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NWS EARLE
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NORTHNAVFACENGCOM 4335/3 (Rev. 6/80)

Prepare in quintuplicate (original and 4 copies)
CONTROL NO. 1

CONTRACT NO.	DELIVERY ORDER	ACTIVITY LOCATION
N62472-94-D-0398	0017 Mod..#3	Naval Weapons Station Earle, Colts Neck, NJ

PROJECT TITLE:
REMOVAL OF SEPTIC SYSTEM AT SITE 26

FROM:	DATE
Foster Wheeler Environmental Corp. - Program QCM: Akram Aziz	November 7, 1997
TO:	DATE
COTR: P. BRIEGEL (3 COPIES)	November 7, 1997

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FOR COMMANDING OFFICER, NORTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND — DATE

ITEM NO.	SUBMITTAL DESCRIPTION	PREPARED/ SUBMITTED BY	APPROVED	DISAPPROVED	REMARKS
1	SD-18, Records	A. Aziz			
	Draft Safety, Health, and Emergency				
	Response Plan for Removal of Septic				
	System at Site 26				

DRAFT

SAFETY, HEALTH, AND EMERGENCY RESPONSE PLAN

Site:	**MODIFICATION 3 AT NAVAL WEAPONS STATION- EARLE**
Location:	**COLTS NECK, NJ**
Prepared By:	**FOSTER WHEELER ENVIRONMENTAL CORPORATION**
Date Prepared:	**June, 1996**
Revision:	**0**
Date Prepared:	**November, 1997**
Revision:	**1**
Delivery Order No.:	**17**
Project Description:	**Removal of Septic System at Site 26 (chlorinated solvent contamination)**
Comments:	**Revision of original SHSP dated 6/96 for Contaminated Soil Removal at Sites 22, 23, 27**

FOSTER WHEELER ENVIRONMENTAL CORPORATION, FOSTER WHEELER SUBCONTRACTORS, AND THE DEPARTMENT OF THE NAVY DO NOT GUARANTEE THE HEALTH OR SAFETY OF ANY PERSON ENTERING THIS SITE. DUE TO THE NATURE OF THIS SITE AND THE ACTIVITY OCCURRING THEREON, IT IS NOT POSSIBLE TO DISCOVER, EVALUATE, AND PROVIDE PROTECTION FOR ALL POSSIBLE HAZARDS WHICH MAY BE ENCOUNTERED. STRICT ADHERENCE TO THE HEALTH AND SAFETY GUIDELINES SET FORTH HEREIN WILL REDUCE, BUT NOT ELIMINATE, THE POTENTIAL FOR INJURY AT THIS SITE. THE HEALTH AND SAFETY GUIDELINES IN THIS PLAN WERE PREPARED SPECIFICALLY FOR THIS SITE AND SHOULD NOT BE USED ON ANY OTHER SITE WITHOUT PRIOR RESEARCH AND EVALUATION BY TRAINED HEALTH AND SAFETY SPECIALISTS.

APPROVALS

PROJECT MANAGER	Date
FIELD OPERATIONS LEAD	Date
PROGRAM HEALTH AND SAFETY MANAGER*	Date

OTHER APPROVALS AS REQUIRED

(TITLE)	Date
(TITLE)	Date
(TITLE)	Date

* The Program Health and Safety Manager is the responsible Regional H&S Manager or their designee.

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1.0 INTRODUCTION

1.1 Purpose

This Safety, Health, and Emergency Response Plan (SHERP) addresses the health and safety practices that will be employed by all site workers participating in the removal of contaminated soils to be conducted at the Naval Weapons Station (NWS) Earle located in Colts Neck, NJ. The SHERP takes into account the specific hazards inherent to the site compliance action and presents the minimum procedures to be followed by Foster Wheeler Environmental Corporation, its subcontractors, and all other on-site personnel in order to avoid and, if necessary, protect against health and/or safety hazards. All activities performed under this SHERP will comply with USACOE EM385-1-1, OSHA Regulations 29 CFR Parts 1910 and 1926, and the Foster Wheeler Environmental Corporation Health and Safety Program Manual. Many programs from the manual are referenced in this SHERP but are not included. A copy of the manual will be maintained at the site. Modifications to the SHERP may be made with the approval of the PHSM using the Field Change Request Form found in Appendix A.

1.2 Scope

This SHERP has been developed to address health and safety concerns relative to remediation activities at sites 22, 23, 27.

This SHERP also address's the septic system removal activities at Site 26.

The remediation action includes the following tasks:

- Mobilization/Demobilization
- Excavation of Contaminated Soils
- Backfill/Topsoil/Reseed

Site 26

- *Mobilization*
- *Septic System Removal (including soil excavation)*
- *Backfilling Excavated Area*

1.3 Application

The SHERP applies to all personnel involved in the remediation activities who wish to gain access to the active work area, including but not limited to:

- Navy representatives; and
- Foster Wheeler Environmental and subcontractors.
- Subcontractors, if any, develop activity hazard analysis in cooperation with FWENC.

1.4 Summary of Major Risks

The SHERP has been developed to address the following major risks during the remediation action at the Naval Weapons Station.

- Exposure to low levels of lead, cadmium and poly aromatic hydrocarbons; and
- Exposure to various physical hazards, including explosion, manual lifting, electricity and heat stress.
- *Exposure to TCE, 1,2 DCE, and Vinyl Chloride at Site 26.*

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

This section specifies the Foster Wheeler Environmental Project Organization. Foster Wheeler Environmental will manage the project.

2.1 Project Manager (PM)

Mr. *Mike Heffron* will assume the following duties:

- Ensures implementation of this program through coordination with the responsible Program Health and Safety Manager (PHSM);
- Conducts periodic inspections;
- Participates in major incident investigations;
- Ensures the SHERP has all of the required approvals before any site work is conducted;
- Ensures that the PHSM or Site Health and Safety Officer (SHSO) is informed of project changes which require modifications of the site safety plan; and,
- Has overall project responsibility for Project Health and Safety.

2.2 Program Health and Safety Manager (PHSM)

The PHSM is an individual certified by the American Board of Industrial Hygiene (CIH) or the Board of Certified Safety Professionals (CSP) with experience in hazardous waste site remediation activities.

Mr. Grey Coppi will assume the following duties:

- Provides for the development and approval of the SHERP;
- Serves as the primary contact to review health and safety matters that may arise;
- Approves revised or new safety protocols for field operations;
- Coordinates revisions of this SHERP with field personnel;
- Assists in the investigation of major accidents, and

- Conducts periodic inspections for compliance with the SHERP.

2.3 Field Operations Leader (FOL)

Mr. Michael Heffron will assume the following duties:

- Ensures that the SHERP is implemented in conjunction with the designated PHSM and SHSO;
- Ensures that field work is scheduled with adequate personnel and equipment resources to complete the job safely;
- Ensures that adequate communication between field crews and emergency response personnel is maintained;
- Ensures that field site personnel are adequately trained and qualified to work at the site;
- Enforces site health and safety rules;
- Investigates major incidents;
- Assists in conducting daily safety briefings;
- Conducts periodic site inspections; and
- Acts as Emergency Coordinator.

2.4 Site Health and Safety Officer (SHSO)

Mr. Mike Heffron (or FWENC Staff HSO) will also assume the following duties :

- Works as a member of the project team to ensure implementation of site safety plans;
- Ensures that all health and safety activities identified in site safety plans are conducted and/or implemented;
- Identifies operational changes which require modifications to health and safety procedures and site safety plans, and ensures that the procedure modifications are implemented and documented through changes to the site safety plan;
- Directs and coordinates health and safety monitoring activities;
- Ensures that proper personal protective equipment is utilized by field teams;
- Assists in conducting and documenting daily safety briefings;
- Monitors compliance with this SHERP;
- Notifies PHSM of all accidents/incidents;
- Coordinates with the construction superintendent and PM in any accident/incident investigation;
- Maintains Accident/Incident Report Forms;
- Determines upgrades or downgrades of personal protective equipment (PPE) based on-site conditions and/or real-time monitoring results;
- Reports to PHSM to provide summaries of field operations and progress; and
- Maintains health and safety field log books.

2.5 Site Personnel

Site personnel shall have the following responsibilities:

- Report any unsafe or potentially hazardous conditions to the SHSO;
- Maintain knowledge of the information, instructions and emergency response actions contained in the SHERP;

- Comply with rules, regulations and procedures as set forth in this SHERP and any revisions;
- Prevent admittance to work sites by unauthorized personnel; and
- Inspect all tools and equipment, including PPE, daily prior to use.

3.0 SITE HISTORY AND PROJECT DESCRIPTION

3.1 Location

The Naval Weapons Station (NWS) Earle is located in east-central Monmouth County, New Jersey between the town of Freehold and the Atlantic shore as shown in Figure 1 found in Appendix B. Sites 22 and 23 are located in the north-central portion of NWS Earle and Site 27 is located in the south-central portion of NWS Earle, Figure 2 is a site layout map and can be found in Appendix B.

Site 26 is located North of building GB-01 at the intersection of Macassar and Midway roads. Site 26 site location map is located in figure 3.1

3.2 Site Description and History

3.2.1 Site 22 - Paint Chip Disposal Area

Site 22 is a former paint chip disposal area where waste sand blasting material and paint wastes were disposed. The site is located south of building D-2 and previously consisted of approximately 50 square feet of stressed vegetation and discolored (black) soils. The discolored soils resulted from past grit blasting and painting operations. However, the discolored soils and stressed vegetation are no longer visible at the site. The ground surface at the site is predominantly sand and gravel.

A macadam road services the site from Midway Road. The site is bordered to the north by a railroad siding and to the east by a marshy area. A shallow drainage depression, measuring approximately 275 feet in length and 0.5 to 1 foot in depth , runs the length of the site behind Building D-2, and discharges toward the southeast to a marsh.

3.2.2 Site 23 - Paint Disposal Area

Site 23 is a paint disposal area near building D-5. It was used from the early 1970s until approximately 1993 for paint wastes from repainting and stenciling torpedoes, aerial bombs, and other large ordinance. During 1993 SI work at the site, a small amount of paint residue was present inside the fence line, southwest of building D-5; no such residue was visible during an October 1993 preliminary RI site visit.

An earthen berm about 20 feet high surrounds the northern, eastern, and western sides of the site. A drainage ditch and a small marsh are present west and north of the building, within the bermed area. The site is partially paved, and overland runoff flows radially across the site into shallow drainage depression that surround the site on three sides. The drainage flows toward the marshland, which contains standing water throughout the year. A tributary of Hockhockson Brook is located approximately 500 feet southwest of the site. SI work indicated that a shallow perched water layer may be present above the water-table aquifer at the site.

3.2.3 Site 27 - Projectile Refurnishing Area

Site 27 includes Building E-14 and a small storage locker. The site is located off Oran Road. Projectiles are refurbished at the site by shot-blasting, repainting and restenciling. Oil-contaminated rags, paint chips, and spent sand blasting shot were disposed behind the facility. A small portion of the site surface, approximately 80 square feet, near the southeast corner of Building E-14 was covered by a red paint sludge.

A railroad siding and small drainage depression exist on the east side of the site behind the building. Overland runoff drains toward the southeast to the shallow depression immediately downslope approximately 15 feet in from the paint sludge area. Surface water infiltration occurs within the drainage depression. The east branch of the Mingamahony Brook is located approximately 1200 to 1500 feet east south east of the site.

3.2.4 Site 26 – Explosive "D" Washout Area

Site 26 is an area located behind Building GB-01. The groundwater at site 26 is contaminated with TCE and 1,2- DCE. The source of the contamination is apparently from a leaching system located on the northwest side of building GB-01. The leaching system originates from drains inside Building GB-01and exits through a pipe system which includes a concrete grease trap. There are sludges in the bottom of the grease trap and leach tank, which contain elevated concentrations of volatile organics. In addition the area may be contaminated with ammonium picrate which overflowed from an adjacent percolation pit. This pit was used for the removal of ammonium picrate from artillery shells.
Site Layout Map is shown in figure 3.2

3.3 Contamination Description

As described in the 1992 Remedial Investigation Report completed by Brown and Root, low levels of lead, chromium, poly aromatic hydrocarbons (PAHs) and paint chips were found in surficial soils at Site 22. Low levels of PAHs were found in soils at site 23. Low levels of metals, pesticides, PCBs, and semivolatiles were found in soils at site 27. All contaminant levels were below the NJDEP residential clean up criteria.

