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CONTRACT NO. N62472-94-D-0398	DELIVERY ORDER # 0034	ACTIVITY LOCATION Naval Weapons Station (NWS) @ Earle, Colts Neck, NJ
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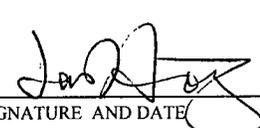
PROJECT TITLE:
Bilge Water Plant Health & Safety Plan

FROM: Foster Wheeler Environmental Corp. Program QC Manager: Mark Miller	DATE February 19, 1999
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TO: COTR: S. LEHMAN (2 COPIES)	DATE February 19, 1999
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		DATE

ITEM NO.	SUBMITTAL DESCRIPTION	PREPARED/ SUBMITTED BY	APPROVED	DISAPPROVED	REMARKS
61	SD-18, Bilge Water Plant Health & Safety Plan, February 18, 1999.	Janis Hottinger for Mark Miller			

DRAFT
SITE HEALTH AND SAFETY PLAN

Site: **BILGEWATER TREATMENT PLANT
NAVAL WEAPONS STATION-EARLE**

Location: **LEONARDO, NEW JERSEY**

Prepared By: **FOSTER WHEELER ENVIRONMENTAL CORPORATION**

Date Prepared: **FEBRUARY 19, 1999**

Revision: **00**

Delivery Order: **034**

Project Description: **INSTALLATION OF RAILCAR SPILL CONTAINMENT
MEASURES FOR THE BILGEWATER TREATMENT
PLANT**

Comments:

Waste types: None
Characteristics: Non-hazardous
Unusual Site Features: None
Status: Active Military Facility
Overall Hazard: Low

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

By their signature, the undersigned hereby certify that the Site Health and Safety Plan (SHSP) has been reviewed and approved for use during the remedial actions involving the installation of railcar spill containment measures for the Bilgewater Treatment Plant, at Naval Weapons Station-Earle, Leonardo, New Jersey.

SENIOR PROJECT MANAGER/ENGINEER

DATE

SITE MANAGER/FIELD OPERATIONS LEAD

DATE

PROJECT HEALTH AND SAFETY MANAGER

DATE

SITE HEALTH AND SAFETY OFFICER

DATE

**RAILCAR SPILL CONTAINMENT MEASURES
FOR THE BILGEWATER TREATMENT PLANT
NAVY WEAPONS STATION-EARLE, LEONARDO, NEW JERSEY**

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1.0 INTRODUCTION

1.1 Purpose

This Site Health and Safety Plan (SHSP) addresses the health and safety practices that will be employed by all site workers participating in the work at the Bilgewater Treatment Plant. The SHSP takes into account the specific hazards inherent to the tasks and presents 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 SHSP will comply with 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 SHSP but are not included. A copy of the manual will be maintained at the site and is available on the Corporate Reference Library by accessing Lotus Notes. Modifications to the SHSP may be made with the approval of the PHSM using the Field Change Request Form found in Appendix A.

1.2 Scope

This SHSP has been developed to address health and safety concerns relative to the Railcar Spill Containment Measures for the Bilgewater Treatment Plant, Naval Weapons Station-Earle (NWS-Earle), NJ.

1.2.1 Project Description

- Mobilization/Site Preparation/Demobilization
- Install Track Spill Pads
- Sump and Overflow Basin Construction
- Piping Installation and Replacement

Detailed descriptions of the above tasks can be found in the work plan. Appendix F contains the Spill Containment Site Plan.

1.3 Application

The SHSP applies to all personnel involved in the construction activities who wish to gain access to active work areas, including but not limited to:

- Navy representatives
- NJDEP, EPA and other regulatory personnel
- Foster Wheeler Environmental and subcontractor employees
- FWENC subcontractors, if any, develop Activity Hazard Analyses and discuss them with FWENC

1.4 Summary of Major Risks

The SHSP has been developed to address the following major risks during the Bilgewater Treatment Plant action at the NWS Earle NJ.

- Construction hazards during installation of spill containment measures
- Cold/heat stress
- Based on the site information available, it is not anticipated at this time that hazardous waste will be encountered.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

This section specifies the Foster Wheeler Environmental Project Organization, inclusive of subcontractors. Foster Wheeler Environmental will manage the project.

2.1 Project Manager (PM)

The Project Manager is Mike Heffron.

- Ensures implementation of this program through coordination with the responsible Project Health and Safety Manager (PHSM)
- Conducts periodic inspections
- Participates in major incident investigations/safety briefings
- Ensures the SHSP has all of the required approvals before site work is conducted
- Ensures that the PHSM or SHSO is informed of project changes which require modifications of the site safety plan
- Has overall project responsibility for project health and safety
- Conducts periodic site inspections-monthly
- Assists in conducting daily safety briefing
- Conducts weekly site inspections

2.2 Project Superintendent

The Project Superintendent is to be determined.

- Ensures that the SHSP 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 telephone 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
- Conducts periodic site inspections - monthly
- Acts as Emergency Coordinator
- Reviews incident reports

2.3 Project 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.

The PHSM for the site is Grey Coppi.

- Provides for the development and approval of the SHSP
- Serves as the primary contact to review health and safety matters that may arise
- Approves revised or new safety protocols for field operations
- Approves individuals who are assigned HSO responsibilities
- Approves s to fulfill other project roles
- Coordinates revisions of this SHSP with field personnel
- Coordinates upgrading or downgrading of personal protective equipment with the SHSO
- Assists in the investigation of major accidents
- Conducts periodic inspections for compliance with the SHSP and gives periodic safety briefings

2.4 Site Health and Safety Officer (SHSO)

The SHSO is to be determined.

- 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 SHSP
- Notifies PHSM of all accidents/incidents
- Coordinates with the construction superintendent and PM in any accident/incident investigation
- Maintains Accident/Incident Report Forms
- Determines upgrade or downgrade of PPE based on site conditions and/or real-time monitoring results
- Ensures that monitoring instruments are calibrated
- Reports to PHSM to provide summaries of field operations and progress
- Maintains health and safety field log books

2.5 Site Personnel

- Report any unsafe or potentially hazardous conditions to the SHSO
- Maintain knowledge of the information, instructions and emergency response actions contained in the SHSP
- Comply with rules, regulations and procedures as set forth in this SHSP and any revisions
- Prevent admittance to work sites by unauthorized personnel
- Inspect all tools and equipment, including PPE, daily prior to use
- Act as safety leaders

3.0 SITE HISTORY AND PROJECT DESCRIPTION

3.1 Location

Naval Weapons Station Earle (NWS-Earle) is located in Monmouth County in east-central New Jersey as presented on Figure 1, Site Location Map. The base consists of a Mainside area and a Water Front area occupying a total of approximately 11,134 acres. The Mainside of the base is located approximately 10 miles inland from the Atlantic Ocean. The Mainside and the Waterfront areas of the base are linked by a narrow tract of land that serves as a right-of-way for a government road and railroad line. See Figure 3-1, Site Location Map.

3.2 Background and Site Description

NWS Earle is responsible for furnishing ammunition to the naval fleet, and coordinates all port services and logistical support for home-ported and visiting ships. The base also conducts safety inspections, supervises ammunition loading for the United States Coast Guard, and provides marine fire fighting capability and standby tug services.

