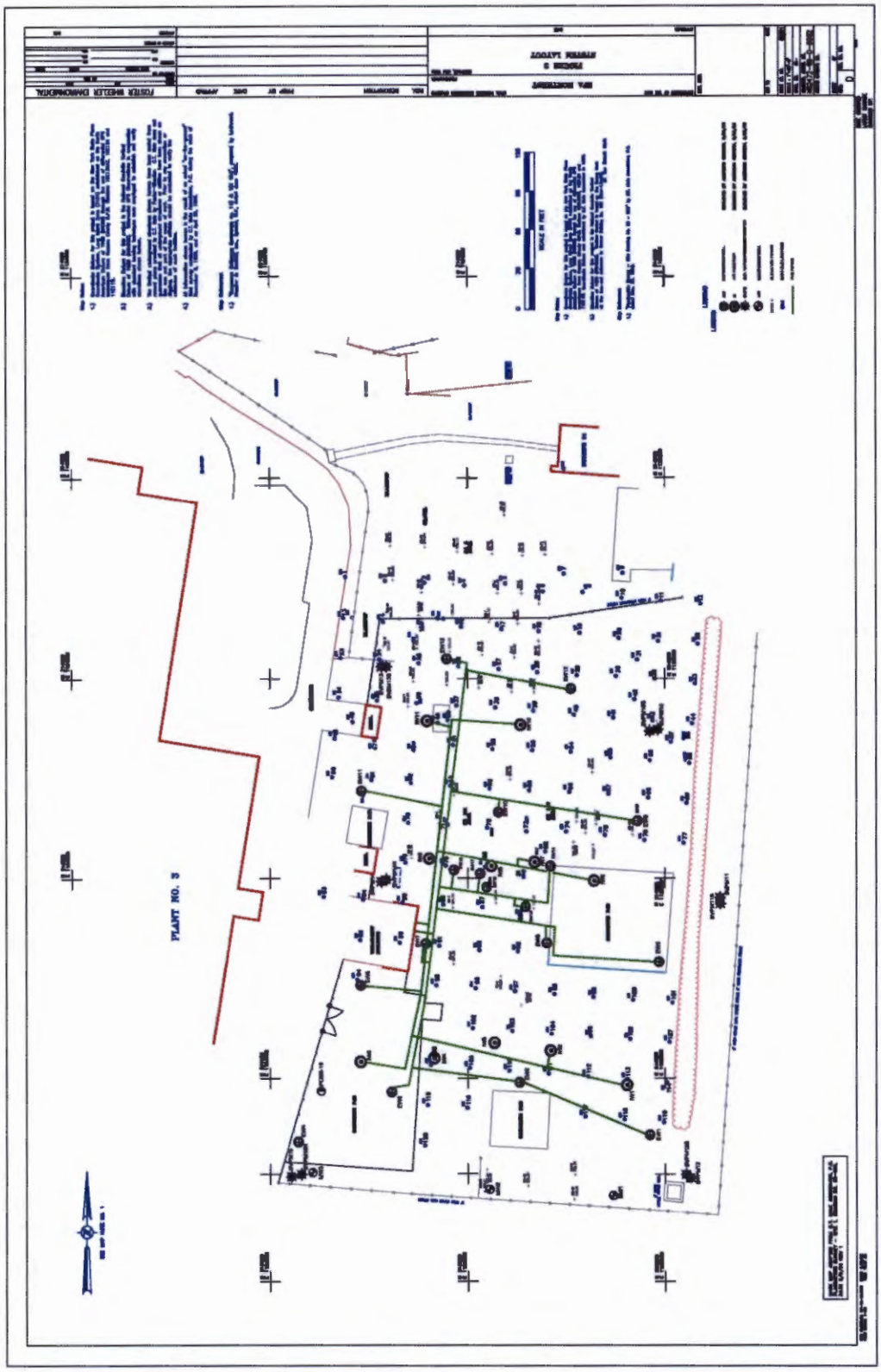


Figure 11. AS/SVE Well Field Layout



APPENDIX A

STATEMENT OF WORK

NAVFAC MIDLANT
ENVIRONMENTAL MULTIPLE AWARD CONTRACT

Solicitation N40085-08-R-2157

Installation Restoration (IR) Site 1 – Former Drum Marshalling Area, Non-Time Critical Removal Action, Naval Weapons Industrial Reserve Plant, Bethpage, NY

Statement of Work

23 July 2008

1.0 INTRODUCTION

This Statement of Work (SOW) is being provided to solicit services to implement a removal action at Installation Restoration Program Site 1, Former Drum Marshalling Area, located at the Naval Weapons Industrial Reserve Plant (NWIRP), Bethpage, New York. The work to be performed includes decontamination, demolition, transportation and disposal of structures at the site.

The structures will be transported off-site to a permitted disposal facility, approved by the Navy, for disposal. Following demolition and removal, limited regrarding and seeding will be conducted at the site to minimize potential hazards.

1.1 Project Description

NWIRP Bethpage is located in east-central Nassau County, Long Island, New York, approximately 30 miles east of New York City (Figure 1-1). The Navy's property originally totaled approximately 109.5 acres and was formerly a Government-Owned Contractor-Operated (GOCO) facility that was operated by the Northrop Grumman Corporation (NGC) until September 1998. By April 2008, all of the property except for 9 acres was transferred to Nassau County. This project is being conducted on the 9-acre parcel retained by the Navy. NWIRP Bethpage is bordered on the north, west, and south by property owned, or formerly owned by NGC. This property covered approximately 605 acres, and on the east by a residential neighborhood (Figure 1-2).

NWIRP Bethpage is currently listed by New York State Department of Environmental Conservation (NYSDEC) as an "inactive hazardous waste site" (#1-30-003B) as is the Northrop Grumman Corporation (#1-30-003A) and the Hooker/RUCO site (#1-30-004) located less than ½ mile west of NWIRP Bethpage. The United States Environmental Protection Identification Number for NWIRP Bethpage is NYD002047967.

NWIRP Bethpage was established in 1933. Since its inception, the primary mission for the facility has been the research, prototyping, testing, design engineering, fabrication, and primary

assembly of military aircraft. The facility at NWIRP Bethpage included four plants (No. 3, 5, and 20, used for assembly and prototype testing; and No. 10, which contains a group of quality control laboratories), two warehouse complexes, and salvage storage area, water recharge basins, an industrial wastewater treatment plant, and several smaller support buildings. The activities associated with this Demolition Plan are to he completed at Site 1 located east of Plant No. 3 (Figure 1-2).

From the early 1950's to 1978, drums containing liquid wastes were stored on a cinder covered area over a cesspool leach field. This leach field may have been used to discharge process wastewater. In 1978 the drum storage area was moved a few yards to the south to a 100- by 100-foot concrete pad. This pad did not have a cover or berms around it. In 1982, the drum storage area was moved to Site 3.

Various solvents were stored at Site 1. Cadmium and cyanide wastes were also stored in the area from tbe early 1950's through 1974. Approximately 200 to 300 drums were stored at these locations at any given time. Reportedly, all drums of waste which were stored at these areas were taken offsite by a private contractor for treatment and disposal.

Investigations at the site identified elevated concentrations of volatile organic compounds, polychlorinated biphenyls, polycyclic aromatic hydrocarbons, pesticides, and metals in the soils at Site 1, which may pose unacceptable risk to specific future human receptors. Some soils contain PCBs at a concentration greater than 50 milligrams per kilogram (a New York State value for RCRA hazardous waste). As part of this removal action, the Navy is demolishing surface structures at the site as the first step in an over all program to address contaminants in surface and subsurface soils.

The demolition activities associated with this SOW will take place within Site 1. It is expected that all demolition activities will be conducted within the top 6 feet of the existing ground surface. Figure 2-1 presents the horizontal extent of total PCB contamination within the Site 1 surface soil (0 to 2 feet below ground surface), Figure 2-2 presents the estimated horizontal extent of total PCB contamination within the Site 1 subsurface soil (2 to 15 feet below ground surface), Figure 2-3 presents the horizontal extent of chromium contamination at within the Site 1 surface soil, and Figure 2-4 presents the horizontal extent of cadmium contamination within the Site 1 surface soil.

Concentration ranges for total PCBs, chromium and cadmium are presented in Figures 2-1 through 2-4. Additional information on the horizontal and vertical extent of contamination is available upon request.

1.2 Work Elements

The major definable work elements for implement this removal will include:

- Preparation of a Demolition Work Plan and Health and Safety Plan to be submitted for regulatory review
- Mobilization and Site Set-up
- Structure Decontamination, Demolition, Transportation and Disposal
- Well abandonment
- Site Restoration
- Closeout Report

Quantities specified in this solicitation are estimated. It is the responsibility of the Contractor to determine anticipated construction quantities and bid on those quantities. Any and all costs for gathering any other information required for completion of the work described in this SOW will be the responsibility of the Contractor.

1.3 Definitions

The term "Contractor" shall mean the person, persons, partnership, corporation, or business organization engaged on behalf of the Department of Navy and specifically, NAVFAC MIDLANT pursuant to a contract for performance of work described in this SOW.

The term "Contract Officer" shall mean the person working for the Department of the Navy appointed by warrant and given the authority to execute contractual documents that obligate the government within the authority of their warrant.

2.0 SCOPE OF WORK

2.1 General

The Contractor shall provide all labor, materials and equipment necessary to perform all work in accordance with the SOW. The timeframes for various aspects of the work to be performed are detailed in the following subsections.

The Contractor shall conduct all work in accordance with all state, local and federal regulations and the approved work plan. The Contractor shall at all times provide adequate protection to any utilities that may be encountered.

The Contractor's work areas and activities at the site will be subject to inspection without announcement by the Navy, their representatives, as well as representatives from the US Environmental Protection Agency (EPA) and New York State Department of Environmental Conservation (NYSDEC).

All activities will be conducted in an efficient and professional manner, with the minimal practical damage to the site environment. Thus, unnecessary damage to the existing site environment will not be tolerated.

The Contractor will be required to comply with the Occupational Safety and Health Administration (OSHA) training requirements as specified in 29 CFR 1910.120 (Hazardous Waste Operations and Emergency Response) and the Health and Safety Plan to be provided by the Subcontractor.

The Contractor shall provide a full-time site superintendent to act as the single point of contact for the project to communicate and interact with Navy personnel and their representatives. It will be required that this person be on-site at all times during normal working hours, and be available to attend scheduled meetings as necessary.

2.2 Demolition Work Plan and Health and Safety Plan

The Contractor shall prepare and submit a written work plan detailing the approach to conduct the work described in this SOW to the Contracting Officer or representative as designated hy the Government. No on-site work shall begin until the Contracting Officer provides written approval of this work plan or its revisions. The work plan shall describe the manner in which materials will be excavated, staged, tested, and transported for off-site disposal. The work plan shall include the following items:

- Sampling and analysis plan to address sample collection, handling, and management protocol. This plan will also include the analytical laboratory (ies) proposed to be used for waste characterization and clean fill.

- The Contractor shall propose Resource Conservation and Recovery Act (RCRA) D facility suitable for disposal or recycling facility suitable for reuse of the structures at the Site. These disposal facilities shall be permitted, in good standing with the applicable state regulatory agency, and be approved by the Navy.

- A contingency plan to address the handling and management should unanticipated items (i.e. drums, tanks, compressed gas cylinders) be encountered during the implementation of the removal action.

- A plan for erosion and sedimentation control for work area during site activities.

- A detailed schedule for completion of the work described in this SOW.

- A spill prevention and response plan.

- A decontamination plan for vehicles and equipment exiting the site.

- A Traffic Plan to direct transportation activities within an acceptable timeframe, to control site working hours, to comply with security inspection requirements and to minimize disturbance to local residents.

- A site plan, illustrating proposed work areas, including loading areas, decontamination areas, staging areas, site traffic patterns, and equipment lay down areas. This plan will be updated as necessary throughout the implementation.

- A Site Health and Safety Plan (SHSP) that conforms to the requirements set forth by Occupational Health and Safety Administration (OSHA) and 29 CFR 1910.120 (HAZWOPER), specific to the anticipated site activities, approved by a Certified Industrial Hygienist.

- A site restoration plan illustrating the final grades to be established at the completion of the action.

Copies of the work plan will be distributed according to the following schedule:

Document	Copies
Internal Draft Work Plan (for Navy review)	3
Draft Work Plan (addressing Navy comments)	8
Final Work Plan (addressing regulatory comments)	8

The Contractor shall submit the Internal Draft Work Plan to the Navy no later than 30 days following the contract award. The Contractor shall not anticipate starting work until at least 120 days after submittal of the Draft Work Plan to the Navy and Regulators.

2.3 Planning and Site Setup

Meetings

The Contractor shall attend and participate in a pre-construction meeting to be held at the site and a public meeting to be held in the Bethpage Area. It is anticipated that each meeting will be less than one working day in length.

The Contractor will hold daily safety meeting with the field crew, and conduct weekly quality control/project management (QC/PM) meetings to discuss project quality issues, project production and schedule, identify problematic issues and options to address/resolve, and other project related issues. With the Contracting Officer's concurrence, these QC/PM meetings may be held bi-weekly. The contractor will prepare a meeting agenda for each meeting and meeting minutes will be distributed to the Contracting Officer and designated Navy representatives within one week of the meeting.

Permits

The Contractor shall, at his expense, procure all necessary permits, bond applications, and/or licenses from the appropriate authorities to conduct the work described herein.

The Contractor shall comply with all local, State, and federal regulations. If the bidder believes that the specifications provided herein are at variance with any law or regulation, he shall identify those differences in the proposal, and any necessary adjustments shall be made as a modification to this specification.

The Contractor shall ensure that waste/material haulers employed carry all permits required for transportation of materials described in this SOW.

The Contractor shall be responsible for ensuring that all trucks leaving the property are in compliance with all Federal and State(s) vehicle weight limits as well as any applicable Department of Transportation (DOT) requirements. The Contractor and all carriers must comply with all Federal Motor Carriers Safety Requirements (FMCSR) and must have current permits and licenses, as required by federal, state, and local authorities.

The carrier(s) must have a current DOT MC Safety Rating of "Satisfactory" and the Contracting Officer's approval of their safety record. All waste transportation shall be performed by licensed, insured, and permitted solid and/or hazardous carriers.

Equipment and Material Delivery, Storage and Handling

The Contractor shall provide equipment and materials at the site to conduct the work as described in this SOW.

All arrangements for delivery, security, and handling of equipment and material, throughout the conduct of the work, shall be the Contractor's responsibility. The Contractor shall store equipment and materials so as to ensure the preservation of their quality and fitness for the work. When considered necessary by the Navy, equipment and materials shall be placed on wooden platforms, or other hard, clean surfaces, and shall be placed under cover when directed. Materials shall be stored at the location(s) designated by the Navy representative, and shall be arranged so as to facilitate prompt inspection by the Navy representative.

All staging areas will be located within the boundaries of Site 1. Any staging area shall be constructed with adequate containment of possible runoff and erosion during the anticipated period of staging. In particular, material shall be prevented from entering storm water drains located throughout the work area.

Site Access / Security

The Navy will arrange for administrative access to the work area. The Contractor maintain security at the site during demolitions activities. Keys for the locked gate will be provided to the Navy or Navy appointed representative.

Temporary Facilities

The Contractor will be required to provide any and all temporary services required by their activities, including telephone, storage, office facilities, power and portable toilets. Electric Service and Water will not be provided by the Navy. The Navy will not provide any service points or any support during hook-up, operation, or termination of service.

The Contractor shall be responsible for the safety and security of their equipment and materials at all times

Utility Clearance

No utilities are available at the NWIRP Bethpage facility; however the Contractor shall be responsible for clearing the site prior initiation of work. In particular, there is one known active water line along the southern edge of the site.

Quality Assurance/Quality Control

Quality Assurance (QA)/Quality Control (QC) measures shall conform to the requirements of the conditions of the Contract, including the following items:

1. The Contractor, at their expense, shall furnish copies of certificates from suppliers/manufacturers showing that all backfill materials (i.e., bentonite slurry, excavation backfill, etc.) conform to the requirements of these specifications.
2. Materials for well abandonment shall comply with the American Society for Testing and Materials (ASTM).

Technical Inspection

All work conducted under these specifications shall be subject to inspection by the Navy; however, such inspection shall not relieve the Contractor from any obligation to perform said work in accordance with specifications or any modification thereof, as herein provided. Work not done in strict accordance with the specifications or any modification thereof, as herein provided, shall be corrected by the Contractor at his expense whenever ordered by the Navy, without reference to any previous oversight or error in inspection.

All directions given to the Contractor by the Navy or Navy appointed representative pertaining to the specification during routine inspection shall be binding on the Contractor.

Erosion Control

The Contractor shall construct adequate erosion control at any location necessary to prevent runoff or erosion of soil or waste from the site, and in particular waste prevent migration of materials into the storm sewer.

Erosion control structures shall be adequate to sustain weather damage and degradation and shall be maintained by the Contractor until site restoration has been completed. It shall be the Contractors responsibility to maintain all erosion controls through the completion of the project.

3.0 TECHNICAL REQUIREMENTS

3.1 Mobilization and Demobilization

The Contractor shall specify the equipment that will be used to perform the scope of work detailed in this specification. Mobilization and demobilization includes mobilizing to the site the equipment specified, set up and maintenance of decontamination and equipment laydown areas, and all decontamination of equipment. The Contractor will be responsible for the security of his/her equipment and materials throughout the duration of the project. Unsecured areas for equipment storage will be provided.

Mobilization and demobilization also includes site clean-up, demobilization from the site, and all other work items as described below, in addition to any other work items not mentioned in the remaining work tasks but necessary for performance of the work activities. This item includes costs for locating equipment and materials on site prior to the start of work and removal of all such equipment and materials.

The Contractor will supply all necessary equipment, tools and support equipment, and all miscellaneous materials, unless otherwise stated, required to complete the described program. The Contractor will furnish a crew to perform the work detailed in this specification.

All equipment and materials used in the performance of this project shall be decontaminated using high pressure/temperature steam cleaning prior to use and before leaving the site at the completion of work.

Water for decontamination of equipment and materials will not be provided by the Navy. The Contractor will need to transport and store water and waste decontamination water. The decontamination operations will consist of washing equipment using a high-pressure potable steam wash over a decontamination pad. All decontamination fluids generated during this project will be required to be containerized and staged on site. Containerized decontamination fluids will be sampled and characterized using approved EPA analytical methods. Prior to disposal, analytical results will be reviewed by the Navy or a Navy appointed representative for approval. The Contractor shall be responsible for providing the necessary manpower and equipment for performing the decontamination activity. Personnel decontamination will be addressed in the site specific Health and Safety Plan to be provided by the Contractor.

The Contractor is responsible for having a designated Site Safety Officer on site that will ensure the project is being completed according to the project specific Health and Safety Plan (HASP) provided by the Contractor.

The Contractor will keep the work site and adjacent areas as free of material, debris, and rubbish as is practicable and shall remove from any portion of the site such materials, debris, or rubbish which, in the opinion of the Navy representative, may interfere with the work or constitute a nuisance.

When establishing support facilities (construction entrances, decontamination pads, material handling pads and other stockpile areas) the Contractor should note that the perimeter fence shall remain intact during all site activates. Therefore, gates will need to be constructed to allow access to the site. In the event demolition activities create voids in the perimeter fence, the Contractor will bridge the voids with new fencing, to restrict access to the contamination within the soils of Site 1.

3.2 Environmental Survey

The Contractor shall verify the existing environmental survey of Building 03-13 prior to demolition (Attachment 1) and establish the presence or absence of environmental issues within all buildings being removed as part of this demolition plan. Environmental contaminates reported in the existing environmental survey for Building 03-13 include asbestos materials in the form of transite pipe, transite board, floor tile and pipe insulation, mercury in lamps and switches, possible lead paint on walls, and possible PCB in fluorescent light ballast. Prior to demolition all environmental issues must be addressed in accordance with state and Federal regulations.

3.3 Demolition

All of the items identified on Figure 3-1 will be demolished. These items include concrete pads, steel buildings, steel retaining wall, concrete block building, and the upper six feet of settling tanks located on the southern side of Building 03-13. Material generated through the demolition process shall be recycled/salvaged to the extent possible. Demolition items associated with Building 03-13 and any other building with environmental issues shall be managed dependant on the findings of the environmental survey performed for these buildings. Section 3.2 presents the performance standards for each of the Figure 3-1 identified demolition items.

3.4 Well Abandonment

Air injection/soil vapor air extraction wells will be abandoned during this project. The wells are 2-inch diameter PVC casing and screen. Eleven air injection wells (2-foot screen interval) to an approximate depth of 65 feet and 13 air extraction wells (15-foot screen interval) to an approximate depth of 60 feet will be abandoned, see Attachment 2.

The wells will be abandoned by first filling the screened interval with Number 2 (20/30 mesh) well gravel to a height of 2 feet above the top of the screen. The well will then be filled with a cement/bentonite grout mix (7 gallons of water per 94-pound bag of cement and 6 pounds of bentonite mixture) through a tremie pipe to 2 to 3 feet bgs and the top of the well will be cut at this depth. For wells located with the limit of excavation, the cement/bentonite grout mix will be filled to approximately 6 feet bgs (the excavation depth) and the top of the well will be cut at this depth.

3.5 Restoration

In all areas where concrete removal occurred, the Contractor shall regrade the area. For areas in which removal activities extend to a depth of 12 inches or less (floors), fill material is not required, but the Contractor shall regrade the perimeter of the area to eliminate trip hazards and minimize erosion. For areas in which the removal activities extend below 12 inches (footers), off site clean fill material must he used to fill the excavation to a depth of within 12 inches of the original grade.

For the settling tanks where excavations will extend to approximately 5 feet below local grade (approximately 3 feet below average site grade), it is anticipated that most of the soils surrounding the top portion of the tank will be removed to a depth of approximately 6 feet below the top of the tank prior to demolition. These soils can be returned to the tank area after demolition and the area regraded to minimize erosion and sloped to direct surface water away from storm drains. The disturbed soils around the settling tank area shall be covered with 6 inches of clean fill.

After regrading and fill, a temporary surface treatment consisting of straw with seed on soil capable of sustaining vegetation. All temporary perimeter fencing shall remain following demolition activities. This perimeter fencing will be identified by the Navy's representative prior to initiating construction activities.

3.6 Demobilization

Following completion of site activities, demobilization shall occur. Demobilization shall involve removal of all trailers, equipment, temporary facilities, and utilities. Perimeter erosion and sediment control features shall remain in place until the restored areas have been stabilized. After stabilization, the perimeter erosion and sediment control features shall be removed and properly disposed.

3.7 Performance Standards for Demolition Activities

Demolition items shall consist of all roofs, walls, floors, drains, wells, sumps, foundations, and concrete pads associated with the features identified on Figures 3-1. Demolition items shall be

managed dependent on the findings of the asbestos and hazardous materials surveys, salvage/recycle suitability, and waste characterization results.

Specifically, the demolition plan includes the demolition of the following items;

- Demolition of Building 03-13
- Demolition of Building 03-38
- Demolition of Building 03-31
- Demolition of Building 03-33
- Demolition of 4 concrete pads
- Demolition of settling tank adjacent to Building 03-13
- Abandonment of 33 Air Sparge / Soil Vapor Extraction Wells

In addition to these demolition items, there are storm water runoff concerns with Site 1. Therefore, as part of cleaning up the site following demolition, limited regrading of the site will be conducted to prevent storm water from running off of the site to storm water basins located along the north and western portions of the site.

Attachment 3 contains a photograph log of these items. The photograph log has been provided to provide additional details on the conditions of the site features that required demolition.

Prior to building demolition, removal and disposal of all existing environmental material located within the buildings identified for demolition is required. The existing Asbestos Containing Materials (ACM) survey for Building 03-13 shall be verified and updated as necessary by a certified asbestos abatement technician, see Attachment 1. The asbestos abatement plan shall be implemented based on the pre-mobilization verified asbestos survey. ACM and hazardous materials shall be removed and properly managed. Concurrent with removal of the ACM, utilities connected to the building shall be located, isolated as necessary and disconnected using appropriate standards. Upon isolation from utility connections and addressing environmental issues, the identified buildings shall be demolished and size reduced for disposal. The concrete pads shall also be size reduced for transportation offsite and disposal/salvage. Demolition materials shall be segregated, pressure washed to remove potentially contaminated soils, and size reduced if required, stockpiled, sampled for waste characterization, loaded out, and properly managed.

Building 03-13 (US Navy Building 34)

This frame constructed block building was previously used as an industrial waste water treatment facility. Treated water was discharged to the settling tank adjacent to the building and to the leach field located south of the building. This building is one and a half stories and measures approximately 100 feet by 40 feet. The building includes a side garage, access doors on three sides, flat roof, concrete floor, interior block and wood walls, and water and sewage service lines. This building is known to contain asbestos materials in the form of transite pipe, transite board, floor tile and pipe insulation, possible mercury in lamps and switches, possible lead paint

on walls, and possible PCB in fluorescent light ballast. Most of the known asbestos was removed from this building in 2007, see Attachment 1. Additional hazardous materials may exist under the building's siding, roofing and floors.

This building will be demolished and disposed/salvaged off site. However, prior to demolition the environmental survey of the building must be verified and environmental issues must be addressed. Demolition will include the Building, the concrete pads adjacent to the building, the concrete foundation, and removal of utilities to a depth of 2 feet below the concrete pad foundation. All demolition material must be characterized prior to off site transportation to satisfy end user requirements. Disconnected utility piping/conduit shall be plugged or sealed as appropriated. It is not the intent of this demolition plan to remove all contributing utilities. Photographs of this building are provided in Attachment 3. The location of this building is identified on Figure 3-1.

Building 03-38: Drum Storage Area

This building is a concrete pad that was used as a drum storage area. The building consists of 3 walls, with access to the building from the west through two large garage doors. The walls do not come to the floor (about 1 foot of clearance between the bottom of each of the three walls and the top of the concrete pad). This building measures approximately 30 feet by 15 feet and 11 feet high (12 feet at roof peak) and includes the following characteristics;

- The building is steel framed aluminum siding.
- The roof is steel or corrugated metal.
- The concrete floor within the building contains a large floor drain that drains to sumps that contains liquids (i.e., the sumps does not drain).
- No utilities to the building.
- Nothing located within the building.

This building will be demolished and disposed/salvaged off site. However, prior to demolition the presence or absence of environmental issues must be determined and environmental issues must be addressed. It is assumed that there are no environmental issues associated with this building. Demolition will include the building, the concrete pad foundation beneath the building, the concrete sump, and disconnection of utilities (if any) to a depth of 2 feet below the concrete pad foundation. All demolition material must be characterized prior to off site transportation to satisfy end user requirements. Disconnected utility piping/conduit shall be plugged or sealed as appropriated. Photographs of this building are provided in Attachment 3. The location of this building is identified on Figure 3-1.

Building 03-31: Small Steel Building

This building is a corrugated metal building constructed on a concrete pad. The building has a peaked roof and was used for storage while plant was in operation and housed the original AS/SVE system building (prior to moving the system equipment to Building 03-33). This

building measures approximately 40 feet by 24 feet and 10 feet high (11.5 feet at roof peak) and includes the following characteristics.

- The building is steel framed corrugated metal siding.
- The roof is constructed of corrugated metal.
- No floor drains observed (no lights within the building during inspection).
- Miscellaneous equipment within building.
- No water or sewage utilities service to the building.
- All electrical has been cut and the fire suppression line deactivated.