Brown and Root conducted two Remedial Investigations at Site 26. Both Investigations found elevated TCE (1ug/L to 1,700 ug/L) , 1,2 DCE (2,000 ug/L) and related chlorinated products in the groundwater. TCE was detected in soil samples (0-74 ug/kg) and 1,2, DCE was detected in soil(0-140 ug/kg). Picric acid was detected in groundwater during one investigation (no level given, 1993), but not in the 1995 SI. Brown and Root concluded that the compound was not expected to persist in the environment due to its high water solubility and potential for biodegradation.

3.4 Project Description

Foster Wheeler Environmental Corporation (FWENC) will remove and dispose of contaminated soils. The sites will be backfilled and restored with topsoil and seed.

At Site 26 Foster Wheeler Environmental will remove the piping, in-ground tanks, any sludge in the tanks, and sample the material prior to removing the material from site.

In addition to the chemical hazards at the site, others may be present due to materials being brought to the site, such as decontamination fluids. Prior to working with these materials on-site, MSDS's shall be obtained and reviewed by the SHSO and all potentially affected personnel.

4.1.1 Properties of Chemical Contamination

PAHs and metals present a potential for exposure to site personnel. The primary routes of exposure for these chemicals is inhalation and skin contact. These compounds generally have a depressant effect on the CNS and may cause chronic liver and kidney damage and some are suspect human carcinogens. Acute exposure may include headache, dizziness, nausea, skin and eye irritation and personality changes.

At Site 26 chlorinated solvents present a potential for exposure to site personnel. The primary routes of exposure are inhalation, ingestion, and skin contact. Symptoms of exposure are headache, tremors, nausea, vomiting and eye irritation.

4.2 Physical Hazards

Most safety hazards are discussed in the Activity Hazard Analysis (AHA) found in Appendix C for the different phases of the project. In addition to the AHAs, general work rules and other safety procedures are described in Section 10 of this SHERP.

4.2.1 Heat Stress and Cold Stress

As site activities are scheduled to take place during the fall, exposure to temperature extremes may be encountered both heat and cold may be encountered in the fall months in New Jersey. In order to minimize exposure to temperature extremes, personnel shall be familiar with the health effects of exposure to temperature extremes and the control measures that can minimize exposure; guidance may be found in FWENC Health and Safety Program HS 4-6, Temperature Extremes.

4.2.2 Hand and Power Tool Usage

In order to complete the various tasks for the project, personnel will utilize hand and power tools. The use of hand and power tools can present a variety of hazards, including physical harm from being struck by flying objects, being cut or struck by the tool, fire, and electrocution.

4.2.3 Heavy Equipment Operations

Heavy equipment will be utilized during the project. Working with and near heavy equipment poses many potential hazards that can result in serious physical harm.

4.2.4 Noise

Noise is a potential hazard associated with the use of power tools, excavation activities, and the operation of the bioslurping treatment system. Suspected high noise operations will be evaluated to determine if protective measures are warranted. Workers with 8-hour TWA exposures exceeding 85 dBA will be included in the Foster Wheeler Environmental Corporation's Hearing Conservation Program, HS 4-4. Audiograms are provided as a component of pre-employment examinations.

4.0 *POTENTIAL HAZARDS OF THE SITE AND RISK EVALUATION*

4.1 Properties of Chemical Contamination

The primary COCs are constituents and break down products of Trichloroethylene. The work zones will be monitored continuously during removal of the septic system. Table 4-1 provides chemical data for the COCs.

Table 4-1 Chemical Data
SITE 26

COMPOUNDS	*CAS#*	*ACGIH TLV*	*OSHA PEL*	*ROUTES OF EXPOSURE*	*SYMPTOMS OF EXPOSURE*	*TARGET ORGANS*	*CHEMICAL PROPERTIES*
1,2, Dichloroethylene	*540-59-0*	*200 ppm*	*200 ppm*	*Inh, Ing, Con*	*Eye Irrit., Resp. sys, CNS Depres*	*Resp Sys, eyes. CNS*	*MW-97.0 IP-9.65 eV VP-180-264mm LEL-5.6%*
Trichloroethylene	*79-01-6*	*50 ppm*	*100 ppm*	*Inh, Ing. Con*	*Headace, Vis Dis, tremors Som, nau, vomit, eye irrit, derm. card arrhy, pares*	*Resp Sys, skin, eyes*	*MW-131.4 IP-9.45 eV VP-58mm LEL- 8%*
Vinyl Chloride	*75-01-04*	*5 ppm*	*1 ppm 15min ceil.- 5ppm*	*Inh,*	*Weak, abdom pain, GI bleeding, hepatomegaly, pallor, cyan of extremities (carc)*	*Liver, CNS, blood, resp sys, lymphatic sys*	*MW-62.5 IP-9.99 eV VP-1 atm LEL-3.6%*

Sources: NIOSH
Pocket Guide To Chemical Hazards

American Conference of Govermental Industrial Hygienists
Threshold limit values for Chemical Substances and Phyiscal agents

**Manufacturer's recommended level*

4.2.5 Fire and Explosion

When conducting excavation activities, the opportunity of encountering fire and explosion hazards may exist from underground utilities and gases. Additionally, the use of a diesel engine on the heavy equipment could present the possibility of fire and explosion hazards.

4.2.6 Manual Lifting

Manual lifting of heavy objects may be required. Failure to follow proper lifting technique can result in back injuries and strains. Back injuries are a serious concern as they are the most common workplace injury, often resulting in lost or restricted work time, and long treatment and recovery periods.

4.2.7 Steam, Heat and Splashing

Exposure to steam/heat/splashing hazards can occur during steam cleaning operations. Exposure to steam/heat/splashing can include scalding/burns, eye injury, and puncture wounds.

4.2.8 Slips, Trips, and Falls

Working in and around the site can pose slip, trip and fall hazards due to surfaces that are wet from rain and uneven terrain. Potential adverse health effects include falling to the ground and becoming injured or twisting an ankle.

4.2.9 Railroad Crossing

When working in proximity to or crossing the railroad tracks there is a potential for being struck by a train and becoming seriously injured. All personnel shall wear reflective traffic vests.

Two railway lines run adjacent to Building GB-01 northeast of Site 26.

4.3 Biological Hazards

Exposure to biological hazards is not anticipated during this project. The work locations are paved or covered with gravel/stone and have little vegetation.

5.0 ACTIVITY HAZARD ANALYSIS

The Activity Hazard Analysis (AHA) is a systematic way of identifying the potential health and safety hazards associated with major phases of work on the project and the methods to avoid, control and mitigate those hazards. The AHA's follow the guidance of the Foster Wheeler Environmental Corporate Program Manual HS 3-5. AHAs for the removal action are included in Appendix C of this SHERP. AHAs have been developed for the following phases of work:

- Mobilization/demobilization;
- Excavation of contaminated soils; and
- Site restoration

5.0 ACTIVITY HAZARD ANALYSIS (cont)

Site 26

- *Mobilization*
- *Septic System Removal (including soil excavation)*
- *Backfilling Excavated Area*

AHAs will be developed for other activities as necessary, prior to start-up.

6.0 PERSONAL PROTECTIVE EQUIPMENT

The personal protective equipment (PPE) described below represents the hazard analysis and PPE selection required by 29 CFR 1910.132. For the purposes of PPE selection, the PHSM and SHSO are considered competent persons. The signatures on the front of the SHERP constitutes certification of the hazard assessment. For activities not described below, the operator will conduct the hazard assessment and select the PPE using the PPE selection form provided in Appendix D and shall certify the assessment by signing the form. PPE selection will be made in consultation with the PHSM.
The operator in consultation with the PHSM using this form may also make modifications for initial PPE selection. A written justification for downgrades will be provided to the PHSM for approval as a field change request found in Appendix A.

6.1 PPE Selection

Task	Initial
Mobilization/Demobilization	D
Excavation of Contaminated Soils	D Mod
Site Restoration	D
Steam Cleaning Operations	C

Mobilization at site 26	*D*
Removal of Contaminated Material associated with Site 26	B/C
Backfilling Excavated Area at Site 26	*Modified D*

Level D	Level D Modified	Level C	*Level B*
Hard Hat *	Hard Hat *	Hard Hat *	*Hard Hat**
Safety Glasses	Safety Glasses **	Full-face organic vapor cartridge	*Full-face supplied air respirator*
Steel-toed Work Boots	Steel-toed Work Boots	respirator	*Steel-toed Work Boots*
Work uniform	Work uniform	Steel-toed Work Boots	*Polycoated Tyvek*
Inner Latex Gloves*	Uncoated Tyvek™	Polycoated Tyvek	*Neoprene or Nitrile Outer*
Outer Cotton Gloves*	Neoprene or Nitrile Outer	Neoprene or Nitrile Outer	*Gloves*
Hearing Protection *	Gloves	Gloves	*Inner Latex Gloves*
	Inner Latex Gloves	Inner Latex Gloves	*Outer Booties or Outer Boots -*
	Outer Booties or Outer	Outer Booties or Outer Boots -	*(Rubber)*
	Boots- Rubber	(Rubber)	*Hearing Protection*
	Hearing Protection *	Hearing Protection *	

7.0 AIR MONITORING

The air monitoring plan has been developed specifically for the work to be performed at NWS Earle. The purpose of this plan is to describe the air monitoring protocols to be followed for this project. Action levels for this project are provided in Table 7-1.

7.1 Real-Time Air Monitoring

7.1.1 Work Area Air Monitoring

The following real-time air monitoring instruments will be available for use during on-site field operations:

- Photo-Ionization Detector, (PID); and
- Dust Monitor

Real Time Air Monitoring Instruments
Site 26

- *Flame Ionization Detector, (FID)*
- *Miran*
- *Combustible Gas Indicator*

Organic vapor concentrations shall be measured using the PID during all activities that may generate volatile organics. The monitoring for organic vapors shall consist of measurements recorded at breathing zone (BZ) height in the area of highest employee exposure risk. If measurements indicate organic vapor concentrations above background readings, the frequency of measurement shall be on a continuous basis. The operator will interpret monitoring results using professional judgment. Therefore, the action level criteria (Table 7-1) have been set as flexible guidelines.

A Dust Monitor will be used to monitor for dust. During excavation activities, dust shall be measured in the BZ every 30-60 minutes. Water may be used for dust control if necessary.

Site 26

Organic vapor concentrations shall be measured using a FID during all removal activities that may generate volatile organics. The monitoring for organic vapors shall consist of measurements recorded in the breathing zone (BZ) height in the area of highest employee exposure risk. Due to the presence of Vinyl Chloride at Site 26 (MIRAN test 10 Oct. 97 @ Bldg. GB-01 Performed by Navy) the measurements shall be on a continuous basis. The operator will interpret the results using professional judgement. The action level criteria (Table 7-1) have been set as guidelines.

Table 7-1

Real-Time Air Monitoring Action Levels

AIR MONITORING INSTRUMENT	MONITORING LOCATION	ACTION LEVEL	SITE ACTION	REASON
FID/PID	Breathing Zone	0 ppm - 10 ppm above background	No respiratory protection;	VOC's are expected to be low
FID/PID	Breathing Zone	> 10- 250 ppm	Upgrade to Level C respiratory protection; Initiate vapor suppression control efforts	Potential exposure to volatile organic compounds
FID/PID	Breathing Zone	> 250 ppm	Upgrade to Level B respiratory protection; Consult PHSM	VOC's are too high; need to re-evaluate potential hazards
Dust Monitor	Breathing Zone	0 - 2.5 mg/m^3	No respiratory protection	
Dust Monitor	Breathing Zone	2.5 - 5 mg/m^3	Level C respiratory protection	1/2 PEL for nuisance dust
Dust Monitor	Breathing Zone	> 5 mg/m^3	Initiate dust suppression	PEL for nuisance dust

Table 7-1

Site 26 Real-Time Air Monitoring Action Levels

AIR MONITORING INSTRUMENT	*MONITORING LOCATION*	*ACTION LEVEL*	*SITE ACTION*	*REASON*
FID	*Breathing Zone*	*< 25 ppm Non-VC*	*No respiratory protection*	*PEL for TCE is 100ppm*
FID	*Breathing Zone*	*>.5 ppm on FID use MIRAN*	*Use Miran to screen for VC*	*Poor Warning qualities of VC. High odor threshold*
MIRAN	*Breathing Zone*	*> .5 ppm VC*	*Level B*	*PEL= 1 ppm*
FID	*Breathing Zone*	*25ppm – 250 ppm Non VC*	*Level C*	*½ PEL of TCE is 50 ppm*
FID	*Breathing Zone*	*> 250 ppm*	*Level B*	*½ of protection Factor for Cartridge is 500 ppm*
Combustible Gas Indicator	*Point Source*	*< 10%*	*Continue work*	*Less than 10 % of LEL*
Combustible Gas Indicator	*Point Source*	*>10%*	*Stop Work: Allow to vent*	*Possible Explosive Atmosphere*

Instrument calibration shall be documented and included in the Health and Safety Log Book. All instruments shall be calibrated before and after each daily use in accordance with the manufacturer's specifications. Manufacturer's literature, and the operations manual for each piece of monitoring equipment will be maintained on-site by the operator for reference.