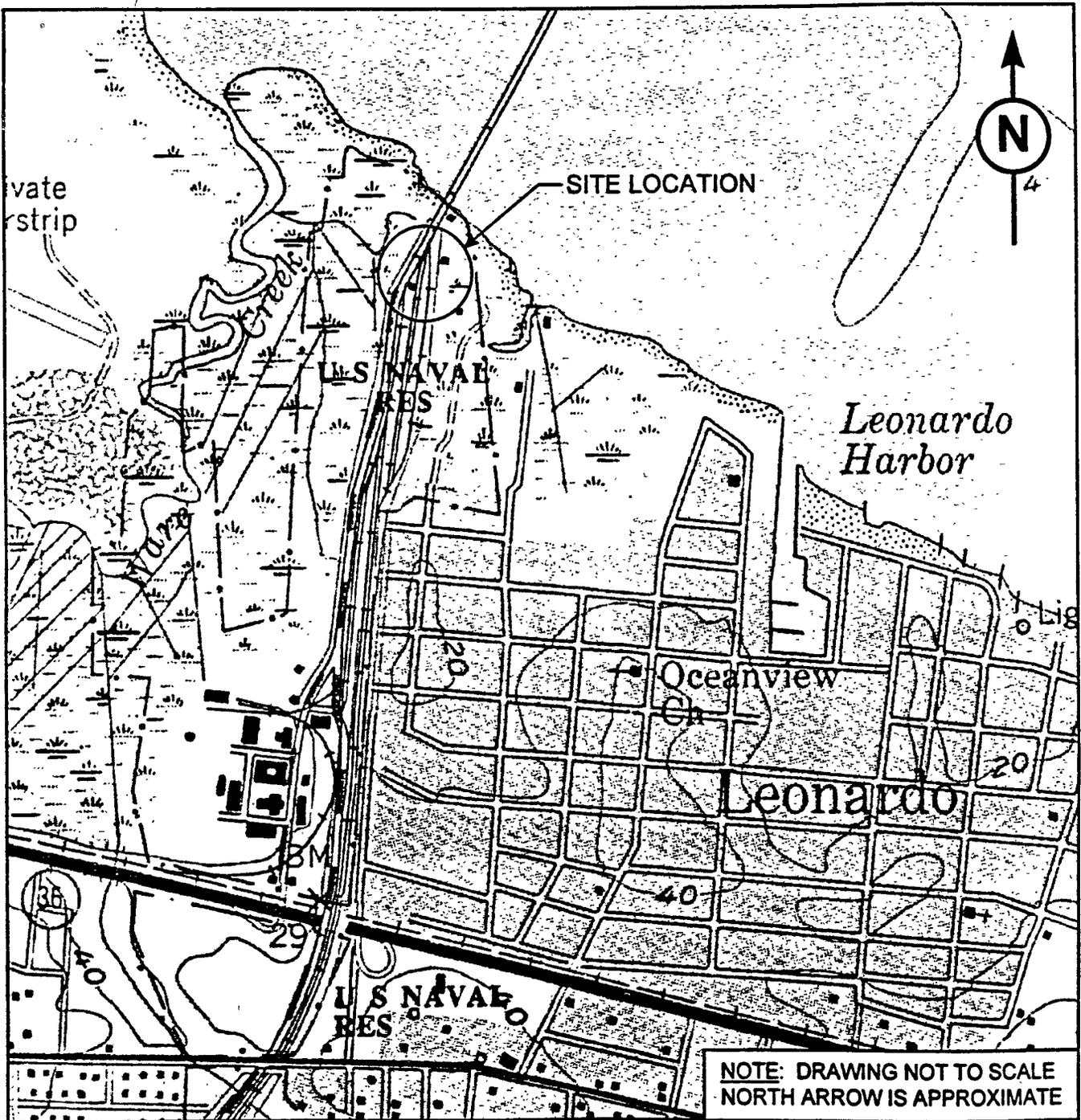
The Bilge Water Plant (the "Plant") is located at the Waterfront area of the NWS-Earle Base. The Waterfront consists of an ammunition depot and associated piers for loading and servicing the naval fleet. The Bilge Water Plant is a small treatment operation which processes bilge water from the ships docked at the piers. The bilge water is transported from ships at the pier in railroad cars, and then transferred to the Bilge water Plant for processing.

Present Activities

Bilge water from ships docked at the pier is transported to the treatment facility via rail tank cars. Tank cars being utilized have capacities of 10,000, 12,000 or 14,000 gallons. The Navy primarily uses 10,000 gallon tank cars for the bilge water. Only a few 12,000 and 14,000 gallon tanker cars exist at the facility. The treatment plant is bordered on the west and east by rail lines which are used for unloading of bilge water and loading of treatment by-products respectively.

NAVAL WEAPONS STATION EARLE BILGE WATER TREATMENT PLANT

FIGURE 3-1 LOCATION PLAN



Rail cars are brought from the pier to the west side of the treatment building for off-loading bilge water. There are three piping stick-ups, connected to a single underground piping manifold, which is connected to a vacuum pump inside the Bilge Water Plant. The piping stick-ups are three inch diameter pipes fitted with a male cam-fitting. Rail cars are connected to the transfer piping by flexible hoses. The area where unloading is presently performed is a non-vegetated gravel area. The only spill containment provided is a small curbed pad around each of the piping connections. The existing curbed areas are designed to hold a minor spill for clean-up with an absorbent material or similar method.

The bilge water being treated at the plant is an oily water which is separated through several processes resulting in three separate discharge streams: 1) treated water; 2) oil and sludge; and 3) wash water. The original design of the system provided a connection for loading out each waste stream from the Bilge Water Plant along the east side of the site to rail cars. As with the piping set-up on the west side of the plant, there are piping stick-ups for the connection of hoses to facilitate the loading of tank cars from the plant. Presently only wash water, oil and sludge are loaded to rail cars (oil infrequently). Treated water is discharged directly to the Township of Middletown Sewage authority via an underground force main. In addition, collected oil and sludge is predominately removed from the site using drums instead of rail cars. As with the railcar unloading area on the west side of the plant, the area where rail tank cars are loaded with treatment by-products is predominately a non-vegetated gravel area with only a small containment curb at each connection point.

At present a leak or spill from either the loading or unloading areas could result in the contamination of the soil and potential seepage to the groundwater. All of the below grade piping is also comprised of only single-walled piping.

4.0 POTENTIAL HAZARDS OF THE SITE AND RISK EVALUATION

4.1 Biological Hazards

Due to the nature of the project and time of year, there is low potential for workers to come into contact with biological hazards. Particular concern should be paid concerning avoidance of ticks. A large percentage of deer ticks contain the bacteria responsible for Lyme disease; a potentially debilitating and life threatening condition, which occurs from the bite of this tick.

Personnel working on site are encouraged to wear insect repellent (repellents with DEET have been found to be effective against the above insects) and use the buddy system and self checks for ticks. Personnel should also practice avoidance, by staying clear of wet, marshy areas and by wearing long sleeve shirts and tucking or securing their pants into work boots (to remove a point of entry for the insects).

Other biological hazards include; stinging insects (i.e., bees, wasps), dangerous animals (rabid, wild) and plants (poison ivy, oak, etc.).

4.2 Physical Hazards

4.2.1 Construction Safety Hazards

Most physical hazards are discussed in the activity hazard analyses (AHA) for the different phases of removal action. Primarily, these are the same as for any construction site. The hazards may arise from poor housekeeping; heavy equipment operation; the use of hand and portable power tools; handling and storage of fuels; the installation and use of electrical power; work on elevated work surfaces or uneven terrain and excavation of soil for the construction of overflow basins and pipe installation.

The risk of exposure to safety hazards during most phases of this project is moderate. In addition to the AHAs, work rules are described in Section 10 of this SHSP.