This building will be demolished and disposed/salvaged off site. However, prior to demolition an environmental survey of the building must be conducted and environmental issues must be addressed. It is assumed that environmental issues for this building are limited to possible mercury in lamps and switches and possible PCB in fluorescent light ballast. Demolition will include the building, the concrete pad foundation beneath the building, and any utility feeds to a depth of 2 feet below the concrete pad foundation. All demolition material must be characterized prior to off site transportation to satisfy end user requirements. Disconnected utility piping/conduit shall be plugged or sealed as appropriated. It is not the intent of this demolition plan to remove all contributing utilities. Photographs of this building are provided in Attachment 3. The location of this building is identified on Figure 3-1.

Building 03-33: Large Pre-Engineered Building

This building is a pre-engineered steel building. The roof is a peeked roof that slopes from the center. This building was constructed within the past 10 years and was used by to house the AS/SVE system. This building is approximately 50 feet by 50 feet and is 25 feet high (27 feet at roof peak) and includes the following characteristics.

- The building is steel framed corrugated metal siding.
- The roof is constructed of corrugated metal.
- There were not observed floor drains.
- Water and sanitary lines serviced the building when in use.
- Miscellaneous equipment is stored within the building.
- There are several electrical panels.
- There is a small office area within the building (material type not determined during inspection).
- All electrical has been cut and the fire suppression line deactivated.
- There was a small restroom along the western wall.

This building will be demolished and disposed/salvaged off site. However, prior to demolition the presents or absents of environmental issues must verified and addressed. It is assumed that environmental issues for this building are limited to possible mercury in lamps and switches and possible PCB in fluorescent light ballast. Demolition will include the building, the concrete pad foundation beneath the building, and any utility feeds to a depth of 2 feet below the concrete pad

foundation. All demolition material must be characterized prior to off site transportation to satisfy end user requirements. Disconnected utility piping/conduit shall be plugged or sealed as appropriated. It is not the intent of this demolition plan to remove all contributing utilities. Photographs of this building are provided in Attachment 3. The location of this building is identified on Figure 3-1.

Concrete Pads

In addition to concrete floors in the buildings above, the following are concrete pads on the Site 1 to be removed.

Concrete Pad	Length (feet)	Width (feet)	Location
Pad 1	90	80	East side of site
Pad 2	21	13	Near building 03-38
Pad 3	52	33	Next to building 03-31
Pad 4	65	42	South side of site

Pad thicknesses are assumed to be 8 inches thick (based on site drawings); however, as-built information is not known.

These concrete pads will be demolished and disposed/recycled as aggregate off site. However, prior to transportation off site loose soil must be removed from concrete by washing/power washing. In addition, all demolition material must be characterized prior to off site transportation to satisfy end user requirements. Photographs of the concrete pads are provided in Attachment 3. The locations of the concrete pads are identified on Figure 3-1.

Steel Sheet Wall

A sheet steel wall that is approximately 5 feet high, 1 foot thick, and 115 feet long runs along the south and west side of concrete Pad 1. The wall acts as a retaining wall and it is thought that the walls may have been used to create a truck loading ramp while the plant was in operation.

This steel sheet wall will be demolished and disposed/salvaged off site. The earth behind the wall must he graded to remove the vertical wall of soil that will be left upon the sheet steel wall removal. All demolition material must be characterized prior to off site transportation to satisfy end user requirements. Photographs of the steel sheet wall are provided in Attachment 3. The location of this steel sheet wall is identified on Figure 3-1.

Settling Tank

This settling tank is located adjacent to the southern wall of Building 03-13, the exposed portion of the settling tank measures approximately 50 feet by 50 feet. According to construction drawings, the settling tank is approximately 15 feet deep and is constructed of concrete with multiple chambers. According to facility personnel the voids within the settling tank have been

filled with sand. The top of the tank is flat, constructed of concrete with many steel manways welded closed. Piping between the tank and Building 03-13 is thought to exist.

This settling tank will be demolished and disposed/salvaged off site. Demolition will include the upper six feet of the concrete structure, steel manway covers, and the piping that connects the settling tanks to Building 03-13. Piping below 6 feet will not be addressed. All demolition material must be characterized prior to off site transportation to satisfy end user requirements. Photographs of the settling tank are provided in Attachment 3. The location of this settling tank is identified on Figure 3-1.

AS/SVE Wells

Approximately 24 existing AS/SVE wells from within the work area shall be abandoned in accordance with state regulations. All removed casing and screen material removed during well abandonment will be disposed of as demolition debris.

Grading and Handling Contaminated Soil

As indicated, the contractor will be working within an area that is identified as containing contaminated soil. Therefore, during regrading activities, the Contractor shall ensure that contaminated soil is not move beyond the limits of existing contamination.

Due to the nature of the soil within the limits of Site 1 storm water that accumulates within the limits of Site 1 is expected to infiltrate and not runoff the site to the surrounding areas and/or the existing storm water collection system. To ensure this, all elevated areas will be regraded so that the site is sloped or channels toward the center of the site rather than toward the surrounding areas, thus providing positive drainage toward the center of the site. In particular, soils at the northern edge of the site (including those around the settling tanks) are mounded. Runoff from this area shall be directed to the south. However, while creating the positive drainage and while working within the limits of contaminated soil, the contractor shall not move or mix contaminated soil with soil outside the limits of contaminated soil. The contractor can however, move soil from outside the limits of contaminated soil into the limits of contaminated soil for backfilling and grading purposes.

Analytical Analysis

The Contractor shall profile the waste as needed for acceptable by the disposal facilities. Concentrations of contaminants in the soil are presented in the attached figures. Additional data is available in several reports prepared between 1995 and 2002 and can be made available to the Contractor upon request. If required, the Contractor shall conduct sampling for waste characterization as required by the disposal facilities. The Contractor shall provide laboratory analytical results to the Contracting Officer or representative as designated by the Government within five days of receipt of analysis. The Contractor shall retain copies of all sample results on site until the completion of the project.

Staging of Soil and Debris

As required, the contractor shall segregate and stage concrete/gravel/soil on-site within the boundaries of Site 1 based on the type of material and/or anticipated disposal facility. Stockpiles shall not exceed 500 cubic yards each. The Contractor shall crush or reduce large size debris to manageable sizes for transportation and disposal as needed.

The contractor shall cover stockpiles at all times to prevent intrusion of rain, and to prevent erosion by precipitation and wind. The contractor shall maintain covering systems intact at all times.

Traffic and Haul Routes

The Contractor shall provide an appropriate number of off-site disposal trucks. During shipping periods, in accordance with the Traffic Plan to be described in the Work Plan, ensure that disposal activities are completed within the project schedule. Disposal vehicles shall only arrive and leave the site between site working hours (as described in the Traffic Plan) to minimize disturbance to local residents.

The Traffic Plan to be provided in the Work Plan shall require entrance of transportation vehicles through gates approved by the Navy or its representative. The west gate with access onto South Oyster Bay Road shall serve as the access point for all contractors, vehicles and equipment.

The Contractor shall adhere to haul routes as described in the Traffic Plan.

Liners and Tarps

The Contractor shall ensure that all off-site disposal trucks are equipped with appropriate appurtenances (e.g. liners and tarps) in acceptable working condition. All loads must be covered prior to departure. Liners will be required if truck beds do not properly seal when closed. The Contractor shall ensure that all liners and covers are properly secured and that the vehicles are not leaking or releasing any waste constituents at any time, from loading at the source site, along the haul route, until off-loading at the approved disposal site(s).

Drivers of the off-site disposal trucks must not come in physical contact with the contaminated material while covering the load or preparing it for transport. The Contractor shall load off-site disposal trucks in an area designated in the Final Work Plan, and clearly marked at the site.

Decontamination

The Contractor shall ensure that there is no visible soil/waste material on the sides or tires of any vehicles leaving the staging area, or vehicles leaving the site. The Contractor shall construct and use decontamination procedures as described in the Work Plan to remove soil or debris from the outsides of the vehicles if necessary to assure soil is not tracked beyond designated work areas onto surrounding roadways.

Decontamination fluids and solids shall be captured daily, and stored on site then characterized and disposed of as appropriate in accordance with requirements stated in this SOW.

Waste Shipment Documentation

The Contractor shall be responsible for providing and carrying waste manifests, bills of lading, placards, labeling, markings, licensing, and any other transportation/disposal documentation as required by federal, state, and local regulations.

A representative of the Contracting Officer or representative as designated by the Government will sign completed shipping manifests and bills of lading. The Contractor shall provide the Contracting Officer or representative as designated by the Government with a minimum of 48 hour notice prior to shipping waste materials from the site.

Site Restoration

Site restoration includes backfilling and regrading. All material shall be obtained from off-site sources. No material is available at NWIRP Bethpage. Material specifications and test results shall be submitted to the Navy's Site Representative for approval prior to delivery of materials to the site. Backfilling shall not begin until confirmation sample results have been approved by the Navy. The use of backfill shall be limited to areas where materials (footers and settling tanks) were removed from more than 12 inches below ground surface. The estimated volume of soil to backfill and/or cover the work areas are 160 cy (250 tons). The Subcontractor shall test backfill material in accordance with ASTM C 136 for conformance to ASTM D 2487 gradation limits. The material to backfill shall be ASTM 2487, classification SP (poorly graded sand), which is similar to the native soil being excavated. Soil classified as SW (well-graded sand) will also be accepted. Select fill shall be sandy gravel, free of organic material, loam, wood, trash, snow, ice, frozen soil, and other foreign or deleterious material. Soils brought in from off site for use as backfill shall be from a State approved borrow pit or be tested and demonstrated to be clean. Material shall not be brought on site until approval by the Navy.

Demobilization

With the exception of erosion control supplies and structures, the Contractor shall demobilize all equipment, supplies, materials and facilities brought to the site during their work no later than 30 days following the completion of removal of the soil as stated in this SOW.

As a part of demobilization, the Contractor shall repair any areas used and damaged to their original condition at completion of the project at no cost to the Government.

3.8 Submittals

Waste Transportation and Disposal Submittals

The Contractor shall submit with the Work Plan the following documentation regarding transportation and disposal of the material at the disposal facilities.

Transporter/Carrier:

- USDOT motor carrier safety rating (if available).
- A list of any and all notices of violations in the last 3 years.
- Solid and hazardous waste transportation permits (DOT) as appropriate for each state in which the material will be transported.
- Overweight permits, as appropriate, for each state in which the material will be transported.

Disposal Facilities:

- Type of Facility.
- Location of facility (address).
- EPA ID Number
- Facility Point of Contract and Phone Number
- Facility hours of operation
- State and/or federal agency point of contact.
- A list of any and all notices of violations in the last 3 years.
- Date of last inspection.
- Copies of all environmental permits.
- Copies of the facility's weight scale certificate.
- Analytical requirements and frequencies for each facility.

Note that Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) National Priorities List (NPL)-listed or state-equivalent-listed transfer stations or disposal facilities will not be approved.

Prior to Mobilization

The Contractor shall be responsible for submitting a Health and Safety Plan to the Navy for review and comment prior to mobilization. The Health and Safety Plan shall include, but is not limited to, names of the health and safety officer and names of alternates responsible for health and safety; 29 CFR 1910; 29 CFR 1926; contract clause "FAR 52.236-13, Accident

Prevention."; and NFPA 241. The Contractor shall not begin work at Site 1 until the Navy has approved the Subcontractor's Health and Safety Plan.

All Contractor and subcontractor personnel working on-site shall comply with the Health and Safety Plan. This Plan will be provided to the Contracting Officer or representative as designated by the Government for review prior to initiating work. The Contractor shall provide any and all personal protective equipment, as required by the Plan, in order for the Contractor's personnel to complete the work. Prior to the start of work, all Contractor personnel shall attend a one-time Site Safety and Health Orientation. The Contractor shall conduct all work activities in a safe manner and in compliance with the Plan. The Navy and their representatives will have the authority to audit and terminate the Contractor's field operations if the Site Health and Safety Officer (SHSO) judges that the operations violate the Plan, or if work practices are being conducted in an unsafe manner.

The Contractor shall submit Health and Safety Medical Surveillance, and Training Records for all on-site workers (where required). The Contractor shall submit OSHA HAZWOPER training records (original and refresher) for all site workers. The Contractor shall submit certificates of supervisory training for the site superintendent as described elsewhere in this SOW

The Contractor shall be responsible for submitting a Work Plan to the Navy for approval prior to mobilization. If received, the contractor will respond in writing to any comments from the Navy, EPA or NYSDEC. The Work Plan shall detail the Contractors plan to complete the remediation services presented in this specification. The Work Plan shall include, but is not limited to, a description of the project objectives, scheduling, decontamination procedures; removal, excavation and regrading procedures; wastewater treatment plan (water resulting from decontamination); storage, transportation, and treatment requirements for off-site soil and landfill material disposal; and a detailed sequence of events for the construction. The Contractor shall not begin work at Site 1 until the Navy has approved the Contractor's Work Plan.

The Contractor shall provide the name and contact information for a full-time site superintendent to act as the single point of contact for the project on-site at all times during normal working hours.

Construction Submittals

Waste Disposal Documentation

Before Transportation - The Contractor shall submit bills of lading, manifests and other appropriate shipping and disposal documents for the handling of wastes to the Contracting Officer or representative as designated by the Government a minimum of five days prior to shipping the soil off-site. All transportation documentation shall be submitted to the Contracting Officer or representative as designated by the Government for review, approval, and signature prior to shipment.

After Transportation - The return manifests or bills of lading that have been signed by the disposal facility, along with certified weight slips, shall be submitted to the Contracting Officer or representative as designated by the Government within 10 days of waste delivery. Certified weight slips shall contain, at a minimum, the gross truck weight, truck tare weight, the net weight of the material, cumulative daily weight, date of delivery, facility name, signature of person receiving the load of material, and the numerical load number for the day. Weight slips shall also contain transportation company name, and plate numbers for both the tractor and trailer if applicable. Copies of any discrepancy reports or exception reports shall also be submitted.

Daily Summary Reports

The Contractor shall submit daily summary reports that detail the quantities, types and classification of materials removed from the project each day. Summary reports shall include estimated volume of soil removed. The report shall include the manifest number, transporter, and disposal facility where the material was disposed. Daily summary reports shall be submitted to the Contracting Officer or representative as designated by the Government and other Navy representatives on the following business day via e-mail (distribution to be provided).

Certificates of Treatment/Disposal

The Contractor shall submit Certificates of Treatment/Disposal from the final disposal facility. If waste is accepted at one facility and disposed of at another, the certificates shall be from the final disposal facility. If waste is treated at one facility and the remains of the waste are sent to a second facility, the Contracting Officer or representative as designated by the Government must receive a Certificate of Treatment from the first facility and a Certificate of Disposal from the final facility. Certificates of Treatment/Disposal shall include the number of the manifest, date when the waste was transported off-site, and a description of the waste as reported on the manifest. Certificates must be received within 10 days of final waste disposal. These Certificates shall be received separately and prior to invoicing.

Analytical Reports

The Contractor shall provide a minimum of two hard copies of laboratory analysis data reports to the Contracting Officer or representative as designated by the Government for each sample or sample group within five days of collection. The Contractor shall retain copies of all sample results on site until the completion of the project. Fax reports are acceptable to meet this requirement.

The Contractor shall provide an electronic deliverable of analytical results to the Contracting Officer or representative as designated by the Government at the completion of the project. Electronic data deliverables shall be provided in database or excel format; pdf files will not be accepted to fill this requirement.

Post-Construction Deliverables

The Contractor shall prepare and submit a Project Construction Completion Report (CCR), which will be formatted following a Remedial Action Report in accordance with *Close Out Procedures for National Priorities Sites EPA 5409-R-98-016.* This report will specifically include the following:

- A statement that the work was conducted in accordance with the Work Plan, with any exceptions noted.
- A summary of volumes of material shipped and disposed at each location.
- A summary of volumes of each type of material shipped and disposed.
- Copies of analytical reports from characterization of soil/waste (may be provided electronically within the report as an appendix).
- Copies of the Manifests/bills of lading, and certified weight slips (may be provided electronically within the report as an appendix).
- Copies of Certificates of Treatment/Disposal (may be provided electronically within the report as an appendix).

In addition, the report shall also include, but is not limited to, introduction; summary of action; final Health and Safety Report; summary of record documents and field changes; final documents; complete set of field test and confirmatory laboratory analytical results (to be provided by Navy representative); documentation of off-site transportation and disposal; quality control summary report; surveyed as-builts; and color photographs documenting each major task of the project.

The following submittals shall be required for the closeout report:

Document	Copies*
Internal Draft Close-out Report (for Navy review)	4
Draft Close-out Report (addressing Navy comments)	8
Final Close-out Report (addressing regulatory comments)	8
*each copy shall include an electron version of the document	

3.9 Schedule

All construction of erosion control structures, waste excavation and disposal activities, and site restoration activities, shall be completed no later than nine months from the notice to proceed. Start date will be considered the date of the contract award. This contract shall be completed no later than one year after the contract is awarded.

3.10 Codes and Standards

Services furnished will be in accordance with the general conditions outlined in this SOW. Changes may be implemented by mutual consent in writing between the Contractor and the

Contracting Officer or representative as designated by the Government. In addition to these conditions and specifications, the Contractor shall comply with all applicable federal, state and local ordinances, laws, and regulations. In the event of any apparent conflict among codes, standards, or this specification, the Contractor shall refer the conflict to the Contracting Officer for written resolution.

3.11 Items Provided by the Navy

A listing of the work/items that will be provided by the Navy follows (the term "Navy" will also mean to include any representative delegated by the Navy to act on its behalf):

(1) Administrative access to all locations will be arranged by the Navy prior to commencement of work. No Contractor personnel are to enter any location without first obtaining clearance from the Navy. Equipment access to any location is permitted only with Navy clearance.
(2) The Navy will stake the location of the excavation areas prior to the Contractor commencing work.
(3) The Navy will provide a Daily Activities Form to be signed by both the Contractor and the Navy at the end of each workday.
(4) The Navy will inspect all the work in progress and at completion. Any discrepancies will be noted on the Daily Activities Form.
(5) The Navy will provide a representative to oversee and document remediation activities.
(6) The Navy will designate an area to serve as a staging area for equipment, materials, supplies, and wastes.
(7) The Navy will review all pertinent records provided by the Contractor to authorize persons to enter and/or work at the site. This review of records is in no way intended to relieve the Contractor from his responsibility to comply with applicable regulations. Additionally, the review is not intended to evaluate the effectiveness of employee training or the Contractors medical surveillance program.
(8) The Navy will provide confirmation sampling and analysis of the excavated areas.

APPENDIX B

ASBESTOS SURVEY

NON ASBESTOS-CONTAINING MATERIAL BUILDINGS AT NWIRP

Dewberry & Davis conducted asbestos surveys of various buildings at the NWIRP Bethpage, New York during November 1998 and January 1999. The following table lists buildings where no asbestos was identified.

Non Asbestos-Containing Material Buildings at NWIRP			
Building Number		**Size (SF)**	**Comments**
03-02	Well House # 8	147	No ACM Identified
03-03	Well House # 9	374	No ACM Identified
03-04	Well House # 10	258	No ACM Identified
03-08	Tub Storage	1,600	No ACM Identified
03-09	Well House # 11	172	No ACM Identified
03-11	Well House # 14	136	No ACM Identified
03-12	Well House # 15	172	No ACM Identified
03-31	Bottle Gas Storage	800	No ACM Identified
03-33	Transportation Building	2,546	No ACM Identified
03-35	Maintenance Building	2,057	No ACM Identified
03-38	Drum Storage	572	No ACM Identified
03-43	Screen Building	202	No ACM Identified
03-46	Storage Building	295	No ACM Identified
03-52	Well Water Treatment Building	400	No ACM Identified
05-08	Sewage Pump Station	380	No ACM Identified
05-11	Sewage Pump Station	56	No ACM Identified
05-13	Office Trailers	5,745	No ACM Identified
10-04	Scale House	48	No ACM Identified
17-09	Well House # 13	180	No ACM Identified
17-25	Storage Shed	1,976	No ACM Identified
17-36	Storm Water Lift Station	16	No ACM Identified
20-04	Truck Wash	674	No ACM Identified

NWIRP OUTLYING BUILDINGS

Dewberry & Davis conducted asbestos surveys in NWIRP Buildings 03-XA, 03-13, 05-05, 05-07, 05-09, 05-10, 10-02, 17-22, 25-03 and 25-05. The purpose of the survey was to identify asbestos-containing materials (ACMs), through bulk sample collection and analysis. Suspect ACMs were assessed and quantified throughout the buildings. International Asbestos Testing Laboratories (IATL) analyzed the bulk samples collected. Environmental Testing Laboratories, Inc. analyzed quality assurance samples. Sample sets of homogeneous materials were analyzed until a positive identification of asbestos was made. Samples were analyzed by polarized-light microscopy with dispersion staining (PLM/DS). One (1) sample of Non-friable Organically Bound (NOB) material from each homogeneous area which PLM analysis indicated $\leq$ 1% asbestos was analyzed by transmission electron microscopy (TEM), in accordance with the State of New York asbestos regulations.

Drawings are provided for each of the buildings. Approximate locations and quantities of damaged asbestos are shown (if applicable) on these drawings. The following table lists asbestos-containing materials identified in the buildings.

NWIRP Outlying Buildings			
Building Number	**Asbestos-Containing Material**	**Quantity**	**Comments**
03-XA	Vinyl Floor Tile	40 square feet	
03-13	Beige with Brown Streak Vinyl Floor Tile	550 square feet	- removed 10/17
	Transite Board	150 square feet	
	Transite Pipe	2 linear feet	
05-05	Straight Pipe Insulation	5 linear feet	
	Pipe Joint Insulation	3 each	
	Pipe Joint Insulation on Fiberglass Lines	18 each	
05-07	Pipe Joint Insulation on Fiberglass Lines	5 each	
05-09	Pipe Joint Insulation on Fiberglass Lines	2 each	
05-10	Pipe Joint Insulation on Fiberglass Lines	20 each	
10-02	12" x 12" Beige Floor Tile	20 square feet	
17-22	Pipe Joint Insulation on Fiberglass Lines	6 each	
25-03	Straight Pipe Insulation	211 linear feet	
	Pipe Joint Insulation	40 each	
	9" x 9" Brown Floor Tile	265 square feet	
	12" x 12" Floor Tile	120 square feet	
25-05	Miscellaneous Insulation	1 linear foot	

APPENDIX C

ASBESTOS ABATEMENT REPORT – BUILDING 03-13

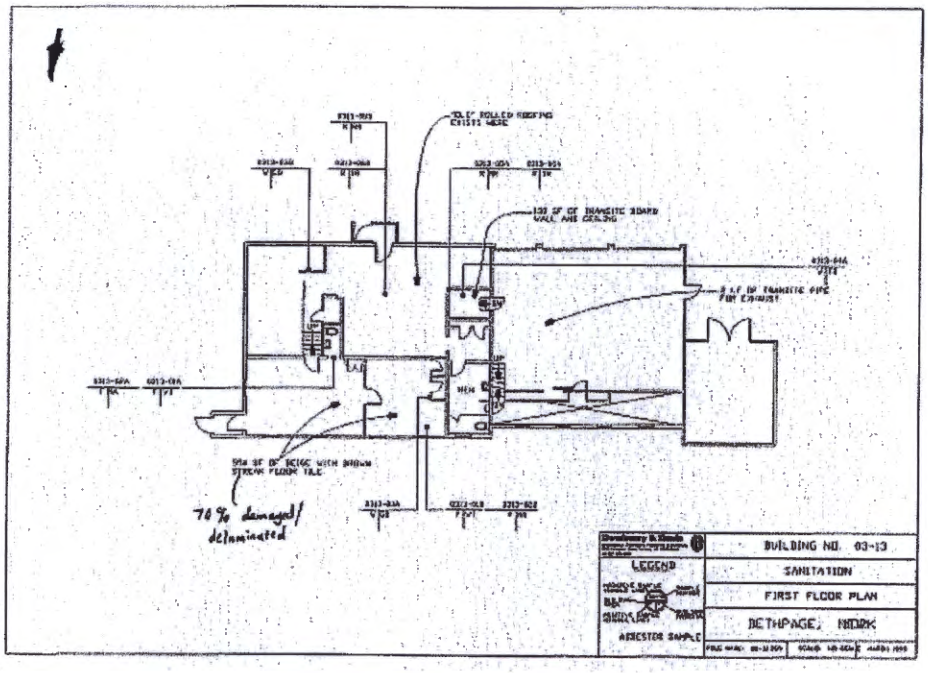


Figure 5-1
Asbestos Survey Results for Building 03-13
July 2007

Memorandum

Environmental
Construction
Operations &
Remediation

ECOR Solutions, Inc.
NWIRP
999 South Oyster Bay Rd.
Bethpage, New York 1171
Phone: 516-346-0344
Fax: 516-346-0345

To: Susan Clarke, RPM, MIDLANT, NAVFAC

From: Al Taormina, Facility Manager

Date: 6 November 2007

Subject: NWIRP Bethpage O&M (FY-08), IDQ Item to Remove Asbestos Floor Tile from Building 03-13

Subject project was completed on 19 October 2007. Attached is the report from the Third Party Air Monitor stating that the damage floor tile has been removed and that the Asbestos Abatement Subcontractor met final air clearance standards in accordance with State and Federal Regulations.

If you need anything further please call.

A. Taormina

ENVIROSCIENCE CONSULTANTS, INC.

2150 SMITHTOWN AVENUE
RONKONKOMA, NEW YORK 11779-7348
PHONE: (631) 580-3191 FACSIMILE: (631) 580-3195

PRINCIPALS

J. DRISCOLL
B. GALLAGHER
T. KLUENDER
G. NEUSCHWENDER

E. DETWEILER
L. MEAD
E. IVANS
R. KLUENDER
J. SPILLETT

October 26, 2007

Mr. Al Taorimina
Ecor Solutions
1075 Andrew Drive Suite 1
Westchester, PA 19380
Ph: (610) 840-9200 Fax: (610) 431-0499

Re: **Building 03-13 (Navy Bldg #34)**
Floor Tile Removal

Dear Mr. Taorimina:

Enclosed please find the air monitoring results for an asbestos abatement project performed in Building 03-13, (Navy Building #34). All asbestos floor tile was removed from the building. The project was completed on October 19, 2007.

The asbestos abatement contractor, Boyle Services, Inc., isolated the work area and removed the floor tile in accordance with state and federal regulations.

Enviroscience conducted air monitoring for the project. Final Clearance samples met the clean air requirements stipulated in 12 NYCRR Part 56. Please refer to the enclosed results.

Please feel free to contact me if you have any questions concerning this project.

Sincerely,

Bart Gallagher

Bart Gallagher
Environmental Engineer

Enclosures: 2
Air Sample Results
Certifications Enviroscience Consultants,

APPENDIX D

ASBESTOS AND HAZARDOUS MATERIAL REMOVAL PLAN

Scope of Work for Pre-demolition Asbestos and Hazardous Material Removal

NWIRP Bethpage

Buildings 03-13 and 03-33

Bethpage, New York

March 2009

ENVIROSCIENCE CONSULTANTS, INC.
2150 SMITHTOWN AVENUE
RONKONKOMA, NY 11779
(631) 580-3191
WWW.ENVIROHEALTH.ORG

1.1 INTRODUCTION

NWIRP Bethpage – Building 03-13
Building 03-13 (US Navy Building 34) is a one and a half story, wood frame and concrete block structure measuring approximately 40 feet x 100 feet. The building is vacant and in disrepair. Water and electricity are not available and are to be provided by the Abatement Contractor. The Abatement Contractor is to remove all asbestos-containing materials, fluorescent lamps, PCB fluorescent lamp ballasts, and mercury thermostats from the building to facilitate demolition. Demolition is to be done by others.