7.2 Integrated Air Monitoring

Assessment and evaluation of site personnel exposures to airborne contaminants shall be performed by the site SHSO concurrent with activities which may generate the contaminants in excess of OSHA PEL's. The SHSO shall consult with the PHSM regarding the need for personnel monitoring based upon real-time air monitoring results.

7.3 Action Level Decision Logic

Table 7-1 lists the action levels that shall be used to determine the level of respiratory protection/action to be taken based upon real-time monitoring results.

In general, the approach for determining when an upgrade in the level of respiratory protection is warranted, is to upgrade when real-time monitoring indicates the PEL is reached. This approach is conservative, since the PEL is based upon a 8-hour TWA exposure and not an instantaneous exposure. Other factors considered include the following:

- The FID/PID is measuring total organic vapors and not a specific compound; and
- The FID/PID response is different for each organic vapor.

A review of data indicates that neither lead or PAHs are present in high enough concentrations to be an inhalation exposure potential, relative to their PEL. Therefore, the dust action level is based on one-half of the OSHA respirable nuisance dust Permissible Exposure Limit (5 mg/m^3).

Site 26

Action Levels are based on Vinyl Chloride PEL of 1 PPM, and Trichloroethylene PEL of 100 PPM. If, during the course of air monitoring volatile organics exceed .5 PPM, a MIRAN IR anaylzer will be used to monitor for Vinyl Chloride.

7.4 Data Quality Assurance

7.4.1 Operations

All instruments shall be operated in accordance with the manufacturer's specifications. Manufacturers' literature, including an operations manual for each piece of monitoring equipment will be maintained on-site by the SHSO for reference.

7.4.2 Data Review

The SHSO will interpret all monitoring data based on Table 7-1 and his/her professional judgment.

The data will be reviewed and evaluated to determine the potential for worker exposure and upgrade/downgrades in PPE. The SHSO will immediately report all integrated sampling results, if any,

above the PEL/TLV (one half of PEL/TLV where no respirators are worn) to the PHSM. Workers will be notified of the results by the SHSO.

8.0 ZONES, PROTECTION AND COMMUNICATION

8.1 Site Control

Site zones are intended to control the potential spread of contamination throughout the site and to assure that only authorized individuals are permitted into potentially hazardous areas. A three-zone approach will be utilized. It shall include an Exclusion zone (EZ), Contamination Reduction zone (CRZ) and a Support Zone (SZ). Specific zones shall be established on the work site when operations begin.

Exclusion Zone

All activities which may involve exposure to site contaminants, hazardous materials and/or conditions should be considered an exclusion zone (EZ). This zone will be clearly delineated by cones, tapes or other means. The SHSO may establish more than one EZ where different levels of protection may be employed or different hazards exist. The size of the EZ shall be determined by the site SHSO allowing adequate space for the activity to be completed, field members and emergency equipment. Personnel entering the EZ must wear the mandated levels of protection for the activity being performed. See Section 6.0 for task specific information. An exclusion zone sign-in/out log will be maintained daily. Visitors entering an EZ where the potential for exposure to health hazards exists shall receive training commensurate with their level of exposure.

Contamination-Reduction Zone

The CRZ is established between the EZ and the SZ. The CRZ contains the contamination reduction corridor and provides for an area for decontamination of personnel and portable hand-held equipment, tools and heavy equipment. A personnel decontamination area will be prepared at each exclusion zone. The CRZ will be used for Exclusion Zone entry and egress in addition to access for heavy equipment and emergency support services.

Support Zone

The SZ is an uncontaminated area that will be the field support area for most operations. The SZ provides for field team communications and staging for emergency response. Appropriate sanitary facilities and safety equipment will be located in this zone. Potentially contaminated personnel/materials are not allowed in this zone. The only exception will be appropriately packaged/decontaminated and labeled samples.

8.2 Buddy System

The buddy system will be used during all field activities.

8.3 Contamination Control

During normal site operations equipment and personnel may come into contact with potentially contaminated materials. During these times, an EZ and CRZ will be established in accordance with the descriptions found above in Section 8.1.

8.3.1 Personnel Decontamination

Personnel leaving the exclusion zone shall be thoroughly decontaminated. The following protocol shall be used for the decontamination stations according to levels of protection:

Level D	Level D Modified	Level C	Level B
1. Equipment drop	1. Equipment drop	1. Equipment drop	1. Equipment drop
2. Hand/Face wash	2. Outer boot & glove wash	2. Outer boot & glove wash	2. Outer boot & glove wash
	3. Outer boot & glove rinse	3. Outer boot & glove rinse	3. Outer boot & glove rinse
	4. Tape removal - boot & glove	4. Tape removal - boot & glove	4. Tape removal - boot & glove
	5. Outer boot & glove removal	5. Outer boot & glove removal	5. Outer boot & glove removal
	6. Coverall removal\ disposal	6. Coverall removal/ disposal	6. Coverall removal/ disposal
	7. Inner glove removal/disposal	7. Respirator removal	7. Respirator removal
	8. Hand/face wash	8. Inner glove removal/disposal	8. Inner glove removal/disposal
		9. Inner clothing removal	9. Inner clothing removal
		10. Hand/face wash	10. Hand/face wash
		11. Redress	11. Redress
		12. Respirator cleaning/ sanitizing	12. Respirator cleaning/ sanitizing

The following decontamination equipment is required for level D modified and higher protection levels:

Two small tubs (1 set of wash and rinse water), scrub brush, towels, contaminated clothing disposal bag or drum, and, respiratory cleaning solution.

Non-phosphate detergent (i.e., Dove) and water should be sufficient for use as the decontamination solution.

All receptacles for contaminated protective clothing will be equipped with lids that can be closed to prevent the release of contaminants and the collection of rainfall. The decontamination liquids and clothing will be contained and disposed according to federal, state and local regulations. Liquids may be pumped into the treatment system in lieu of off-site disposal. This decision will be made in consultation with the PM.

8.3.2 Direct Physical Contact with Contaminants

An employee suspected of sustaining skin contact with chemicals or contaminated groundwater will adhere to the following procedure:

- Remove all contaminated clothing and deposit in a plastic-lined container
- Wash skin off for a minimum of 15 minutes and continue removing contaminated clothing
- Remove all wet clothing
- Dress in clean/dry clothing

- Notify PHSM and PM
- Seek medical attention, if needed

8.3.3 Minimization of Contact With Contaminants

During site activities, personnel should attempt to minimize the degree of contact with contaminated materials. This involves a conscientious effort to keep "clean" during site activities. All personnel should minimize kneeling, splash generation, and other physical contact with contamination. This may ultimately minimize the degree of decontamination required and the generation of waste materials from site operations.

8.3.4 Emergency Decontamination

Emergency decontamination will include the following stations:

Level D	Level D+	Level C	Level B
1 as referenced above	1, 4, 5, 6 and 7 as referenced above	1, 4, 5, 6, 7 and 8 as referenced above	1, 4, 5, 6, 7 and 8 as referenced above

Note: If circumstances dictate that contaminated clothing cannot be readily removed, then remove gross contamination, wrap injured personnel with clean garments/blankets to avoid contaminating other personnel or transporting equipment.

All emergency personnel are to be immediately informed of the injured person's condition, potential contaminants, and provided with all pertinent chemical data.

8.3.5 Protection Required for Decontamination Personnel

Personnel assisting with decontamination will wear the same level of protection as those they are decontaminating, or one level below, depending on the stage of decontamination. Assistants who are stationed at the first stages of decontamination will be in the same level of protection as those being assisted. At stages where the outer garments are already removed and containerized, the decontamination assistants will wear the next lower level of protection.

8.3.6 Hand Held Equipment Decontamination

Hand held equipment includes all monitoring instruments, samples, hand tools, and notebooks. The hand held equipment is dropped at the first decontamination station. These items must be decontaminated or discarded as waste prior to removal from the exclusion zone.

To aid in decontamination, monitoring instruments can be sealed in plastic bags or wrapped in polyethylene. This will also protect the instruments from contamination. The instruments will be wiped clean using wipes or paper towels if contamination is visually evident.

8.3.7 Heavy Equipment Decontamination

An area will be designated as the heavy equipment decontamination area. A steam generator or pressure washer and brushes will be used to clean earth moving equipment, vehicles, and tools. Decontamination

may take place on portable or fixed decontamination pans where decontaminated water can be contained and collected for disposal. No heavy equipment will be permitted to leave the EZ unless it has been thoroughly decontaminated and visually inspected by the SHSO or his designee. This inspection will be documented in the Health and Safety Log Book.

8.4 Communications

- Telephones - The nearest telephone will be located prior to the start of operations and shall be communicated to all personnel by the SHSO during site-specific training. The phone shall be for communication with emergency support services/facilities.
- Air Horns - Air horns shall be carried by field teams or be strategically located within the EZ, and shall be maintained as the means for announcing emergency evacuation procedures and backup for other forms of communication.
- Hand Signals - Hand signals shall be used by field teams along with the buddy system. They shall be known by the entire field team before operations commence and their use covered during site-specific training. Typical hand signals are the following:

SIGNAL	MEANING
Hand gripping throat	Out of air, can't breathe
Grip on a partner's wrist or placement of both hands around a partner's waist.	Leave the area immediately, no debate.
Hands on top of head	Need assistance
Thumbs up	Okay, I'm all right, I understand.
Thumbs down	No, negative.

9.0 MEDICAL SURVEILLANCE PROCEDURES

All contractor, subcontractor personnel and visitors performing field work within an established EZ where potential exposure to contaminants exist at the site are required to have passed a medical surveillance examination in accordance with 29 CFR 1910.120(f). A physician's medical clearance for work will be confirmed by the PM before an employee can begin site activities. The examination will be provided annually at a minimum and upon termination of hazardous waste site work if the last examination was not given within the previous six months. Additional medical evaluation may be required by the PHSM in consultation with the FWENC Medical Consultant if an over-exposure or accident occurs, or if justified by site conditions.

A medical data sheet is provided in Appendix E. The medical data sheet will be completed by all on-site personnel and kept at the site. Where possible, the medical data sheet shall be brought to the hospital for the worker needing medical assistance. The medical data sheet will be maintained in a secure location, treated as confidential, and used only on a need-to-know basis.

The Foster Wheeler Environmental Corporate Medical Surveillance Program is described in detail in Section 4.5 of the Health and Safety Program Manual.

10.0 SAFETY CONSIDERATIONS

10.1 General Health and Safety Work Rules

A list of work rules and general safe work practices has been included in the Foster Wheeler Environmental Health and Safety Program Manual, Section 3-6. The work rules will be posted in a conspicuous location at the site.

10.2 Excavation Operations

When conducting excavation activities, the possibilities of encountering fire and explosion hazards exists from underground utilities and gases. The locations of underground utilities will be verified prior to performing any intrusive activities. Additionally, because of the inherently hazardous nature of excavation operations, safety and accident prevention are crucial. Most excavation accidents occur as a direct result of lack of training and supervision, improper handling of equipment, and unsafe work practices. The excavation safety guidelines are contained in the FWENC Excavation and Trenching Program HS 6-4.

10.3 Sample Handling

Personnel responsible for the handling of samples should wear the prescribed level of protection. Samples should be identified as to their hazard and packaged as to prevent spillage or breakage. Sample containers shall be decontaminated in the CRZ or EZ before entering a clean Support Zone area. Any unusual sample conditions, odors or real-time readings should be noted. Laboratory personnel should be advised of sample hazard level and the potential contaminants present. This can be accomplished by a phone call to the lab coordinator and/or including a written statement with the samples reviewing lab safety procedures in handling in order to assure that the practices are appropriate for the suspected contaminants in the sample.

11.0 WASTE DISPOSAL PROCEDURES

All discarded materials, waste materials or other objects shall be handled in such a way as to preclude the potential for spreading contamination, or creating a sanitary hazard. All potentially contaminated materials, e.g., clothing, gloves, etc., will be bagged or drummed as necessary, labeled and segregated for disposal. Liquid rinsate will be collected, drummed, labeled and stored on-site pending off-site disposal. All waste materials will be sampled, testesd, classified, stored on-siteand disposed off-site in accordance with Section 8 of the project work plan.