4.2.2 Cold/Heat Stress

The Foster Wheeler Environmental Corporation Temperature Extremes Program (HS 4-6) will be followed during cold or heat stress conditions. As stated in the Program, the SPM, SHSO and PHSM will devise a site-specific program that will effectively control the hazards of exposure to temperature extremes.

4.2.3 Noise

Noise is a potential hazard associated with the operation of heavy equipment, power tools, pumps and generators. Suspected high noise operations will be evaluated by the SHSO to determine if protective measures are warranted. All employees receive a pre-employment audiogram. Equipment which generates sufficient noise to require employees to wear HPDs shall have noise hazard warning labels and hazard radius.

4.2.4 Confined Space

Personnel entry into confined spaces will require that Foster Wheeler Procedure EHS 6-1 be followed.

4.2.5 Excavation/Trenching

It is not anticipated that personnel will need to enter excavations. However, if employees are required to enter an excavation that is deeper than 5 feet, adequate cave-in protective measures will be implemented per FWENC procedure EHS 6-3, including classification and daily soils check lists.

4.2.6 Electrical Work

Electrical work will be conducted for the installation of a sump pump and controls. Electrical work will be performed by a licensed electrician. Electrical sources will be locked out/tagged out and verified in accordance with FWENC procedure EHS 6-4.

5.0 ACTIVITY HAZARD ANALYSIS

The 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 AHAs follow the guidance of the Foster Wheeler Environmental Corporate Program Manual HS 3-5. AHAs for the removal action are included in Appendix B of this SHSP. AHAs have been developed for the following phases of work:

- Mobilization/Site Preparation/Demobilization
- Install Track Spill Pads
- Sump and Overflow Basin Construction
- Piping Installation and Replacement

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

The AHAs will be used to train work crews in proper safety procedures during phase preparatory meetings.

6.0 PERSONAL PROTECTIVE EQUIPMENT

The personal protective equipment (PPE) detailed 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 SHSP constitutes certification of the hazard assessment. For activities not detailed below, the SHSO will conduct the hazard assessment and select the PPE using the form provided in Appendix C and shall certify the assessment by signing the form. PPE selection will be made in consultation with the PHSM. Table 6-1 describes the anticipated task-specific PPE.

6.1 PPE Abbreviations

HEAD PROTECTION

HH = Hard Hat

EYE/FACE PROTECTION

SG = ANSI approved safety glasses with side shields

FOOT PROTECTION

STB = Leather work boots with steel toe.

HAND PROTECTION

LWG = Leather Work

BODY PROTECTION

WC = Work Clothes

RESPIRATORY PROTECTION

Level D = No respiratory protection required

HEARING PROTECTION

EP = ear plugs

TABLE 6-1

PERSONAL PROTECTIVE EQUIPMENT SELECTION

TASK	HEAD	EYE/FACE	FEET	HANDS	BODY	HEARING	RESPIRATOR
<u>Mobilization/ Demobilization</u>							
Mobilization/ demobilization of equipment and supplies	HH	SG	STB	LWG	WC	EP as needed	Level D
Establishment of site security, work zones and staging area	HH	SG	STB	LWG	WC	EP as needed	Level D
<u>Install track spill pans</u>							
Excavate ballast, soil	HH	SG	STB	LWG	WC	EP as needed	Level D
Place pans and connect to rails	HH	SG	STB	LWG	WC	EP as needed	Level D
Excavate for trench drain	HH	SG	STB	LWG	WC	EP as needed	Level D
Install trench drain, piping	HH	SG	STB	LWG	WC	EP as needed	Level D
Backfill	HH	SG	STB	LWG	WC	EP as needed	Level D
<u>Install spill pads</u>							
Excavate soil	HH	SG	STB	LWG	WC	EP as needed	Level D
Place asphalt	HH	SG	STB	LWG	WC	EP as needed	Level D
Treat asphalt	HH	SG	STB	LWG	WC	EP as needed	Level D

TASK	HEAD	EYE/FACE	FEET	HANDS	BODY	HEARING	RESPIRATOR
<u>Sump and overflow basin installation</u>							
Excavate soil for sump	HH	SG	STB	LWG	WC	EP as needed	Level D
Install sump	HH	SG	STB	LWG	WC	EP as needed	Level D
Connect sump to electrical power	HH	SG	STB	LWG	WC	EP as needed	Level D
Excavate soil for overflow basin	HH	SG	STB	LWG	WC	EP as needed	Level D
Place asphalt	HH	SG	STB	LWG	WC	EP as needed	Level D
Treat asphalt	HH	SG	STB	LWG	WC	EP as needed	Level D
<u>Install and replace piping</u>							
Excavate soil	HH	SG	STB	LWG	WC	EP as needed	Level D
Replace Piping	HH	SG	STB	LWG	WC	EP as needed	Level D
Backfill	HH	SG	STB	LWG	WC	EP as needed	Level D

7.0 AIR MONITORING

Air monitoring will not be conducted due to the nature of the planned work.

8.0 ZONES AND COMMUNICATION

8.1 Site Control

Site zones are intended to control the potential spread of contamination throughout the site and to permit authorized individuals into potentially hazardous areas. Work zones will be established to control work flow and site access. Specific zones shall be established on the work site when operations begin. Individuals will only be allowed to access areas of the site relative to their jobs.

8.2 Communication

The following communications equipment shall be specified as appropriate.

- Telephones - A telephone is located in the office trailer in the support zone and a cellular telephone will be at the work area for communication with emergency support services/facilities.
- Air Horns - Air horns shall be carried by field teams or be strategically located within the work zones, and shall be maintained as the means for announcing emergency evacuation procedures and backup for other forms of communications.
- 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:

<u>Signal</u>	<u>Meaning</u>
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 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 SAFETY CONSIDERATIONS

9.1 General Health and Safety Work Rules

A list of work rules and general safe work practices may be found in the Foster Wheeler Environmental Health and Safety Program Manual, Section 3-6. These rules have been incorporated into the SHSP as Appendix E. The work rules will be posted in a conspicuous location at the site. The project rules handbook will be discussed with craft labor and a copy provided. Signature page will be kept on file.

10.0 WASTE DISPOSAL PROCEDURES

All discarded materials, waste materials or other objects shall be handled in such a way as to preclude the potential for creating a sanitary hazard or causing litter to be left on site. All non-contaminated materials shall be collected and bagged for appropriate disposal as non-hazardous solid waste.

11.0 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.

11.1 Responsibilities

11.1.1 Project Health and Safety Manager (PHSM)

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 and notifies OSHA of reportable accidents and fatalities.

11.1.2 Site Health and Safety Officer (SHSO)

The SHSO is responsible for ensuring that all personnel are evacuated safely and that machinery 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 (five or more workers injured and hospitalized) so that the PHSM can notify OSHA within the required time frame. The PHSM will be notified of all OSHA recordable injuries, fires, spills, releases or equipment damage in excess of \$500 within 24 hours. The SHSO also serves as the Alternate Emergency Coordinator.

11.1.3 Emergency Coordinator

The Emergency Coordinator is the Project Superintendent. The emergency coordinator shall make contact with local emergency response personnel prior to beginning work on site. In these contacts the emergency coordinator will inform interested parties about the nature and duration of work expected on the site and the type of contaminants and possible health or safety effects of emergencies involving these contaminants. The emergency coordinator shall locate emergency phone numbers and identify hospital routes prior to beginning work on site. The emergency coordinator shall make necessary arrangements to be prepared for any emergencies that could occur.