NWIRP Bethpage – Building 03-33
Building 03-33 is a vacant metal structure. The Abatement Contractor is to remove mercury thermostats, fluorescent lamps and mercury vapor, sodium vapor, and or metal halide light bulbs from the building to facilitate demolition. No asbestos materials were identified. Demolition is to be done by others.

1.2 DESCRIPTION OF WORK

A. The Contractor shall furnish all labor, materials, training, services, fees, equipment, and insurance necessary to carry out the removal and disposal / recycling of asbestos containing materials (ACM), and hazardous materials described below.

B. The work covered by this section includes the handling Category II non-friable asbestos-containing materials (ACM) that are encountered at the NWIRP Bethpage Building 03-13 This section describes procedures and equipment required to protect workers and occupants of the work area from contact with airborne asbestos fibers and ACM dust and debris. The work also includes the disposal of the generated ACM wastes.

C. The Asbestos Abatement Contractor is responsible to secure any site-specific variance that may be required.

D. The Asbestos Abatement Contractor is to remove all asbestos containing materials (ACM) from Building 03-13. ACM includes transite asbestos-cement panels and a short length of flue pipe and transite pipe insulator. The abatement contractor is responsible to perform any select/limited demolition that may be required to access and remove the asbestos materials.

E. The asbestos abatement of Building 03-13 is a small project.

F. Air Monitoring and sample analysis to be conducted by:

Enviroscience Consultants, Inc.
2150 Smithtown Avenue
Ronkonkoma, NY 11779
Ph.: (631) 580-3191 Fax: (631) 580-3195
NYS Asbestos Handling License No.: 28733
ELAP# 11681

1.3 SPECIFIC MATERIALS TO BE REMOVED

1.3.1 Building 03-13

1. Transite Wall and Ceiling Panels
The Asbestos Contractor is to remove all transite asbestos-cement panels from the boiler room walls and ceiling – approximately 150 square feet.

2. Transite Flue Pipe and Transite Insulator
The Asbestos Contractor is to disconnect the boiler flue/chimney pipe. Remove the flue pipe and the transite asbestos-cement flue pipe insulator that penetrates the roof – approximately two linear feet of 10-inch diameter pipe. The wood roof is water damaged and is not safe. Workers are prohibited from going on the roof.

3. Fluorescent Bulbs and PCB Lamp Ballasts
Remove and dispose / recycle fluorescent lamps and PCB lamp ballasts from Building 03-13. There are approximately 40 light fixtures, and 108 4-foot lamps.

4. Mercury Thermostats
Remove and recycle mercury thermostats. There are three (3) small thermostats in Building 03-13

1.3.2 Building 03-33

1. Mercury Thermostats
Remove and recycle mercury thermostats. There are two (2) small thermostats in Building 03-33.

2. Fluorescent Bulbs / Other Bulbs and PCB Lamp Ballasts
Remove and dispose / recycle fluorescent lamps and PCB lamp ballasts and mercury vapor, sodium vapor, and or metal halide light bulbs from Building 03-33.

A. All ACM types, locations, and quantities should be field verified by the Abatement Contractor.

B. All bulb and lamp and ballast locations, and quantities should be field verified by the Abatement Contractor.

C. All material locations are descriptive and/or diagrammatic. All measurements and quantities are approximate. Exact locations and quantities should be field verified by the Abatement Contractor.

D. The Abatement Contractor shall field verify, prior to bid submission, all quantities of asbestos containing material and other materials to be removed, and all field conditions affecting the work. Any discrepancies between the Contract Documents and the field conditions shall be reported to the Construction Manager in writing prior to the submission of bids.

E. Remove and dispose all ACM and debris.

F. Protect equipment and piping that is to remain from contamination.

G. Non-ACM building materials may be decontaminated and disposed as construction debris.

H. The abatement shall be conducted in accordance with all codes, rules, and regulations.

1.4 GENERAL WORK PROCEDURES

1.4.1 References

This project is to be done in accordance with all federal and state regulations including but not limited to the following:

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only:

29 CFR 1910.1200 - Hazard Communication

29 CFR 1910.134 - OSHA Standards for Permissible Exposure to Airborne Concentrations of Asbestos Fibers and Respiratory Protection

29 CFR 1926.1101 - Asbestos

40 CFR 61 Subparts A and M - National Emission Standards for Hazardous Air Pollutants (NESHAP)

12 NYCRR Part 56 Asbestos (Industrial Code Rule 56)

1.4.2 Procedures

A. The Abatement Contractor is to provide written notification to United States Environmental Protection Agency, NYS Department of Labor, and to building occupants at least ten days prior to starting the project. Provide copies of the notifications and all project documentation, including project closeout documents and the completed waste manifest, to the Project Monitor.

B. The Abatement Contractor is required to submit the applicable Asbestos Project Notification fee to the NYS Department of Labor.

C. A security area shall be provided for each regulated work area. A logbook shall be kept documenting entry into and out of the asbestos regulated work area. Entry into asbestos regulated work areas shall only be by personnel authorized by the Project Monitor, Abatement Contractor, and Owner. Personnel authorized to enter asbestos regulated work areas shall be trained, medically evaluated, and wear the personal protective equipment, as required by this specification, for the specific asbestos regulated work area to be entered.

D. The Abatement Contractor is to post warning signs and mark work areas with warning tape.

E. Electric power to the work areas is to be disconnected and locked-out by the Abatement Contractor. The Abatement Contractor is to verify that power is off before allowing men into the work areas.

F. Movable objects will be removed from the work areas by the Abatement Contractor prior to the start of each phase of the project.

G. Critical barriers, wet methods, HEPA vacuum equipment, HEPA negative air filtration, decontamination units, and personal protective equipment are required for this project; regardless of any variances that the Abatement Contractor may obtain.

H. Critical barriers must be in-place before asbestos materials can be disturbed.

I. The building, equipment, hot water heater, circulator pumps, controls, piping and materials to remain are to be protected from mechanical and water damage.

J. The Abatement Contractor is to construct a decontamination unit sized for a small project. The decontamination unit may be remote to the work area.

K. The Abatement Contractor must isolate the work area from the rest of the building with critical barriers and isolation barriers consisting of two layers of 6 mil thick fire-retardant polyethylene sheeting. The Contractor may construct tent enclosures, where needed, to isolate the work areas.

L. The Abatement Contractor is to construct isolation barriers that seal off all openings, including but not limited to windows, corridors, doorways, ducts, grills, diffusers, and any other penetrations of the work area. Barriers to be constructed using two layers of six mil fire-retardant plastic sheeting sealed with duct tape. Also, all seams in system components that pass through the work area shall be sealed. Doorways and corridors that shall not be used for passage during work shall also be sealed.

M. The Abatement Contractor is to pre clean the work area.

N. The walls of the work areas shall be covered with one layer of six mil fire-retardant plastic sheeting sealed with duct tape as per ICR 56-11.4

O. Negative Air Pressure shall be established and maintained for the duration of the project (until successful Final Clearance Air samples are attained) as per ICR 56-7.8

P. Manometer readings are to be documented twice per work shift as per ICR 56-7.8 (a) (4).

Q. Asbestos Containing Materials (ACM) shall be maintained in an adequately wet condition prior to, during, and after removal. No ACM is to be worked dry.

R. Asbestos materials are to be removed using manual methods only.

S. The Abatement Contractor is to double bag, label, and properly dispose of asbestos containing waste, and to provide completed waste manifest within 35 days of project completion.

T. Waste Generator Labels are to be affixed to each bag of asbestos waste, and shall read as follows:

NWIRP Bethpage
Building 03-13 - South Oyster Bay Road
Bethpage, NY 11706

U. Final air clearance must be attained prior to removal of the containment barriers. Analysis of Final Air Clearance samples will be by Phase Contrast Microscopy (PCM).

1.4.3 LIGHT BULBS AND PCB BALLASTS

A. The Abatement Contractor shall remove, package, and properly dispose/recycle all fluorescent bulbs and other mercury vapor, sodium vapor, and or metal halide light bulbs.

B. The Abatement Contractor shall ensure that electric power to the light fixtures has been disconnected in accordance with OSHA Lock-out/Tag-out regulations prior to beginning any work. Electrical disconnect is to be done by the Abatement Contractor's Electrican.

C. Fluorescent light ballasts may contain Polychlorinated Biphenyls (PCBs). All fluorescent light ballasts that are NOT labeled "NO PCB" are to be considered to be PCB fluorescent light ballasts. All PCB fluorescent light ballasts are to be removed from the light fixture, segregated, and drummed by the Abatement Contractor. The Abatement Contractor shall remove all PCB fluorescent light ballasts from each light fixture and place ballasts in 55-gallon 17H open top drums. Drums are to be supplied by the Abatement Contractor. The Abatement Contractor shall affix EPA and DOT labels to each drum. The Abatement Contractor is to remove the drums from the work areas and stage them as directed by the Owner for transportation and proper recycling/disposal an approved recycler. Appropriate personnel protective equipment and handling methods are required per 40 CFR 761.

D. The Abatement Contractor is to provide appropriate waste manifests and Certificated of Disposal or Certificates of Recycling for all bulbs and ballasts removed from the site.

E. All bulbs and ballast types, locations, and quantities should be field verified by the Abatement Contractor.

1.5 SPECIAL CONDITIONS

A. This is an occupied site. Keep all doors, aisles and stairways cleared of materials and equipment. Place equipment, supplies, materials, vehicles, dumpsters, etc. as directed by the Owner.

B. All asbestos containing materials and hazardous materials are to be removed from the building project areas whether identified in the scope of work and diagrams, or not.

C. The Abatement Contractor must provide water and electricity.

D. The Building 03-13 roof is damaged and is unsafe. Contractors are prohibited from going on the roof.

E. The safety of personnel and protection of the site is the Abatement Contractor's responsibility, and the Abatement Contractor will be held responsible for all damages and costs incurred as a result of his actions.

F. All work must be conducted between 8:00 am and 5:00 pm on weekdays and by 4:00 pm on Saturdays. There will be no work on Sunday. Other work restrictions may be imposed.

G. All abatement and work must be completed by Friday, May 29, 2009.

H. The Abatement Contractor must provide insurance and satisfy the insurance requirements of the Owner.

I. The Owner reserves the right to reject any or all bids and to invite new bids and to waive any informality in the proposals.

J. No bid shall be withdrawn pending the decision of the Owner.

1.6 PHOTOGRAPHS

1. Building 03-13

2. 03-13 - Remove transite wall and ceiling panels

3. 03-13 - Remove the flue pipe and transite insulator pipe.

4. 03-13 - Remove fluorescent lamps and PCB lamp ballasts

5. 03-13 - Remove and recycle mercury thermostats

6. Building 03-33

7. 03-33 - Remove and recycle mercury thermostats

8. 03-33 - Remove and recycle light bulbs

APPENDIX E

SITE SAFETY AND HEALTH PLAN

- FINAL -

SITE SAFETY AND HEALTH PLAN

FOR

Installation Restoration (IR) Site 1 – Former Drum Marshalling Area
Non-Time Critical Removal Action
Naval Weapons Industrial Reserve Plant, Bethpage, NY

Contract No. N62472-05-D-0031
Delivery Order No. 0002

Prepared for:

Naval Facilities Engineering Command Mid-Atlantic Division
Northeast IPT
9472 Maryland Avenue, Building Z-144
Norfolk, Virginia 23511

Prepared by:

ECOR Federal Services, LLC
21 South High Street, 2nd Floor
West Chester, PA 19382

May 2009

SSHP SIGNATURE PAGE

DRAFT FINAL SITE SAFETY AND HEALTH PLAN

FOR

Installation Restoration (IR) Site 1 – Former Drum Marshalling Area
Non-Time Critical Removal Action
Naval Weapons Industrial Reserve Plant, Bethpage, NY

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Norfolk, Virginia 23511

Prepared by:

ECOR Federal Services, LLC
21 South High Street, 2nd Floor
West Chester, PA 19382

_____

David Jones, CIH

_____

Date

This Site Safety and Health Plan has been prepared to meet the requirements of: Occupational Safety and Health Administration standards, 29 CFR Part 1910 and 29 CFR Part 1926; and the Naval Facilities Engineering Command (NAVFAC) Washington Statement of Work (SOW) and Specifications for *Installation Restoration Site 1 – Former Drum Marshalling Area, Bethpage, New York*, dated 23 July 2008.

SSHP APPROVAL PAGE

FINAL SITE SAFETY AND HEALTH PLAN

FOR

Installation Restoration (IR) Site 1 – Former Drum Marshalling Area
Non-Time Critical Removal Action
Naval Weapons Industrial Reserve Plant, Bethpage, NY

Contract No. N62472-05-D-0031
Delivery Order No. 0002

Naval Facilities Engineering Command Mid-Atlantic Division
Northeast IPT
9472 Maryland Avenue, Building Z-144
Norfolk, Virginia 23511

APPROVAL: SITE SAFETY AND HEALTH PLAN

The following key ECOR Federal Services, LLC (EFS) and EFS-subcontracted project personnel have reviewed and have agreed to implement and comply with requirements of the Site Safety and Health Plan established by EFS for the above-indicated contract and specified work activities.

TITLE	NAME	SIGNATURE	DATE
Project Manager	Gregory Birch		
Project Superintendent	John Hudacek		
Site Safety and Health Officer	John Hudacek		
Corporate Safety and Health Manager	David Jones, CIH		

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ABBREVIATIONS AND ACRONYMS

AIHA	American Industrial Hygiene Association
ANSI	American National Standards Institute
bgs	Below Ground Surface
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
CSHM	Corporate Health and Safety Manager
CIH	Certified Industrial Hygienist
CPR	Cardiopulmonary Resuscitation
CSP	Certified Safety Professional
dBA	Decibels on the A-weighted Scale
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
°F	Degrees Fahrenheit
GFCI	Ground Fault Circuit Interrupter
HazWOPER	Hazardous Waste Operations and Emergency Response
kV	Kilovolt
LPM	Liters per Minute
µm	Micrometer
$\mu m/m^3$	Micrograms per cubic meter
mg/m^3	Milligrams per cubic meter
mm	Millimeter
MSDS	Material Safety Data Sheet
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
ppm	Parts per Million
psi	Pounds per Square Inch
PEL	Permissible Exposure Limit
PM	Project Manager
PPE	Personal Protective Equipment
SS	Site Superintendent
S&H	Safety and Health
SOW	Statement of Work
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
STEL	Short-Term Exposure Limit
TLV	ACGIH Threshold Limit Value
TWA	Time-Weighted Average
VOC	Volatile Organic Compound

1.0 BACKGROUND

This Site Safety and Health Plan (SSHP) presents safety and health (S&H) procedures to be implemented by ECOR Federal Services, LLC (EFS) for services associated with the Installation Restoration (IR) Site 1 – Former Drum Marshalling Area at Naval Weapons Industrial Reserve (NWIRP) in Bethpage, New York. EFS's project work will be conducted under Naval Engineering Facilities Command (NAVFAC) Contract No. N62472-05-D-0031.

The SSHP has been prepared to meet the requirements of: U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) standards, Title 29 Code of Federal Regulations (CFR) Part 1910 and 29 CFR Part 1926 including requirements of the Hazardous Waste Operations and Emergency Response (HazWOPER) Standard (29 CFR 1926.65); Department of the Navy Environmental Restoration Program Manual (August 2006); U. S. Army Corps of Engineers, Safety and Health Requirements Manual, EM 385-1-1; and the NAVFAC Specifications and Statement of Work (SOW) for the *Installation Restoration Site 1 – Former Drum Marshalling Area, NWIRP, Bethpage, New York,* dated 23 July 2008.

Project activities involve site preparation, demolition of seven concrete pads, three steel buildings, a steel retaining wall, a concrete block building, and the upper six feet of a settling tank (located on the southern side of Building 03-13), and transportation and disposal of debris generated at IR Site 1. Potential chemical hazards that may be encountered during the project activities are PCBs (<25 milligrams per kilogram [mg/kg] in soil), chromium (≤230 mg/kg in soil), and cadmium (≤39 mg/kg in soil). Dust particulates may also be encountered during the demolition of some of the structures.

The purpose of the SSHP is to identify and evaluate S&H hazards at the project worksite and to prescribe safety control measures to be implemented. This plan:

- Provides background information related to the project
- Assigns responsibilities for SSHP implementation
- Identifies site hazards and hazard control measures
- Describes the exposure monitoring program
- Establishes requirements for site control and personal protective equipment (PPE)
- Discusses standard safety procedures and designates emergency response plans
- Reviews training, medical surveillance, and record keeping programs to be implemented at the site

The SSHP will be primarily implemented by the EFS Project Manager (PM), Site Superintendent (SS), Site Safety and Health Officer (SSHO), and Safety and Health Manager (SHM) in coordination with the Navy. Compliance with the SSHP is required of all EFS personnel, subcontractors, and associated third parties on site. A copy of the SSHP and supporting ECOR health and safety program documents will be maintained on site during work activities and will be available for inspection and review at all times. Field personnel will review the SSHP before site work and will sign an "SSHP Review" acknowledgment form (see Appendix A - SSHP Forms) indicating that they have reviewed the SSHP.

The content of the SSHP may be revised and/or amended should additional information become available regarding the hazards present at the site and/or should significant changes occur in the scope of work, operational procedures, site hazards, and/or hazard control measures. The SSHP may be modified by the SSHO upon review and approval of the Navy, PM, and SHM. Field personnel are informed of changes to the SSHP through safety meetings and written addendum or revision to the SSHP.

1.1 Site Location and Description

NWIRP Bethpage is located in east-central Nassau County, Long Island, New York, approximately 30 miles east of New York City (Figure 1). The Navy's property originally totaled approximately 109.5 acres and was formerly a Government-Owned Contractor-Operated (GOCO) facility that was operated by the Northrop Grumman Corporation (NGC) until September 1998. By April 2008, all of the property except for 9 acres was transferred to Nassau County. This project is being conducted on the 9-acre parcel retained by the Navy (Figure 2). NWIRP Bethpage is bordered on the north, west, and south by property owned, or formerly owned by NGC. The NGC property covered approximately 605 acres. The property on the east consists of a residential neighborhood. The activities associated with this SSHP are to be completed at IRP Site 1 located east of demolition activities. Figures 4 through 7 present the horizontal and vertical extent of contamination. Approximately 200 to 300 drums were stored at these locations at any given time. All drums of waste which were stored at these areas were taken offsite by a private contractor for treatment and disposal.

Investigations at the site identified elevated concentrations of volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals in surface (0 to 2 feet below ground surface [bgs]) and subsurface soils (2 to 15 feet bgs) at IRP Site 1, which may pose unacceptable risk to specific future human receptors. Some soils contain PCBs at a concentration greater than 50 mg/kg (a New York State value for Resource Conservation and Recovery Act (RCRA) hazardous waste); however, removal and disposal of PCB-contaminated soil is not within the scope of this project. As part of the removal action, the Navy is demolishing surface structures at IRP Site 1 as the first step in an overall program to address contaminants in surface and subsurface soils.

All demolition activities will take place within IRP Site 1, and be conducted within the top 6 feet of the existing ground surface. Figure 4 presents the horizontal extent of total PCB contamination within the IRP Site 1 surface soils, Figure 5 presents the estimated horizontal extent of total PCB contamination within the IRP Site 1 subsurface soils, Figure 6 presents the horizontal extent of chromium contamination at the IRP Site 1 surface soil, and Figure 7 presents the horizontal extent of cadmium contamination within the IRP Site 1 surface soil.

1.2 Primary Work Tasks

1.2.1 Mobilization and Site Preparation

Mobilize personnel and equipment, set up and maintenance of decontamination and equipment lay down areas, and general site clean-up. Conduct utility clearance and obtain dig permits. Receive and inspect equipment and install sediment and erosion controls. Establish and demarcate site work zones and regulated areas.

1.2.2 Demolition

All items identified in the SOW will be demolished. These items include concrete pads, steel buildings, steel retaining wall, concrete block building, and upper six feet of concrete settling tanks located on the southern side of Building 03-13. Material generated through the demolition process shall be segregated, sampled, and disposed of accordingly. As noted above, hazardous waste disposal is not included in this project and any such materials identified during this will be stockpiled for later disposal by the Navy.

1.2.3 Well Abandonment

Twenty-four air injection/soil vapor air extraction wells will be abandoned during this project. The wells are 2-inch diameter PVC casing and screen. Eleven air injection wells (2-foot screen interval) to an approximate depth of 65 feet and 13 air extraction wells (15-foot screen interval) to an approximately depth of 60 feet will be abandoned. The wells will be abandoned by first filling the screened interval with Number 2 (20/30 mesh), well gravel to a height of 2 feet above the top screen. The well will then be filled with a cement/bentonite grout mix (7 gallons of water per 94-pound bag of cement and 6 pounds of bentonite mixture) through a tremie pipe to 2 to 3 feet bgs and the top of the well will be cut at this depth. For wells located within the limit of excavation, the cement/bentonite grout mix will be filled to approximately 6 feet bgs (the excavation depth) and the top of the well will be cut at this depth.

1.2.4 Restoration

In areas where concrete is removed, the area will be restored to pre-existing grade for the area. For areas in which removal activities are 12 inches or less in depth, fill material is not required. For areas in which removal activities extend below 12 inches in depth, off site clean fill material will be used to fill the excavation depth within 12 inches of original grade. Any such fill material will be from NYDEC-approved borrow pits and will be approved by the Navy prior to placement on site. Where excavations of settling tanks extend to approximately 5 feet below grade, it is anticipated that most soils surrounding the top of the tank will be removed to approximately 6 feet below the top prior to demolition. These soils can be returned to the area and the area regarded to minimize soil erosion and sloped to direct surface water away from storm drains. After regrading and fill, temporary surface treatment consisting of straw with seed on soil capable of sustaining vegetation will be applied.

2.0 PROJECT ORGANIZATION

This section of the SSHP provides information on project personnel, key EFS project personnel, and a description of EFS personnel S&H responsibilities.

2.1 Key Project Personnel

Key project personnel are identified in the project "Emergency Contact List" (Appendix B.). Personnel that will be listed include those individuals serving in the following functions:

- Bethpage Facilities Manager (ECOR Solutions, Inc.)
- Project Manager (EFS)
- Site Superintendent (EFS)
- Site Safety and Health Officer (EFS)
- Corporate Safety and Health Manager (EFS)

2.2 EFS Personnel Health and Safety Responsibilities

2.2.1 Project Manager

The PM is responsible for overall direction, coordination, technical consistency, and review of the project contract. PM S&H responsibilities are listed below:

- Direct, coordinate, and implement the project delivery order
- Review and approve the SSHP
- Emphasize the importance of safety and hold personnel accountable for safe work performance
- Enforce implementation and compliance with the SSHP and S&H procedures
- Provide resources and support to the SS and SSHO for effective completion of duties
- Monitor and evaluate S&H performance of project operations
- Communicate with the Navy to evaluate and resolve S&H issues

2.2.2 Site Superintendent

The SS the on site Project Site Superintendent and is charged with the overall responsibility for the successful completion of EFS field operations. SS S&H responsibilities are listed below:

- Prepare and organize project activities on site
- Review and approve the SSHP
- Provide equipment and materials for project operations
- Emphasize the importance of safety and hold personnel accountable for safe work performance
- Enforce implementation and compliance with the SSHP and S&H procedures
- Ensure immediate correction of unsafe work conditions and/or unsafe work practices
- Monitor and evaluate S&H performance of project operations
- Communicate with the Navy to evaluate and resolve S&H issues
- Ensure that all on site personnel have reviewed and understand the SSHP

2.2.3 Site Safety and Health Officer

The SSHO is the on site project S&H supervisor. The SSHO is present during fieldwork activities. If he must be absent from the site, the S&H duties must be delegated to another qualified responsible party at the site. SSHO S&H responsibilities are listed below:

- Review and approve the site-specific SSHP
- Maintain copies of the SSHP and supporting ECOR corporate health and safety documents on site during field activities
- Implement provisions of the SSHP and the EFS Safety and Health Program
- Require that site personnel meet training, medical surveillance, and field experience requirements
- Conduct site orientation training, SSHP review, and daily safety meetings
- Emphasize the importance of safety and hold personnel accountable for safe work performance
- Review site hazards and establish safety control measures

- Maintain a hazardous substance inventory list and copies of material safety data sheets (MSDS)
- Maintain safety equipment and supplies
- Perform inspections for safe work operations
- Enforce implementation and compliance with the SSHP and S&H procedures
- Direct decontamination procedures to be used
- Perform and/or coordinate site exposure monitoring
- Report safety violations or S&H concerns promptly to the PM
- Ensure immediate correction of unsafe work conditions and/or unsafe work practices
- Monitor and evaluate S&H performance of project operations
- Maintain S&H records
- Report and investigate accidents and incidents
- Communicate with the Navy to evaluate and resolve S&H issues

2.2.4 Corporate Safety and Health Manager

The CSHM is the Corporate Safety & Health Manager who has S&H responsibilities that are listed below:

- Develop, sign, and date the SSHP prior to submittal
- Evaluate air monitoring data, if needed, and adjust engineering controls, work practices and PPE as needed
- Review accident reports and safety inspection reports
- Review S&H inspections and audits as scheduled by the PM
- Provide S&H technical assistance to the PM, SS, and SSHO

2.2.5 Subcontractors

Subcontractors will be used to provide selected services associated with performance of project work. Subcontractors who come on site to perform fieldwork and/or enter controlled areas of the site are subject to SSHP requirements. Subcontractor S&H responsibilities are listed below:

- Provide copies of required S&H training and certification documents to the SSHO, as applicable (i.e., licenses, training certifications, medical clearance [fitness for duty] certification, first-aid/cardiopulmonary resuscitation [CPR] training, respirator fit testing, etc.)
- Provide, before site work, a hazardous substances inventory list and copies of applicable MSDSs to the SSHO for hazardous substances to be brought on site by the subcontractor
- Enforce applicable SSHP requirements with subcontractor employees
- Review, understand, and comply with the SSHP and safety instructions from the SSHO, or other competent authority
- Observe the buddy system during work activities
- Promptly report unsafe work conditions, unsafe work practices, and violations of the SSHP to the subcontractor supervisor and the SSHO
- Immediately report all injuries or illnesses to the subcontractor supervisor and the SSHO

2.2.6 Site Personnel

Site personnel S&H responsibilities are listed below:

- Understand and comply with the SSHP and instructions of the SSHO or other competent authority
- Promptly report any unsafe work conditions or unsafe work practices
- Immediately report all injuries or illnesses to their direct supervisor and the SSHO
- Observe the buddy system during work activities

3.0 SITE HAZARDS

Site hazards and hazard control measures for chemical, physical, and biological hazards that are likely to be encountered during project work are reviewed in this section of the SSHP.

3.1 Chemical Hazards

3.1.1 Hazardous Substances Potentially Present at IR Site 1

The primary chemical hazards that may be encountered during project fieldwork are PCBs, chromium, cadmium, silica.

Table 3.1.1 provides chemical hazard information for anticipated site contaminants. The table includes a summary of the health effects, potential routes of entry, and the OSHA permissible exposure limits (PELs) or American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit values (TLVs) for these hazardous substances (lowest value).