12.0 EMERGENCY RESPONSE PLAN

This section establishes procedures and provides information for use during a project emergency. Emergencies happen unexpectedly and quickly and require an immediate response; therefore, contingency planning and advanced training of staff are essential. Specific elements of emergency support procedures which are addressed in the following subsections include communications, local emergency support units, preparation for medical emergencies, first aid for injuries incurred on-site, record keeping, and emergency site evacuation procedures.

12.1 Responsibilities

12.1.1 Program Health and Safety Manager

The PHSM oversees and approves the Emergency Response/Contingency Plan and performs audits to determine that the plan is in effect and that all pre-emergency requirements are met. The PHSM acts as a liaison to applicable regulatory agencies.

12.1.2 Site Health and Safety Officer

The SHSO is responsible for ensuring that all personnel are evacuated safely and that machinery, equipment and processes are shut down or stabilized in the event of a stop work order or evacuation. The SHSO is required to immediately notify the PHSM of any fatalities or catastrophes (three or more workers injured and hospitalized) so that the PHSM can notify OSHA within the required time frame (eight hours). The PHSM and the PM will be notified of all OSHA recordable injuries, fires, spills/splashes to body, releases or equipment damage in excess of $500 within 24 hours.

12.1.3 Emergency Coordinator (EC)

The Emergency Coordinator is the Field Operations Leader. The EC shall locate emergency phone numbers and identify hospital routes prior to beginning work on-site.

The EC shall implement the Emergency Response/Contingency Plan whenever conditions at the site warrant such action. The EC will be responsible for prior coordination of the emergency treatment and transport of site personnel as necessary, and notification of emergency response units.

12.1.4 Site Personnel

Site personnel, when applicable, are responsible for understanding their roles with regard to the Emergency Response/Contingency Plan and the procedures contained herein. Personnel are expected to notify the EC of situations that could constitute a site emergency.

12.2 Communications

Refer to Section 8.3 of the SHERP for information about site communications.

12.3 Local Emergency Support Units

In order to be able to deal with an emergency that might occur during remedial activities at the site, a table listing emergency contacts (Table 12-1) will be posted prominently. A flow chart is included to aid in personnel notification.

The Naval Weapons Station Earle is fully capable of providing emergency services. All emergencies on base are handled by calling extension 2333 on any base phone. From non-base phones call: 908-866-2333.

12.4 Preparation For Medical Emergencies

Foster Wheeler Environmental will communicate directly with the hospital emergency room personnel in order to determine whether the hospital has the necessary resources to treat exposure from known site contaminants. Directions to the hospital will be posted conspicuously upon mobilization.

Before field work on the site commences, site personnel will complete a medical data sheet. The data sheet will be filled out during the initial site safety training meeting and will be kept on-site.

In the event of an incident where a team member has to be taken to a hospital, a copy of his/her Medical Data Sheet will be presented to the attending physician.

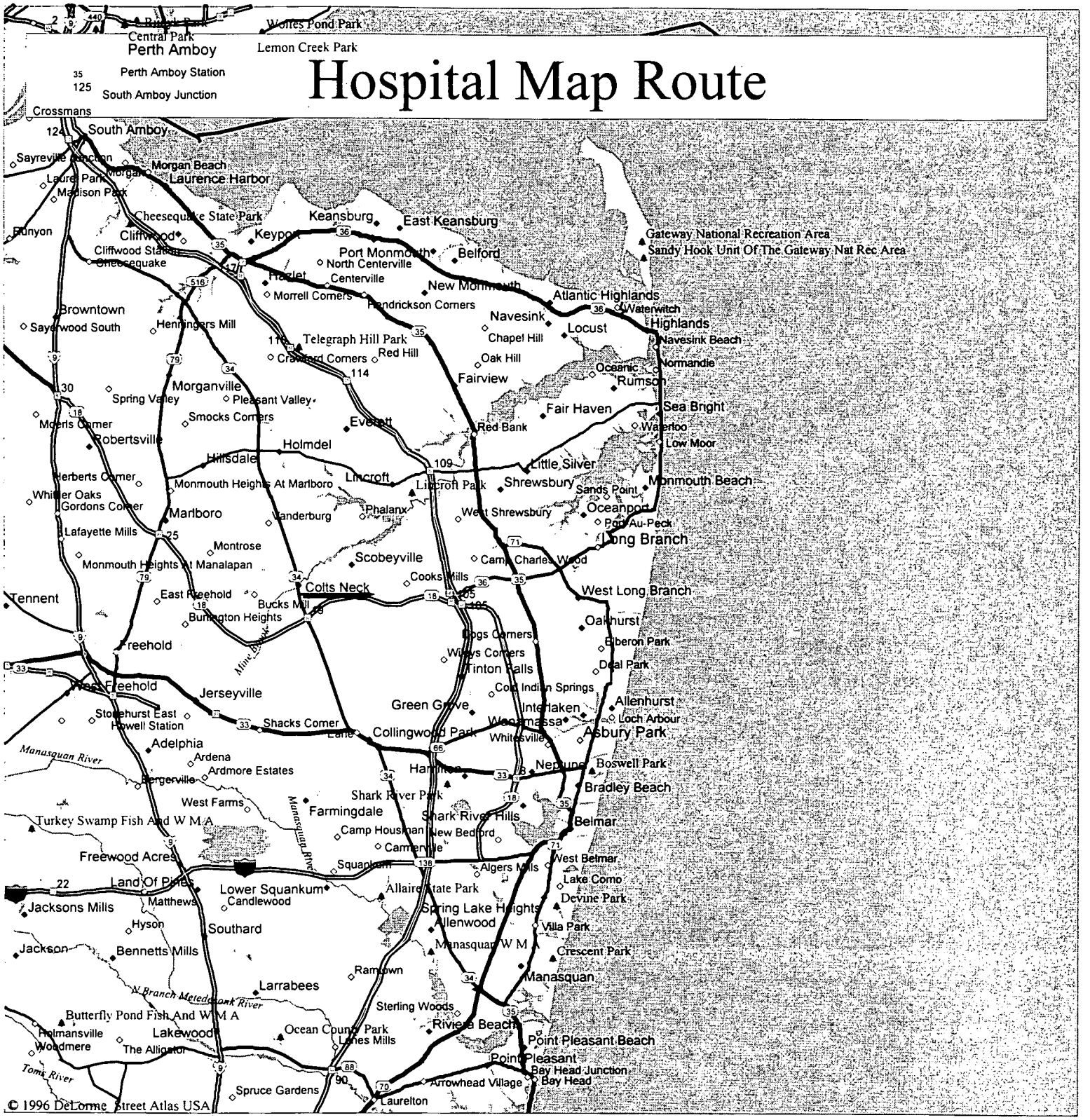
The Base Emergency Medical Clinic will be used for all medical services. If the medical emergency is more than the Base Emergency Clinic can handle, the injured party will be transferred to Monmouth Hospital in Long Beach, NJ, or to Riverview Hospital in Red Bank, NJ. Ambulance service to the alternate hospitals will be provided by the base.

12.5 First Aid For Injuries Incurred During Field Work

The procedures and rules in this SHERP are designed to prevent employee injury. However, should an injury occur, no matter how slight, it must be reported to the PHSM and PM immediately. Emergency equipment available on-site includes:

- Telephone;
- First Aid Kit;
- Fire Extinguishers-ABC Type;
- Emergency Eye Wash - Meeting ANSI Approval Z358.1-1990;
- Spill Absorbents and Neutralizers; and
- Shovels/Brooms

Hospital Map Route

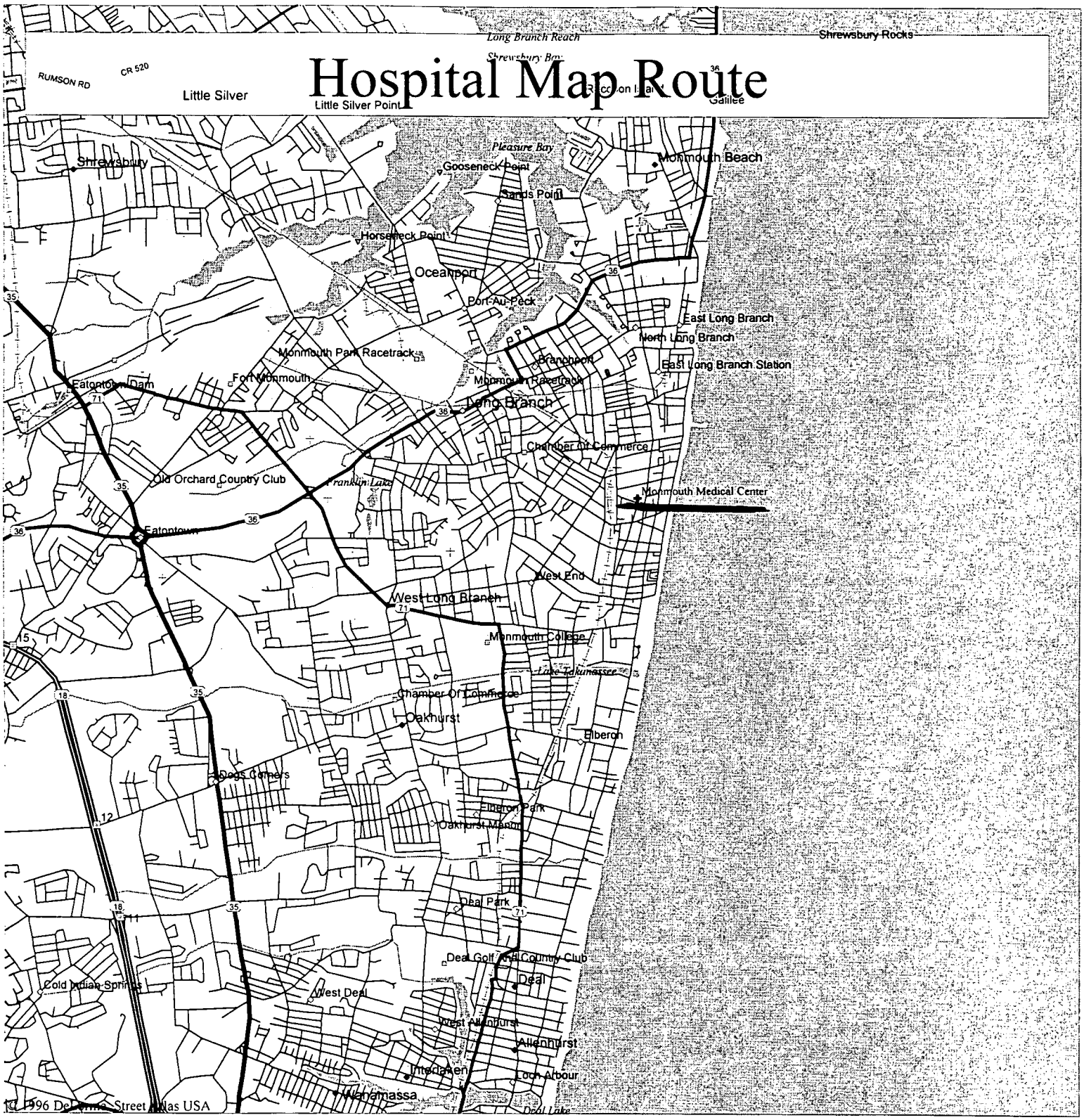


Mag 11.00
Fri Nov 07 12:25 1997
Scale 1:250,000 (at center)
5 Miles
5 KM

- Major Connector
- State Route
- Primary State Route
- Interstate/Limited Access
- Toll Highway
- US Highway
- County Seat
- Small Town
- Large City
- Park/Reservation
- Locale
- Exit
- State Boundary
- Population Center
- Lake
- Land

A

Hospital Map Route



Mag 13.00
Fri Nov 07 12:25 1997
Scale 1:62,500 (at center)