The Emergency Coordinator shall implement the emergency response/contingency plan whenever conditions at the site warrant such action. The coordinator will be responsible for prior coordination of the emergency treatment and emergency transport of site personnel as necessary, and notification of emergency response units and the appropriate management staff.

11.1.4 Site Personnel

Site personnel are responsible for knowing the emergency response/contingency plan and the procedures contained herein. Personnel are expected to notify the Emergency Coordinator of situations that could constitute a site emergency.

11.1.5 Rehearsal of the Emergency Response and Contingency Plan

An on-site drill to test the emergency response system shall be conducted during the initial phase of the project. A control group consisting of two on-site personnel will evaluate and critique the drill. Refer to Foster Wheeler EHS Procedure 2-1 for guidance on Emergency Preparedness.

The frequency of the drills will be at the discretion of the SHSO.

11.2 **Communication**

A telephone will be maintained in the office trailer serving as a temporary site office. Air horns will be used to alert site personnel of emergencies. The following signals will be used:

- Two short blasts - shut down equipment, clear radio channels, await instructions
- Three short blasts - injured employee, first-aid providers respond
- One continuous blast - site evacuation

11.3 **Local Emergency Support Units**

In order to be able to deal with any emergency that might occur during remedial activities at the site, a copy of Table 12-1 will be posted prominently in the field office and in all places where telephone service is available. Base phones will be used whenever possible for emergencies. The base emergency phone number is (732) 866-2911.

Table 11-1 Emergency Telephone Numbers

Contact	Firm or Agency	Telephone Number
Police	Base	2911 or 732-866-2911
Fire	Base	2911 or 732-866-2911
Hospital	Base Emergency Medical Riverview Medical Center	2911 or 732-866-2911 732-741-2700
Ambulance	Base	2911 or 732-866-2911
Environmental Office	Base-Supervisory Environmental Engineer, Gus Hermanni	732-866-2604
PM, Mike Heffron	Foster Wheeler Environmental	215-702-4015 - office 215-796-1415 - cellular phone
PHSM, Grey Coppi	Foster Wheeler Environmental	215 702-4079 - work 908 274-0394 - home
Poison Control Center		800-682-9211
National Response Center		800-424-8802

Before field activities begin, the base Fire Department will be contacted to inform the department of the nature and location of the activities. This will help them respond quickly and effectively in the event of a fire, explosion, or other emergency.

Foster Wheeler Environmental will provide at least one person trained in First Aid, Adult CPR and Bloodborne Pathogens on each active work shift.

11.4 Preparation for Medical Emergencies

Foster Wheeler Environmental will communicate directly with administrative personnel from the emergency room at the hospital in order to determine whether the hospital has the facilities and personnel needed to treat cases of trauma resulting from exposure to any of the contaminants expected to be found on the site and/or any injuries that may occur. Instructions for finding the hospital will be posted conspicuously in the site office and in each site vehicle.

11.5 First Aid for Injuries Incurred during Field Work

The procedures and rules in this SHSP are designed to prevent employee injury. However, should an injury occur, no matter how slight, it will be reported to the supervisor immediately. First-aid equipment such as first aid kits and emergency eye washes will be available on site at the site office and each active work station. Eye washes must meet ANSI Standard Z358.1 and be capable of delivering 15 minutes of eye wash.

During the site safety briefing, project personnel will be informed of the location of the first aid station(s) that has been set up 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 received from doctors or paramedics, before an emergency-response squad arrives at the site or before the injured person can be transported to the hospital, will be followed.

Only in **non-emergency** situations will an injured person be transported to the hospital by means other than an ambulance.

Directions from the site to Riverview Medical Center, Red Bank, NJ:

From the site take Normandy Road to West Front Street. Make a left on to West Front Street. Take West Front Street for approximately 5 miles, the hospital will be on the left.

11.6 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 report immediately to the scene of the emergency, assess the seriousness of the situation, and direct whatever efforts are necessary until the emergency response units arrive. At his/her discretion, 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, an air horn will be sounded on the site. The horn will sound continuously for approximately 15 seconds, signaling that immediate evacuation of all personnel is necessary due to an immediate or impending danger. Heavy equipment will be shut down and personnel will evacuate the work areas and assemble at the site office, where the EC will give directions for implementing whatever actions are necessary. A project team member will be assigned to be in charge of emergency communications at the site safety briefing. He/she will attend the site telephone specified by the EC from the time the alarm sounds until the emergency has ended.

After sounding the alarm and initiating emergency response procedures, the EC will check and verify that access roads are not obstructed. If traffic control is necessary, as in the event of a fire or explosion, a project team member, who has been trained in these procedures and designated at the site safety meeting, will take over these duties until local police and fire fighters arrive. Appropriate reflective warning vests will be worn by personnel involved with traffic control.

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

11.7 Potential or Actual Fire or Explosion

Fires will be prevented by adhering to the following precautions:

- Obtaining a hot work permit from the NWS-Earle Fire Department for the use of any gas powered equipment
- Good housekeeping and storage of materials
- Storage of flammable liquids and gases away from oxidizers
- No smoking in the exclusion zone or any work area
- No hot work without a properly executed hot work permit
- Shutting off engines to refuel
- Grounding and bonding metal containers during transfer of flammable liquids
- Fire extinguishers rated at least 10 pounds ABC located on all heavy equipment, in all trailers and near all welding cutting activities
- Monthly inspections of all fire extinguishers

In the event of a fire or explosion, procedures will include immediately evacuating the site (air horn will sound for 15 seconds), notification of local fire and police departments and other appropriate emergency response groups. No personnel will fight a fire beyond the stage where it can be put out with a portable extinguisher (incipient stage).

11.8 Overt Chemical Exposure

SKIN CONTACT: Use copious amounts of soap and water. Wash/rinse affected areas thoroughly, then provide appropriate medical attention. An emergency eyewash is located in the CRZ. Eyes should be rinsed for 15 minutes upon chemical contamination. Skin should also be rinsed for 15 minutes if contact with caustics, acids or hydrogen peroxide occurs.

INHALATION: Move to fresh air. Decontaminate and transport to hospital or local medical provider.

INGESTION: Decontaminate and transport to emergency medical facility.

PUNCTURE WOUND

OR LACERATION: Decontaminate and transport to emergency medical facility.

11.9 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 site SHSO or designee will accompany contaminated victims to the medical facility to advise on matters involving decontamination, when necessary. The outer garments can be removed if they do not cause delays, interfere with treatment or aggravate the problem. Respiratory equipment must always be removed. Protective clothing can be cut away. If the outer contaminated garments cannot be safely removed, a plastic barrier between the injured individual and clean surfaces should be used to help prevent contaminating the inside of ambulances and/or medical personnel. Outer garments may then be removed at the medical facility. An attempt will be made to wash or rinse the victim prior to transporting to a medical facility if it does not cause further injury or delay of treatment. For minor medical problems or injuries, the normal decontamination procedures will be followed.

11.10 Accident/Incident Reporting

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

1. Grey Coppi, Project Health and Safety Manager - 215-702-4079
2. Mike Heffron, Project Manager-215-702-4015
3. The site ROICC, Mr. Tom Dunn-732-866-2045
4. The employer of any injured worker if not a Foster Wheeler Environmental employee

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 and can be found in the Corporate reference library. All Foster Wheeler Environmental representatives contacted by telephone are to receive a copy of this report. If the employee involved is not a Foster Wheeler Environmental employee, his employer shall receive a copy of the report.