TABLE 3.1.1: CHEMICAL HAZARD INFORMATION

Compound	*Exposure Limits*	*Primary Health Effects / Other Comments*
Polychlorinated biphenyl, (PCB)	1 mg/m^3 (TLV-TWA) (SKIN) - 42% chlorine PCB; 0.5 mg/m^3 (TLV-TWA) (SKIN) - 54% chlorine PCB	Inhalation, ingestion and dermal routes of exposure. Eye, skin, and respiratory irritation; chloracne dermatitis; possible liver damage; suspected carcinogen
Silca Dust	0.1 mg/m^3 over 8-hr (TWA) 0.05 mg/m^3 <10-hr/day , 40-hr/week (TWA)	Inhalation, eye, skin, and respiratory irritation; silicosis; crystalline silica has been classified as a human lung carcinogen.
Cadmium	0.01 mg/m^3 (TLV-TWA); 0.002 mg/m^3 – respirable (TLV-TWA)	Inhalation, ingestion and dermal routes of exposure. Eye, skin and respiratory irritation; pulmonary edema; central nervous system effects; nasal perforation; kidney damage; anemia; suspected carcinogen
Chromium	0.5 mg/m^3 (TLV-TWA) Cr III only	Inhalation, ingestion and dermal routes of exposure. Eye, skin and respiratory irritation; skin and nasal ulcerations; possible lung fibrosis
Lead and inorganic compounds	30 $\mu g/m^3$ (Action Level); 50 $\mu g/m^3$ (PEL)	Inhalation, ingestion and dermal routes of exposure. Gastrointestinal disturbances; anemia; neuromuscular dysfunction; encephalopathy; eephropathy

LEGEND:

mg/m^3:	Milligrams per cubic meter
$\mu g/m^3$:	Micrograms per cubic meter
TLV-TWA:	American Conference of Governmental Industrial Hygienists (ACGIH) time-weighted average (TWA) Threshold Limit Value.
SKIN:	Skin notation (may be absorbed into bloodstream through skin, mucous membranes, and/or eye, and contribute to overall exposure)

3.1.2 Hazardous Substances Brought to the Site with Anticipated Use at IR Site 1

A listing of hazardous substances with anticipated use during site fieldwork is provided below. A Hazardous Substances Inventory List will be prepared by the SSHO. The SSHO will maintain MSDSs for hazardous substances to be used during site work.

- Fuels: Diesel and gasoline fuel for vehicles and equipment
- Lubricants: Oil, grease, and other lubricants for equipment
- Fire Extinguishing Agent: Dry chemical for fire extinguishers

3.2 Physical Hazards

The primary physical hazards that may be encountered during site work are indicated below. The following information describes physical hazard safety control measures to be used.

3.2.1 Fire Protection and Hot Work

Fuel will be used to operate equipment. Hot work (work that uses a flame or creates sparks) is not anticipated during demolition. If hot work is necessary, fire extinguishers will be available on site and a fire watch posted in accordance with requirements contained in EM 385-1-1. Hot work permit procedures will be implemented in the unlikely event hot work operations become necessary.

Procedures for fire hazards and fire protection include:

- Smoking is not allowed in areas where flammable or combustible materials are present
- Fires and open flame devices must not be left unattended
- Portable multipurpose fire extinguishers will be maintained on site at all times, kept fully charged, inspected monthly, and serviced annually. Fire extinguishers are to be placed within 75 feet of active work areas where flammable or combustible materials are present
- OSHA-approved metal safety cans, painted red with a yellow stripe, that have self-closing lids and flame arrestors should be used to store small quantities of flammable liquids
- Static electricity generating equipment requires bonding and grounding whenever transferring flammable or combustible liquids or when working in areas where these materials are present

3.2.2 Underground and Overhead Utilities

Underground and/or overhead utility lines may be present at the IR Site 1. Subsurface work requires utility clearance procedures. The presence of overhead utilities will be surveyed before bringing equipment with high extensions (e.g., heavy equipment, dump trucks, aerial lift, and crane) into a work area.

Underground and overhead utility safety precautions include:

- The work area must be surveyed to identify underground utilities before subsurface work activity. Utility clearance procedures are implemented for drilling, excavation, and/or other subsurface work activity by contacting the local utility locating organization before subsurface activity is conducted
- The work area must be surveyed for overhead utilities and safety measures established before bringing equipment with high extensions on site (e.g., heavy equipment, dump trucks, aerial lift, and crane). Equipment that has high overhead projections is not allowed to operate within a 10-foot radius (minimum distance) of overhead power lines. Overhead high-voltage power lines more than 50,000 volts require additional distance. Verify the voltage of the overhead lines and check against EM 385-1-1 Section 11, Table 11-1 to ensure that the required minimum distance from overhead lines is maintained. EM 385-1-1, paragraph 11(E), requires the following minimum clearance from energized overhead electrical lines for the indicated voltages: 0-50 kV (9.8 feet); 51-200 kV (14.7 feet); 201-300 kV (19.7 feet); 301-500 kV (24.6 feet); 501-750 kV (34.4 feet); and 751-1,000 kV (44.3 feet)
- When crossing underneath high-voltage power lines: Use a spotter to help the equipment operator monitor the distance from overhead lines; post caution overhead line signs near the approach to the overhead lines; and set up and demarcate a designated crossing area for the equipment to cross underneath the power lines
- Emergency contact information for applicable utilities (i.e., electrical, natural gas, water, telephone, cable) will be determined and kept at the project site.
- In the event of contact with a utility line: Remove personnel from the area and control access to the affected area. Contact the utility company for immediate service

3.2.3 Heavy Equipment Operation

Heavy equipment will be used for earthwork and demolition. Ground personnel will at times be working in the general vicinity of equipment operation. Heavy equipment will be inspected daily for maintenance and operational deficiencies and such inspections documented. Ground personnel will position themselves out of the swing radius of operating heavy equipment whenever possible. When not possible, ground personnel will coordinate with equipment operators to ensure safety. Personnel will not be allowed to walk underneath loaded buckets. Ground personnel will wear high-visibility safety vests and be required to maintain visual contact with equipment operators. Hand signals will be established.

Heavy equipment operation safety procedures include:

- Only experienced personnel will operate excavation equipment on site
- Heavy equipment will have rollover protection, seat belts, good functioning brakes, fire extinguisher, and operating backup alarms and horns. Equipment will be checked daily at the beginning of each work shift and such inspection recorded by the equipment operator on a "Heavy Equipment Inspection Report" form so that the following systems and parts are in good working order: Service, emergency and parking brakes; tires/tracks; horn; steering mechanism; coupling devices; seat belts; operating controls; safety devices; fire extinguisher; cracked or broken glass, and backup alarms
- Excavation work areas will be properly marked and guarded with barriers and/or caution tape to prevent unauthorized personnel entry and to prevent personnel from falling into open holes
- Workers will be required to wear high-visibility safety vests with reflective striping when working around heavy equipment
- Workers will be cautioned to look carefully where they walk to avoid moving equipment. Concurrent operations will be curtailed to prevent workers from being placed in dangerous proximity to moving heavy equipment
- Before entering the swing radius of operated heavy equipment, ground personnel must gain unobstructed eye contact with the equipment operator. Unobstructed eye contact with the equipment operator must be maintained at all times while working within the swing radius of the equipment. As a courtesy, ground personnel should "signal" the equipment operator when they are exiting the swing radius of the heavy equipment
- Personnel are not permitted to ride as passengers on heavy equipment
- Whenever equipment is parked, the parking brake will be set, and wheels will be chocked when on inclines. Bulldozer blades, hoe buckets, truck beds and the like will be fully lowered or blocked when not in use. Parts of machinery held aloft, such as hoe buckets or truck beds, will be blocked or cribbed before employees are allowed to work under or between them
- Dust control measures (i.e., water application) may be used (as needed) to minimize airborne dust during heavy equipment operation

3.2.4 Vehicle and Equipment Traffic

Concurrent operation of mobile equipment, vehicles, and the presence of ground personnel may occur during site work. Traffic patterns will be established and reviewed during safety meetings. Spotters will be used for backing vehicles into tight work areas.

Vehicle and equipment traffic safety procedures include the following:

- Workers will be cautioned to look carefully where they walk to avoid vehicles and moving equipment and to maintain eye contact with equipment operators when I the vicinity of heavy equipment
- Use traffic signs, barricades, flashers, delineators, traffic cones, caution tape, or flagmen (as needed) around work areas with vehicle or equipment traffic
- The PM, SS, and/or SSHO will establish vehicle and equipment traffic patterns to be used. Traffic haul routes have been identified and will be reviewed during daily safety meetings
- Drivers will ensure areas are clear before backing vehicles and will use a spotter
- Drivers will watch for overhead utility line clearance and use spotters when in the vicinity of energized overhead utility lines

- When outside of vehicles, drivers will wear hard hats and other prescribed PPE, as directed in this HASP
- Drivers will keep vehicle windshields and mirrors clean

3.2.5 Material Handling

Material handling involving lifting and carrying of materials will be required. Personnel will review proper lifting techniques during safety meetings.

Procedures for material handling, storage, and disposal include:

- Material handling devices should be used for handling heavy or bulky items whenever possible over manual material handling. Whenever handling heavy or bulky items, the material handling needs should be evaluated in terms of weight, size, distance, and path of movement. The following hierarchy for selection of material handling means should be used: Elimination of material handling needs by engineering; movement of material by mechanical device (i.e., lift truck, overhead crane, conveyor, etc.); movement by manual means with handling aid (i.e., dolly, cart, etc.); and movement using safe lifting techniques
- Personnel will be trained in safe lifting procedures including: Size up the load first, get help if the load is bulky, heavy, or of unwieldy length; be sure of footing, lift with your legs while keeping your back straight, keep your balance, do not twist under strain or jerk the load, and keep the load close to your body
- When two or more persons are carrying long material together, all persons must carry the material on the same shoulder and lift or lower the material in unison

3.2.6 Tools, Machinery and Equipment Use

Hand and power tools may be used. Tools will be used according to design. Power tools requiring electrical cords will use ground fault circuit interrupters (GFCIs).

Tools, machinery, and equipment use safety procedures include:

- Equipment and tool inspection and maintenance are required to promote safe condition for the intended use. Tools and equipment shall be inspected daily or before each use for defects. Tools that are burred, broomed, mushroomed, have split or loose handles; worn or sprung jaws; or are generally unsafe will be turned in to the SSHO
- Defective or unsafe equipment must be tagged as defective until repaired or otherwise made acceptable. Defective or unsafe equipment will be removed to a secure place to prevent inadvertent use. Repaired items must be re-inspected by the SSHO before being placed back into service
- Equipment must be used only for the purpose for which it was designed (do not use a wrench for a hammer, screwdriver for a chisel, pliers for a wrench, pipe or stilson wrenches as a substitute for other wrenches, or a pipe handle-extension or a "cheater" on a wrench). All modifications, extensions, replacement parts, or repairs of equipment must maintain at least the same factor of safety as the original equipment
- Equipment containing liquid systems (i.e., fuel, hydraulic, lubrication, etc.) are to be inspected daily so that such systems (e.g., hoses, tubing, hydraulic lines, etc.) are in good operating condition and that plugs, stoppers, valves, etc., are properly seated
- Tools, equipment, or material should not be thrown up or down from one working level to another. A hand line should always be used to lift or lower tools
- Nails or spikes should not be left protruding from planks, boards, or other timbers. Nails or spikes should be pulled out or clinched (bent over) into the wood
- Machinery or equipment must not be operated without proper training.
- Loose or frayed clothing, dangling ties, rings, etc., must not be worn around moving machinery or other mechanical sources of entanglement

- Work should not be performed under vehicles supported by jacks or chain hoists, without protective blocking that will prevent injury if jacks or hoists fail
- Electrical power tools, lighting equipment, etc. must be properly grounded by using three-wire receptacles and extension cords rated for the amperage required. GFCIs should be used with temporary electrical systems or other proper grounding system
- Portable electric tools must not be lifted or lowered by means of a power cord. Electrical equipment cords should be kept coiled when not in use. When electrical equipment is in use, cords should be protected and positioned to avoid being run over by vehicles or equipment
- Machinery must not be repaired or adjusted while in operation. Oiling of moving parts must not be attempted except on equipment that is designed or fitted with safeguards to protect the person performing the work

3.2.7 Electrical Equipment

Fuel-powered generators will be used to provide electrical power on site. GFCIs will be used and electrical extension cords inspected should portable electrical equipment be needed.

3.2.8 Noise Exposure

Noise exposure above 85 decibels on the A-weighted scale (dBA) is expected when working near or operating machinery and equipment (e.g., generators, compressors, etc.).

The operation of equipment and machinery at the site may generate excessive noise levels and requires:

- Site personnel working in the immediate area of heavy equipment or power tools/equipment are required to use hearing protection (e.g., foam ear plugs). The SSHO will review hearing conservation during daily safety meetings and establish guidelines to be utilized by site personnel
- A sound level meter will be used to confirm the noise level where noise exceeding the OSHA PEL is suspected to exist. The maximum noise level for ECOR workers is 85-dB(A). Levels above this will require the use of hearing protection. Hearing protection will be provided at no cost to the workers
- Activities that require hearing protection: Jack-hammering, use of gas-operated chainsaws and grinders; or while performing work in proximity (within 30-ft.) of gas generators, pile-driving equipment, hydro-demolition equipment (pressure washer), or other equipment known or suspected to produce noise levels in excess of acceptable OSHA exposure levels
- Audiometric testing is performed during the baseline and subsequent annual physicals of all employees who are required to take examinations as a requirement of their employment (not including persons whose sole duty is administrative, office-type work)

3.2.9 Heat Stress

The American Conference of Governmental Industrial Hygienists Threshold Limit Values (TLV) are found in Table 3.2.9-1. These TLVs are based on acclimatized (2 weeks or more in the environment); fully clothed workers with adequate water intake, without exceeding the deep-body temperature of 100.4° (F). Workers introduced into this environment must be given adequate time (determined by the physical condition of the work and consultation with the SSHO) to acclimate to the new environment. The Wet Bulb Globe Temperature (WBGT) is the calculation of the ambient air temperature, radiant energy, air velocity and the moisture content of air.

To effectively monitor the effects of heat upon employees, the WBGT will be determined hourly and recorded in the WBGT log. The SSHO will modify work activities in accordance with Table 3.2.9-1.

Table 3.2.9-1: Permissible Heat Exposure TLV –WBGT in Celsius (Fahrenheit)

Allocation of Work in a Cycle of Work and Recovery	Work Load		
	Light	Moderate	Heavy
75% - 100%	31.0	28.0	--
50% - 75%	31.0	29.0	27.5
25% - 50%	32.0	30.0	29.0
0% - 25%	32.5	31.5	30.0

As workload increases, the heat stress impact on an unacclimated worker is exacerbated. The permissible heat exposure TLV must be reduced by 2.5° C until fully acclimatized. If required, workers wearing semi-permeable or impermeable PPE will be monitored by the SSHO when work area ambient air temperatures exceed 70°F. Work cycles will be shortened when the worker's heart rate exceeds 110 beats per minute (BPM). If the heart rate does not decrease, the next work cycle will be shortened by one-third.

When additional PPE is added because of harmful substances, a correction to the WBGT must be applied in accordance with Table 3.2.9-2.

Table 3.2.9-2 WBGT Correction Factors in °C for Added PPE and Clothing

Clothing Type	Clo Value*	WBGT Correction
Summer work clothes	0.6	0
Cotton Coveralls	1.0	-2
Winter work clothes	1.4	-4
Water barrier, permeable	1.2	-6

* Clo Value – Insulation value of clothing.

Work Load Categories

Heat produced by the body and the environmental heat combined determine the total heat load on a worker. The workload category for each task should be established and the heat exposure limit pertinent to the workload evaluated against the applicable standards. The workload categories are:

- Light Work (up to 200 kcal/hr. or 800 Btu/hr.), e.g., sitting, standing to control machines, performing light hand or arm work
- Moderate Work (200-350 Kcal/hr. or 800-1400 Btu/hr.), e.g., walking with moderate lifting or pushing
- Heavy Work (350-500 kcal/hr. or 1400-200 Btu/hr.), e.g., pick and shovel work, PPE level A, B, & C work; jack hammering, outside strenuous work

Water and Salt Supplementation. During hot weather or when the worker is exposed to artificially generated heat, potable drinking water must be made available. Workers will be encouraged to increase water intake in small amounts equal to one cup about every 20 minutes). The water will be iced and will be placed close to the workplace.

The workers will be encouraged to increase salt in their diet during periods of elevated temperature. Salted water or salt tablets will not be provided. Providing "salted water" is not advisable, as those with heart conditions or high blood pressure may not be able to tolerate the extra salt.

Other Considerations

Clothing. The expectation is that all of the tasks required under the scope of work for this project will be accomplished under Modified Level D or Level D attire.

Acclimation and Fitness. Personnel assigned to this project will be acclimatized prior to the commencement of heavy exertion. The recommended TLVs are valid for "acclimated" workers who are physically fit. The TLVs will be adjusted for each worker, and will accommodate their physical abilities and general health condition. Persons with chronic diseases, such as heart conditions, diabetes, or those on physician-prescribed medication, etc., will be allowed to work within the range of their physician's-established limitations. In any case, any employee who displays disorientation, confusion, malaise, irritability, or chills will be evaluated for heat injury. A buddy system will be used to monitor heat injury status of employees.

Health Effects. ECOR's policy is that anyone suspected of having any of the heat illnesses will be evaluated in a medical treatment facility as these illnesses can progress from one to another and trained medical personnel are required to assess and treat such illnesses. The typical health effects of various heat illnesses are tabulated below:

TABLE 3.2.9-3 Heat Disorders and First Aid Measures

Heat Stress Disorders	Signs and Symptoms	First Aid Measures
Heatstroke	Hot dry skin, usually red, mottled, or cyanotic (blue). Confusion, loss of consciousness, or convulsions. Core Temperature may exceed 104° F. Hallmark sign is cessation of sweating.	• Remove the individual to a shady location • Immediately begin cooling with chilled water by wrapping in a wet sheet or by dousing the individual's clothing • Begin vigorous fanning • Seek immediate medical attention
Heat Syncope	Fainting while standing erect and immobile in heat	• Remove to cooler environment, lie down, and rest • Seek immediate medical attention
Heat Exhaustion	Fatigue, nausea, headache, and giddiness. Skin is clammy and moist, complexion may be pale, muddy, or flushed. May faint on standing with rapid, thready pulse, and low blood pressure	• Remove to cooler environment, lie down, and rest • Give plenty of fluids • Seek immediate medical attention
Heat Cramps	Painful spasms of muscles used during work; onset during or after work.	• Salted fluids or sports drink by mouth may be administered but definitive treatment should be rendered physician • Seek immediate medical attention

3.2.10 Inclement Weather and Adverse Environmental Conditions

In cases of inclement weather for outside work locations or other adverse environmental conditions (i.e., strong winds, rain, snow, lightning, hurricane, tornado, earthquake) the following safety instructions are required:

- Presence of strong winds requires stoppage of affected work activities at elevated work locations (e.g., towers, roofs, ladders, scaffolds, platforms) and stoppage of use of equipment whose safe operation can be affected by high winds (i.e., drill rigs, man lifts, scissor lifts, cranes)

- Presence of heavy rain or snow requires stoppage of affected work activities where the heavy rain or snow can create safety hazards due to limited visibility, wet work surfaces, slippery equipment controls, increased electrical hazards, cold stress, etc.

- Presence of lightning requires stoppage of affected work activities where lightning presents an increased safety hazard of electrocution (e.g., cranes, heavy equipment, drill rigs, tanks, towers)

- Occurrence of a hurricane, tornado, or earthquake requires stoppage of affected work activities and evacuation of personnel from excavations and trenches, confined spaces, and buildings of questionable stability

- In case of work stoppage due to inclement weather conditions or other adverse environmental conditions, work will not resume until an all clear signal has been communicated by the SSHO to affected personnel. In case of work stoppage due to lightning, an all clear will not be given until no lightning has appeared in the area for a period of 10 minutes

- In the case of severe weather conditions, emergency evacuation procedures shall be established where high winds, strong storms, tornadoes, hurricanes, and floods are a potential occurrence. The SSHO shall monitor the local weather conditions and advise the PM when the U.S. Weather Service issues severe storm warnings. When a severe weather warning is issued, the PS and SSHO will begin taking actions to secure the worksite. In the event of impending severe weather conditions, personnel will be advised of the hazard, and an evacuation order will be issued by the SSHO. All site personnel shall immediately evacuate the work area to a designated location (i.e., hotel.) The SSHO will notify the PM and advise him that all site personnel are evacuating the area. The SSHO shall maintain contact with site personnel and provide the PM with periodic updates as to the whereabouts of all site personnel. Site personnel shall remain outside the evacuation area at a designated location until notified by the PM that it is safe to return to the work area. After severe weather conditions have passed, the PS and SSHO will mobilize to the worksite, inspect the condition and security of the site, and make any necessary response actions to correct unacceptable conditions.

3.2.11 Miscellaneous Physical Hazards

General safety hazards will be present during all project tasks. Poor housekeeping, uneven or slippery walking surfaces and other slip, trip and fall hazards; poor illumination, and overhead obstructions are primary hazards. General safety information will be communicated during daily safety meetings.

Miscellaneous physical hazards and safety procedures to be followed are reviewed with personnel in safety meetings and may include discussion of the following topics:

- Poor housekeeping
- Poor illumination
- Overhead obstructions
- Sharp objects
- Uneven walking surfaces
- Slippery work surfaces
- Tripping hazards
- Fall hazards

3.3 Biological Hazards

Biological hazards that may potentially be encountered during site work include:

- Poisonous snakes
- Poisonous spiders
- Rodents
- Ants and bees
- Mosquitoes

3.3.1 Poisonous Snakes

Poisonous snakes (i.e., rattlesnake) may be encountered during site work. The rattlesnake has a series of dark and light bands near the tail just before the rattles that are different from the rest of the body. Rattlesnake bite signs and symptoms of envenomation include: fang marks; metallic or rubbery taste in mouth; tingling of the tongue; numbness; swelling within 10 minutes of bite; nausea, weakness, temperature change; and discoloration within 3 to 6 hours.

Rattlesnake precautions include: Avoid walking in areas known to be populated with snakes. If a snake is encountered, look around, there may be others, then turn around and walk away on the same path traveled.

Rattlesnake bite first-aid procedures are: Summon emergency medical help immediately; have victim stay calm and remain motionless, if possible; position victim so that bite is kept below heart level, if possible; do not use ice, cold packs, sprays, alcohol, or any drugs; do not use tight tourniquet, apply light constricting band above bite (be able to insert finger under band) and do not release band, unless too tight from swelling; do not make incision across bite to suck out venom; and do not wait to see if symptoms develop, seek medical attention as soon as possible.

3.3.2 Poisonous Spiders

Poisonous spiders, such as the black widow spider or the brown recluse spider, may be encountered during site work. Spiders are usually found in dark, cool, protected areas and such areas should be inspected before placing hands or feet in these areas. Poisonous spiders are commonly found in woodpiles, sheds, basements, garages, and privies.

The primary species of black widow spider encountered has a glossy black appearance with an orange-red hourglass shape on the underside of the body. Black widow spider bite signs and symptoms are: initial pain followed by dull, occasionally numbing pain in the affected extremity; pain and cramps in one or several of the large body muscles; abdominal pain and cramping; sweating, increased salivation, anxiety, weakness, headache, and dizziness; and severe cases can result in uncontrollable muscle spasms, coma, and respiratory failure. Black widow spider bite first-aid procedures are: wash wound; apply a cold pack; and get medical care

The brown recluse spider is also known as the "violin or fiddle back" spider and is light brown in color with a darker brown violin-like marking on the top of the body. The brown recluse spider is non-aggressive, and most bites occur when the spider is trapped in clothing being put on, stepped on, and when areas where the spider resides are disturbed. Brown recluse spider bite signs and symptoms are: Localized burning sensation within 2 hours to 8 hours with itching and redness; small blanched area around immediate bite area appears; reddened area enlarges and becomes purple during subsequent 1 hour to 8 hours; and fever, malaise, stomach cramps, nausea, vomiting, and some cases have resulted in death. Brown recluse spider bite first-aid procedures are: wash wound; apply a cold pack; and seek immediate medical care.

3.3.3 Rodents

Rodents include rats, mice, squirrels, and other related mammals and are characterized by gnawing and nibbling traits. Rodents can act as a vector for many diseases that may be transmitted directly or through other vectors such as fleas or ticks. Diseases that can be transmitted include plague, typhus, leptospirosis, relapsing fever, and others including hantavirus pulmonary syndrome.

3.3.4 Ants and Bees

Ant bites and bee stings can be deadly to those who are hypersensitive. Anaphylactic shock can occur to sensitized individuals upon receiving a single sting once they are sensitized to the ant or bee venom. Signs and symptoms of envenomation are usually local pain, redness, itching, and swelling. Sensitive individuals may have more serious symptoms such as welts, itching palms and feet, headache, nausea, vomiting, labored breathing, and in severe cases respiratory paralysis or heart failure. Individuals who are hypersensitive should carry a kit containing an antihistamine and epinephrine. Individuals who have been stung and appear to be in distress will be evacuated to a medical treatment facility for evaluation.

3.3.5 Mosquitoes

Infected mosquitoes can act as a vector for many diseases including West Nile Virus. West Nile encephalitis is caused by the West Nile virus, a flavivirus commonly found in Africa, West Asia, and the Middle East. Encephalitis is an inflammation of the brain and can be caused by viruses and bacteria, including viruses transmitted by mosquito bites. Transmission is a vicious circle. Mosquitoes become infected when they feed on infected birds. The virus gets into the mosquito's salivary glands. Then the mosquito bites a human or an animal, injecting the virus, which can multiply and cause illness. Symptoms vary depending on the severity of the infection. Mild infections include flu-like symptoms: fever, headaches and body aches, skin rash, and swollen lymph glands. Severe infections include symptoms such as higher fever, neck stiffness, disorientation, coma, paralysis, convulsions, and muscle weakness. The methods of reducing risks of transmission of West Nile Virus include staying indoors at dawn, dusk, and in the early evening, wearing long-sleeved shirts and long pants when outdoors, spraying clothing with repellents containing Permethrin or DEET, and applying insect repellent sparingly to exposed skin.

3.4 Radiological Hazards

Radiological hazards are not expected for site work.

3.5 Ordnance and Explosives Hazards

Ordnance and explosive materials are not expected for site work.

3.6 Dust Control

Dust will be primarily controlled at work sites using water spray application.

3.7 Activity Hazard Analyses

AHAs are prepared before beginning each major phase of work operations. The AHA reviews hazards and control measures for primary site tasks. The AHA defines the activities to be performed and identifies the sequence of work, specific hazards anticipated, and control measures to be implemented to eliminate or reduce hazards to an acceptable level. Work does not proceed on that phase of work until the AHA has been accepted and the AHA has been reviewed with personnel involved with the activity. The AHA is reviewed and modified to address changing site conditions or operations. AHA modification occurs with the concurrence of the CSHM, PM, SS, SSHO.

AHAs for the following major project tasks are provided in Appendix C.

- Mobilization and Site Preparation
- Sampling
- Well Abandonment
- Demolition of Structures
- Site Restoration and Demobilization

4.0 EXPOSURE MONITORING

We do not anticipate that personal monitoring will be required; however, air monitoring may be necessary to determine personnel exposures to chemical contaminants and/or physical agents during various project activities. The SSHO, or designee, will be responsible for conducting air monitoring activities during field operations where there is potential exposure to airborne contaminants above OSHA eight-hour time-weighted average (TWA) and 15-minute short-term exposure limit (STEL) PELs or ACGIH TLVs. If personal air monitoring is conducted, site workers will have access to air monitoring results and results will be posted at the project site. A description of the plan for exposure monitoring to be implemented during the project is provided in this section of the SSHP.