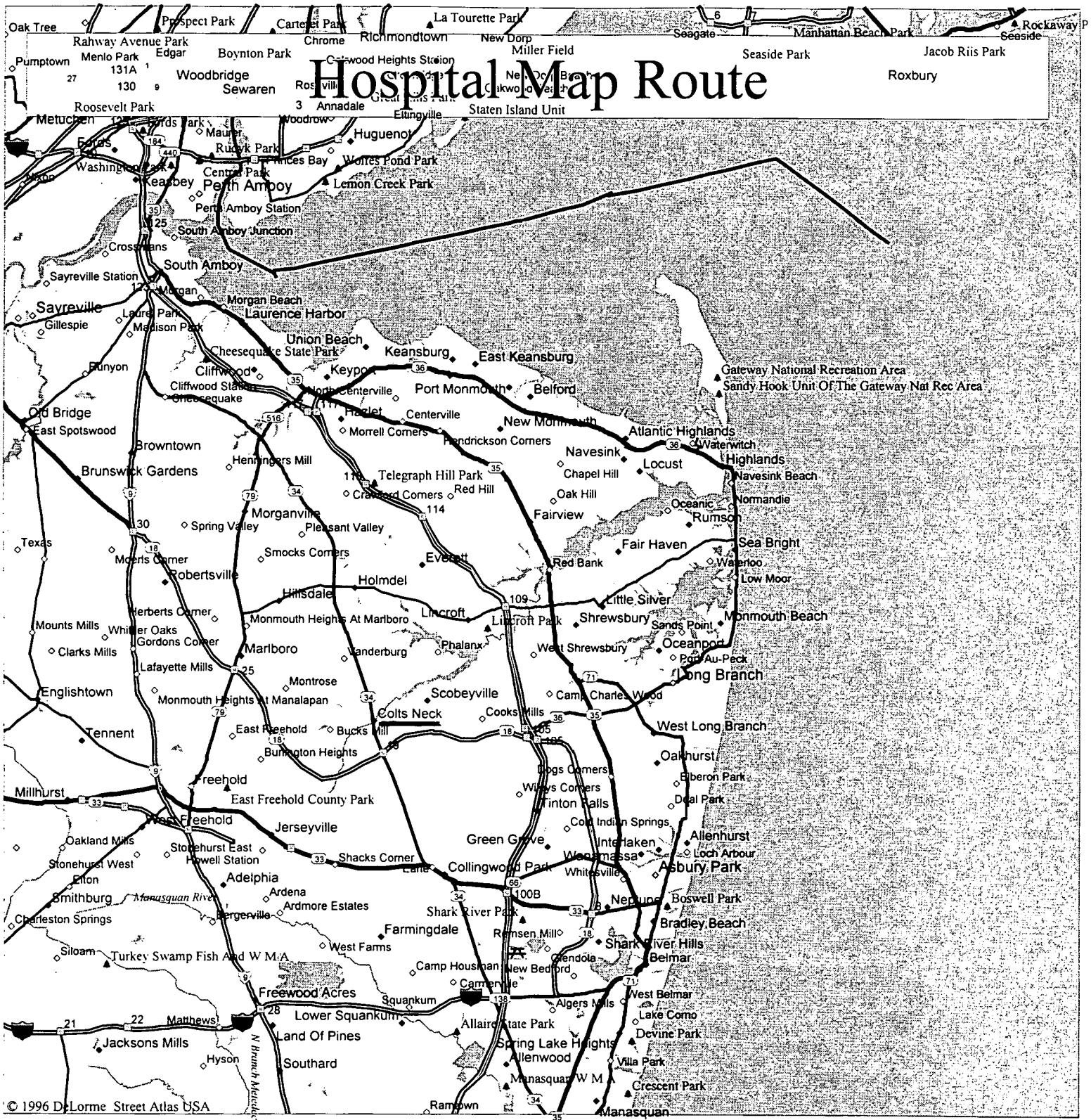
1 Miles

2 KM

- Secondary SR/Road/Hwy Ramp
- Major Connector
- State Route
- Primary State Route
- Trail
- Interstate/Limited Access
- Railroad
- Point of Interest
- Small Town
- Large City
- Geographic Feature
- Hospital
- Locale
- Exit
- Cemetery
- Population Center

A

Hospital Map Route



Mag 11.00
Fri Nov 07 12:29 1997
Scale 1:250,000 (at center)

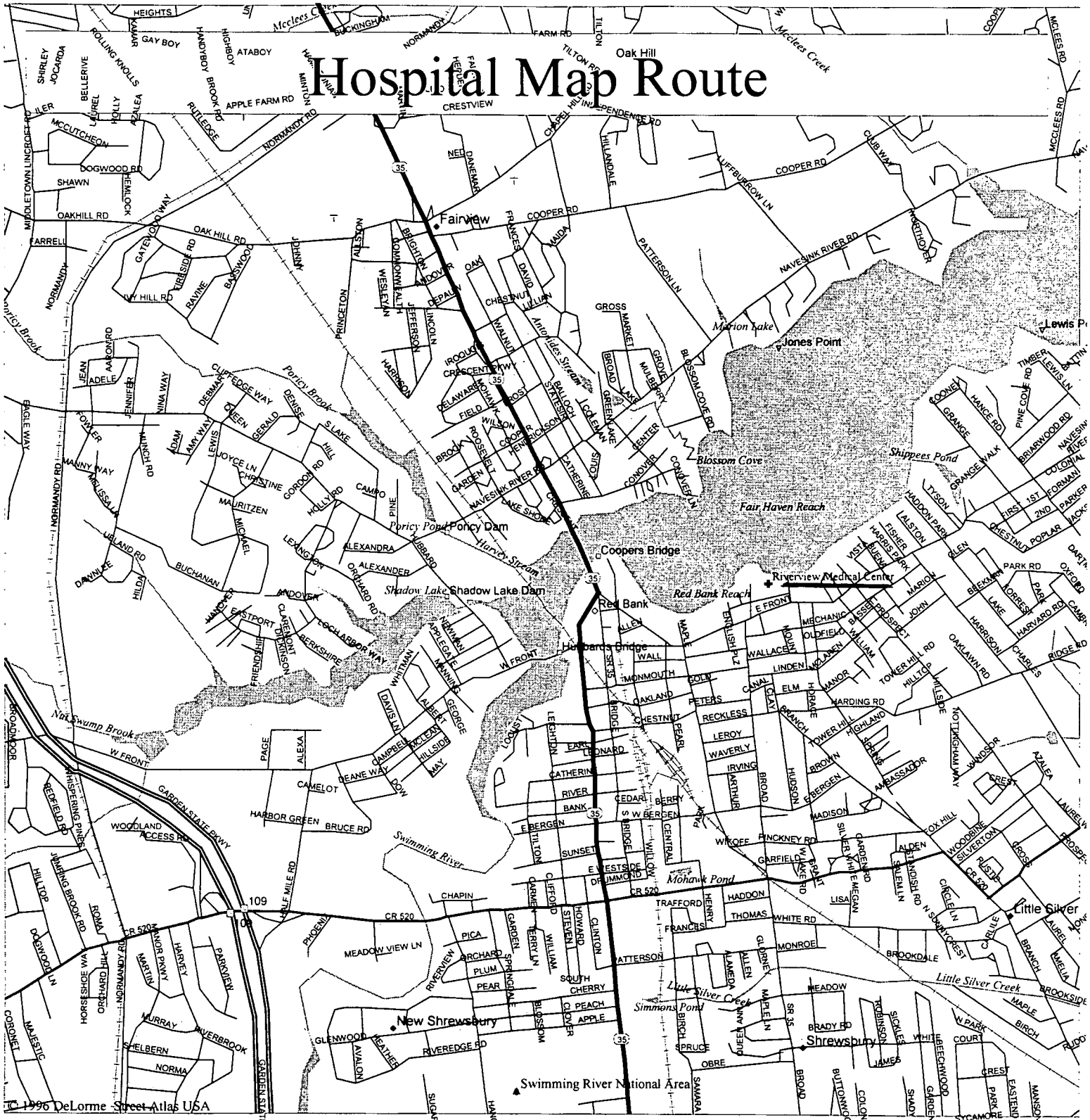
5 Miles

5 KM

- Major Connector
- State Route
- Primary State Route
- Interstate/Limited Access
- Toll Highway
- US Highway
- Rest Area with facilities
- County Seat
- Small Town
- Large City
- Park/Reservation
- Locale
- Exit
- State Boundary
- Population Center
- Lake

B

Hospital Map Route



Mag 14.00
Fri Nov 07 12:27 1997
Scale 1:31,250 (at center)
2000 Feet
1000 Meters

- Secondary SR/Road/Hwy Ramp
- Major Connector
- Primary State Route
- Toll Highway
- Railroad
- Point of Interest
- Small Town
- Geographic Feature
- Hospital
- Park/Reservation
- Locale
- Exit
- Cemetery
- Population Center
- Water
- River/Canal

B

Table 12-1
Emergency Telephone Numbers

Contact	Firm or Agency	Telephone Number
Police	Base	2333 or 908-866-2333
Fire	Base	2333 or 908-866-2333
Hospital	Base Emergency Medical Riverview Medical	2333 or 908-866-2333 731-741-2700
Ambulance	Base	2333 or 908-866-2333
PM, Mike Heffron	Foster Wheeler Environmental	Work - (215) 702-4015
PHSM, Grey Coppi	Foster Wheeler Environmental	Work - (215) 702-4079 Home - (908)
Navy On-Scene Coordinator (NOSC)	Base - Supervisory Environmental Engineer - Gus Hermanni	908-866-2624
New Jersey Poison Control		800-962-1253
Greg Goepfert, ROICC	NWS Earle (Site Contact)	908-866-2515

During the site safety briefing, project personnel will be informed of the location of the first aid station(s) that is available on-site. Unless they are in immediate danger, injured persons will not be moved until paramedics can attend to them. Some injuries, such as severe cuts and lacerations or burns, may require immediate treatment. First aid instructions that can be obtained from doctors or paramedics, prior to the arrival of the emergency-response squad or before the injured person can be transported to the hospital, will be followed closely.

12.6 Emergency Site Evacuation Procedures

In order to mobilize the manpower resources and equipment necessary to cope with a fire or other emergency, a clear chain of authority will be established. The EC will take charge of all emergency response activities and dictate the procedures that will be followed for the duration of the emergency. The EC will assess the seriousness of the situation, and direct the efforts of site/base personnel until the emergency response units arrive, provided that workers have the appropriate training and experience necessary to deal with the particular situation. In consultation with the PHSM and PM, the EC also may order the closure of the site for an indefinite period.

All project personnel will be instructed on proper emergency response procedures and locations of emergency telephone numbers during the initial site safety meeting. If an emergency occurs, including but not limited to fire, explosion or significant release of toxic gas into the atmosphere, the operator will call the base security, the PM and the PHSM.

The EC will remain at the site to provide any assistance requested by emergency-response squads as they arrive to deal with the situation.

12.7 Potential or Actual Fire or Explosion

Fires will be prevented by adhering to the following precautions:

- Good housekeeping and storage of materials;
- Storage of flammable liquids and gases away from oxidizers;
- Fire extinguishers rated at least 10 pounds ABC; and
- Inspections of all fire extinguishers. In the event of a fire or explosion, procedures will include immediately evacuating the site, notification of local fire and police departments the PM, PHSM, base personnel and other appropriate emergency response groups. Personnel will not fight a fire beyond the stage where it can be put out with a portable extinguisher (incipient stage).

12.8 Overt Chemical Exposure

SKIN CONTACT:	Use copious amounts of soap and water. Wash/rinse affected areas thoroughly, then provide appropriate medical attention. Eyes should be rinsed for 15 minutes upon chemical contamination. Skin should also be rinsed for 15 minutes if contact with caustics, or acids occurs.
INHALATION:	Move to fresh air. Decontaminate if necessary, and transport to emergency medical facility.
INGESTION:	Decontaminate if necessary, and transport to emergency medical facility.
PUNCTURE WOUND OR LACERATION:	Decontaminate if necessary, and transport to emergency medical facility.

12.9 Decontamination During Medical Emergencies

If emergency life-saving first aid and/or medical treatment is required, normal decontamination procedures may need to be abbreviated or postponed. The operator or designee will accompany contaminated victims to the medical facility to advise on matters involving decontamination, when necessary. The PM or PHSM will be available for consultation with hospital staff regarding the properties of the contaminants if the operator is injured. An MSDS of the known or suspected contaminants will be brought or faxed to the hospital following the incident. The outer garments can be removed on-site if they do not cause delays, interfere with treatment or aggravate the problem. Respiratory equipment must always be removed. At the site, protective clothing can be cut away. If the outer contaminated garments cannot be safely removed, a plastic barrier shall be placed between the injured individual and clean surfaces to help prevent contaminating the inside of ambulances and/or medical personnel. Outer garments may then be removed at the medical facility. No attempt will be made to wash or rinse the victim on-site, unless it is known that the individual has been contaminated with an extremely toxic or corrosive material which could also cause severe injury or loss of life to emergency response personnel. For minor medical problems or injuries, standard decontamination procedures will be followed.