11.11 Adverse Weather Conditions

In the event of adverse weather conditions, the SHSO or designee will determine if work can continue without potentially risking the safety of all field workers. Some of the items to be considered prior to determining if work should continue are:

- Treacherous weather-related working conditions (hail, rain, snow, ice)
- Limited visibility (fog)
- Potential for electrical storms
- Earthquakes
- Other major incidents (explosions)

Site activities will be limited to daylight hours or when suitable artificial light is provided and acceptable weather conditions. Inclement conditions include heavy rain, fog, high winds and lightning. The SHSO will determine the need to cease field operations or observe daily weather reports and evacuate, if necessary, in case of severe inclement weather conditions.

11.12 Spill Control and Response

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. Berms of earthen or sorbent materials can be used to contain the leading edge of the spills. Drains or drainage areas should be blocked. All spill containment materials will be properly disposed as hazardous waste. An exclusion zone of 50-100 feet around the spill area should be established depending on the size of the spill.

The following steps should be taken by the Emergency Coordinator:

- Determine the nature and major spill components
- Make sure all unnecessary persons are removed from the spill area
- Notify appropriate response teams and authorities
- Use proper PPE in consultation with the SHSO
- If a flammable liquid, gas or vapor is involved, remove all ignition sources and use nonsparking and/or explosive proof equipment to contain or clean up the spill (diesel only vehicles, pumps, etc.)
- If possible, try to stop the leak with appropriate material
- Remove all surrounding materials that can react or compound with the spill

Contact Regulatory Affairs (Tom Teeling) - 215-702-4078

11.13 Emergency Equipment

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

- Industrial first aid kit
- Burn kit
- Portable eye washes (one per field team); meeting ANSI Z.358.1 1990
- Air horns (one per field team)
- Fire extinguishers (one per trailer/vehicle, trailers and located at hot work stations)
- Spill absorbent material

11.14 Postings

The following information shall be posed in each trailer/office and at various, conspicuous locations throughout the site:

- Emergency telephone numbers
- Diagrams showing the location of fire extinguishers and emergency equipment
- Emergency exit and staging area
- Hospital route map

11.15 Restoration and Salvage

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

- Refilling fire extinguishers
- Refilling medical supplies
- Recharging eyewash and/or showers
- Replenishing spill control supplies
- Replacing used air horns

12.0 TRAINING

12.1 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 SHSP. 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.

12.2 On-Site Safety Briefings

Project personnel and visitors will be given daily on-site health and safety briefings by the SHSO, or their designee, 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 audits. Prior to starting any new activity, a training session using the Activity Hazard Analysis will be held for crew members involved in the activity.

12.3 First Aid and CPR

It is expected that one field personnel will have first aid training. The training will be consistent with the requirements of the American Red Cross Association and include training on Bloodborne Pathogens.

12.4 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 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.

American Conference of Governmental Industrial Hygienists, Inc., 1998, Threshold Limit Values For Chemical Substances And Physical Agents, Biological Exposure Indices; ACGIH, Cincinnati, Ohio.

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.

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, 1996, Safety and Health Requirements Manual; EM 385-1-1.

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, 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.

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

ACTIVITY HAZARD ANALYSIS

ACTIVITY HAZARD ANALYSIS

Project: Railcar Spill Containment Measures for the Bilgewater Treatment Plant
 Activity: Mobilization/Demobilization

Location: Naval Weapons Station - Earle, Colts Neck, NJ

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Mobilization/demobilization of equipment and supplies (Hazards and controls 1, 2, 5 - 12 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. Establishment of site security, work zones, and staging area (Hazards and controls 1 - 12 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. Vehicular Traffic	3. Spotters will be used when backing up trucks and heavy equipment and when moving equipment.
	4. Overhead Hazards	4. Personnel will be required to wear hard hats that meet ANSI Standard Z89 1 All ground personnel will stay clear of suspended loads. All equipment will be provided with guards, canopies or grills to protect the operator from falling or flying objects All overhead hazards will be identified prior to commencing work operations.
	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), ESS will determine the need for hearing protection; all equipment will be equipped with manufacturer's required mufflers
	7. Temperature extremes	7. Controls will be implemented to minimize exposure to temperature extremes including work rest regimens, warm rest areas, protective clothing, and minimize exposure time.
	8. Eye Injuries	8. Safety glasses meeting ANSI Standard Z87 will be worn
	9. Heavy Equipment (overhead hazards, spills, struck by or against)	9. Equipment will have 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; spill and absorbent materials will be readily available, drip pans, polyethylene sheeting or other means will be used for secondary containment, ground personnel will stay out of the swing radius; eye contact with operators will be made before approaching equipment; equipment will not be approached on blind sides; all equipment will be equipped with backup alarms.
	10. Fire	10. ABC type fire extinguishers shall be readily available; no smoking in work area.
	11. Pinch/Cut/Smash	11. Cut resistant kevlar work gloves will be worn when dealing with sharp objects; all hand and power tools will be maintained in safe condition, guards will be kept in place while using hand and power tools.
		12. Electrocutation
EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
1. Heavy Equipment 2. Appropriate PPE 3. First Aid Kits 4. Portable Eyewash 5. Fire Extinguishers	1. Inspections will be performed on equipment prior to each use. 2. Inspections will be performed on PPE prior to each use 3. Weekly inspections will be performed on first aid kits. 4. Portable eye wash will be inspected weekly 5. Weekly inspections will be performed on fire extinguishers	1. Personnel have read and comply with SHSP 2. Site specific training 3. Qualified operators will be used for equipment operation 4. At least two individuals on-site will have current CPR, First aid and bloodborne pathogen training 5. Instruct personnel on proper use of fire extinguishers

ACTIVITY HAZARD ANALYSIS

Project: Railcar Spill Containment Measures for the Bilgewater Treatment Plant
 Activity: Installation of Track Spill Pans

Location: Naval Weapons Station - Earle, Colts Neck, NJ

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Excavate soil and ballast (Hazards and controls 1, 2, 5 - 11 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. Place rail pans and connect to rails (Hazards and controls 1 - 11 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 for trench drain (Hazards and controls 1 - 11 apply)	3. Vehicular Traffic	3. Spotters will be used when backing up trucks and heavy equipment and when moving equipment.
4. Install trench drain (Hazards and controls 1 - 11 apply)	4. Overhead Hazards	4. Personnel will be required to wear hard hats that meet ANSI Standard Z89.1. All ground personnel will stay clear of suspended loads. All equipment will be provided with guards, canopies or grills to protect the operator from falling or flying objects. All overhead hazards will be identified prior to commencing work operations.
5. Backfill (Hazards and controls 1 - 12 apply)	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); ESS will determine the need for hearing protection; all equipment will be equipped with manufacturer's required mufflers
	7. Temperature extremes	7. Controls will be implemented to minimize exposure to temperature extremes including work rest regimens, warm rest areas, protective clothing, and minimize exposure time
	8. Eye Injuries	8. Safety glasses meeting ANSI Standard Z87 will be worn.
	9. Heavy Equipment (overhead hazards, spills, struck by or against)	9. Equipment will have 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; spill and absorbent materials will be readily available; drip pans, polyethylene sheeting or other means will be used for secondary containment, ground personnel will stay out of the swing radius; eye contact with operators will be made before approaching equipment; equipment will not be approached on blind sides, all equipment will be equipped with backup alarms
	10. Fire	10. ABC type fire extinguishers shall be readily available; no smoking in work area
	11. Pinch/Cut/Smash	11. Cut resistant kevlar work gloves will be worn when dealing with sharp objects, all hand and power tools will be maintained in safe condition; guards will be kept in place while using hand and power tools.
EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
1. Heavy Equipment 2. Appropriate PPE 3. First Aid Kits 4. Portable Eyewash 5. Fire Extinguishers	1. Inspections will be performed on equipment prior to each use. 2. Inspections will be performed on PPE prior to each use. 3. Weekly inspections will be performed on first aid kits 4. Portable eye wash will be inspected weekly 5. Weekly inspections will be performed on fire extinguishers.	1. Personnel have read and comply with SHSP 2. Site specific training 3. Qualified operators will be used for equipment operation 4. At least two individuals on-site will have current CPR, First aid and bloodborne pathogen training 5. Instruct personnel on proper use of fire extinguishers