4.1 Air Contaminants

Air contaminants that may potentially be encountered during project fieldwork operations are silica dust particulates generated during the demolition of the concrete pads. Continuous or prolonged exposure to crystalline silica (silica) dust will be controlled by proper engineering controls (wetting) during chipping, jack-hammering, drilling, sawing, and sweeping of masonry or concrete.

The work activities described below will be followed to reduce exposure:

- Masonry and concrete cutting, sawing, sweeping, grinding, chipping, jack-hammering, and drilling will be performed by using wetting agents or continuous misting to reduce the amount of airborne silica dust. Masonry will be cut with a wet-saw, followed by prompt cleanup. Electrical wet-sawing equipment will be used with proper grounding connections and ground-fault- circuit interrupters (GFCI) plugs to prevent electrical shock
- Prompt cleanup and disposal shall be performed when the dust and debris is wet or saturated to prevent the materials from drying and becoming airborne. Cleanup of silica-containing material will be accomplished by sweeping compound or wet-misting
- Dust control and cleanup will be routinely performed on the site. If the dust contains airborne silica and is not controlled, then all that work on the site or work-area must wear an approved dust mask

The following is considered to assist in prevention of work overexposure to silica:

- Personal air monitoring, respiratory protection and engineering controls reviewed by a SSHO, to determine the test results from airborne sampling
- Fit testing, safety orientation and possible medical surveillance if test results show a high exposure to silica

4.2 Exposure Monitoring Plan

Exposure monitoring may be needed to during the project scope of work. Exposure monitoring is to be completed by the SSHO, designee, and/or other responsible party (if required). Should action level concentrations be exceeded, response actions will be initiated to implement engineering controls, safe work practices, upgrade or downgrade in PPE, work stoppage, emergency evacuation, and notification and evaluation by the PM and SSHO. The SSHO is responsible for maintaining copies of applicable monitoring records (i.e., personal exposure monitoring results, pre and post-sampling calibration checks, etc.) at the site for the duration of the project.

TABLE 4.2: EXPOSURE MONITORING PLAN					
Exposure Element	**Method**	**Tasks**	**Frequency**	**Action Levels**	**Action**
Volatile Organic Compounds	RAE Systems MiniRAE 2000, Thermo	Tasks where exposure to VOCs may occur	Initial and periodic monitoring of work areas and worker breathing zone	> 5ppm ≤50ppm VOCs	Stop work. Contact the SSHO to evaluate
Dust	Thermo MIE pDR-1000 DataRam	Tasks where exposure to silica dust may occur	Initial and periodic monitoring of work areas and worker breathing zone	> 0.1 mg/m3 8hr TWA	Institute engineering controls (wetting)
Heat stress	Radial pulse for heart rate	Tasks where elevated ambient temperatures (greater than 70°F), moderate to heavy work loads, and impermeable protective clothing is being used	Initial baseline and periodic monitoring at the end and beginning of each work period	Baseline: HR greater than 110 bpm Next: HR greater than 110 bpm HR slow recovery to less than 110 bpm	Reduce next work period by one-third. Reduce next work period by one-third Alert SSHO to evaluate
Heat Stress	WBGT Meter	All	Hourly when temp > 70 F	Per work/rest cycle ration contained in this document.	Modify work activities as required.

LEGEND:

SSHO:	Site Safety and Health Officer
ppm:	Parts per million
PEL:	Occupational Safety and Health Administration (OSHA) 8-hour Time-Weighted Average (TWA) Permissible Exposure Limit
°F:	Degrees Fahrenheit
HR:	Heart rate measured by checking radial pulse rate
bpm:	Beats per minute.

5.0 SITE CONTROL

Site control procedures are established to: restrict access to controlled areas of the worksite, identify means for site communication, and establish measures for site security.

5.1 Site Work Zones

Site work zones are established based on the type of operations to be conducted in the work zone, potential for exposure to contaminants, and potential for contact with other safety hazards. The establishment of controlled work zones (i.e., regulated area) may be required only during specific operations identified by the SSHO. Site work zone requirements are established to limit access to work areas to authorized personnel, prevent the spread of contamination from the work area, establish site communication, and site security measures.

Work zone demarcation will be established through use of caution tape or other means (e.g., barricades, fencing, signs, etc.) as approved by the SSHO.

5.2 Site Control Log

A log of personnel visiting, entering, or working at the site will be maintained. A "Site Control Log" form will be completed daily. This log includes entries for the date, name, organization, and time entering and exiting the site. The Site Control Log is maintained on site by the SSHO. All personnel are required to report and sign upon arrival at the site. Personnel who wish to enter a controlled area at the site must provide to the SSHO copies of required training, medical fitness for duty, and respirator fit testing documentation before entry is authorized. All personnel are required to complete the Site Control Log daily by signing out upon exiting the site.

5.3 Site Communications

Site communications are critical to allow for expedient communication of operational instructions, safety information, and emergency communications, and include:

- A telephone will be maintained on site with the EFS SS and/or SSHO
- Emergency communication instructions are in the emergency action plan section of the SSHP

5.4 Site Security

Site security measures are required to prevent unauthorized access to controlled areas of the site. Site security measures include:

- Personnel are required to check-in and sign in on the "Site Control Log" before entering controlled areas of the site. Unauthorized persons are not allowed into the controlled areas of the site
- Temporary fencing, barricades, signs, and/or caution tape will be used for delineation of controlled areas, if needed

6.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment may be required for certain field operations based on the potential for contaminant exposures. The SSHO and CSHM will establish appropriate levels of protection for each work activity based on review of historical site information, existing contaminant data, and evaluation of the potential for exposure. The SSHO and CSHM will establish action levels for upgrade or downgrade in the initial minimum levels of protection.

PPE requirements will be referenced to the U.S. Environmental Protection Agency (EPA) levels of protection system that consists of four levels of protection (A-D) as described below:

Level A Protection: Level A protection is worn when the highest level of respiratory, eye, and skin protection is needed. Level A protection is used for initial entry into confined spaces, entry into areas with vapor hazards, and entry into areas where the hazard of significant exposure to unknown contaminant concentrations exists.

Level B Protection: Level B protection is worn when the highest level of respiratory and eye protection is needed, but a lesser level of skin protection is needed than for Level A. Level B protection is used for initial entry into confined spaces, entry into areas with significant skin and respiratory hazards, and entry into areas where the hazard of significant exposure to unknown contaminant concentrations exists.

Level C Protection: Level C protection is worn when a similar level of skin protection as Level B is needed, but a lower level of respiratory protection is needed. Level C protection is used when limited skin hazards exist and concentrations of contaminants are within the protection factor of an air-purifying respirator.

Level D Protection: Level D protection is worn when minimal protection is needed and activities are not likely to involve direct contact with contaminated materials. Modified Level D protection is used when some skin protection is desired for protection against accidental skin contact with contaminants.

6.1 PPE Requirements

It is anticipated that Modified Level D, and Level D protection use may be required for project activities. No Level A, B, or C protection work is anticipated under the Scope of Work for this project. The primary basis for the level of protection selection is as follows:

- Modified Level D protection for work where there is no potential for significant air contaminant exposure and protective clothing is used for protection from accidental contact with contaminants

  Modified Level D protection consists of:

  - Disposable coveralls (Kleenguard® or Tyvek® for dust exposure; Polyethylene Tyvek® for incidental splash protection; PVC for liquid contact protection)
  - Boots, steel-toed/shank, chemical-resistant (PVC or equivalent) or boot covers (PVC or latex) over leather steel-toed work boots
  - Gloves, inner, chemical-resistant (surgical nitrile) and outer leather or sturdy work gloves
  - Hard hat; safety glasses with side shields; hearing protection; and high-visibility safety vest with reflective striping (if vehicle or equipment traffic is present)

- Level D protection for work where there is no significant potential for contaminant exposure.

  Level D protection consists of:

  - Coveralls or standard work clothing
  - Steel-toed work boots (leather)
  - Gloves (if material handling-cotton or leather)
  - Hard hat; safety glasses with side shields; face shield (polycarbonate for pressure washing); ear plugs (if noise levels more than 85 dBA); and high-visibility safety vest with reflective striping (if vehicle or equipment traffic is present)

- Level D protection will be used for site preparation, demolition, waste disposal sampling, and site restoration activities

6.2 PPE for Government Personnel

EFS will make available for use by visitors, three sets of PPE and clothing (excluding respirators and safety shoes that will be provided by the individual), as required for entry into the work area. The PPE will be stored in a container and clearly marked "FOR USE BY GOVERNMENT ONLY."

6.3 PPE Maintenance

- PPE is required as directed by the SSHP or the SSHO
- Personnel are responsible for proper use of required PPE
- Torn protective clothing or damaged PPE will be immediately repaired or replaced
- Contaminated PPE will be disposed of properly (as contaminated waste)
- Maintenance of reusable personal issue PPE (e.g., hardhats, safety glasses, etc.) is the responsibility of each worker for individually assigned equipment
- Personnel are responsible for proper maintenance, cleaning, storage, and use of individually assigned respirators. Respirators will be cleaned after each use, placed in a plastic bag, and inspected before using again.

7.0 Decontamination

Personnel and equipment decontamination may be required for site work.

7.1 Personnel Decontamination

General personnel decontamination requirements include:

- The SSHO must review specific decontamination procedures with personnel required to enter controlled work zones of the site and will monitor and ensure use of prescribed decontamination procedures
- Personnel will be instructed to minimize contact with contaminants, to the extent feasible, to reduce the potential for personal or equipment contamination
- Personnel decontamination occurs at the decontamination station established within each work location.
- Personnel must clean, remove, and place contaminated disposable protective clothing in marked containers before leaving the work zone.
- Workers will be instructed to practice good personal hygiene by washing the face, hands, and forearms before eating, drinking, smoking, etc.

7.1.1 Decontamination Procedures – Dry Method

A dry decontamination method will be used when there is limited contact with contaminants and when the SSHO has determined that a wet decontamination method is not needed. The decontamination sequence will be completed as follows:

Station 1 - Equipment Drop: Deposit used equipment on sheet plastic or in container with plastic liner.

Station 2 - Outer Boot Covers and Outer Gloves Removal: Remove outer boot covers and outer gloves. Deposit in container with plastic liner.

Station 3 - Boots and Outer Garment Removal: Remove boots and suit and deposit in containers with plastic liners.

Station 4 - Respirator Face Piece and Inner Gloves Removal: Remove respirator face piece (avoid touching face with fingers) and deposit on sheet plastic or in plastic bag. Remove inner gloves.

Following dry decontamination, personnel should immediately proceed to the nearest available facilities and thoroughly wash hands and face, before eating, drinking, or smoking.

7.1.2 Decontamination Procedures – Wet Method

A wet decontamination method will be used when there is significant contact with contaminants (i.e., contact with liquid contaminants, muddy surface contamination, other heavy contamination) and when the SSHO has determined it is necessary. The decontamination sequence should be completed as follows:

Station 1 - Equipment Drop: Deposit used equipment on sheet plastic or in container with plastic liner.

Station 2 - Boots and Outer Garments Wash/Rinse: Scrub outer boots, outer gloves, and suit with detergent/water solution. Rinse off with water.

Station 3 - Outer Boot Covers and Outer Gloves Removal: Remove outer boot covers and outer gloves. Deposit in container with plastic liner.

Station 4 - Cartridge/Canister or Mask Change-Out: Change-out APR cartridges/canister or face piece as needed. For respirator change-out and return to EZ, don new outer gloves and boot covers, tape at joints, and return to EZ. For entry into the support zone, continue decontamination sequence.

Station 5 - Boots and Outer Garment Removal: Remove boots and suit and deposit on sheet plastic or in containers with plastic liners.

Station 6 - Respirator Face Piece and Inner Gloves Removal: Remove respirator face piece (avoid touching face with fingers) and deposit on sheet plastic or in plastic bag. Remove inner gloves.

Station 7 - Field Wash: Wash hands and face thoroughly.

7.2 Equipment Decontamination

Procedures are required to prevent the spread of contamination from vehicles and equipment used in the work zone to offsite areas. Equipment will be decontaminated by procedures established by the SSHO.

7.2.1 Equipment Decontamination Facilities and Procedures

A decontamination facility (decontamination pad) may be established for decontamination of vehicles and equipment. Equipment will be decontaminated by procedures established by the SSHO and include:

- Vehicles and equipment used in the work zone that may contact their tires/tracks with contaminated surfaces will be minimized to the extent possible
- Dirt will be brushed or scraped off of vehicles and heavy equipment to remove visible materials before moving from the work zone. As needed, a pressure washer will be used for equipment decontamination
- Following decontamination, the equipment will be inspected and an "Equipment Decontamination Release Authorization" form will be prepared by the SSHO to document decontamination, before equipment will be allowed to move off site.

8.0 SAFETY POLICY AND PROCEDURES

8.1 Safety Policy

It is the policy of EFS to perform work in a safe manner. Our safety goal at EFS is to have incident-free operations. This goal can only be achieved through total and demonstrated commitment to this safety policy from each individual EFS staff member.

The effective realization of this policy and goal depends on three elements:

- Every accident is preventable
- Effective safety training is provided so that every EFS staff member has the necessary knowledge to identify potential hazards to their own and their co-workers' safety, and the necessary protocols, tools, and equipment to appropriately mitigate the identified hazards
- Each EFS staff member understands that we are all accountable for maintaining our own safety and the safety of our co-workers, at all times and in all situations

The EFS Safety and Health Program:

- Defines procedures and responsibilities necessary to effectively implement this safety policy
- Establishes a basis for safety training, medical monitoring, and record keeping requirements
- Provides rewards for safe work performance via project specific safety incentive programs
- Defines proper safety practices to be used during the performance of our work
- Complies with governmental regulations in the implementation of safe work practices

8.2 Standard Work Procedures

8.2.1 General Safe Work Practices

Site personnel must work in a safe manner and includes, but is not limited to, the following actions:

- Workers must obey directives from the SSHO and personnel who do not comply with safety requirements may be immediately dismissed from the site as required by the PM and SSHO
- The SSHO will conduct on site, a daily tailgate safety meeting before starting work each day to review work operations and to discuss pertinent site safety topics
- Non-prescribed drugs, alcohol, and firearms are not allowed on site
- Workers are not allowed to work if they are intoxicated or if their ability or alertness is impaired because of fatigue, illness, or other conditions that may expose them or others to injury
- Unsafe work conditions, work practices, and defective equipment will be immediately reported to the SSHO

8.2.2 Hazard Communication

- The SSHO will complete a "Hazardous Substance Inventory List" and maintain copies of MSDSs for hazardous substances that are to be used during project work. All site workers will have free access to the hazardous substance list and MSDS
- Site personnel will be informed of the hazardous substances that they will be working with through SSHP review and attendance at daily safety meetings
- The EFS "Hazard Communication Program" standard operating procedure will be referred to for additional guidance and requirements

8.2.3 Sanitation

- Food, beverages, tobacco products, or cosmetics are not allowed in potentially contaminated areas. Eating, drinking, chewing gum or tobacco and smoking are allowed only in designated areas
- Good personal hygiene practices will be followed at all times. Site washing facilities will be provided and personnel will be required to wash their hands and face before breaks, lunch, and departing the work site
- Potable water will be made available for personnel and portable toilets will be provided

8.2.4 Visitors

- Visitors must have prior approval before being admitted to the site
- Visitors must meet applicable medical and training requirements and review pertinent aspects of the SSHP

8.3 Hazard Identification and Evaluation System

The PM, SSHO, and CSHM are responsible for establishing a system for identification and evaluation of workplace hazards for the project. Hazard identification and evaluation are primarily accomplished through implementation of this SSHP. Prior to project implementation, the PM, SSHO, and CSHM review information relating to project work tasks to be completed; methods to be used; working conditions to be encountered; and chemical, physical and/or biological hazards present.

A written SSHP has been prepared that establishes site-specific safety protocols and contains information to protect employees from potential hazards. The SSHP will be revised should additional information become available concerning the hazards present at the site and/or should significant changes occur in the scope of work, operational procedures, site hazards, and hazard control measures. This information is reviewed with site personnel at the jobsite before work operations commence. Additional hazards associated with project operations are also identified and evaluated through daily safety meetings, periodic safety inspections, employee reporting of unsafe or hazardous conditions, and accident investigations and follow up.

8.4 Hazard Correction System

An effective hazard correction system must be established for correction of unsafe or unhealthful work conditions, work practices, and work procedures. These corrective measures will be completed in a timely manner.

If an imminent hazard is identified, the PM and SSHO are notified immediately. Corrective measures are then taken to immediately eliminate the hazard. If the imminent hazard can not be immediately eliminated, personnel will be removed from the work area and the SSHO will evaluate what safety procedures and corrective actions are to be implemented.

If a non-imminent hazard is identified, the SSHO is notified and corrective actions are implemented in a timely manner. Evaluation of the time period allowed for correction of the hazard is at the professional judgment of the SSHO in conjunction with the PM and CSHM. Documentation of the hazards identified and the hazard correction actions taken will be completed on a "Safety Inspection Report" form.

8.5 Safety Compliance System

A safety compliance system will be established to ensure that employees comply with safe work practices and S&H policies and procedures. The system's effectiveness is highly dependent upon the involvement, direct supervision, and enforcement of safety requirements by supervisory personnel. The system includes:

8.5.1 Safety Inspections

The SSHO completes periodic safety inspections of project sites and work areas. The SSHO will complete daily safety inspections of work sites to identify and correct hazards.

The SSHO will record identified safety and health issues and deficiencies and will indicate the actions, timetable, and responsibility for correction of deficiencies on the EFS "Safety Inspection Report" form. The SSHO will conduct follow-up inspections to correct identified deficiencies and will document these inspections in a like manner.

Safety inspections will include work areas, equipment, work practices, training, and work procedures. Noncompliance items with SSHP requirements will be corrected immediately or in a timely manner based on the classification of the hazard as imminent or non-imminent. In the case of unsafe or hazardous machinery, the equipment or area will be "red-tagged" (shut down or evacuated) until the hazard has been corrected. Employees are responsible for inspecting their work areas and equipment for unsafe or hazardous conditions; however, project management will spot check to ensure such inspections are taking place and producing the desired effect. Employees will correct all unsafe conditions and report them immediately to their supervisor. If employees are uncertain as to the degree of hazard associated with a deficiency, they are to stop work and report the situation to the SSHO. Maintenance employees must periodically inspect and/or test field equipment for safe and hazard-free operation.

The PM and/or CSHM may also conduct independent field safety inspections/audits of projects on a periodic basis. The frequency of these inspections will be at the discretion of the PM and CSHM based on the type of job activities and potential hazards to be encountered on the project. Safety inspection report forms completed will be reviewed by the PM and CSHM to monitor hazards identified and corrective actions taken.

8.5.2 Disciplinary Action

EFS policy requires that employees strictly adhere to established safe work practices and procedures. If employees violate safety procedures or rules, they may be disciplined according to the severity of the infraction. Employees who exhibit unsafe work performance will receive disciplinary action from the PM and SSHO in consultation with the CSHM. Disciplinary action can include the following, depending upon the severity of the safety infraction:

- Verbal warning
- Written warning notice
- Termination of employment
- Other disciplinary action

8.5.3 Safety Recognition

Safety recognition and safety incentive programs are initiated for specific projects where a significant improvement in safety compliance and/or safety performance can reasonably be achieved. Such programs are initiated as established by the PM and SSHO in consultation with the CSHM.

8.6 Safety Communication System

A system for communication with employees regarding matters related to S&H will be established and will include employee reporting of identified hazards, safety training, daily safety meetings, safety information postings, and written communications.

8.6.1 Employee Reporting of Identified Hazards

Employees are encouraged and required to inform project supervisors of unsafe or hazardous conditions that are identified. Additionally, employees are encouraged to report observed unsafe work practices by employees, supervisors, or other individuals. Employees may communicate directly with the PM, SSHO, and/or CSHM regarding any safety matter. No employee will be disciplined or otherwise discriminated against for reporting or correcting an unsafe condition. Employees may make anonymous reports of unsafe conditions or violations of safety rules to the SSHO or CSHM for follow-up action.

8.6.2 Training and Safety Meetings

Employees receive safety training regarding potential hazards associated with their work assignments through site orientation briefings, daily safety meetings, and other training. Training and safety meeting information is further reviewed in Section 10 of the SSHP. Copies of certificates of S&H training for site

personnel will be reviewed and maintained by the SSHO. Project personnel including subcontractors are not allowed to conduct fieldwork that requires specific training until such documentation has been presented to the SSHO.

Site orientation briefings that involve review of pertinent aspects of the SSHP will be completed for personnel before initiation of project fieldwork.

Daily safety meetings are held at the job site and are presented by the SSHO and are designed to:

- Provide instruction regarding hazards specific to each employee's job assignment
- Act as safety and health training program to instill safe and healthful work practices
- Remind employees that compliance with safe work practices is required
- Instill a constant sense of safety-consciousness among supervisors and employees
- Provide opportunity for employees to bring forward concerns and ideas about safety issues
- Reassure employees to inform supervisors of work site hazards without fear of reprisal
- Discuss with project personnel safety lessons learned, accidents, near misses, and specific safety requirements for the day's operations

8.6.3 Safety Information Posting and Written Communications

Safety posters, articles, notices, employee exposure monitoring data, and other safety-related information will be posted in an area designated for employee review. The SSHO will maintain safety postings and written safety communications for this project (a project field office is not available).

8.7 Incident Reporting and Investigation

Employees must immediately report all incidents, injuries and illnesses, property damage and liability exposure cases; spills and fires; and near miss incidents to the SS and/or the SSHO.

Should a serious injury occur during the project, the SS and SSHO will immediately report the incident to the PM, CSHM, and the Navy.

The SSHO and affected employee supervisor will make a complete investigation of all incidents and inspect the area or equipment involved (as applicable). This includes completing and filing a "Incident Report by Supervisor," "Incident Statement by Employee," "Incident Statement by Witness," "Injury and Illness Report," "Property Damage, Loss, and General Liability Report;" and/or "Vehicle Accident Report" form, as applicable with the PM within 24 hours of the injury (immediately for serious injury or fatality).

All incidents involving hospitalization or a fatality require immediate notification and investigation by the SSHO and the PM. The PM is responsible for OSHA reporting of the incident and will act as the agency interface upon their investigation. The PMs responsible for notifying the jurisdictional OSHA office as soon as possible and no later than 8 hours of the accident. (Note: This notification includes weekend days as 24-hour emergency reporting access is available). The report to OSHA must include: time and date of accident; employer's name, address, and telephone number; name and job title of person reporting the accident; address of the site of the accident; name of person to contact at the site of the accident; name and address of the injured employee; nature of injury; location where the injured employee was moved to; list and identity of other law enforcement agencies present at the site of the accident; and description of the accident and whether the accident scene has been altered.

The SSHO, with the assistance of the PM and SS, will obtain a doctor's first report of injury for every injury or illness requiring medical treatment.

An injured worker is not allowed back to work until a return-to-work notice issued by the treating physician and negative drug and/or alcohol test documentation (as applicable) are presented to the SSHO. Injured workers issued a work restriction shall be under the direct supervision of the SSHO who shall assign work activities until a full duty status clearance has been received.

The PM will make a telephone report for all claims covered under the EFS Workers' Compensation Policy. Reports are made to the workers' compensation insurance claim-reporting center where an employer's first report of injury or illness form is completed over the phone. After reporting a claim to the reporting center, the information is faxed by the reporting center to the claims service office to handle the claim. Any subsequent medical bills and reports received for the claim are forwarded to the PM who will subsequently mail them to the claims service office.

When a worker returns to work after an injury or illness, the PM will contact the claims servicing office to advise them of the actual date of return to work. Questions or inquires are to be directed to the CSHM who will contact the claims service office or the EFS insurance company, as needed.

The PM records each injury or illness on the OSHA Form No. 300 "Log of Work Related Injuries and Illnesses" and the OSHA Form 300A "Summary of Work-Related Injuries and Illnesses." The OSHA 300 form is posted annually no later than May1 (of the following year).

8.8 Site-Specific Procedures

EFS will comply with federal, state, and local requirements for dig permits, hot work permits, and other applicable work permits. Miss Utility will be contacted to determine location of utility services not owned by NWIRP Bethpage.

9.0 EMERGENCY ACTION PLAN

An Emergency Action Plan will be established to address possible on and off-site emergencies that may require site personnel to evacuate the work area. For on-site emergencies, local fire, police, and/or emergency medical service personnel will be notified. For major off-site emergency events that have the potential of impacting the work area (e.g., large fires, gas line breaks, etc.) personnel will be evacuated to a designated rally point. All site personnel are required to immediately notify the SSHO immediately in the event of any type of site emergency. The emergency action plan will be briefed to all project personnel including subcontractors and a copy maintained on site. Prior to commencement of project work activities, the emergency action plan will be drilled to ensure that all personnel understand what to do in the event of an emergency evacuation.

9.1 Site and Emergency Communications

- Cellular telephones will be used for site and emergency communications.
- The SSHO will maintain an "Emergency Contact List" (Appendix B). The SSHO is responsible for designating an emergency hospital and determining the route to the emergency hospital before the start of field operations
- The SSHO will also, as a courtesy, notify the local first responders and inform them of the site activities

9.2 Emergency Supplies

Emergency supplies will be immediately available at the site and will include:

- First-aid kit
- Fire extinguisher
- Spill kit supplies

9.3 Hospital and Route Information

New Island Hospital located at 4295 Hempstead Turnpike; Bethpage, NY is the designated hospital. The hospital, location, and route map are provided as Figure 8. The location and route map will be posted and remain posted on site during field operations.

9.4 Response to Fire Incident

The SSHO will consult with the local fire department before initiating site activities regarding response to fire incidents associated with site work. In the event of a fire, the following will be implemented:

- Large fire (beyond the immediate control of a small on site fire extinguisher): The site alarm will be sounded; personnel will immediately evacuate and assemble at a predetermined location; the fire department will be called; and personnel will not reenter the fire area and will wait for fire departments' arrival
- Small fire (within the immediate control of a small on site fire extinguisher): The site alarm will be sounded; trained personnel will use an on site fire extinguisher to put out the fire

9.5 Response to Chemical Spill

A spill kit will be available on site (located in designated area) with supplies for spill containment and control and includes: absorbent pads; solid absorbent, etc.

In the event of a small chemical spill (i.e., refueling equipment, etc.), the PM and SSHO will be immediately notified. If containment can be done safely without exposure to personnel, the following will be implemented:

Containment of liquid is accomplished through prompt application of absorbents (e.g., absorbent pads or solid absorbent).

In the event of a large uncontrolled chemical spill incident, the PM and SSHO will be immediately notified. The SSHO will obtain information regarding the spill and will respond immediately to the spill location and call the fire department.

9.6 Response to Medical Emergency

In the event of a medical emergency, the following procedures will be implemented:

- The injured person will be removed from immediate danger, first-aid and/or CPR will be administered by trained site personnel
- Emergency medical assistance will be called and will be informed of the following: name and location of person reporting; location of accident or incident, specific directions to the emergency location, phone number from which the person is calling, number of persons needing help, what is currently being done for the victim(s) (for life-threatening injuries, request instructions from emergency services dispatcher), name and affiliation of injured party(ies), description of injuries, summary of the accident including suspected causes and time of occurrence; and temporary control measures taken to minimize further risk
- Nonessential personnel will be evacuated from the work area until the SSHO determines that it is safe for work to resume

The SSHO will designate an individual to accompany or follow the victim to the hospital to assist with any needs that may arise and to report back regarding the victim's status

10.0 TRAINING

Copies of S&H training certificates will be reviewed and maintained by the SSHO. Personnel will not be allowed to perform fieldwork until the SSHO has determined this documentation to be compete and sufficient.