PPE shall be returned to the site if the hospital cannot dispose of the garments. An MSDS of the known or suspected contaminants will be brought or faxed to the hospital following an incident.

12.10 Accident/Incident Reporting

As soon as first aid and/or emergency response needs have been met by the EC, the following parties are to be contacted by telephone:

1. Mike Heffron, Project Manager -215-702-4015

2. Grey Coppi, Program Health and Safety Manager - 215-702-4079

3. The employer of any injured worker who is not an employee of Foster Wheeler Environmental.

Written confirmation of verbal reports are to be submitted within 24 hours. The report form entitled "Incident Report" is to be used for this purpose. All Foster Wheeler Environmental representatives contacted by telephone are to receive a copy of this report. If the employee involved in the incident is not a Foster Wheeler Environmental employee, his/her employer shall receive a copy of the incident report.

12.11 Spill Control and Response

Proper neutralizing agents should be available based upon the properties of the materials expected on-site as well as those brought onto the site. All small hazardous spills/environmental releases shall be contained as close to the source as possible. Whenever possible, the MSDS should be consulted to assist in determining the best means of containment and cleanup. For small spills sorbent materials such as sand, sawdust or commercial sorbents should be placed directly on the substance to contain the spill and aid recovery. Any acid spills should be neutralized carefully prior to attempting recovery. All spill containment materials will be properly disposed. An exclusion zone around the spill area should be established.

The following steps should be taken by the Emergency Coordinator:

1. Determine the nature and major spill components;
2. Make sure all unnecessary persons are removed from the spill area;
3 Notify appropriate response teams and authorities;
4. If a flammable liquid, gas or vapor is involved, remove or shut down all ignition sources such as heaters, and use non-sparking and/or explosive proof equipment to contain or clean up the spill;
5. Increase building ventilation by opening all doors, vents and engage fans;
6. Use proper PPE when dealing with the spill; and
7. If possible, one or more of the following procedures may be performed.

    - Upright a drum that may have spilled
    - Apply neutralizing agents to the spill
    - Close or open the valve
8. Notify Regulatory Affairs - Tom Teeling, 215-702-4078.

12.12 Emergency Equipment

The following minimum emergency equipment shall be kept and maintained on-site:

- One industrial first aid kit;
- Two fire extinguishers-ABC type - 10 LB;
- One 55-gallon drum for waste containerization;
- One emergency eye wash - Meeting ANSI Approval Z358.1-1990;
- Two plastic shovels and two brooms; and
- Absorbent material such as clay or "DRI-Z0RB".

12.13 Postings

The following information shall be posted conspicuously:

- Emergency telephone numbers;
- Diagrams showing the location of fire extinguishers and emergency equipment;

- Emergency exit and staging area; and
- Route to hospital.

12.14 Restoration and Salvage

Following an emergency, prompt restoration of utilities, overflow protection devices, fire protection equipment and medical supplies will reduce the possibility of further losses. Some of the items that may need to be addressed are:

- Refilling fire extinguishers;
- Refilling medical supplies;
- Replacing used air horns;
- Replacing used containment and absorbent materials; and
- Recharging eyewashes.

12.15 Practice Drills

Practice drills of the Emergency Response Plan will be conducted for all projects of three months duration or longer. The necessity of a drill for projects of less than three months duration will be determined by the PHSM based on potential emergencies of the site.

Evacuation procedures will be outlined during the Site Specific Health and Safety Briefing and discussed on a regular basis at the daily Health and Safety briefing.

13.0 TRAINING

13.1 General Health and Safety Training

In accordance with Foster Wheeler Environmental corporate policy, and pursuant to 29 CFR 1910.120, hazardous waste site workers shall, at the time of job assignment, have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations unless otherwise noted in the above reference. At a minimum, the training shall have consisted of instruction in the topics outlined in the above reference. Personnel who have not met the requirements for initial training shall not be allowed to work in any site activities in which they may be exposed to hazards (chemical or physical).

In addition to the required initial training, each employee shall have received 24 hours of supervised on-the-job training provided by FWENC. This training will address the duties the employees are expected to perform. Personnel not involved with the remedial activity and are not expected to come into contact with groundwater or raw materials will not need the training described above to work on the site.

13.2 Annual Eight-Hour Refresher Training

Annual eight-hour refresher training will be required of all hazardous waste site field personnel in order to maintain their qualifications for field work. The training will cover a review of 1910.120 requirements and related company programs and procedures. In addition, topics deemed necessary by the SHSO or PHSM may be added.

13.3 Manager/Supervisor Training

In accordance with 29 CFR 1910.120, on-site management and supervisors who will be directly responsible for, or who supervise employees engaged in hazardous waste operations shall receive training as required by Section 13.1 of this SHERP and at least 8 additional hours of specialized training on managing such operations at the time of the job assignment.

13.4 Site-Specific Training

Prior to commencement of field activities, all field personnel assigned to the project will have completed training that will specifically address the activities, procedures, monitoring, and equipment used in the site operations. It will include site and facility layout, hazards and emergency services at the site and will highlight all provisions contained within this SHERP. This training will also allow field workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity. FWENC employees will be trained to a level necessary to respond in a defensive capacity to emergencies.

13.5 Daily Safety Briefings

Project personnel and visitors will be given daily on-site health and safety briefings by the Field Operations Leader to assist site personnel in safely conducting their work activities. The briefings will include information on new operations to be conducted, changes in work practices or changes in the site's environmental conditions, as well as periodic reinforcement of previously discussed topics. The briefings will also provide a forum to facilitate conformance with safety requirements and to identify performance deficiencies related to safety during daily activities or as a result of safety inspections. The meetings will also be an opportunity for the SHSO to periodically update the crews on monitoring results. Prior to starting any new activity, a training session using the Activity Hazard Analysis will be held for crew members involved in the activity.

13.6 First Aid And CPR

At least one individual with first aid, bloodborne pathogen and CPR training will be present on-site to ensure that emergency medical treatment is available during field activities. The training will be consistent with the requirements of the American Red Cross.

13.7 Hazard Communication

Hazard communication training will be provided in accordance with the requirements contained in the Foster Wheeler Environmental Health and Safety Program Manual, Section 4-2.

14.0 FIELD PERSONNEL REVIEW

This form serves as documentation that field personnel have read, or have been informed of, and understand the provisions of the SHERP. It is maintained on-site by the SHSO as a project record.

Each field person team shall sign this section after site-specific training is completed and before being permitted to work on-site.

I have read, or have been informed of, the Site-Specific Health and Safety Plan for the NWS Earle, ***Site 26,*** *located in Colts Neck, , NJ and understand the information presented. I will comply with the provisions contained therein.*

Name (Print and Sign)	Date

15.0 REFERENCES

American Conference of Governmental Industrial Hygienists, Inc., 1992, Documentation of the Threshold Limit Values and Biological Exposure Indices; 6th Ed., ACGIH, Cincinnati, Ohio.

American Conference of Governmental Industrial Hygienists, Inc., 1987, Guidelines for the Selection of Chemical Protective Clothing; Third Edition, ACGIH, Cincinnati, Ohio, February 1987.

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Federal Acquisition Regulation, F.A.R. Clause 52.236-13: Accident Prevention.

Foster Wheeler Environmental Corporation, Foster Wheeler Environmental Corporation Health and Safety Manual, 1995.

NIOSH/OSHA/USCG/EPA, 1985, Occupational Safety and Health, Guidance Manual for Hazardous Waste Site Activities; October 1985.

NIOSH Pocket Guide to Chemical Hazards, June 1994

Sax, N. Irving, 1992, Dangerous Properties of Industrial Materials, 8th Ed; Van Nostrand Reinhold Co. Inc., New York, NY.

U.S. Army Corps of Engineers, 1987, Safety and Health Requirements Manual; EM 385-1-1, revised October 1992.

U.S. Department of Labor, Occupational Safety and Health Administration, 1989, 29 CFR Part 1910 Hazardous Waste Operations and Emergency Response, Final Rule, March 6, 1989; Construction Industry Standards, 29 CFR 1926; and General Industry Standards, 29 CFR 1910.

U.S. Environmental Protection Agency, 1988, Standard Operating Safety Guides; July, 1988.

U.S. Environmental Protection Agency, no date, Response Safety Decision-Making; Course Manual, Office of Emergency and Remedial Response, Hazardous Response Support Division.

Brown and Root Remedial Investigation, 1995

Northern Division Naval Facilities Engineering Command
Proposed Plan for OU-3- Site 26. July, 1997

APPENDIX A

FIELD CHANGE REQUEST FORM

FOSTER WHEELER ENVIRONMENTAL
FIELD CHANGE REQUEST FORM

PROJECT: _____

CHANGE NUMBER: _____

PROJECT LOCATION: _____

_____

_____

DESCRIPTION OF CHANGE: _____

_____

_____

_____

_____

REASON FOR CHANGE: _____

_____

_____

_____

_____

RECOMMENDED DISPOSITION: _____

_____

_____

_____

_____

SITE MANAGER: _____

Signature DATE

PROGRAM HEALTH AND SAFETY MANAGER:

_____

Signature DATE

DISTRIBUTION:

Program Health and Safety Manager	_____
Site Health and Safety Officer	_____
Quality Assurance Representative	_____
Field Operation Leader	_____

HASP FIELD CHANGE

Field Change Number: _____ Date Effective: _____

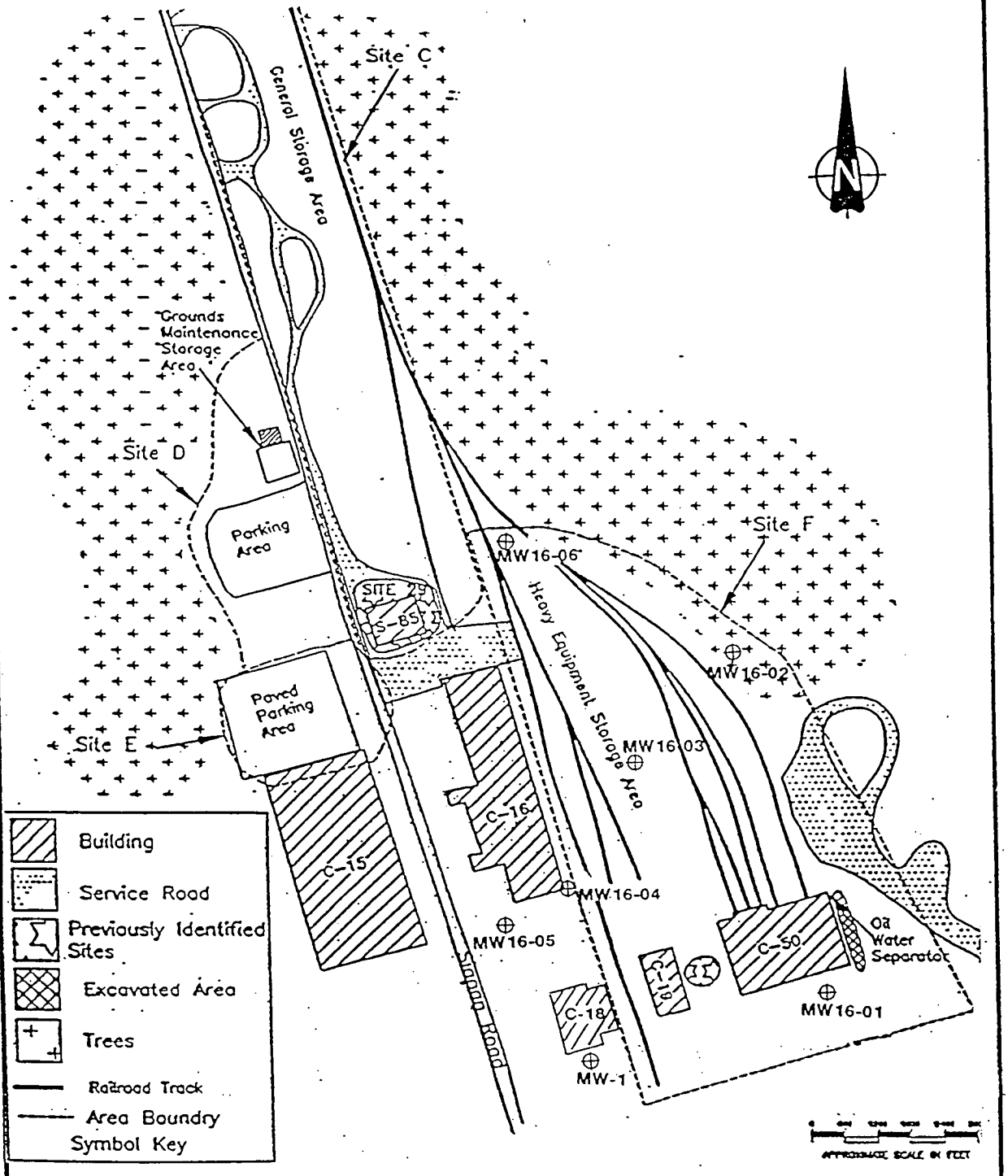
Pen and Ink changes to be made in the HASP to alert the reader of this change.

