

N60478.AR.001374  
NWS EARLE  
5090.3a

WORK PLAN FOR LANDFILL CAPS AT SITE 4 AND SITE 5 WITH TRANSMITTAL NWS  
EARLE NJ  
12/12/1997  
FOSTER WHEELER ENVIRONMENTAL CORPORATION

Prepare in quintuplicate (original and 4 copies)  
CONTROL NO. 3

CONTRACTOR DRAWINGS & INFORMATION SUBMITTAL  
NORTHNAVFACENGC0M 4335/3 (Rev. 6/80)

CONTRACT NO. <b>N62472-94-D-0398</b>	DELIVERY ORDER # <b>0034</b>	ACTIVITY LOCATION <b>Naval Weapons Station (NWS) @ Earle, Colts Neck, NJ</b>
PROJECT TITLE: <b>Landfill Caps for Sites 4 and 5 (Operable Unit 1)</b>		
FROM: <b>Foster Wheeler Environmental Corp. Program QC Manager: Akram Aziz</b>		DATE December 12, 1997
TO: <b>COTR: P. BRIEGEL (3 COPIES) JK (2)</b>		DATE December 12, 1997

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3	SD-18, Records	A. Aziz			
	Draft Quality Control Plan				

CONTRACTOR DRAWINGS & INFORMATION SUBMITTAL  
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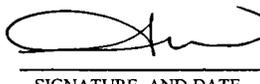
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2	SD-18, Records Draft Work Plan	A. Aziz			



**FOSTER WHEELER ENVIRONMENTAL CORPORATION**

December 15, 1997

File #: 1284-0034-97-0974

Commanding Officer  
Northern Division  
Naval Facilities Engineering Command  
10 Industrial Highway, Mail Stop #82  
Lester, PA 19113  
Attn: Code 402A (P. Briegel)

Subject: US NAVY CONTRACT NO. 62472-94-D-0398  
DELIVERY ORDER NO. 0034 NWS EARLE, NJ  
WORK PLAN FOR LANDFILL CAPS FOR SITE 4 AND SITE 5

Dear Mr. Briegel:

Foster Wheeler Environmental Corporation is pleased to submit the work for the subject delivery order. We are submitting three copies of the work for your review.

If you have any questions or comments concerning this submission, please contact me at (215)702-4044

Sincerely,

Carl Tippmann  
Delivery Order Manager

Enclosure



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US NAVY NORTHERN DIVISION  
REMEDIAL ACTION CONTRACT (RAC)  
CONTRACT NO. N62472-94-D-0398  
DELIVERY ORDER NO. 0034  
FOSTER WHEELER ENVIRONMENTAL CORPORATION

WORK PLAN

FOR

LANDFILL CAPS FOR SITE 4 AND SITE 5  
AT  
NAVAL WEAPONS STATION EARLE

COLTS NECK, NEW JERSEY

DECEMBER 1997

Prepared for

U.S. Navy Northern Division

<u>Revision</u>	<u>Date</u>	<u>Prepared By</u>	<u>Approved By</u>	<u>No. of Pages Affected</u>
0	12/12/97	Lyn Stewart <i>Michelle Pagano For Lyn Stewart</i>	Carl Tippman <i>Carl Tippman</i>	all

WORK PLAN  
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Attachment 2	Construction Schedule
Attachment 3	Submittal Register
Attachment 4	Site Maps - Figures 1 and 2
Attachment 5	Site Layout Plans- Figures 3, 4, and 5

## 1. INTRODUCTION

Foster Wheeler Environmental Corporation (FWENC) is pleased to submit this work plan to the Department of the Navy (Navy) in response to the Delivery Order 0034. This work plan describes the work that will be performed to cap the Site 4 and 5 Landfills and to accomplish related tasks at the Naval Weapons Station Earle. Work described includes mobilization, site preparation, Skeet Range demolition and reconstruction, cap construction, wetlands restoration, site restoration and demobilization.

### 1.1 PROJECT BACKGROUND

NWS Earle is located in Monmouth County, New Jersey, approximately 47 miles south of New York City. The station consists of two areas, the 10,248-acre Main Base (Mainside) area, located inland, and the 706-acre Waterfront area. See the Site Vicinity Map, Figure 1 (Attachment 4). The two areas are connected by a Navy-controlled right-of-way. Commissioned in 1943, the facilities primary mission is to supply ammunition to the naval fleet.