10.1 Site Orientation Briefing

Before the start of work, the SSHO will provide a site orientation briefing to workers related to project operations and SSHP requirements. Daily safety meetings will be conducted at the beginning of each work shift to discuss operational tasks to be completed and pertinent site safety topics. Meetings will be documented and those in attendance will be required to sign the "Tailgate Safety Meeting Record" or equivalent form.

The briefing will include review of (as applicable):

- Provisions of the SSHP
- Facility background and SOW
- Key personnel and S&H responsibilities
- Site hazards anticipated
- Site control procedures
- PPE requirements
- Procedures for reporting unsafe conditions or unsafe work practices
- Procedures for reporting an injury/illness
- Emergency action plan procedures including warning signals, evacuation procedures, and rally points
- Location/route to the emergency hospital

New workers must receive a site orientation briefing and review the SSHP before start of work. Personnel will sign a form documenting that they have reviewed the plan, understand the SSHP requirements, and agree to follow the plan.

10.2 HazWOPER Training

Personnel to include subcontractors involved in hazardous waste activities at the site must have completed hazardous waste operations and emergency response (HazWOPER) training as required by the OSHA "Hazardous Waste Operations and Emergency Response" standard. Certificates of HazWOPER training will be maintained by the SSHO at the site. Copies of current training certification statements will be submitted before initial entry onto the work site. Required HazWOPER training includes the following:

- Worker Training: 40 hours of initial training and 3 days of supervised field experience
- Manager and Supervisor Training: 8 hours of additional specialized manager/supervisor training
- Refresher Training: 8 hours of refresher training annually

10.3 First-Aid/CPR Training

All EFS personnel will have current certification in first aid and CPR as well as participating in the ECOR bloodborne pathogens program which will enable the employee to assist in the initial handling of medical emergencies. At least two persons who are currently certified in first-aid and CPR by the American Red Cross or other approved agency must be on site at all times during site operations. These individuals may perform other duties at the site but must be immediately available to render first-aid or CPR when needed.

10.4 10-Hour OSHA Construction Safety and Health Training

As required by USACE EM 385-1-1, personnel who are assigned as an SSHO shall have completed the 10-Hour OSHA Construction S&H Training class within the last three years. An equivalent course applicable to the work to be performed (i.e., OSHA 500 Trainer Course in Occupational S&H for the Construction Industry) is considered acceptable.

10.5 Health and Safety Documentation

Health and safety documentation records, as applicable, include: MSDSs; S&H training documentation; medical surveillance examination documentation; respirator fit testing forms; SSHP review and safety meeting records;

safety inspection reports; equipment inspection forms; accident reporting and investigation records; and other S&H documents will be maintained by the SSHO.

10.6 SSHP Forms

Completed SSHP forms are maintained on site by the SSHO for the duration of the project. SSHP forms (Appendix A) that may be used during the project are indicated below:

- Air Monitoring Log
- Certificate of Worker/Visitor Acknowledgement
- Equipment Decontamination Log
- First-Aid Treatment Log
- Hazardous Substance Inventory List
- Heavy Equipment Inspection Report
- Incident Reporting and Investigation Procedures Posting
- Incident Report by Supervisor
- Incident Statement by Employee
- Incident Statement by Witness
- Injury and Illness Report
- Property Damage, Loss, and General Liability Report
- Safety Inspection Report
- Site Control Log
- Site Safety and Health Plan Distribution to Subcontractor
- Site Safety and Health Plan Review
- Tailgate Safety Meeting Record
- Bloodborne Pathogens training and program participation