Reason for the change to be incorporated into the HASP:

Text of Change to be incorporated:

APPENDIX B

SITE FIGURES



SOURCE: SCAPS REPORT

U.S. Navy RAC
NWS Earle, Colts Neck, N.J.

Figure 2
Site Layout Map

FOSTER WHEELER ENVIRONMENTAL CORPORATION

APPENDIX C

ACTIVITY HAZARD ANALYSIS

ACTIVITY HAZARD ANALYSIS

Project: NAVAL WEAPONS STATION-EARLE
Location: Colts Neck, New Jersey
Activity: SEPTIC SYSTEM LEACH TANK REMOVAL AT SITE 26

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Mobilize and set up for excavation(Hazards and Controls 1-10 apply	1. Back Injuries	1. Site personnel will be instructed on proper lifting techniques; Mechanical devices should be used to reduce manual handling of materials; team lifting should be utilized if mechanical devices are not available; Instruct personnel on proper lifting techniques
	2. Slips/Trips/Falls	2. Maintain work areas safe and orderly; unloading areas should be on even terrain; mark and repair if possible tripping hazards
	3. Vehicular Traffic	3. Spotters will be used when backing up trucks and heavy equipment and moving equipment
	4. Overhead Hazards	4. Personnel will be required to wear hard hats that meet ANSI Standard Z89.1
	5. Dropped Objects	5. Steel toe boots meeting ANSI Standard Z41 will be worn
	6. Noise	6. Hearing protection will be worn with a noise reduction rating capable of maintaining personal exposure below 85 dBA (ear muffs or plugs); SHSO will determine the need for hearing protection; all equipment will be equipped with manufacturer's required mufflers
	7. Eye Injuries	7. Safety glasses meeting ANSI Standard Z87 will be worn during septic system removal soil excavation(if necessary), and backfilling operation
	8. Heavy Equipment (rollovers, overhead hazards, spills, struck by or against)	8. Equipment will have rollover protective structures and seat belts; operators shall wear seat belts when operating equipment; do not operate equipment on grades which exceed manufacturer's recommendations; equipment will have guards, canopies or grills to protect from flying objects; ground personnel will stay clear of all suspended loads; all slings chains and ropes will be rated for the load in which it is expected to lift; spills and absorbent materials will be readily available; eye contact with operators will be made before approaching equipment; equipment will not be approached on blind sides; avoid equipment swing areas; know hand signals; all equipment will be equipped with backup alarms.
	9. Exposure to Site Contaminants	9. Work which will be performed is on a system which held or processed site contaminants. area. Contaminants of Concern are Trichloroethene, Tetrachloroethylene, and Ammonium Picrate (known on-site as explosive D). Workers will be informed of site contaminants during Site Specific Health and Safety briefing. Level B/C PPE shall be used during intrusive activities. See action level decision logic for air monitoring.

EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
1. Level D PPE 2. First Aid Kits 3. Fire Extinguishers 4. Heavy Equipment	1. Inspections will be performed on fire extinguishers. 2. Inspections will be performed on first aid kits. 3. Initial inspections will be performed on heavy equipment prior to each use.	1. Personnel will have received 40hr OSHA 1910.120 training and be in a medical monitoring program meeting the requirements of OSHA standard 1910.120 2. Site specific training 3. Qualified operators will be used for heavy equipment operation 4. Instruct personnel on proper use of fire extinguishers 5. At least 1 individual on-site will have current CPR and First aid training

ACTIVITY HAZARD ANALYSIS

Project: NAVAL WEAPONS STATION-EARLE
Activity: SEPTIC SYSTEM LEACH TANK REMOVAL AT SITE 26

Location: Colts Neck, New Jersey

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Remove Septic Systems (Hazards 1-14 apply)	1. Back Injuries	1. Site personnel will be instructed on proper lifting techniques; Mechanical devices should be used to reduce manual handling of materials; team lifting should be utilized if mechanical devices are not available; Instruct personnel on proper lifting techniques.
2. Inspect for possible contamination (Hazards 1-14 apply)	2. Slips/Trips/Falls	2. Maintain work areas safe and orderly; unloading areas should be on even terrain; mark and repair if possible tripping hazards.
3. Excavate soil (Hazards 1-14 apply)	3. Vehicular Traffic	3. Spotters will be used when backing up heavy equipment and moving equipment/back-up alarms: monitoring wells are in work area, use spotter when moving equipment in vicinity of monitoring wells
	4. Overhead Hazards	4. Personnel will be required to wear hard hats that meet ANSI Standard Z89.1
	5. Dropped Objects	5. Steel toe boots meeting ANSI Standard Z41 will be worn
	6. Noise	6. Hearing protection will be worn with a noise reduction rating capable of maintaining personal exposure below 85 dBA (ear muffs or plugs); SHSO will determine the need for hearing protection; all equipment will be equipped with manufacturer's required mufflers
	7. Eye Injuries	7. Safety glasses meeting ANSI Standard Z87 will be worn during excavation
	8. Heavy Equipment (rollovers, overhead hazards, struck by or against)	8. Equipment will have rollover protective structures and seat belts; operators shall wear seat belts when operating equipment; do not operate equipment on grades which exceed manufacturer's recommendations; equipment will have guards, canopies or grills to protect from flying objects; ground personnel will stay clear of all suspended loads; all slings chains and ropes will be rated for the load in which it is expected to lift; spills and absorbent materials will be readily available; eye contact with operators will be made before approaching equipment; equipment will not be approached on blind sides; avoid equipment swing areas; know hand signals; all equipment will be equipped with backup alarms.
	9. Fire	9. ABC type fire extinguishers shall be readily available; No smoking in work area
	10. Excavation	10. All underground utilities will be identified and dig safe numbers will be logged; any excavation four feet and deeper will be monitored for oxygen, combustible gases, and toxic atmospheres prior to personnel entry. Foster Wheeler excavation procedures will be followed; excavated areas will be barricaded to prevent field personnel from falling into the open area; protective systems (sloping, benching or shoring) to prevent trench/excavation cave-in will be affected in excavations greater than five feet in depth, or if deemed necessary by a competent person; all trenching/excavation will be in accordance with the provisions of 29 CFR 1926 Subpart P;
	11. Spills	11. Spill and absorbent materials will be readily available
Removal of septic system (con't)	12. Underground Hazards	12. All underground utilities will be identified prior to removal/excavation of septic system; dig safe number(s) will be documented; coordinate with NWS-Earle facility services to identify any recently installed utilities or underground hazards not identified on drawings supplied by Navy NorthDiv

Project: NAVAL WEAPONS STATION-EARLE
Activity: SEPTIC SYSTEM LEACH TANK REMOVAL AT SITE 26

Location: Colts Neck, New Jersey

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
	13. Chemical Exposure	13. Intrusive activities during Septic System removal and will be performed in Level B PPE; area contains COC's described in Mobilization AHA. Septic system was never used for the removal and recovery of Explosive D however care should be taken during removal operations to be as observant for discolored soils or other conditions which may indicate the presence of site contaminants; air monitoring will be performed per Table 7-1 of SHERP addendum for Site 26.
	14. Electrocution	14. Septic System may have electric service for certain components; prior to system removal inspect system for electric service; ensure that all potential energy sources have been de-energized; contact NWS-Earle facility services for assistance locating energy sources; follow Foster Wheeler HS Procedure 6-5 (Lockout/Tagout) where applicable; Ground fault circuit interrupters will be used; Cords will be kept and out of wet areas unless they are approved submersible type; Cords will be inspected prior to each use for damage. Damaged equipment will be tagged and taken out of service. Powered tools will be equipped with either three-wire cords with ground and be grounded, be double insulated, or be powered by a low-voltage isolation transformer

EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
1. Backhoe 2. Level D and Modified Level D PPE 3. First Aid Kits 4. Fire Extinguishers 5. GFCI's	1. Inspections will be performed on fire extinguishers 2. Inspections will be performed on first aid kits 3. Initial and daily inspections will be performed on heavy equipment prior to each use 4. Septic System prior to removal for possible energy sources	1. Site specific training 2. Qualified operators will be used for heavy equipment operation 3. Instruct personnel on proper use of fire extinguishers 4. At least 1 individual on-site will have current CPR and First aid training

ACTIVITY HAZARD ANALYSIS

Project: NAVAL WEAPONS STATION -EARLE
Location: Colts Neck, New Jersey.
Activity: BACKFILL EXCAVATED AREAS AT SEPTIC TANK REMOVAL SITE 26

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Backfill area of excavation	1. Back Injuries	1. Site personnel will be instructed on proper lifting techniques; Mechanical devices should be used to reduce manual handling of materials; team lifting should be utilized if mechanical devices are not available; Instruct personnel on proper lifting techniques.
	2. Slips/Trips/Falls	2. Maintain work areas safe and orderly; unloading areas should be on even terrain; mark and repair if possible tripping hazards.
	3. Vehicular Traffic	3. Spotters will be used when backing up trucks, heavy equipment and moving equipment/back-up alarms
	4. Overhead Hazards	4. Personnel will be required to wear hard hats that meet ANSI Standard Z89.1
	5. Dropped Objects	5. Steel toe boots meeting ANSI Standard Z41 will be worn
	6. Noise	6. Hearing protection will be worn with a noise reduction rating capable of maintaining personal exposure below 85 dBA (ear muffs or plugs); SHSO will determine the need for hearing protection; all equipment will be equipped with manufacturer's required mufflers
	7. Eye Injuries	7. Safety glasses meeting ANSI Standard Z87 will be worn during excavation and soil sampling operations.
	8. Heavy Equipment (rollovers, overhead hazards, spills, struck by or against)	8. Equipment will have rollover protective structures and seat belts; operators shall wear seat belts when operating equipment; do not operate equipment on grades which exceed manufacturer's recommendations; equipment will have guards, canopies or grills to protect from flying objects; ground personnel will stay clear of all suspended loads; all slings chains and ropes will be rated for the load in which it is expected to lift; spills and absorbent materials will be readily available; eye contact with operators will be made before approaching equipment; equipment will not be approached on blind sides; avoid equipment swing areas; know hand signals; all equipment will be equipped with backup alarms.
	9. Chemical Exposure	9. Modified Level D PPE, Level B if air monitoring indicates the presence of volatile organics.

EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
1. Backhoe 2. Level D and Modified Level D PPE 3. First Aid Kits 4. Fire Extinguishers	1. Inspections will be performed on fire extinguishers. 2. Inspections will be performed on first aid kits. 3. Initial and daily inspections will be performed on heavy equipment prior to each use.	1. Site specific training 2. Qualified operators will be used for heavy equipment operation 3. Instruct personnel on proper use of fire extinguishers 4. At least 1 individual on-site will have current CPR and First aid training

ACTIVITY HAZARD ANALYSIS

Project: Modification 3 - NWS Earle — Location: Colts Neck, NJ

Activity: Mobilization/Demobilization

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Mobilization of equipment and supplies (heavy equipment) 2. Set up field support trailer 3. Construct temporary decontamination pad 4. Establish work zones and setup security	1. Heat Stress 2. Hand and Power Tools 3. Noise 4. Manual Lifting 5. Slips/Trips/Falls 6. Railroad Crossing	1. Personnel must be aware of signs/symptoms of heat stress; Follow FWENC Temperature Extremes Program HS 4-6. 2. Daily inspections will be performed; Remove broken or damaged tools from service; Use in accordance with manufacturers instructions; Use the tool for its intended purpose. 3. Hearing protection mandatory at or above 85 dBA TWA; Instruct personnel to properly wear hearing protective devices. 4. Use proper lifting techniques; Team lifting or mechanical devices will be used for heavy loads. rk areas and means of access shall be neat and orderly; o not take short cuts ecome familiar with site layout. aintain alertness to location of tracks; op, look and listen prior to entering crossways; o not stop vehicles on tracks; Wear reflective traffic vests; Obtain train schedule.

EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Hand tools, Level D PPE	Ensure hand tools are serviceable	Knowledge of Proper Lifting Techniques and Use of Hand Tools Personnel Have Read and Comply with SHERP Site Specific Training

ACTIVITY HAZARD ANALYSIS

Project: Modification 3 - NWS Earle — Location: Colts Neck, NJ

Activity: Site Remediation

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Excavation of contaminated soils 2. Backfilling of excavation 3. Site restoration 4. Heavy Equipment Decontamination	1. Heat Stress 2. Hand and Power Tools 3. Heavy Equipment Operations 4. Noise 5. Fire and Explosion 6. Manual Lifting 7. Steam/Heat/Splashing 8. Slips/Trips/Falls 9. Exposure/Contact with Contaminated Soils	1. Personnel must be aware of signs/symptoms of heat stress; Follow FWENC Temperature Extremes Program HS 4-6; Frequent breaks; block sources of radiant heat, if possible. 2. Daily inspections will be performed; Remove broken or damaged tools from service; Use in accordance with manufacturers instructions; Use the tool for its intended purpose. 3. Review FWENC Drill Rig Safety Program HS 6-3. 4. Hearing protection mandatory at or above 85 dBA TWA; Instruct personnel to properly wear hearing protective devices. 5. Find and mark existing utilities prior to drilling; Perform CGI monitoring per Section.7; Properly store fuels; Do not fuel equipment while it is running; All personnel have received fire extinguisher training. A 10 lb. ABC fire extinguisher located in work area. 6. Use proper lifting techniques; Team lifting or mechanical devices will be used for heavy loads. 7. Use PPE per Section 6; Stay out of splash radius to minimize exposure; Do not direct steam at yourself or anyone else. rk areas and means of access shall be neat and orderly; not take short cuts Become familiar with site layout. 9. Wear appropriate PPE per Section 6; Practice contamination avoidance; Conduct real-time air monitoring; Follow proper decontamination procedures.

Project: Modification 3 - NWS Earle — Location: Colts Neck, NJ

Activity: Site Remediation

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
EQUIPMENT USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Heavy Equipment, Hand tools PID/FID, CGI, Dust Monitor Level D Modified and Level C PPE	Inspect heavy equipment daily Ensure hand tools are serviceable Inspect and calibrate monitoring equipment daily Inspect PPE before and after use	Licensed equipment operator Knowledge of proper use of hand tools Personnel have read and comply with SHERP Site-specific training

ACTIVITY HAZARD ANALYSIS

Project: Site 16/F NWS Earle — Location: Colts Neck, NJ

Activity: Installation/Operation of Passive Treatment System

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Install Passive System 2. Monitor System	1. Heat Stress 2. Hand and Power Tools 3. Noise 4. Fire and Explosion 5. Manual Lifting 6. Splashing 7. Slips/Trips/Falls 8. Exposure/Contact with TPH	1. Personnel must be aware of signs/symptoms of heat stress; Follow FWENC Temperature Extremes Program HS 4-6. 2. Daily inspections will be performed; Remove broken or damaged tools from service; Use in accordance with manufacturers instructions; Use the tool for its intended purpose. 3. Hearing protection mandatory at or above 85 dBA TWA; Instruct personnel to properly wear hearing protective devices. 4. Perform CGI monitoring per Section 7; Properly store fuels; Do not fuel equipment while it is running; All personnel have received fire extinguisher training. A 10 lb. ABC fire extinguisher located in work area. 5. Use proper lifting techniques; Team lifting or mechanical devices will be used for heavy loads. 6. Use PPE per Section 6; Stay out of splash radius to minimize exposure; rk areas and means of access shall be neat and orderly; not take short cuts Become familiar with site layout. 8. Wear appropriate PPE per Section 6; Practice contamination avoidance; Conduct real-time air monitoring; Follow proper decontamination procedures.

EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Hand tools PID/FID, CGI, Level D Modified PPE	Ensure hand tools are serviceable Inspect and calibrate monitoring equipment daily Inspect PPE before and after use	Knowledge of proper use of hand tools Personnel have read and comply with SHERP Site-specific training

ACTIVITY HAZARD ANALYSIS

Project: Site 16/F NWS Earle — Location: Colts Neck, NJ

Activity: Installation/Operation of Bioslurping System

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Install Passive System 2. Monitor System	1. Heat Stress 2. Hand and Power Tools 3. Noise 4. Fire and Explosion 5. Manual Lifting 6. Splashing 7. Slips/Trips/Falls 8. Electrocution 9. Exposure/Contact with Chemicals	1. Personnel must be aware of signs/symptoms of heat stress; Follow FWENC Temperature Extremes Program HS 4-6. 2. Daily inspections will be performed; Remove broken or damaged tools from service; Use in accordance with manufacturers instructions; Use the tool for its intended purpose. 3. Hearing protection mandatory at or above 85 dBA TWA; Instruct personnel to properly wear hearing protective devices. 4. Perform CGI monitoring per Section 7; Properly store fuels; Do not fuel equipment while it is running; All personnel have received fire extinguisher training. A 10 lb. ABC fire extinguisher located in work area. 5. Use proper lifting techniques; Team lifting or mechanical devices will be used for heavy loads. 6. Use PPE per Section 6; Stay out of splash radius to minimize exposure; rk areas and means of access shall be neat and orderly; not take short cuts Become familiar with site layout. 8. Locate underground utilities prior to performing field activities; All electrical work will be performed by licensed electricians; Follow FWENC lockout/tagout program HS 6-5; All electrical installation shall comply with NESE, NEC; Live parts of wiring or equipment shall be guarded to protect all persons or objects from them; Switches, circuit breakers, fuse panels, and motor controls located outside shall be waterproof; All circuits supplying outdoor or wet location receptacles shall be protected GFCI's. 9. Wear appropriate PPE per Section 6; Practice contamination avoidance; Conduct real-time air monitoring; Follow proper decontamination procedures.

Project: Site 16/F NWS Earle Location: Colts Neck, NJ

Activity: Installation/Operation of Bioslurping System

EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Hand and power tools PID/FID, CGI, Level D Modified PPE	Ensure hand tools are serviceable Inspect and calibrate monitoring equipment daily Inspect PPE before and after use	Knowledge of proper use of hand tools Knowledge of electrical safety Personnel have read and comply with SHERP Site-specific training

APPENDIX D

PPE SELECTION FORM

PERSONAL PROTECTIVE EQUIPMENT SELECTION

ACTIVITY:_____ **SIGNATURE:**_____ **DATE:**

_____

TASK	HEAD	EYE/FACE	FEET	HANDS	BODY	HEARING	RE

APPENDIX E

MEDICAL DATA SHEET

Foster Wheeler Environmental Corporation

MEDICAL DATA SHEET

The brief medical data sheet shall be completed by all on-site personnel and will be kept in the Support Zone by the SHSO as a project record during the conduct of site operations. It accompanies any personnel when medical assistance is needed or if transport to a hospital is required.

Project: **NWS EARLE SITE 26**

Name: _____ Home Telephone: _____

Address: _____

Age: _____ Height: _____ Weight: _____ Blood Type: _____

Name and Telephone Number of Emergency Contact: _____

Drug or Other Allergies: _____

Particular Sensitivities: _____

Do You Wear Contacts? _____

Provide A Check List Of Previous Illnesses: _____

What Medications Are You Presently Using? _____

Do You Have Any Medical Restrictions? _____

Name, Address, And Phone Number Of Personal Physician: _____

APPENDIX F

SUMMARY DATA TABLES

TABLE 25-7a

COMPARISON OF GROUNDWATER ANALYTICAL DATA TO ARARS AND TBCs - SITE 26

NWS EARLE, COLTS NECK, NEW JERSEY

SAMPLE NUMBER:	26GW01	26GW02	26GW03	26GW04	26GW05	26GW06	ARARS & TBCs		
LOCATION:	26GW01	26GW02	26GW03	26GW04	26GW05	26GW06	Maximum Contaminant Level (MCL)	Drinking Water Health Advisory (Lowest Criterion Shown)	NJDEP Groundwater Quality Standard
DATA SOURCE:	1995 RI	1995 RI	1995 RI	1995 RI	1995 RI	1995 RI			
INORGANICS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
aluminum	614 E J	927 E J	406 E J	328 E	501 E J	460 E J	-	-	200
barium	518	464	475	13.2	89.6	46.9	2000	2000 a	2000
cadmium	0.52	0.42	0.38 U	4.4 E	0.52	0.38 U	5.00	5.00 e	4.00
calcium	17800	3540	7010	4600	6590	11100	-	-	-
chromium, total	1.3	1.2	1.4	1.0 U	1.0 U	1.0 U	100 *	100 a	100
cobalt	2.9	0.92	0.60 U	1.2	5.0	5.8	-	-	-
copper	8.7	13.8	9.2	4.0	0.82	0.81	1300	-	1000
iron	4740 E J	828 E J	719 E J	90.8	284	373 E	-	-	300
lead	2.6	1.5 U	1.5 U	1.5 UJ	1.5 U	1.5 U	15.0	-	10.0
magnesium	2170	636	2120	724	923	1920	-	-	-
manganese	106 E J	10.6	3.3	11.0	87.5 E	155 E	-	-	50.0
mercury	0.012	0.021	0.014	0.11 J	0.080	0.083	2.00	2.00 b	2.00
nickel	0.75 U	1.0	0.81	0.75 U	0.75 U	0.75 U	100	100 a	100
potassium	3640	1100	362	569	1350	1290	-	-	-
silver	0.94 U	0.94 U	0.94 U	3.3	0.94 U	0.94 U	-	100 a	-
sodium	4580	3250	2650	3910	2360	12500	-	-	50000
vanadium	1.6	1.0	0.81	0.61 U	0.61 U	0.61 U	-	-	-
zinc	326	326	280	8.3 R	180	100	-	2000 a	5000
VOLATILES	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,1-dichloroethene	3.0 E J	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	7.00	7.00 a	2.00
1,2-dichloroethene (total)	2000 E	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	70.0 a	70.0 a	10.0
chloroform	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	1.0 J	100	100 e	6.00
tetrachloroethene	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	1.0 J	5.00	1000 e	1.00
trichloroethene	1700 E	10.0 U	10.0 U	10.0 U	10.0 U	1.0 J	5.00	-	1.00

TABLE 25-5a

COMPARISON OF SUBSURFACE SOIL ANALYTICAL DATA TO ARARS AND TBCs - SITE 26

NWS EARLE, COLTS NECK, NEW JERSEY

SAMPLE NUMBER:	26SBDEC95-01	26SBDEC95-02	---	---	---	---	ARARS & TBCs		
LOCATION:	26SBDEC95-01	26SBDEC95-02	---	---	---	---	NJDEP Soil Residential Direct Contact Cleanup Criteria	NJDEP Soil Non-Residential Direct Contact Cleanup Criteria	NJDEP Soil Impact to Groundwater Cleanup Criteria
DATA SOURCE:	1995 RI, Dec.	1995 RI, Dec.							
INORGANICS	**mg/kg**	**mg/kg**					**mg/kg**	**mg/kg**	**mg/kg**
aluminum	n/a	n/a					-	-	-
antimony	n/a	n/a					14.0	340	-
arsenic	n/a	n/a					20.0	20.0	-
barium	n/a	n/a					700	47000	-
beryllium	n/a	n/a					1.00	1.00	-
cadmium	n/a	n/a					1.00	100	-
calcium	n/a	n/a					-	-	-
chromium, total	n/a	n/a					-	500	-
copper	n/a	n/a					600	600	-
iron	n/a	n/a					-	-	-
lead	n/a	n/a					400	600	-
magnesium	n/a	n/a					-	-	-
manganese	n/a	n/a					-	-	-
mercury	n/a	n/a					14.0	270	-
nickel	n/a	n/a					250	2400	-
potassium	n/a	n/a					-	-	-
silver	n/a	n/a					110	4100	-
sodium	n/a	n/a					-	-	-
thallium	n/a	n/a					2.00	2.00	-
vanadium	n/a	n/a					370	7100	-
zinc	n/a	n/a					1500	1500	-
VOLATILES	**ug/kg**	**ug/kg**					**ug/kg**	**ug/kg**	**ug/kg**
1,2-dichloroethene (total)	3.0 J	140					79000	1000000	1000
methylene chloride	11.0 U	2.0 J					49000	210000	1000
trichloroethene	2.0 J	74.0					23000	54000	1000