Site 4 is a 3-acre landfill that received approximately 10,200 tons of mixed domestic and industrial wastes from 1943 until 1960. Materials disposed of in the landfill include metal scrap, construction debris, pesticide and herbicide containers, paint residue, and rinse waters. It has been reported that containers of paint, paint thinners, varnishes, shellacs, acids, alcohols, caustics, and asbestos may have also been disposed of in the landfill. The landfilled materials are currently covered by a thin layer of sandy soil.

Site 5 is a 8-acre landfill that received approximately 6,600 tons of mixed domestic and industrial wastes between 1968 and 1978. Wastes included paper, glass, plastic, construction debris, pesticide and herbicide containers, containers of paint, paint thinners, varnishes, shellacs, acids, alcohols, caustics, and small amounts of asbestos. The landfilled materials are currently covered by a sand and vegetated soil layer ranging in depth from 1 to 3 feet. Approximately 2.5 acres of the site are used as a skeet shooting range. See the Project Location Map, Figure 2 (Attachment 4).

A series of remedial investigations were conducted to determine the nature and extent of contamination at Sites 4 and 5. The results of these investigations concluded that groundwater in the vicinity of each site was impacted by metals and organic compounds. A feasibility study was later conducted to determine potential remedial actions for the sites. The selected remedial actions were presented in the Proposed Plan for OU-1, dated March 1997. The Proposed Plan selected capping as the preferred remedial alternative, consistent with the EPA presumptive remedy for municipal landfills. The Record of Decision for OU-1, dated July 1997, selected capping as the remedial action for Sites 4 and 5.

### 1.2 OBJECTIVES

The objective of the remedial action is the capping of Site 4 and Site 5 Landfills to prevent the release of landfilled waste materials into the environment and to reduce rainwater infiltration and associated leachate generation in accordance with the Record of Decision for OU-1.

## 2. PROJECT MANAGEMENT

The Project Management Team will be responsible for all technical and administrative aspects of the remediation project. Technical responsibilities include completion of the required remediation and construction activities in accordance with the Technical Specifications and Construction Drawings and good engineering practices. Included among the team's administrative responsibilities are project communications, project controls and scheduling, document control, and project meetings.

### 2.1 PROJECT TEAM ORGANIZATION

The project organization chart is included in Attachment 1. The following personnel are considered to be key team members for the performance of this project:

Supervising Project Engineering Manager, C. Tippman: The responsibility of the Project Manager is general oversight of all facets of the project. He will be responsible for the oversight, resource allocation, scheduling and quality control of the Project. He reports to the Program Manager and is the first point of contact for the Contracting Officer's Technical Representative (COTR) and the Design Navy Technical Representative (NTR).

Project Superintendent, D. Sullivan: The Superintendent will be responsible for all on site construction activities including supervision of craft labor and subcontractors and control of materials and equipment. The Project Superintendent reports directly to the Project Manager and Design NTR and interfaces with the Project Engineers and Quality Control Representative on a daily basis to ensure that quality control standards are being met.

Craft Supervisor, J. Carroll:

The Craft Supervisor will be responsible for construction activities in the absence of the project superintendent and will supervise craft labor and subcontractors. The Craft Supervisor reports directly to the Project Superintendent and interfaces with the Project Engineer and Quality Control Representative.

Project Engineer, L. Stewart: The responsibility of the Project Engineer is to provide guidance to the field construction staff relating to compliance with the contract plans and specifications and to prepare technical plans and submittals. The Project Engineer reports directly to the Project Superintendent.

Project Procurement Engineer, E. Federico: The Project Procurement Engineer is responsible for procurement of materials and equipment and reports directly to the Project Superintendent.

Project Controls Engineer, M. Pagano: The Project Controls Engineer is responsible for project controls, including scheduling, invoicing, and financial reporting and reports directly to the Project Superintendent.

Health and Safety Manager, G. Coppi: The Health and Safety Manager (HSM) is responsible for oversight of the health and safety procedures used on this project. He will consult with, and give direction to, the Site Health and Safety Officer.

Site Health and Safety Officer, J. Carroll: The Site Health and Safety Officer (SHSO) will be responsible for the overall health and safety of all employees on site. The SHSO will be responsible for daily health and safety monitoring, implementation of all health and safety procedures and requirements, and maintenance of health and safety records. The SHSO will have the authority to shut-down any operation that is deemed by him to be unsafe. He will report to the HSM and will interface closely with the Site Superintendent.