ACTIVITY HAZARD ANALYSIS

Project: Railcar Spill Containment Measures for the Bilgewater Treatment Plant
 Activity: Install Spill Pads

Location: Naval Weapons Station - Earle, Colts Neck, NJ

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1 Excavate soil (Hazards and controls 1, 2, 5 - 11 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 Place asphalt (Hazards and controls 1 - 11 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. Treat asphalt (Hazards and controls 1, 2, 7, 11 apply)	3. Vehicular Traffic	3 Spotters will be used when backing up trucks and heavy equipment and when moving equipment.
	4 Overhead Hazards	4. Personnel will be required to wear hard hats that meet ANSI Standard Z89 1 All ground personnel will stay clear of suspended loads. All equipment will be provided with guards, canopies or grills to protect the operator from falling or flying objects All overhead hazards will be identified prior to commencing work operations
	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); ESS will determine the need for hearing protection, all equipment will be equipped with manufacturer's required mufflers
	7. Temperature extremes	7. Controls will be implemented to minimize exposure to temperature extremes including work rest regimens, warm rest areas, protective clothing, and minimize exposure time.
	8. Eye Injuries	8 Safety glasses meeting ANSI Standard Z87 will be worn.
	9. Heavy Equipment (overhead hazards, spills, struck by or against)	9. Equipment will have 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, spill and absorbent materials will be readily available, drip pans, polyethylene sheeting or other means will be used for secondary containment, ground personnel will stay out of the swing radius; eye contact with operators will be made before approaching equipment, equipment will not be approached on blind sides; all equipment will be equipped with backup alarms
	10. Fire	10. ABC type fire extinguishers shall be readily available; no smoking in work area.
	11. Pinch/Cut/Smash	11. Cut resistant kevlar work gloves will be worn when dealing with sharp objects; all hand and power tools will be maintained in safe condition; guards will be kept in place while using hand and power tools.
EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
1. Heavy Equipment 2. Appropriate PPE 3. First Aid Kits 4. Portable Eyewash 5. Fire Extinguishers	1 Inspections will be performed on equipment prior to each use. 2. Inspections will be performed on PPE prior to each use 3. Weekly inspections will be performed on first aid kits. 4 Portable eye wash will be inspected weekly 5 Weekly inspections will be performed on fire extinguishers.	1. Personnel have read and comply with SHSP 2. Site specific training 3. Qualified operators will be used for equipment operation 4. At least two individuals on-site will have current CPR, First aid and bloodborne pathogen training 5 Instruct personnel on proper use of fire extinguishers

ACTIVITY HAZARD ANALYSIS

Project: Railcar Spill Containment Measures for the Bilgewater Treatment Plant
 Activity: Sump and Overflow Basin Installation

Location: Naval Weapons Station - Earle, Colts Neck, NJ

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Excavate soil for sump (Hazards and controls 1, 2, 5 - 11 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. Install sump (Hazards and controls 1 - 12 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. Connect sump to electrical power (Hazards and controls 1, 2, 7, 11, 12 apply)	3. Vehicular Traffic	3. Spotters will be used when backing up trucks and heavy equipment and when moving equipment.
4. Excavate soil for overflow basin (Hazards and controls 1 - 11 apply)	4. Overhead Hazards	4. Personnel will be required to wear hard hats that meet ANSI Standard Z89.1. All ground personnel will stay clear of suspended loads. All equipment will be provided with guards, canopies or grills to protect the operator from falling or flying objects. All overhead hazards will be identified prior to commencing work operations.
5. Place asphalt (Hazards and controls 1 - 11 apply)	5. Dropped Objects	5. Steel toe boots meeting ANSI Standard Z41 will be worn.
6. Treat asphalt (Hazards and controls 1, 2, 7, 11 apply)	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); ESS will determine the need for hearing protection; all equipment will be equipped with manufacturer's required mufflers.
	7. Temperature extremes	7. Controls will be implemented to minimize exposure to temperature extremes including work rest regimens, warm/cool rest areas, protective clothing, and minimize exposure time.
	8. Eye Injuries	8. Safety glasses meeting ANSI Standard Z87 will be worn.
	9. Heavy Equipment (overhead hazards, spills, struck by or against)	9. Equipment will have 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; spill and absorbent materials will be readily available; drip pans, polyethylene sheeting or other means will be used for secondary containment, ground personnel will stay out of the swing radius, eye contact with operators will be made before approaching equipment; equipment will not be approached on blind sides; all equipment will be equipped with backup alarms.
	10. Fire	10. ABC type fire extinguishers shall be readily available; no smoking in work area.
	11. Pinch/Cut/Smash	11. Cut resistant kevlar work gloves will be worn when dealing with sharp objects, all hand and power tools will be maintained in safe condition; guards will be kept in place while using hand and power tools.
	12. Electrocution	12. Electrical work will be conducted by a licensed electrician; electric sources will be

Project: Railcar Spill Containment Measures for the Bilgewater Treatment Plant
 Activity: Sump and Overflow Basin Installation

Location: Naval Weapons Station - Earle, Colts Neck, NJ

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
		locked out/tagged out and verified prior to work being conducted in accordance with EHS 6-4, equipment will be equipped with GFCI. All equipment will stay a minimum of 15 feet from energized electrical lines (50 kV). This distance will increase 4 inches for each 1 kV above 50 kV.
EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
<ol style="list-style-type: none"> 1. Heavy Equipment 2. Appropriate PPE 3. First Aid Kits 4. Portable Eyewash 5. Fire Extinguishers 	<ol style="list-style-type: none"> 1. Inspections will be performed on equipment prior to each use 2. Inspections will be performed on PPE prior to each use. 3. Weekly inspections will be performed on first aid kits. 4. Portable eye wash will be inspected weekly 5. Weekly inspections will be performed on fire extinguishers. 	<ol style="list-style-type: none"> 1. Personnel have read and comply with SHSP 2. Site specific training 3. Qualified operators will be used for equipment operation 4. At least two individuals on-site will have current CPR, First aid and bloodborne pathogen training 5. Instruct personnel on proper use of fire extinguishers

ACTIVITY HAZARD ANALYSIS

Project: Railcar Spill Containment Measures for the Bilgewater Treatment Plant
 Activity: Install and Replace Piping