FIGURES

Figure 1. NWIRP IRP Site 1 Regional Map

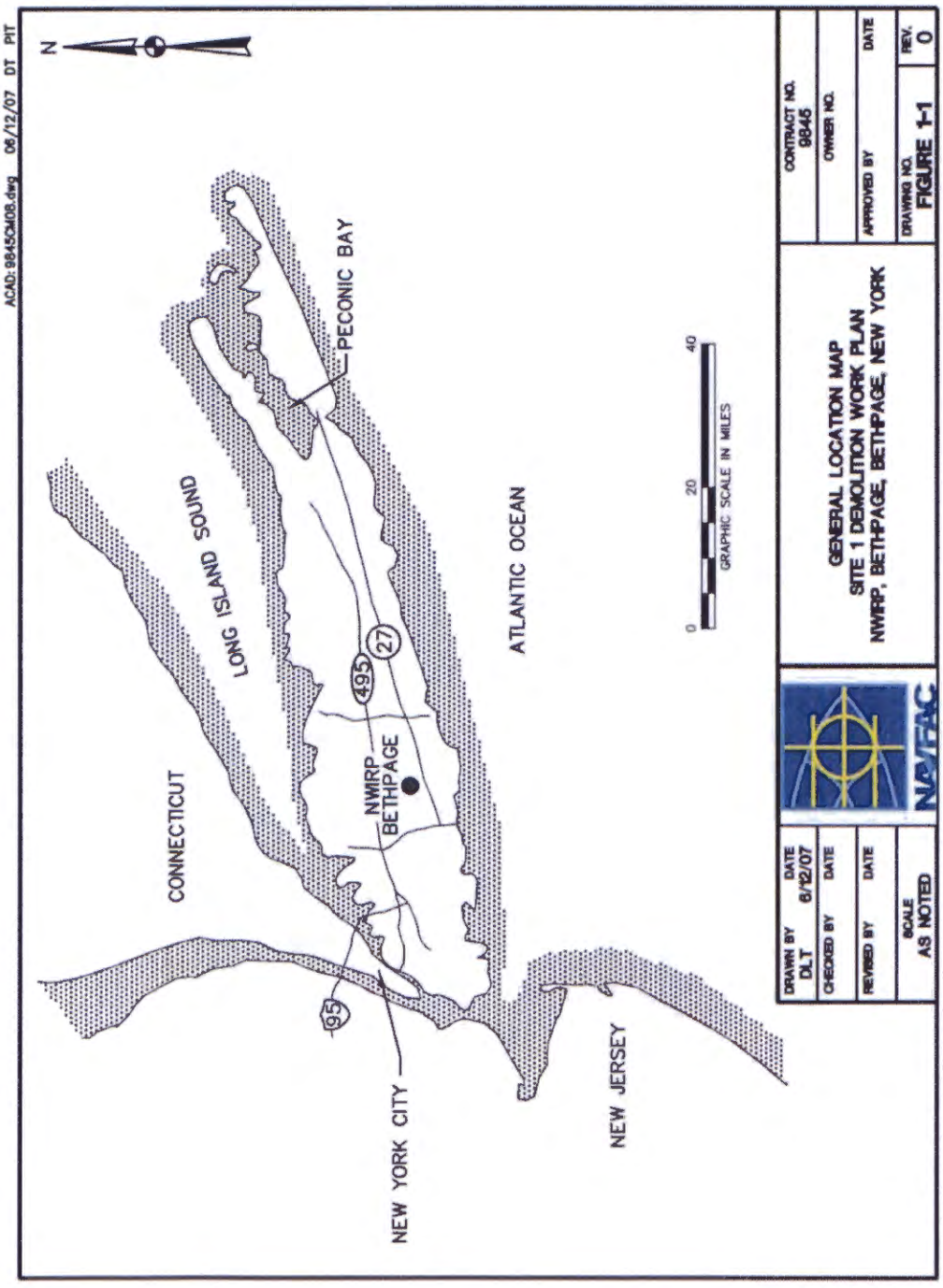


Figure 2. NWIRP IRP Site 1, Current Condition

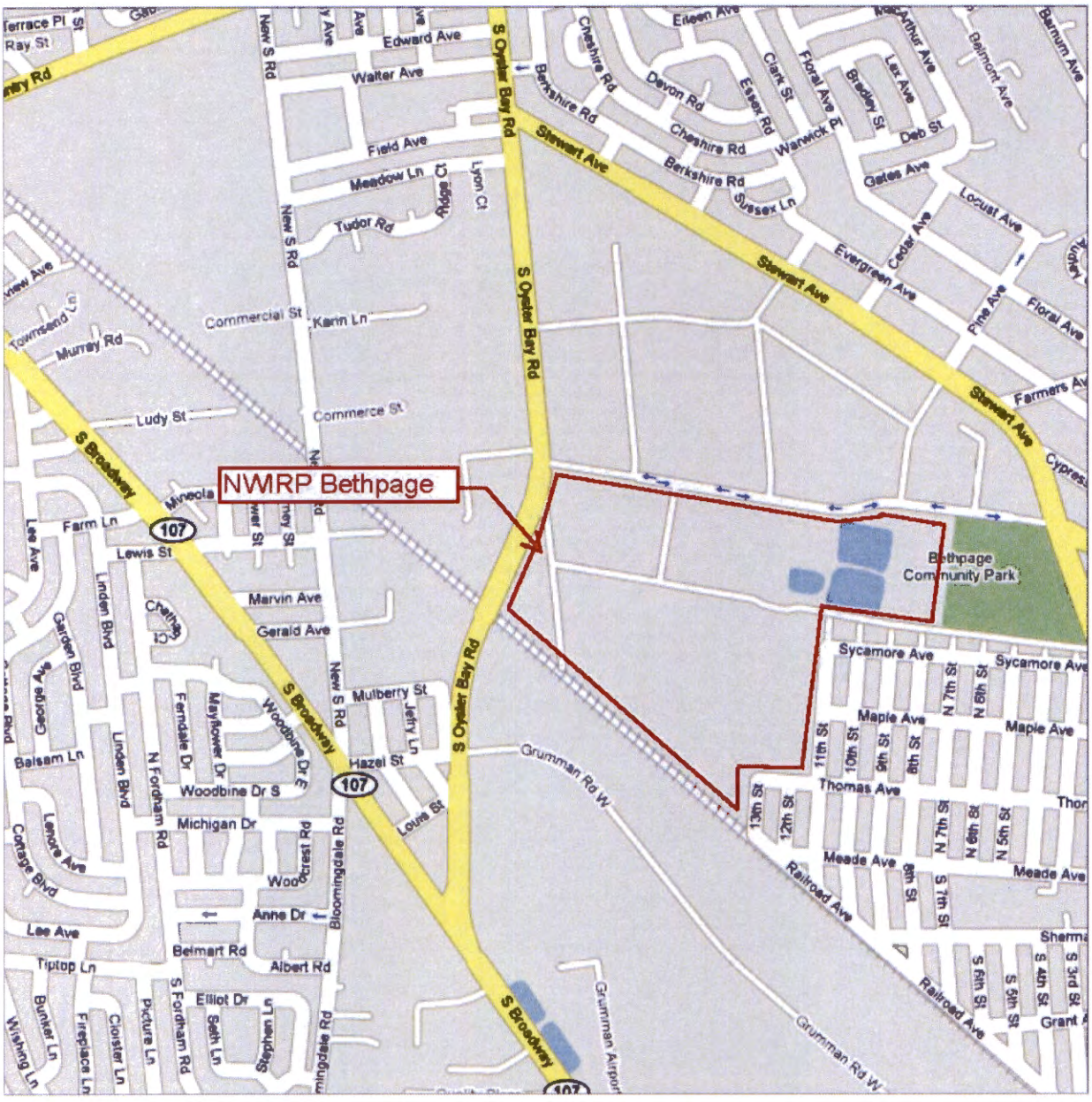


Figure 3. NWIRP IRP Site 1 Location Map

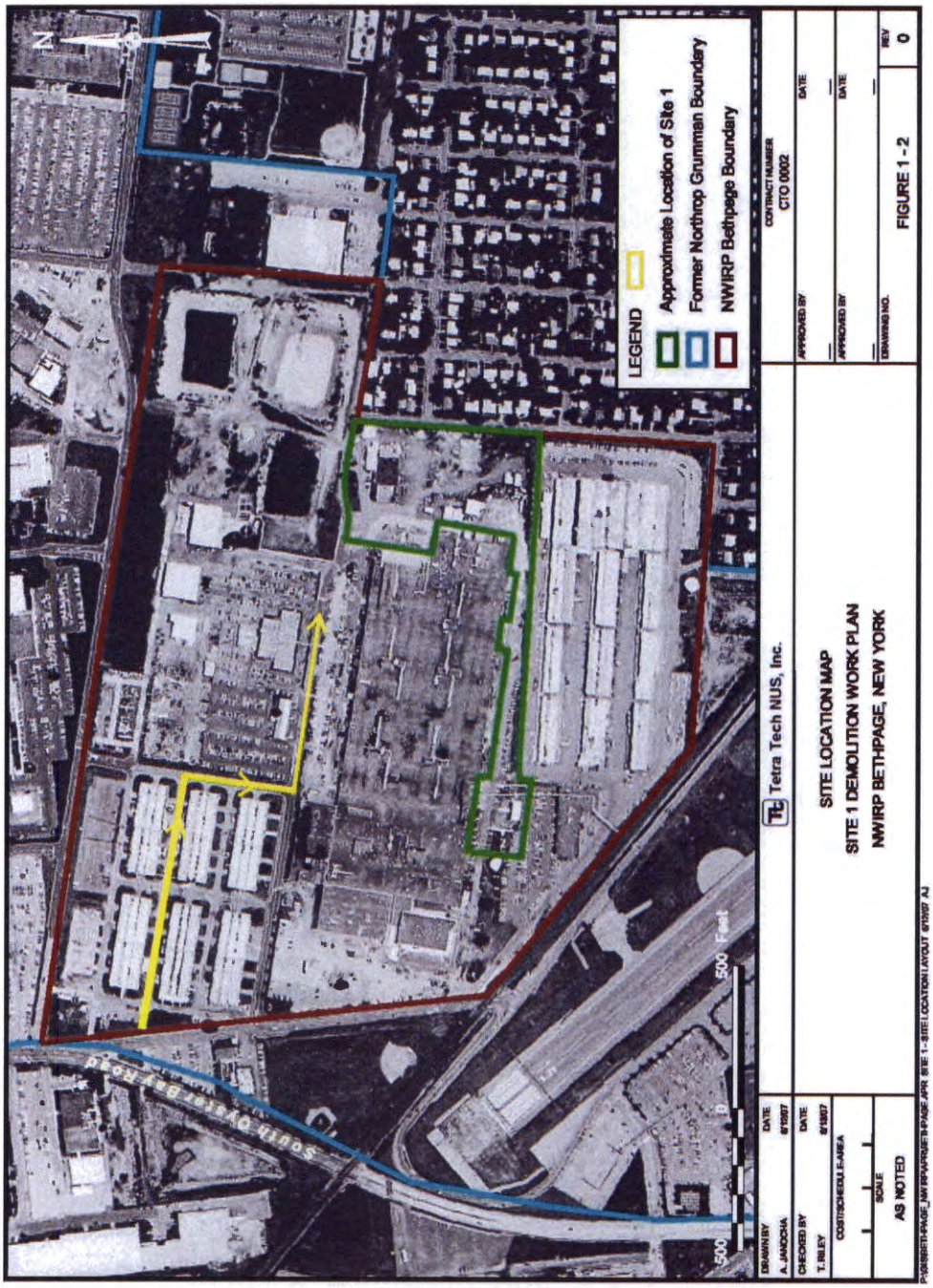


Figure 4. PCB Contamination 0-2 feet below Ground Surface

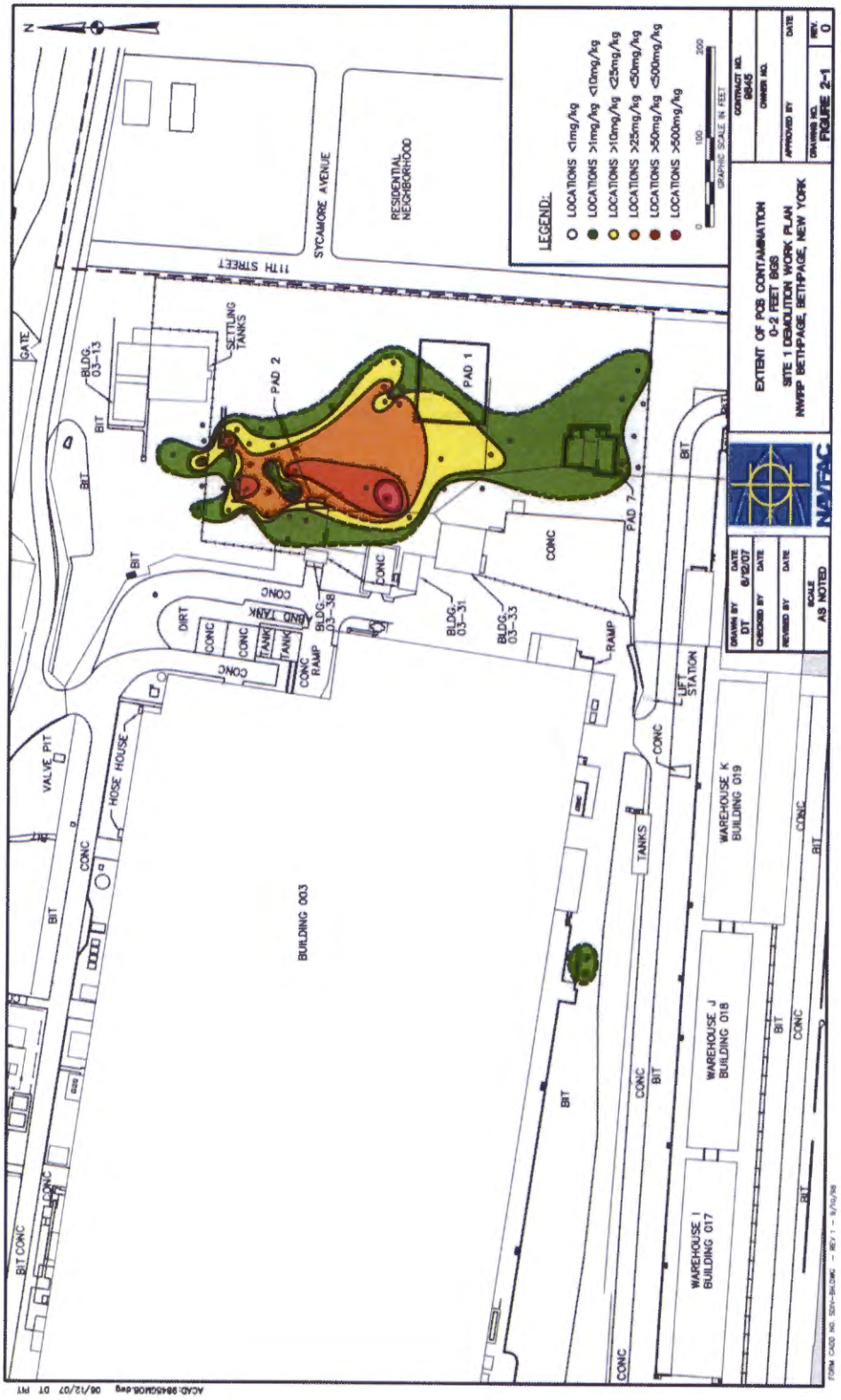


Figure 5. PCB Contamination 2-15 feet Below Ground Surface

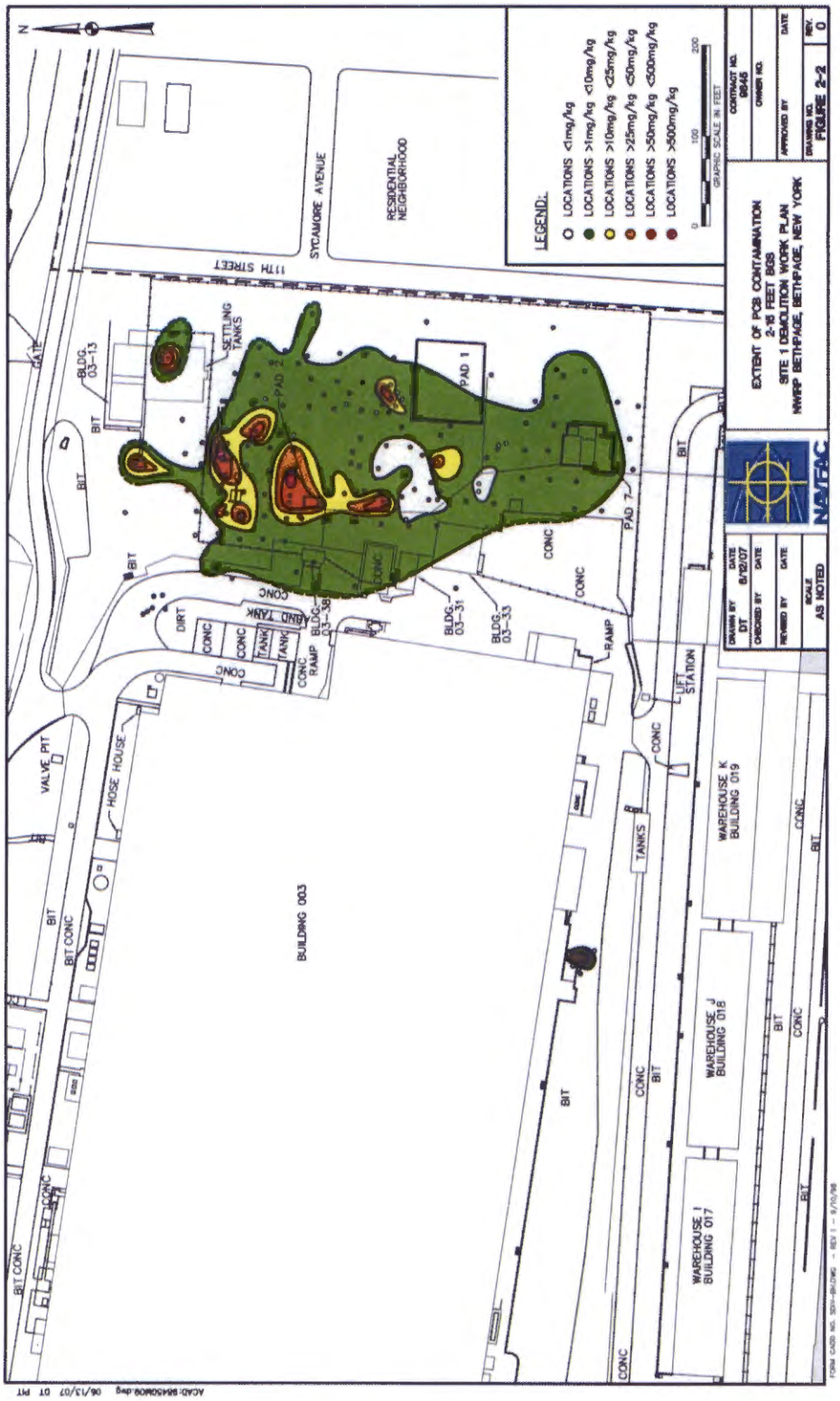


Figure 6. Chromium Contamination, Surface Soils

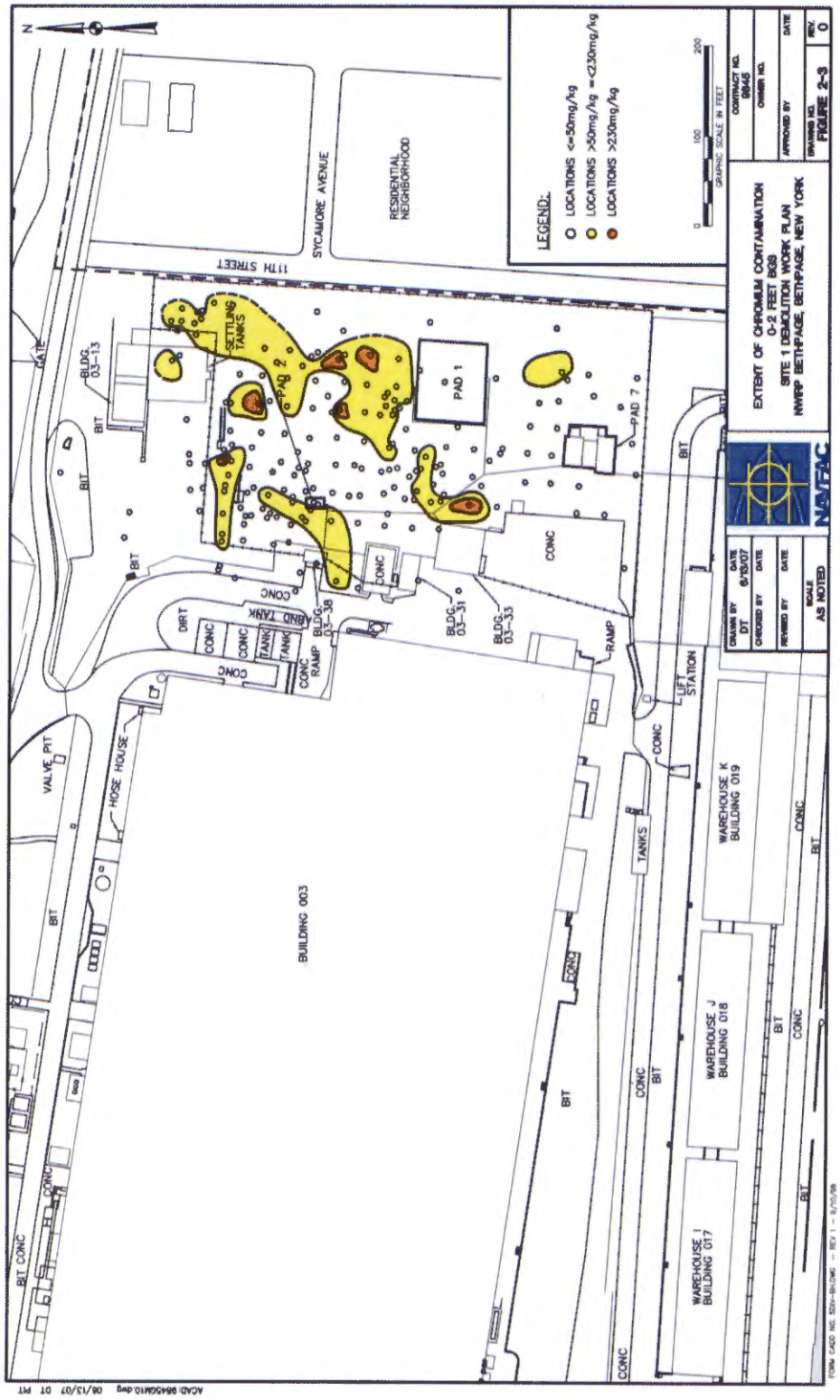


Figure 7. Cadmium Contamination, Surface Soils

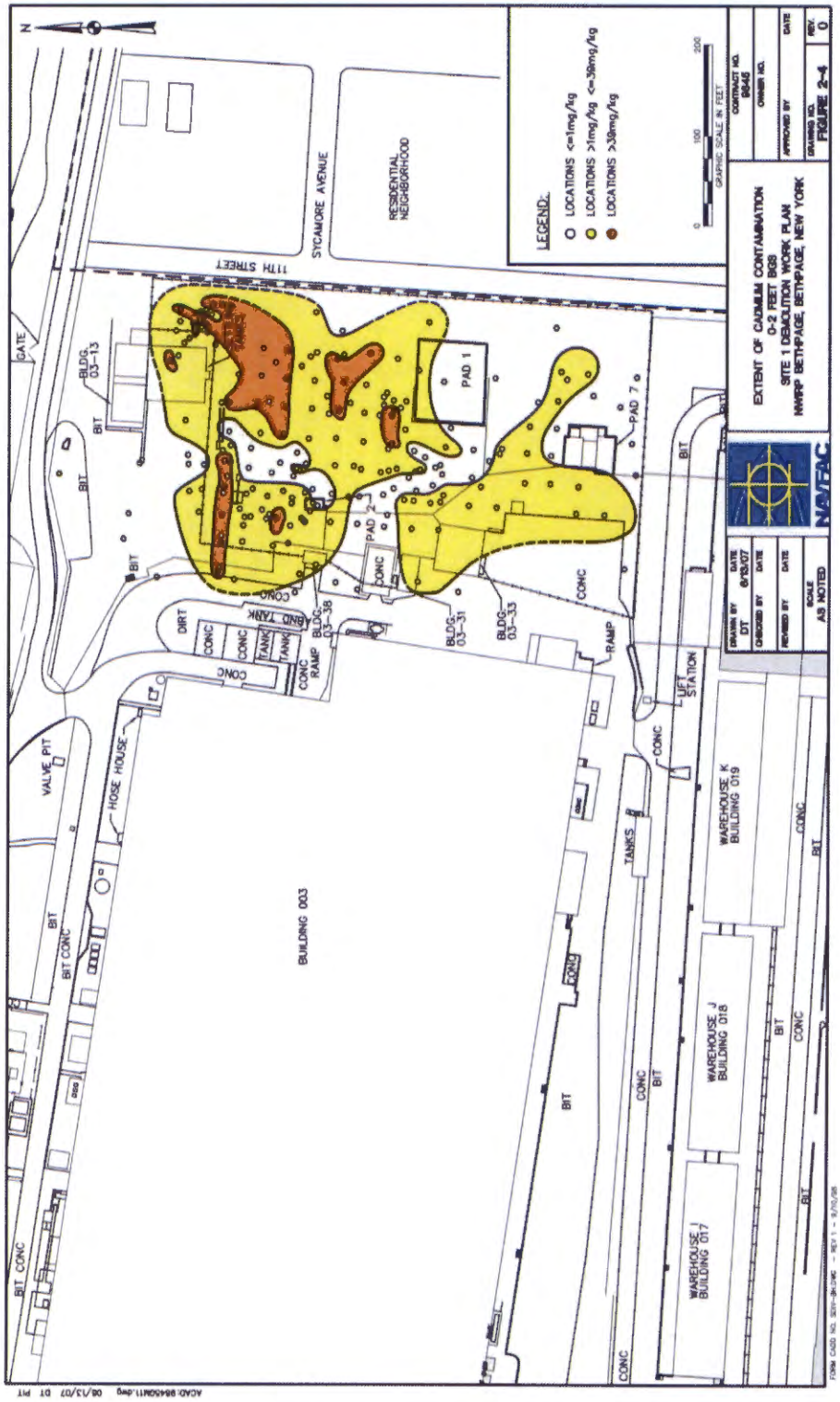
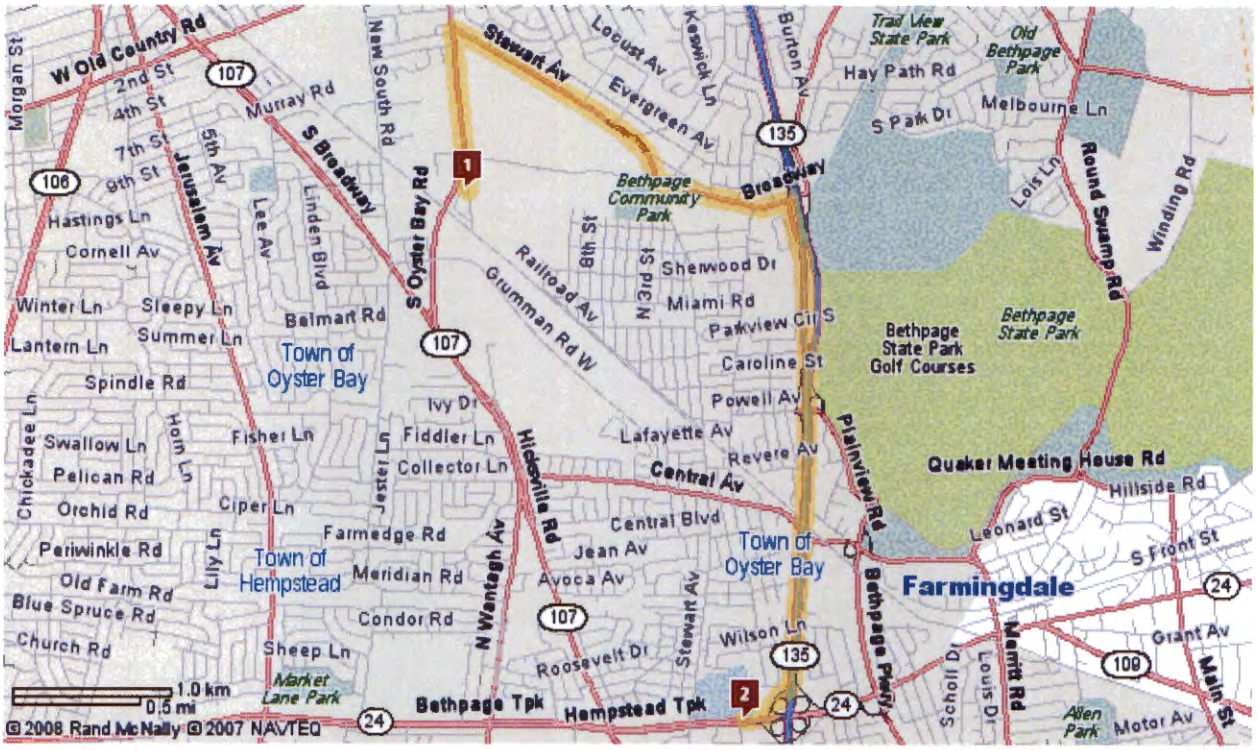


FIGURE 8: **EMERGENCY HOSPITAL ROUTE MAP**



Driving Directions from NWIRP Bethpage, New York to New Island Hospital:

1. Starting at 999 South Oyster Bay Road
2. Turn Right onto Stewart Avenue – Go 1.0 miles
3. Bear Left onto Cherry Avenue – Go 0.4 miles
4. Bear Left onto Broadway – Go 0.2 miles
5. Turn Right onto Plainview Road – Go 0.3 miles
6. Continue onto RT-135 (Ralph J. Marino Expwy) – Go 1.6 Miles
7. Take Exit 7W (RT-24 W) on right – Go 0.2 miles
8. Bear Right onto RT-24 W (Hempstead Tpk) – Go <0.1 miles
9. Arrive at 4295 Hempstead Turnpike, Bethpage NY – New Island Hospital.

Hospital Address: New Island Hospital
4295 Hempstead Turnpike, Bethpage, NY 11714

Hospital Phone: **(516) 579-6000**

APPENDIX A

SSHP FORMS

AIR MONITORING LOG

Project Name: _____

Project Location: _____

Date: _____

Conducted By: _____

Page Number: _____

Time	Location	(___)	(___)	(___)	(___)	(___)

LEGEND:

VOC: Volatile organic compound
PID: Photoionization detector
mg/m^3: Milligrams per cubic meter
ppm: Parts per million

CERTIFICATE OF WORKER AND VISITOR ACKNOWLEDGMENT

Name: _____

Organization: _____

Project Name: _____

Project Location: _____

The contract for the above indicated project requires the following: That you be provided with formal and site-specific training on the applicable aspects of the Site Safety and Health Plan (SSHP); that you be supplied with proper personal protective equipment (PPE) including respirators and that you be trained in its use; that you receive a medical examination to evaluate your physical capacity to perform your assigned work tasks, under the environmental conditions expected, while wearing the required PPE. These are to be done at no cost to you. By signing this certification, you are acknowledging that your employer has met these obligations to you.

I HAVE REVIEWED, UNDERSTAND, AND AGREE TO FOLLOW THE SSHP FOR THIS SITE.

_____

Signature / Date

FORMAL TRAINING: I have completed the following formal hazardous waste operations (HazWOPER) training courses that meet OSHA requirements:

____ 40-Hour HazWOPER Worker (date completed): _____
____ 8-Hour HazWOPER Supervisor (date completed): _____
____ 8-Hour HazWOPER Refresher (date completed): _____

SITE-SPECIFIC TRAINING: I have been provided and have completed the site-specific training required by this Contract. Name of the Site Safety and Health Officer (SSHO) who conducted the training: _____

RESPIRATORY PROTECTION AND RESPIRATOR FIT-TEST TRAINING: I have been trained in accordance with the criteria in the [Contractors] [Employers] respiratory protection program. I have been trained in proper work procedures, use and limitations of the respirator(s) that I will wear. I have been trained in and will abide by the facial hair policy. I have been trained in the proper selection, fit, use, care, cleaning, maintenance, and storage of respirator(s) that I will wear. I have been fit-tested in accordance with criteria in the [Contractors] ([Employers] respirator program and have received a satisfactory fit. [I have been assigned my individual respirator.] I have been taught how to properly perform a positive and negative pressure user seal check upon donning a negative pressure respirator each time: Initial: _____

MEDICAL EXAMINATION: I have had a medical examination within the last twelve months that was paid for by my employer. The examination included a health history, pulmonary function test, and may have included an evaluation of a chest X-ray. A physician made determinations regarding my physical capacity to perform work tasks on the project while wearing PPE including a respirator. I was personally provided a copy and informed of the results of that examination. My employers industrial hygienist evaluated the medical certification provided by the physician and checked the following information.

Date of Medical Exam: _____
Physician Determined: _____ No limitations to performing the required work tasks
_____ Physical limitations to performing required work tasks identified

[Employee] [Visitor] Printed Name / Signature / Date: _____

Contractor SSHO Printed Name / Signature / Date: _____

EQUIPMENT DECONTAMINATION LOG

Date / Day: _____

Project Name: _____

Project Location: _____

Equipment Type: _____

Mfr / Model: _____

Item	Inspection Description	Clean	Not Clean	N/A
1	Tires / Rims, outside			
2	Tires / Rims, inside			
3	Buckets / Blades			
4	Rippers / Other			
5	Cross-members			
6	Undercarriage			
7	Tracks			
8	Drive carriage			
9	Drip pans			
10	Brush guards			
11	Belly pans			
12	Scraper can interior			
13	Truck beds			
14	Frames			
15	Engine compartment			
16	Cab			

Equipment Use:

Decontamination Description:

I certify that I have inspected the equipment indicated above and have observed that visible material has been removed from the equipment.

Inspected By: _____

Signature: _____

Date: _____

FIRST-AID TREATMENT LOG

Project Name: _____

Project Location: _____

Date	Name	Description of First-Aid Treatment Rendered	First-Aid Kit Supplies Used

HAZARDOUS SUBSTANCE INVENTORY LIST

MSDS on File	Product Name	Manufacturer	Location and Container Type

HEAVY EQUIPMENT INSPECTION REPORT

Date / Day: _____

Project Name: _____

Project Location: _____

Equipment Type: _____

Mfr / Model: _____

Inspection Description	Checked	Observations (readings, levels, condition, damage, repairs needed)
General appearance		
Hour meter reading		
Engine operation / check belts		
Engine oil / water level		
Transmission oil level		
Hydraulic / misc. oil level		
Brake operation / fluid level		
Grease		
Batteries		
Fuel level (gas / diesel)		
Hoses & fittings (air, hydraulic…)		
Operation / controls		
Tires / tracks		
Cab (mirrors, seatbelt, glass, horn, turn signals, lights, wipers)		
Back-up lights and alarm		
Fire extinguisher condition		
Coupling devices and connectors		
Exhaust system		
Blade / boom / bucket		
Frame, ladders and walkway		
Steering		

Defects and Repairs Needed / Comments:

Inspected By: Signature:

POST AT JOB SITE

Incident Reporting and Investigation Procedures Posting

(Injury/Property Damage/Liability Exposure/Spills/Fires/Serious Near Miss Incidents)

Notify the Site Supervisor or Site Safety and Health Officer (SSHO) immediately of injuries, property damage, liability exposure, spills, fires, and serious near miss incidents. The Site Supervisor or his/her representative shall:

- Take care of injured personnel immediately
- Secure remaining dangerous conditions to prevent accidents and additional damage
- Secure the incident scene to preserve information
- Identify employees involved in the incident and witnesses and obtain initial information
- Notify the Project Manager (PM), Corporate Health and Safety Manager (CSHM), and Corporate Risk Manager (RM) about the incident and receive further instructions. **Notify as soon as possible and no later than 2 hours of the incident**
- Initiate fact finding. Investigate the site, interview witnesses, and document circumstances and facts. Complete preliminary documentation forms. Depending upon incident severity and complexity, fact finding may involve other investigators determined by the CSHM
- Complete required EFS forms: Incident Statement by Employee, Incident Statement by Witness, Incident Report by Supervisor, Injury and Illness Report, Vehicle Accident Report, and/or Property Damage, Loss and General Liability Report. Submit all forms (if a form is not applicable write N/A on the form)
- **Submit completed forms to the CSHM and PM within 24 hours of an incident and immediately forward additional information as it becomes available.**

NOTE: Accidents resulting in a fatality or multiple hospitalizations require reporting to the nearest OSHA office within 8 hours (1-800-321-OSHA). This report shall be made by the CSHM. A written report shall follow that provides OSHA with all details of the accident required by 29 CFR 1904.8. Any equipment, material, or related evidence that might help in an investigation must not be moved except to prevent further accidents. The CSHM will record injuries on the OSHA 300 log.

INCIDENT REPORTING CONTACT INFORMATION:

PM: Gregory Birch - Office (610) 840-9200 – Fax (610) 431-2852 – Cell (302) 373-5724
CSHM: David Jones – Office (610) 840-9200 – Fax (610) 431-2852

FAILURE OF AN EFS EMPLOYEE TO PROMPTLY REPORT A SAFETY INCIDENT OR FAILURE TO PRESERVE AN ACCIDENT SCENE UNTIL AN INVESTIGATION IS COMPLETED, IS GROUNDS FOR DISCIPLINARY ACTION.

INCIDENT REPORT BY SUPERVISOR

Date / Time of Incident:
Project Name / Project No.:
Client Name / Location:
Specific Location of Incident:
Employees Involved in Incident (if applicable):
Detailed Description of Incident:
Primary Cause of Incident:
Contributing Cause(s) of Incident:
Recommendation for Preventing Such Incidents in the Future:
Supervisor Name (print):
Signature:
Date:

INCIDENT STATEMENT BY EMPLOYEE

Employee Name:
Date / Time of Incident:
Project Name / Project No.:
Client Name / Location:
Specific Location of Incident:
Describe What You Were Doing Just Before the Incident:
Detailed Description of How the Incident Occurred:
Names of Witnesses:
Other Relevant Information:
How Can the Likelihood of this Happening Again Be Reduced:
Employee Name (print):
Signature:
Date:

INCIDENT STATEMENT BY WITNESS

Witness Name / Address / Telephone:
Employer / Telephone:
Date / Time of Incident:
Project Name / Project No.:
Client / Location:
Specific Location of Incident:
DETAILED DESCRIPTION OF INCIDENT BASED ON PERSONAL OBSERVATION
Describe where you were and what you were doing just before the incident:
Describe any injuries:
Describe any property damaged:
Describe what was the apparent nature of the injury and/or damage:
Describe what personnel and/or equipment were involved:
Describe what caused the injury and/or damage:
Describe the sequence of events:
List any observed unsafe acts or conditions:
Names of other witnesses:
Other relevant information:
Witness Name (print):
Signature:
Date:

INJURY AND ILLNESS REPORT

Injured Employee Name:	Date / Time of Injury:
Social Security Number:	Date of Birth / Age:
Sex: M ☐ F ☐ # of Dependents:	Date of Hire:
Job Title:	Pay Rate:
Home Address:	Home Telephone:
EFS Home Office:	Injury on EFS Premises: Yes☐ No☐
Client / Location:	Injury on Client Premises: Yes☐ No☐
Specific Accident Location:	
Nature of Injury:	
Exact Body Part Injured:	
Medical Attention: None ☐ First Aid ☐ Paramedics ☐ Doctor ☐ Hospital ER ☐ Overnight ☐	
Medical Attention Description:	
Hospital / Doctor Name / Telephone:	
Hospital / Doctor Address:	
Date / Time Injury Reported: By Whom:	
Time employee began work:	Avg. # of hours worked per week:
Did employee leave work: Yes ☐ No ☐ When:	
Has employee returned to work: Yes ☐ No ☐ When: Note: Employee must present a return to work release from examining physician before return to work	
Did employee have a work activity restriction: Yes ☐ No ☐ Describe:	Dates restricted:
Did employee miss a regularly scheduled work shift: Yes☐ No☐	Dates missed:
Injury Incident Description:	
What actions have been taken to prevent recurrence:	
What was the employee doing just before the incident occurred?	
Witness Name:	Telephone:
Address:	Statement Attached: Yes ☐ No ☐
INVESTIGATION AND REVIEW (Report to CSHM within 2 hours of injury)	
Completed by Name (print) / Signature / Date:	
Title / Phone:	
Site Supervisor Name (print) / Signature / Date:	
Project Manager Name (print) / Signature / Date:	
CSHM Name (print) / Signature / Date:	
Attached to this report: ☐ Incident Statement by Employee ☐ Incident Report by Supervisor ☐ Incident Statement by Witness ☐ Photographs ☐ Maps/Sketches ☐ Other _____	
(Section to be completed by a EFS Safety Team Representative) EFS Case #: D/D:	

PROPERTY DAMAGE, LOSS, AND GENERAL LIABILITY REPORT

Project Name / Project No.:
Project Location:
Project Manager / Supervisor:
Date / Time of Damage or Loss:
Description / Identification of damaged or lost property:
Location of damaged or lost property (before loss):
Detailed description of how the damage or loss occurred:
Cause and corrective action recommended to prevent recurrence:
OWNER
Owner of damaged or lost property Name / Telephone:
Address:
Employer Name and Address:
WITNESS
Witness Name / Telephone:
Witness Address:
Employer Name and Address:
WITNESS
Witness Name / Telephone:
Witness Address:
Employer Name and Address:
REPAIR COST
Repair or Replacement Cost:
Attachments: [ ] Photographs [ ] Police Report [ ] Incident Statement by Witness [ ] Incident Report by Supervisor [ ] Incident Statement by Employee [ ] Injury Report
Supervisor Name (print):
Signature:
Date:

SAFETY INSPECTION REPORT

Date / Day: _____

Project Name: _____

Project Location: _____

Work Description: _____

Comments: _____

OBSERVATIONS

Safety Conditions Requiring Corrective Action	Corrective Action, Assignment, and Completion Date

Project Manager: _____

Safety Inspector: _____

Distribution: _____

SITE CONTROL LOG

Date: _____

Project Name: _____

Project Location: _____

Time		Name	Organization
In	Out		

SITE SAFETY AND HEALTH PLAN DISTRIBUTION TO SUBCONTRACTOR

A copy of the EFS Site Safety and Health Plan for the site is being provided to subcontractors who may be affected by activities covered under the scope of this plan. Distribution of the Site Safety and Health Plan to subcontractor firms and their designated contact person is with the understanding that subcontractor personnel involved in this project will review this document, abide by its provisions, and comply with OSHA, and other applicable health and safety rules and regulations for work on site.

Date	Name	Signature	Organization

TAILGATE SAFETY MEETING RECORD

Date / Day:	**Time:**
Project Name:	**Project No.:**
Client:	**Location:**
Specific Location:	
Work Description:	
Comments:	
SAFETY TOPICS PRESENTED	
Protective Clothing / Equipment:	
Chemical Hazards:	
Physical Hazards:	
Emergency Procedures:	
Emergency Hospital:	
Hospital Telephone:	
Hospital Directions:	
Special Equipment:	
Other:	
SAFETY MEETING ATTENDEES	
Name Printed / Initial	**Name Printed / Initial**
1.	**6.**
2.	**7.**
3.	**8.**
4.	**9.**
5.	**10.**
Meeting conducted by (print name / signature):	

APPENDIX B
EMERGENCY CONTACT LIST

EMERGENCY CONTACT LIST

Paramedics/Ambulance – Emergency	9-1-1
Fire Department – Emergency	9-1-1
Police – Emergency	9-1-1
Emergency Hospital (New Island Hospital) 4295 Hempstead Turnpike Bethpage, NY 11714	(516) 579-6000
National Response Center	(800) 424-8802
CHEMTREC (Chemical Transportation Emergency Center)	(800) 424-9300
Miss Utility	(800) 282-8555
NAVFAC MIDLANT Contracting Officer's Representative (Ms. Lora Fly)	Office: (757) 444-0781 Fax: (757) 444-8281
Navy NWIRP Bethpage Point Of Contact (Mr. Al Taormina)	Office: (516) 346-0344 Cell: (516) 702-5861
ECOR Federal Services, Inc. 21 South High Street, 2nd Floor, West Chester, PA 19382	Office: (484) 887-7510 FAX: (484) 887-7517
EFS Project Manager (Gregory Birch)	Office: (610) 840-9200 Cell: (302) 373-5724
EFS Project Superintendent (John Hudacek)	Office: (610) 840-9200 Cell: (516) 449-6578
EFS Site Safety and Health Officer (John Hudacek)	Office: (610) 840-9200 Cell: (516) 449-6578
EFS Corporate Safety and Health Manager David Jones, CIH	Office: (610) 840-9200 Cell:
Concentra Occupational Physician 5080 Spectrum Drive Addison, TX 75001	Office: (800) 232-3550 Fax:
Subcontractor:	Office: Cell:
Subcontractor:	Office: Cell:
Subcontractor:	Office: Cell:
Subcontractor:	Office: Cell:

EVACUATION ASSEMBLY INFORMATION

Evacuation Alarm	EFS vehicle horn or air horn (single long sound)
On site Assembly Area	Adjacent to the EFS site vehicle.
Off Site Assembly Area	To Be Determined (TBD) by SSHO:

APPENDIX C
ACTIVITY HAZARD ANALYSIS

ACTIVITY HAZARD ANALYSIS

ACTIVITY: MOBILIZATION AND SITE PREPARATION	
Prepared By: David Jones, CIH **Date: 1/05/09**	**Reviewed By: John Hudacek**
WORK TASK	**POTENTIAL HAZARDS**
Mobilization and Site Preparation: -Mobilize personnel and equipment -Delineate work zones -Mark work areas -Install construction safety fence -Clear and grub work areas -Place erosion controls (silt fence) -Conduct utility clearance -Complete other site preparation tasks.	**Chemical hazards**: No anticipated exposure to site contaminants during this activity. **Biological hazards**: Potential contact with poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. **Physical Hazards**: Potential exposure to physical hazards: Fire protection; underground and overhead utilities; heavy equipment operation; vehicle and equipment traffic; material handling; tools, machinery, and equipment use; electrical equipment; noise exposure; heat stress; cold stress; chain saw operation; tree removal operations; wood chipper operation; inclement weather and adverse environmental conditions; miscellaneous physical hazards. **SEE RECOMMENDED HAZARD CONTROLS BELOW**.
RECOMMENDED HAZARD CONTROLS	
Chemical Hazards: No anticipated exposure to site contaminants during this activity. Use prescribed PPE (Use Level D protection for mobilization and site preparation activities.)	
Biological Hazards: Biological hazards will be present in work areas. Avoid contact with, poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. Wear sleeved shirts and pants. Apply repellant containing 20% - 30% DEET if needed.	
Fire Protection: Gasoline and diesel fuel will be used for vehicles, heavy equipment, and machinery operation. Have fire extinguishers. Allow smoking only in designated areas. Use OSHA-approved metal dispenser cans for flammable liquids. Use bonding and grounding for combustible liquid transfer.	
Underground and Overhead Utilities: Underground and/or overhead utilities may be present. Conduct utility clearance before subsurface work. Survey for overhead utilities before bringing equipment with high extensions into a work area. Do not operate equipment within 10 feet of overhead lines.	
Heavy Equipment Operation: Heavy equipment will be mobilized and inspected before site work. Heavy equipment will be used during clearing, grubbing and tree removal. Inspect heavy equipment. Check backup alarms. Survey for utilities. Have ground personnel wear high-visibility safety vests. Maintain positive contact between operator and ground personnel. Use hand signals. Do not cross path of moving equipment or walk behind equipment. Keep out of heavy equipment operating area when possible. Require operators to look before backing.	
Vehicle and Equipment Traffic: Concurrent use of heavy equipment, vehicles, and ground personnel will occur during site work. Establish traffic control procedures. Have workers wear high-visibility safety vests in traffic areas. Have workers look where they walk to avoid moving vehicles and equipment. Maintain eye contact with equipment operators. Use traffic control devices. Use spotters for backing into tight work areas.	
Material Handling: Material handling involving lifting and carrying will be required during site work. Wear work gloves when handling materials. Watch for items that can cut, puncture, pinch, or crush. Use proper lifting technique. Size up load, get help for heavy or awkward items, get good grasp on object to be lifted, keep load close to body, keep back straight, lift with legs not with back, and do not twist when lifting. Review material handling procedures during safety meetings.	
Tools, Machinery and Equipment Use: Hand and power tools may be used. Use proper tool for the job. Use GFCIs for power tool operation. Use safety glasses. Do not use damaged tools. Properly secure materials when working on them. Make sure area is adequately clear when using equipment. Inspect electrical cords.	