Location Naval Weapons Station - Earle, Colts Neck, NJ

MAJOR STEPS	POTENTIAL HAZARDS	PROTECTIVE MEASURES/CONTROLS
1. Excavate soil (Hazards and controls 1 - 12 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. Replace piping (Hazards and controls 1 - 12 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. Backfill (Hazards and controls 1 - 11 apply)	3. Vehicular Traffic	3. Spotters will be used when backing up trucks and heavy equipment and when moving equipment.
	4. Overhead Hazards	4. Personnel will be required to wear hard hats that meet ANSI Standard Z89 1. All ground-personnel will stay clear of suspended loads. All equipment will be provided with guards, canopies or grills to protect the operator from falling or flying objects. All overhead hazards will be identified prior to commencing work operations.
	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); ESS will determine the need for hearing protection, all equipment will be equipped with manufacturer's required mufflers
	7. Temperature extremes	7. Controls will be implemented to minimize exposure to temperature extremes including work rest regimens, warm rest areas, protective clothing, and minimize exposure time
	8. Eye Injuries	8. Safety glasses meeting ANSI Standard Z87 will be worn.
	9. Heavy Equipment (overhead hazards, spills, struck by or against)	9. Equipment will have 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; spill and absorbent materials will be readily available; drip pans, polyethylene sheeting or other means will be used for secondary containment, ground personnel will stay out of the swing radius; eye contact with operators will be made before approaching equipment; equipment will not be approached on blind sides, all equipment will be equipped with backup alarms.
	10. Fire	10. ABC type fire extinguishers shall be readily available; no smoking in work area.
	11. Pinch/Cut/Smash	11. Cut resistant kevlar work gloves will be worn when dealing with sharp objects, all hand and power tools will be maintained in safe condition; guards will be kept in place while using hand and power tools.
	12. Electrocutation	12. Equipment will be equipped with GFCI. All equipment will stay a minimum of 15 feet from energized electrical lines (50 kV). This distance will increase .4 inches for each 1 kV above 50 kV
EQUIPMENT USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
1 Heavy Equipment 2 Appropriate PPE 3 First Aid Kits 4 Portable Eyewash 5 Fire Extinguishers	1 Inspections will be performed on equipment prior to each use 2. Inspections will be performed on PPE prior to each use 3 Weekly inspections will be performed on first aid kits. 4 Portable eye wash will be inspected weekly 5 Weekly inspections will be performed on fire extinguishers	1. Personnel have read and comply with SHSP 2 Site specific training 3. Qualified operators will be used for equipment operation 4 At least two individuals on-site will have current CPR, First aid and bloodborne pathogen training 5 Instruct personnel on proper use of fire extinguishers

APPENDIX C

PPE SELECTION FORM

APPENDIX D
WORK RULES



FOSTER WHEELER ENVIRONMENTAL CORPORATION
GENERAL HEALTH AND SAFETY RULES

1. All site personnel must attend each day's Daily Briefing.
2. Any individual taking prescribed drugs shall inform the HSO of the type of medication. The HSO will review the matter with the PHSM and the Corporate Medical Consultant (CMC), who will decide if the employee can safely work on-site while taking the medication.
3. The personal protective equipment specified by the HSO and in the EHS plan(s) shall be worn by all site personnel. This includes hard hats and safety glasses which must be worn at all times in active work areas.
4. Facial hair (beards, long sideburns or mustaches) which may interfere with a satisfactory fit of a respirator mask is not allowed on any person who may be required to wear a respirator.
5. All personnel must sign the site log and the exclusion zone log when used at the site.
6. Personnel must follow proper decontamination procedures and shower at the end of the work shift.
7. Eating, drinking, chewing tobacco or gum, smoking and any other practice that may increase the possibility of hand-to-mouth contact is prohibited in the exclusion zone or the contamination reduction zone. (Exceptions may be permitted by the PHSM to allow fluid intake during heat stress conditions.)
8. All lighters, matches, cigarettes and other forms of tobacco are prohibited in the Exclusion Zone.
9. All signs and demarcations shall be followed. Such signs and demarcation shall not be removed, except as authorized by the HSO.
10. No one shall enter a permit-required confined space without a permit. Confined space entry permits shall be implemented as issued.
11. All personnel must follow Hot Work Permits as issued.
12. All personnel must use the Buddy System in the Exclusion Zone.
13. All personnel must follow the work-rest regimens and other practices required by the heat stress program.
14. All personnel must follow lockout/tagout procedures when working on equipment involving moving parts or hazardous energy sources.
15. No person shall operate equipment unless trained and authorized.

**HEALTH AND SAFETY WORK RULES
CONTINUED**

16. No one may enter an excavation greater than four feet deep unless authorized by the Competent Person. Excavations must be sloped or shored properly. Safe means of access and egress from excavations must be maintained.
17. Ladders and scaffolds shall be solidly constructed, in good working condition, and inspected prior to use. No one may use defective ladders or scaffolds.
18. Fall protection or fall arrest systems must be in place when working at elevations greater than six feet for temporary working surfaces and four feet for fixed platforms.
19. Safety belts, harnesses and lanyards must be selected by the Supervisor. The user must inspect the equipment prior to use. No defective personal fall protection equipment shall be used. Personal fall protection that has been shock loaded must be discarded.
20. Hand and portable power tools must be inspected prior to use. Defective tools and equipment shall not be used.
21. Ground fault interrupters shall be used for cord and plug equipment used outdoors or in damp locations. Electrical cords shall be kept out walkways and puddles unless protected and rated for the service.
22. Improper use, mishandling, or tampering with health and safety equipment and samples is prohibited.
23. Horseplay of any kind is prohibited.
24. Possession or use of alcoholic beverages, controlled substances, or firearms on any site is forbidden.
25. All incidents, no matter how minor, must be reported immediately to the Supervisor.
26. All personnel shall be familiar with the Site Emergency Response Plan.

The above Health and Safety Rules are not all inclusive and it is your responsibility to comply with all regulations set forth by OSHA, the FWENC Environmental, Health and Safety Programs, the EHS plan(s), the client, FWENC Supervisors, and the HSO.

APPENDIX E

WEEKLY HEALTH AND SAFETY REPORT

FOSTER WHEELER ENVIRONMENTAL CORPORATION
US NAVY RAC
WEEKLY HEALTH AND SAFETY REPORT
 (Page 2 of 2)

AIR MONITORING:

Real Time

Major Activity	Location(s)	Worker Occupation	FID/PID Range	CGI/O2 Range	PDM Range	Other

PERSONAL AIR MONITORING

Analyte	Activity Monitored	Occupation	Location	Result	Type of Sample

SUBCONTRACTORS ON SITE

Company Name	Task or Function	Return to Site Next Week (Y/N)