ACTIVITY HAZARD ANALYSIS

ACTIVITY: MOBILIZATION AND SITE PREPARATION		
Electrical Equipment: Generators may be used to provide electrical power. Use GFCIs for portable electrical equipment. Inspect electrical extension cords for damage and ground plugs. Keep electrical equipment/cords away from water and fuel containers. Use electrical lockout/tagout procedures.		
Noise Exposure: Noise exposure above 85 dBA is expected when working near or operating machinery and equipment. Wear earplugs for protection when operating or working near noisy equipment.		
Heat Stress: Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Adjust work-rest schedules. Work at a steady pace. Drink fluids. Take rest breaks and use shaded rest area. Know signs and symptoms of heat stress and treatment. Monitor for heat stress.		
Chain Saw Operation: Chain saws will be used. Safety procedures for proper use of this equipment will be required.		
Inclement Weather and Adverse Environmental Conditions: Inclement weather conditions such as strong winds, heavy rain, or lightning, may occur during outdoor operations. Suspend outdoor operations during inclement weather or when other adverse environmental conditions exist.		
Miscellaneous Physical Hazards: General safety hazards will be present during all site tasks. Use PPE for head, eye, hand, foot, and body protection. Follow safe work practices. Watch for slip, trip, and fall hazards from uneven, wet, slippery ground surfaces. Keep ground areas clear of tripping hazards such as hoses, cords, boxes, and debris. Maintain good housekeeping. Look where walking. Maintain balance. Maintain three-point contact when stepping off equipment. Use short steps when walking on slippery surfaces. Communicate general safety information during safety meetings.		
PPE: Use prescribed levels of protection described in the PPE section of the SSHP for the applicable work task. Level D protection consists of: Hardhat, steel-toed boots, work gloves, safety glasses, high-visibility safety vest (if vehicle or equipment traffic), and earplugs (if noise present.) Modified Level D protection consists of: Level D protection equipment plus chemical protective clothing (protective suit, gloves, and boots or boot covers.) Level C protection consists of: Modified Level D protection equipment plus an APR (with OV/AG/P-100 HEPA filter cartridge.)		
Site Emergencies: Preparation for site emergencies is always a requirement for site work. Set up emergency communications. Prepare emergency supplies. Post emergency contact and hospital route information. Maintain emergency phone list/hospital location/route map on site. Have first-aid kit, fire extinguisher, and safety supplies available. Have cell phones available. Designate evacuation location and emergency signals. See the "Emergency Response Plan" section of SSHP.		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Hand and power tools; Heavy equipment; Chain saw; Generator	Safety inspection; Heavy equipment inspection	Site orientation briefing and SSHP review; HazWOPER training; First-aid/CPR training

ACTIVITY HAZARD ANALYSIS

ACTIVITY: SAMPLING	
Prepared By: David Jones, CIH **Date: 01/05/09**	**Reviewed By: John Hudacek**
WORK TASK	**POTENTIAL HAZARDS**
Sampling: -Collect and analyze waste characterization samples for construction debris disposal	**Chemical hazards**: Potential exposure to site contaminants during this activity. **Biological hazards**: Potential exposure to poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. **Physical Hazards**: Potential exposure to physical hazards: Underground utilities; Material handling; tools, machinery, and equipment use; heat stress; inclement weather and adverse environmental conditions; miscellaneous physical hazards. **SEE RECOMMENDED HAZARD CONTROLS BELOW.**
RECOMMENDED HAZARD CONTROLS	
Chemical Hazards: Minor potential for exposure to contaminants during this activity. Use prescribed PPE (Use Modified Level D or Level D protection for sampling.) Avoid contact with contaminated surfaces whenever possible and use prescribed decontamination measures.	
Biological Hazards: Biological hazards will be present in work areas. Avoid contact with, poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. Wear sleeved shirts and pants. Apply repellant containing 20% - 30% DEET if needed.	
Underground and Overhead Utilities: Underground and/or overhead utilities may be present. Conduct utility clearance before subsurface work. Survey for overhead utilities before bringing equipment with high extensions into a work area. Do not operate equipment within 10 feet of overhead lines.	
Material Handling: Material handling involving lifting and carrying will be required during site work. Wear work gloves when handling materials. Watch for items that can cut, puncture, pinch, or crush. Use proper lifting technique. Size up load, get help for heavy or awkward items, get good grasp on object to be lifted, keep load close to body, keep back straight, lift with legs not with back, and do not twist when lifting. Review material handling procedures during safety meetings.	
Tools, Machinery and Equipment Use: Hand and power tools may be used. Use proper tool for the job. Use GFCIs for power tool operation. Use safety glasses. Do not use damaged tools. Properly secure materials when working on them. Make sure area is adequately clear when using equipment. Inspect electrical cords.	
Heat Stress: Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Adjust work-rest schedules. Work at a steady pace. Drink fluids. Take rest breaks and use shaded rest area. Know signs and symptoms of heat stress and treatment. Monitor for heat stress.	
Inclement Weather and Adverse Environmental Conditions: Inclement weather conditions such as strong winds, heavy rain or lightning, may occur during outdoor operations. Suspend outdoor operations during inclement weather or when other adverse environmental conditions exist.	
Miscellaneous Physical Hazards: General safety hazards will be present during all site tasks. Use PPE for head, eye, hand, foot, and body protection. Follow safe work practices. Watch for slip, trip, and fall hazards from uneven, wet, slippery ground surfaces. Keep ground areas clear of tripping hazards such as hoses, cords, boxes, and debris. Maintain good housekeeping. Look where walking. Maintain balance. Maintain three-point contact when stepping off equipment. Use short steps when walking on slippery surfaces. Communicate general safety information during safety meetings.	

ACTIVITY HAZARD ANALYSIS

ACTIVITY: SAMPLING		
PPE: Use prescribed levels of protection described in the PPE section of the SSHP for the applicable work task. Level D protection consists of: Hardhat, steel-toed boots, work gloves, safety glasses, high-visibility safety vest (if vehicle or equipment traffic), and earplugs (if noise present.) Modified Level D protection consists of: Level D protection equipment plus chemical protective clothing (protective suit, gloves, and boots or boot covers.) Level C protection consists of: Modified Level D protection equipment plus an APR (with OV/AG/P-100 HEPA filter cartridge.)		
Site Emergencies: Preparation for site emergencies is always a requirement for site work. Set up emergency communications. Prepare emergency supplies. Post emergency contact and hospital route information. Maintain emergency phone list/hospital location/route map on site. Have first-aid kit, fire extinguisher, and safety supplies available. Have cell phones available. Designate evacuation location and emergency signals. See the "Emergency Response Plan" section of SSHP.		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Sampling tools	Safety inspection	Site orientation briefing and SSHP review; HazWOPER training; First-aid/CPR training

ACTIVITY HAZARD ANALYSIS

ACTIVITY: WELL ABANDONMENT	
Analyzed By / Date: David Jones, CIH **Date: 01/05/09**	**Reviewed By: John Hudacek**
WORK TASK	**POTENTIAL HAZARDS**
Well Abandonment: -Well Abandonment	**Chemical hazards:** Minor potential for exposure to hydrocarbon contaminants. **Biological hazards:** Potential exposure to poisonous plants, snakes, spiders, rodents, insects, ticks, and mosquitoes. **Physical Hazards**: Potential exposure to physical hazards: Fire protection and hot work; underground and overhead utilities; heavy equipment operation; excavation and trench safety; vehicle and equipment traffic; material handling; tools, machinery, and equipment use; electrical equipment and lockout/tagout; noise exposure; heat/cold stress; ladder safety; drill rig safety; elevated work locations and fall protection; drum handling; compressed gas cylinders; hoisting and rigging; power saw operation; inclement weather and adverse environmental conditions; miscellaneous physical hazards. **SEE RECOMMENDED HAZARD CONTROLS BELOW.**
RECOMMENDED HAZARD CONTROLS	
Chemical Hazards: Fuel contaminants may be present; however, a limited chemical contact hazard from soil or groundwater is expected. Conduct monitoring as described in the "Exposure Monitoring" section of the SSHP. Use prescribed levels of protection described in the PPE section of the SSHP for the applicable work task. Properly don and doff protective clothing. Avoid contact with contaminated surfaces whenever possible. Use prescribed decontamination measures.	
Biological Hazards: Biological hazards will be present in work areas. Avoid contact with, poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. Wear sleeved shirts and pants. Apply repellant containing 20% - 30% DEET if needed.	
Fire Protection and Hot Work: Soil contaminants may emit combustible vapors. Gasoline and diesel fuel will be used for vehicles, heavy equipment, and machinery operation. Hot work may be needed. Conduct air monitoring for VOCs. Require fire extinguishers for each site location. Allow smoking only in designated areas. Use hot work safety procedures, hot work permit, and fire watch for hot work. OSHA-approved metal safety cans, painted red with a yellow stripe, that have self-closing lids and flame arrestors must be used to store small quantities of flammable liquids. Hot work is prohibited in areas where flammable materials, equipment containing flammable materials, and air emissions from contaminated soil may be present.	
Underground and Overhead Utilities: Underground and/or overhead utilities may be present. Complete subsurface utility clearance before work. Check for underground utilities before excavation. Survey for overhead utilities before bringing equipment with high extensions (heavy equipment, drill rig, crane) into a work area. Do not operate equipment within 10 feet of overhead lines.	
Heavy Equipment Operation: Heavy equipment will be used to dig trenches and perform other earthwork. Inspect heavy equipment daily and document. Check operation of backup alarms. Survey area for utilities. Have ground personnel wear high-visibility safety vests with reflective striping. Maintain positive contact between operator and ground personnel at all times. Use hand signals. Do not cross path of moving equipment or cross behind equipment. Position ground personnel out of the swing radius of operating heavy equipment when possible. Do not walk underneath loaded buckets. Require equipment operators to look before backing. Maintain dust control. Place bucket on the ground for equipment shut down.	

ACTIVITY HAZARD ANALYSIS

ACTIVITY: WELL ABANDONMENT
Excavation and Trench Safety: Certain excavation operations may require personnel entry into trenches or excavations. Complete excavation entry operations according to OSHA requirements if entry into trenches 4 feet or more in depth or excavations 5 feet or more in depth. Check for underground utilities before excavation. Survey for overhead utilities before bringing equipment with high extensions (heavy equipment) into a work area. Do not operate equipment within 10 feet of overhead lines. For excavation entry operations, have a "Competent Person" supervise operations, conduct daily inspections, and implement protective systems for excavation operations (sloping, benching, shielding, and/or shoring) if soils are not sufficiently stable.
Vehicle and Equipment Traffic: Concurrent use of heavy equipment, vehicles, and ground personnel will occur. Establish traffic control procedures when there is vehicle, heavy equipment, and/or pedestrian traffic present. Have workers wear high-visibility safety vests with reflective striping when working near traffic areas. Advise workers to look carefully where they walk to avoid vehicles and moving equipment. Maintain eye contact with heavy equipment operators. Use traffic control devices as needed. Use spotters if needed for backing of equipment and vehicles into tight work areas.
Material Handling: Material handling involving lifting, and carrying will be required. Wear work gloves when handling materials. Watch for items that can cut, puncture, pinch, or crush. Use proper lifting technique. Size up load, get help for heavy or awkward items, get good grasp on object to be lifted, keep load close to body, keep back straight, lift with legs not with back, and do not twist when lifting. Review material handling procedures during safety meetings.
Tools, Machinery and Equipment Use: Hand and power tools may be used. Use the proper tool for the job. Use GFCIs for power tool operation. Use safety glasses. Do not use damaged tools. Properly secure materials when working on them. Make sure area is adequately clear when using equipment. Inspect electrical cords.
Electrical Equipment and Lockout/Tagout: Generators may be used to provide electrical power. Use GFCIs for portable electrical equipment. Inspect electrical extension cords for damage and ground plugs. Keep electrical equipment/cords away from water and fuel materials. Use lockout/tagout procedures.
Noise Exposure: Noise exposure above 85 dBA when working near or operating machinery or equipment. Monitor for noise levels. Wear earplugs for protection.
Heat Stress: Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Adjust work-rest schedules as needed; work at a steady pace; drink fluids; take rest breaks and use shaded rest area; know the signs and symptoms of heat exposure and emergency treatment.
Ladder Safety: Ladders may be needed to access work areas. Do not stand on top two rungs of a ladder. Do not use metal ladders around electrical equipment. Have ladder extend at least 3 feet above elevated landings. Do not lean outward from ladder. Tie off extension ladders to secure.
Drill Rig Safety: Drill rig equipment will be used for well installation. Check for above and below ground utilities before drilling. Do not operate drill rig within 10 feet of overhead lines. Inspect drilling equipment and test drill rig kill switch. Establish communication system between driller, helper, and others. Use proper handling and lifting techniques for material handling.
Elevated Work Locations and Fall Protection: Work at elevated locations may occur if access to the drill rig mast is needed. Personal fall arrest systems (full body harness, shock-absorbing lanyard, anchorage point) will be used for fall protection for work where there is a fall hazard of 6 feet or more.
Compressed Gas Cylinder Safety: Compressed gas cylinders may be needed if hot work is conducted. Make sure cylinder valves are securely closed and leak-free when not in use. Move gas cylinders with caps installed. Store cylinders upright and secure with rope or chain.
Forklift Operation: A forklift may be used to load and off load materials. Inspect forklifts daily. Check for operational backup alarm. Use experienced operator. Travel at safe speeds and look for ground personnel. Maintain eye contact with operator. Do not cross the path of an operating forklift.

ACTIVITY HAZARD ANALYSIS

ACTIVITY: WELL ABANDONMENT		
Hoisting and Rigging: Hoisting and rigging may be needed for hoisting of materials. Require that operators know capacities and operating characteristics and limits of equipment. Know weight of load and do not load beyond mfr. load rating. Inspect slings and other hoisting and rigging equipment for damage before and during use. Use tag lines. Use standard hand signals or verbal commands from a signal person. Do not allow loads above personnel. Do not allow persons in the swing radius of rotating equipment.		
Power Saw Operation: Power saw equipment may be used. Use eye and face protection. Ensure that operators know the proper operation of the saw. Do not allow saws to be operated with one hand or used at a height above chest level. Keep work areas clear of unnecessary personnel.		
Inclement Weather and Adverse Environmental Conditions: Inclement weather conditions such as strong winds, heavy rain or lightning, and snow may occur during outdoor operations. Suspend outdoor operations during inclement weather or when other adverse environmental conditions exist.		
Miscellaneous Physical Hazards: General safety hazards will be present during all site tasks. Use PPE for head, eye, hand, foot, and body protection. Follow safe work practices. Watch for slip, trip, and fall hazards from uneven, wet, slippery ground surfaces. Keep ground areas clear of tripping hazards such as hoses, cords, boxes, and debris. Maintain good housekeeping. Look where walking. Maintain balance. Maintain three-point contact when stepping off equipment. Use short steps when walking on slippery surfaces. Communicate general safety information during safety meetings.		
Site Emergencies: Preparation for site emergencies is always a requirement for site work. Set-up emergency communications. Prepare emergency supplies. Post emergency contact and hospital route information. Maintain emergency phone list/hospital location/route map on site. Have first-aid kit, fire extinguisher, and safety supplies available. Have cell phones available. Designate evacuation location and emergency signals. See the "Emergency Response Plan" section of SSHP.		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Drill rig; Forklift; Heavy equipment; Hand and power tools; Power saw; Generator	Safety inspection; Drill rig inspection; Heavy equipment inspection; Forklift inspection	Site orientation briefing and SSHP review; HazWOPER training; First-aid/CPR training

ACTIVITY HAZARD ANALYSIS

ACTIVITY: DEMOLITION OF STRUCTURES (Buildings, Concrete Pads, Steel Sheet Wall)	
Prepared By: David Jones, CIH **Date: 01/05/09**	**Reviewed By: John Hudacek**
WORK TASK	**POTENTIAL HAZARDS**
Demolition of Buildings, Concrete Pads, and Steel Sheet Wall: - Remove hazardous building materials from building 03-13 - Demolish buildings 03-13, 03- , 03- , and 03- - Demolish 7 concrete pads and building foundations - Demolish steel sheet wall - Demolish settling tank at 03-13 - Transport and dispose of all waste - Perform general cleaning using a pressure washer	**Chemical hazards**: Potential exposure to site contaminants during this activity. Hazardous building materials (ACM, Lead) **Biological hazards**: Potential exposure to poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. **Physical Hazards**: Potential exposure to physical hazards: Fire protection; underground and overhead utilities; heavy equipment operation; material handling; tools, machinery, and equipment use; electrical equipment; noise exposure; heat stress; cold stress; permit-required confined space; ladder safety; vacuum truck operation; pressure washer operation; torch cutting; inclement weather and adverse environmental conditions; miscellaneous physical hazards. **SEE RECOMMENDED HAZARD CONTROLS BELOW.**
RECOMMENDED HAZARD CONTROLS	
Chemical Hazards: Potential for exposure to site contaminants during this activity. Conduct monitoring as described in the "Exposure Monitoring" section of the SSHP. Use prescribed PPE (Use Level C protection during work inside of pit and Modified Level D protection if downgrade acceptable.) Avoid contact with contaminated surfaces whenever possible and use prescribed decontamination measures.	
Biological Hazards: Biological hazards will be present in work areas. Avoid contact with, poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. Wear sleeved shirts and pants. Apply repellant containing 20% - 30% DEET if needed.	
Fire Protection: Gasoline and diesel fuel will be used for vehicles, heavy equipment, and machinery operation. Have fire extinguishers. Allow smoking only in designated areas. Use OSHA-approved metal dispenser cans for flammable liquids. Use bonding and grounding for combustible liquid transfer.	
Underground and Overhead Utilities: Underground and/or overhead utilities may be present. Conduct utility clearance before subsurface work. Survey for overhead utilities before bringing equipment with high extensions into a work area. Do not operate equipment within 10 feet of overhead lines.	
Heavy Equipment Operation: Heavy equipment may be used to remove sediment from pits. Inspect heavy equipment. Check backup alarms. Survey for utilities. Have ground personnel wear high-visibility safety vests. Maintain positive contact between operator and ground personnel. Use hand signals. Do not cross path of moving equipment or walk behind equipment. Keep out of heavy equipment operating area when possible. Require operators to look before backing.	
Material Handling: Material handling involving lifting and carrying will be required during site work. Wear work gloves when handling materials. Watch for items that can cut, puncture, pinch, or crush. Use proper lifting technique. Size up load, get help for heavy or awkward items, get good grasp on object to be lifted, keep load close to body, keep back straight, lift with legs not with back, and do not twist when lifting. Review material handling procedures during safety meetings.	
Tools, Machinery and Equipment Use: Hand and power tools may be used. Use proper tool for the job. Use GFCIs for power tool operation. Use safety glasses. Do not use damaged tools. Properly secure materials when working on them. Make sure area is adequately clear when using equipment. Inspect electrical cords.	

ACTIVITY HAZARD ANALYSIS

ACTIVITY: DEMOLITION OF STRUCTURES (Buildings, Concrete Pads, Steel Sheet Wall)
Electrical Equipment: Generators may be used to provide electrical power. Use GFCIs for portable electrical equipment. Inspect electrical extension cords for damage and ground plugs. Keep electrical equipment/cords away from water and fuel containers. Use electrical lockout/tagout procedures.
Noise Exposure: Noise exposure above 85 dBA is expected when working near or operating machinery and equipment. Wear earplugs for protection when operating or working near noisy equipment.
Heat Stress: Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Adjust work-rest schedules. Work at a steady pace. Drink fluids. Take rest breaks and use shaded rest area. Know signs and symptoms of heat stress and treatment. Monitor for heat stress.
Permit Required Confined Spaces: Pit entry is considered to be a permit-required confined space entry activity. Personnel entry into confined spaces may occur during site work. Personnel are prohibited from entering a confined space unless: the space has been tested, a qualified "Entry Supervisor" has approved the space for entry, and a confined space entry permit has been issued. Confined space entries must be performed in accordance with OSHA "Permit-Required Confined Space" regulations.
Ladder Safety: Ladders may be needed to access work areas. Do not stand on top two rungs of a ladder. Do not use metal ladders around electrical equipment. Have ladder extend at least 3 feet above landing. Do not lean outward from ladder. Tie off extension ladders to secure.
Vacuum Truck Operation: A vacuum truck may be used to pump out sediment. Use PPE especially gloves and splash protection; use proper technique in handling hoses; ground vacuum truck during transfer of flammable or combustible liquids to prevent discharge of static electricity sparks; use hose on pump exhaust and direct away from the work area as needed; clear hoses and use bucket to prevent spills when disconnecting hoses.
Pressure Washer Operation: Pressure washer equipment may be used for cleaning. Use gloves, face, foot, and eye protection and wear splash resistant clothing during pressure washer operation; keep area clear when washing; do not clean boots with pressure washer; watch for slippery surfaces and handling of slippery materials; have fire extinguisher and emergency eyewash supplies immediately available.
Torch Cutting: Torches may be used for demolition where it is safe and expedient. Wear proper flame retardant clothing, darkened eye protection, and a half or full face respirator at all times with operating a torch. Make sure bottled gas is properly secured and stored. Inspect all gas lines, valves, and torches prior to use. Always have a fire watch assigned to torch cutting during, and for not less than thirty minutes after completion of cutting activities. Make sure area is restricted with barricades or other measure to unauthorized personnel. If torch cutting is performed in an enclosed area, proper ventilation must be attained. Attain proper site and\or ECOR Hot Work Permit
Inclement Weather and Adverse Environmental Conditions: Inclement weather conditions such as strong winds, heavy rain or lightning, may occur during outdoor operations. Suspend outdoor operations during inclement weather or when other adverse environmental conditions exist.
Miscellaneous Physical Hazards: General safety hazards will be present during all site tasks. Use PPE for head, eye, hand, foot, and body protection. Follow safe work practices. Watch for slip, trip, and fall hazards from uneven, wet, slippery ground surfaces. Keep ground areas clear of tripping hazards such as hoses, cords, boxes, and debris. Maintain good housekeeping. Look where walking. Maintain balance. Maintain three-point contact when stepping off equipment. Use short steps when walking on slippery surfaces. Communicate general safety information during safety meetings.
PPE: Use prescribed levels of protection described in the PPE section of the SSHP for the applicable work task. Level D protection consists of: Hardhat, steel-toed boots, work gloves, safety glasses, high-visibility safety vest (if vehicle or equipment traffic), and earplugs (if noise present.) Modified Level D protection consists of: Level D protection equipment plus chemical protective clothing (protective suit, gloves, and boots or boot covers.) Level C protection consists of: Modified Level D protection equipment plus an APR (with OV/AG/P-100 HEPA filter cartridge.)

ACTIVITY HAZARD ANALYSIS

ACTIVITY: DEMOLITION OF STRUCTURES (Buildings, Concrete Pads, Steel Sheet Wall)		
Site Emergencies: Preparation for site emergencies is always a requirement for site work. Set up emergency communications. Prepare emergency supplies. Post emergency contact and hospital route information. Maintain emergency phone list/hospital location/route map on site. Have first-aid kit, fire extinguisher, and safety supplies available. Have cell phones available. Designate evacuation location and emergency signals. See the "Emergency Response Plan" section of SSHP.		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Heavy equipment; Small Equipment; Pressure washer, Torches	Safety inspection; Heavy equipment inspection; Confined space entry permit (settling tank); Hot Work Permit	Site orientation briefing and SSHP review; HazWOPER training; Confined space training; First-aid/CPR training

ACTIVITY HAZARD ANALYSIS

ACTIVITY: SITE RESTORATION AND DEMOBILIZATION	
Prepared By: David Jones, CIH **Date: 01/05/09**	**Reviewed By: John Hudacek**
WORK TASK	**POTENTIAL HAZARDS**
Site Restoration and Demobilization: - Backfill excavated areas - Compact backfilled soil - Grade areas - Seed areas - Compete other site restoration tasks - Decontaminate equipment - Demobilize personnel and equipment.	**Chemical hazards**: Potential for exposure to site contaminants during decontamination of equipment. **Biological hazards**: Potential exposure to poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. **Physical Hazards**: Potential exposure to physical hazards: Fire protection; underground and overhead utilities; heavy equipment operation; vehicle and equipment traffic; material handling; tools, machinery, and equipment use; electrical equipment; noise exposure; heat stress; cold stress; pressure washer operation; inclement weather and adverse environmental conditions; miscellaneous physical hazards. **SEE RECOMMENDED HAZARD CONTROLS BELOW.**
RECOMMENDED HAZARD CONTROLS	
Chemical Hazards: Potential for exposure to contaminants during equipment decontamination. Use prescribed PPE (Use Level D protection for site restoration and demobilization. Use Modified Level D protection for equipment decontamination as needed.) Avoid contact with contaminated surfaces whenever possible and use prescribed decontamination measures.	
Biological Hazards: Biological hazards will be present in work areas. Avoid contact with, poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. Wear sleeved shirts and pants. Apply repellant containing 20% - 30% DEET if needed.	
Fire Protection: Gasoline and diesel fuel will be used for vehicles, heavy equipment, and machinery operation. Have fire extinguishers. Allow smoking only in designated areas. Use OSHA-approved metal dispenser cans for flammable liquids. Use bonding and grounding for combustible liquid transfer.	
Underground and Overhead Utilities: Underground and/or overhead utilities may be present. Conduct utility clearance before subsurface work. Survey for overhead utilities before bringing equipment with high extensions into a work area. Do not operate equipment within 10 feet of overhead lines.	
Heavy Equipment Operation: Heavy equipment will be used to perform earthwork activities. Inspect heavy equipment. Check backup alarms. Survey for utilities. Have ground personnel wear high-visibility safety vests. Maintain positive contact between operator and ground personnel. Use hand signals. Do not cross path of moving equipment or walk behind equipment. Keep out of heavy equipment operating area when possible. Require operators to look before backing.	
Vehicle and Equipment Traffic: Concurrent use of heavy equipment, vehicles, and ground personnel will occur during site work. Establish traffic control procedures. Have workers wear high-visibility safety vests in traffic areas. Have workers look where they walk to avoid moving vehicles and equipment. Maintain eye contact with equipment operators. Use traffic control devices. Use spotters for backing into tight work areas.	
Material Handling: Material handling involving lifting and carrying will be required during site work. Wear work gloves when handling materials. Watch for items that can cut, puncture, pinch, or crush. Use proper lifting technique. Size up load, get help for heavy or awkward items, get good grasp on object to be lifted, keep load close to body, keep back straight, lift with legs not with back, and do not twist when lifting. Review material handling procedures during safety meetings.	
Tools, Machinery and Equipment Use: Hand and power tools may be used. Use proper tool for the job. Use GFCIs for power tool operation. Use safety glasses. Do not use damaged tools. Properly secure materials when working on them. Make sure area is adequately clear when using equipment. Inspect electrical cords.	

ACTIVITY HAZARD ANALYSIS

ACTIVITY: SITE RESTORATION AND DEMOBILIZATION		
Electrical Equipment: Generators may be used to provide electrical power. Use GFCIs for portable electrical equipment. Inspect electrical extension cords for damage and ground plugs. Keep electrical equipment/cords away from water and fuel containers. Use electrical lockout/Tagout procedures.		
Noise Exposure: Noise exposure above 85 dBA is expected when working near or operating machinery and equipment. Wear earplugs for protection when operating or working near noisy equipment.		
Heat Stress: Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Adjust work-rest schedules. Work at a steady pace. Drink fluids. Take rest breaks and use shaded rest area. Know signs and symptoms of heat stress and treatment. Monitor for heat stress.		
Pressure Washer Operation: Pressure washer equipment may be used for equipment decontamination. Use gloves, face, and eye protection during pressure washer operation. Keep area clear when washing. Do not clean boots with pressure washer. Watch for slippery surfaces and handling of slippery materials. Have fire extinguisher and emergency eyewash supplies immediately available.		
Inclement Weather and Adverse Environmental Conditions: Inclement weather conditions such as strong winds, heavy rain, or lightning, may occur during outdoor operations. Suspend outdoor operations during inclement weather or when other adverse environmental conditions exist.		
Miscellaneous Physical Hazards: General safety hazards will be present during all site tasks. Use PPE for head, eye, hand, foot, and body protection. Follow safe work practices. Watch for slip, trip, and fall hazards from uneven, wet, slippery ground surfaces. Keep ground areas clear of tripping hazards such as hoses, cords, boxes, and debris. Maintain good housekeeping. Look where walking. Maintain balance. Maintain three-point contact when stepping off equipment. Use short steps when walking on slippery surfaces. Communicate general safety information during safety meetings.		
PPE: Use prescribed levels of protection described in the PPE section of the SSHP for the applicable work task. Level D protection consists of: Hardhat, steel-toed boots, work gloves, safety glasses, high-visibility safety vest (if vehicle or equipment traffic), and earplugs (if noise present.) Modified Level D protection consists of: Level D protection equipment plus chemical protective clothing (protective suit, gloves, and boots or boot covers.) Level C protection consists of: Modified Level D protection equipment plus an APR (with OV/AG/P-100 HEPA filter cartridge.)		
Site Emergencies: Preparation for site emergencies is always a requirement for site work. Set up emergency communications. Prepare emergency supplies. Post emergency contact and hospital route information. Maintain emergency phone list/hospital location/route map on site. Have first-aid kit, fire extinguisher, and safety supplies available. Have cell phones available. Designate evacuation location and emergency signals. See the "Emergency Response Plan" section of SSHP.		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Heavy equipment; Compactor; Water truck; Pressure washer	Safety inspection; Heavy equipment inspection; Equipment decontamination release inspection	Site orientation briefing and SSHP review; HazWOPER training (equipment decontamination); First-aid/CPR training