 Health and Safety Officer - Signature

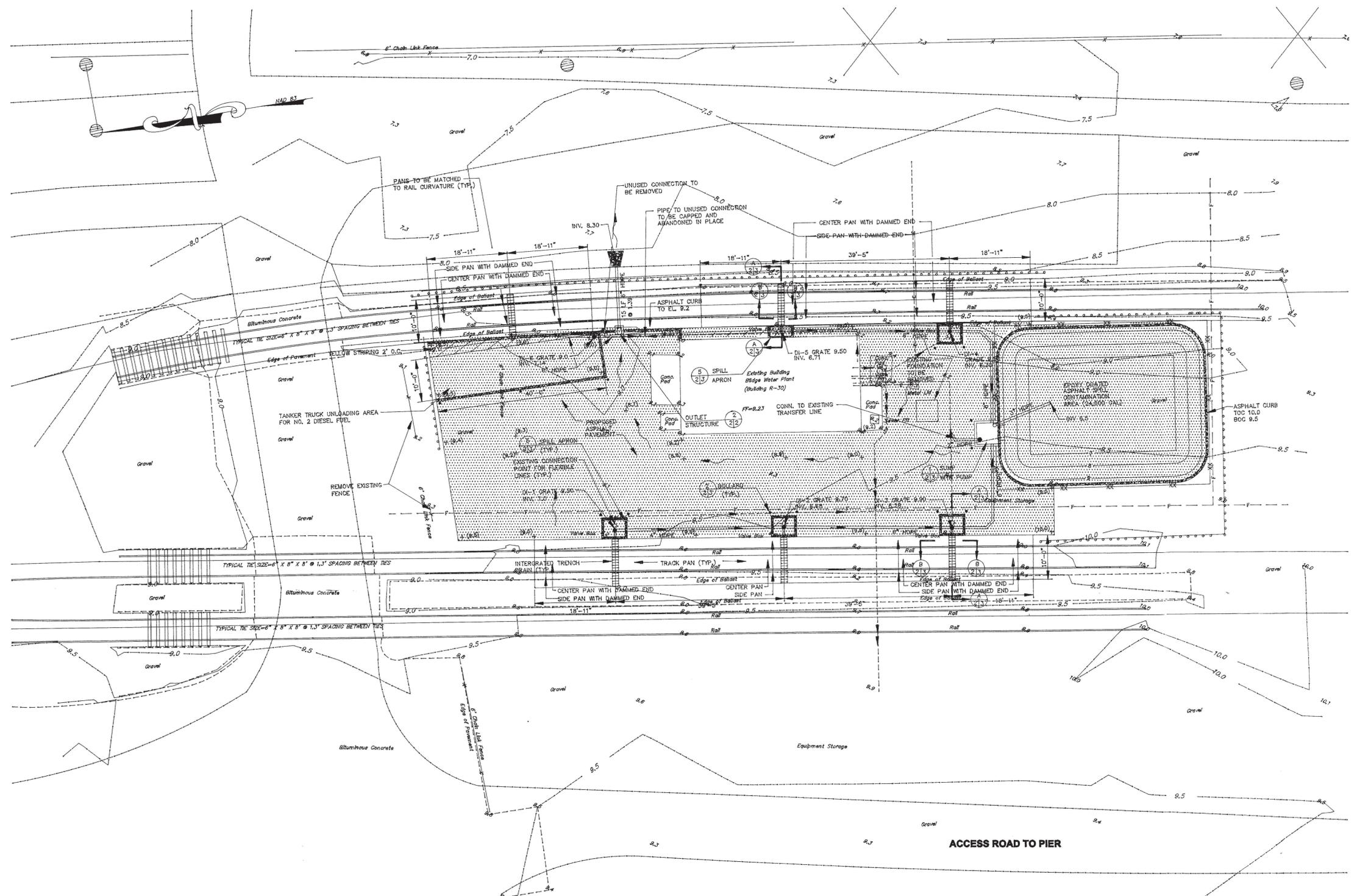
 Date

APPENDIX F

SITE PLAN

A
B
C
D
E
F
G
H
I
J
K
L
M
N

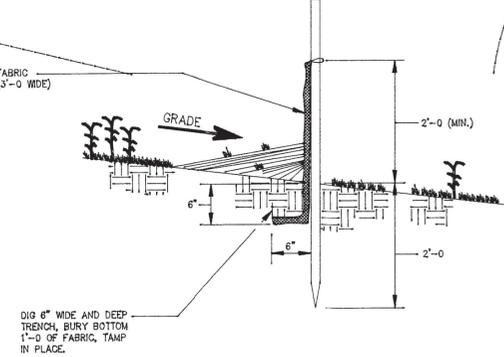
- NOTES:**
- HORIZONTAL DATUM IS BASED UPON NAD 83
VERTICAL DATUM IS BASED UPON NAD 88.
 - HORIZONTAL AND VERTICAL CONTROL ESTABLISHED USING GLOBAL POSITIONING METHODOLOGY UTILIZING N.G.S. MONUMENT THROCKMORTON 3 AS FIXED.
 - UTILITY LOCATIONS SHOWN ARE BASED ON ABOVE GROUND OBSERVATIONS THE TYPE AND LOCATION OF UNDERGROUND AND OTHERS UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY.
 - ALL EXISTING TRANSFER PIPING SHALL BE REPLACED IN THE SAME LOCATION WITH DOUBLE CONTAINMENT HDPE PIPING OF THE SAME INSIDE DIAMETER.
 - ALL ASPHALT CURBS TO BE PAINTED YELLOW.



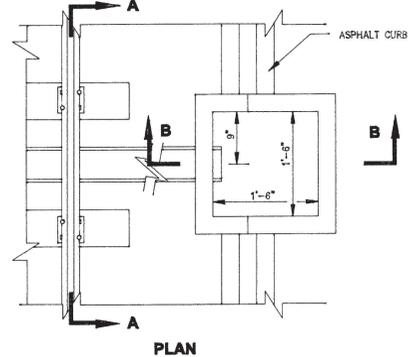
- LEGEND:**
- PROPOSED SUBSURFACE SPILL CONTAINMENT LINE
 - EXISTING SUBSURFACE TRANSFER LINE
 - EXISTING TRANSFER LINE TO BE REMOVED
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING SPOT GRADE
 - PROPOSED SPOT GRADE
 - 6" ASPHALT CURBING WITH YELLOW PAINTING
 - PROPOSED ASPHALT PAVING (DETAIL 6, SHEET 3)
 - EXISTING FORCEMAIN TO MIDDLETOWN SEWAGE AUTHORITY
 - EXISTING CONNECTION POINT TO TRANSFER LINES
 - PROPOSED DRAINAGE SURFACE FLOW
 - SILT FENCE (DETAIL 1, SHEET 2)
 - DETAIL/SECTION DESIGNATION
 - DETAIL/SECTION SHEET LOCATION
 - REFERENCE SHEET LOCATION
 - EXISTING FENCE
 - PROPOSED 5" CHAIN LINK FENCE
 - EXISTING UNDERGROUND ELECTRIC LINE
 - ABANDONED FINE MESH



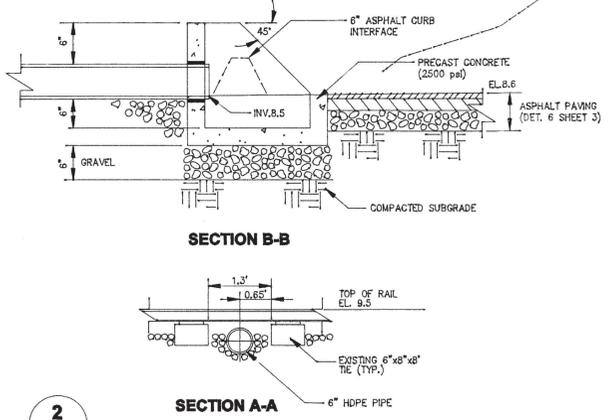
WORKING DRAFT 12/28/98



DETAIL 1
SILT FENCE
(NOT TO SCALE)



DETAIL 2
OUTLET STRUCTURE
(NOT TO SCALE)



SECTION A-A
SECTION B-B

DEPARTMENT OF NAVY NAVAL WEAPONS STATION EARLE COLTS NECK, NEW JERSEY					
BILGE WATER PLANT					
SITE PLAN RAIL CAR SPILL CONTAINMENT					
FOSTER WHEELER ENVIRONMENTAL CORPORATION LIVINGSTON, NEW JERSEY					
DEPT CE	DESIGNED MWJ	PREPARED J.R.	CHECKED J.R.	APPROVED J.R.	DATE
ENGINEER'S NAME PE NUMBER	SCALE: AS NOTED	DRAWING NUMBER: C-2	SH. OF REV 2 3	REV	
1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	FWG1R12.DWG			

NO FILE NAME
PLOT SCALE
1/11/98
141
DATE
12/28/98
TIME
4:10 PM