Task Health and Safety Officer, TBD: The task HSO will be responsible for health and safety of construction forces during subgrade preparation/ landfill waste material handling. He will be responsible for ordnance materials safety and coordination of ordnance materials related work with Navy Explosive Ordnance Disposal personnel. He will report to the SHSO and interface with the Site Superintendent.

Quality Control Manager, A. Aziz: The Quality Control Manager (QCM) is responsible for approval and oversight of quality control activities and procedures used on the project. He will provide direction to the site quality control representative.

Quality Control Representative, M. Miller: The Quality Control Representative will be responsible for performing inspection and surveillance activities and for documenting results of these activities as required to achieve the quality of construction required by the technical specifications and drawings. He will report to the program QC manager and will interface with the project engineer and superintendent.

## 2.2 PROJECT COMMUNICATION

Lines of communication between FWENC and other Project Team members are shown in the Project Organization Chart in Attachment 1. Communication between Naval Weapons Station Earle Security, Public Works, Explosive Ordnance Disposal, Environmental, and other departments will be through the construction NTR in the office of the Resident Officer in Charge of Construction.

## 2.3 PROJECT SCHEDULE

The Construction Schedule is included in Attachment 2.

## 2.4 DOCUMENT CONTROL

Quality control records, test reports, submittals and approvals, record drawings, changes to the contract, updated construction schedules, invoices, daily reports, and all other project record documents, as required, will be maintained in the project files. The files will be located in the site office and will be available for review by the Navy.

A Submittal Register which summarizes the submittal requirements of the specifications is included in Attachment 3. Submittals processing is described in the Project Quality Control Plan.

Technical changes to the work identified by FWENC, technical questions concerning drawings and specifications, and reporting of non-conforming items will be documented by the submittal of Change Requests Forms, Requests For Information and Non-Conformance Reports to the

Navy for disposition. These documents will be maintained in the project files. Formats that will be used for these reports and the daily reports are included in the CQC Plan.

## 2.5 PROJECT MEETINGS

### Pre-construction

Before any physical work begins on the site, the FWENC project staff and the Navy and their representatives will meet to discuss coordination of the project. Items to be discussed in this meeting will include access to the site, working hours, specific health and safety issues and general scheduling of the work.

### Weekly QC/ Progress Meeting

QC/Progress Meetings will be conducted once a week. The meetings will be held at the FWENC field offices or as otherwise requested by the Navy.

### 3. DESCRIPTION OF ACTIVITIES

#### 3.1 ANTICIPATED TASKS

FWENC has reviewed the Technical Specifications, Drawings, and Statement of Services and has determined that the following major activities, not necessarily in the order listed, will be performed:

##### SITE 4

- Perform surveying.
- Install sedimentation and erosion control measures: silt fence, drainage channels, berms, and basins.
- Perform clearing and grubbing.
- Construct stabilized construction entrance.
- Perform preliminary construction activities including abandonment of existing water line.
- Construct cap access ramp.
- Perform subgrade preparation activities, including excavation of waste outside the limits of regraded waste and incorporation of the waste into the landfill.
- Provide and install riprap.
- Provide and install geosynthetic soil cap components. Specific layers include: drainage layer; bedding/gas management layer; very flexible polyethylene (VFPE) geomembrane; woven and non-woven geotextiles; select fill; topsoil; and turf.
- Regrade sediment basins.
- Restore wetlands area, which includes waste excavation, regrading, and establishing trees, shrubs, and grass.
- Revegetate all disturbed areas.
- Perform site cleanup. Demobilize resources.

##### SITE 5

- Perform surveying.
- Install sedimentation and erosion control measures: silt fence, drainage channels, basins.
- Perform clearing and grubbing.
- Construct stabilized construction entrances.
- Perform preliminary construction activities which include: removal of skeet range structures and utilities; abandonment/modification of monitoring wells.
- Construct cap access ramps and culverts.

- Perform subgrade preparation activities, including excavation of waste outside the limits of regraded waste and incorporation of the waste into the landfill.
- Provide and install riprap.
- Provide and install geosynthetic soil cap components. Specific layers include: drainage layer; bedding/gas management layer; very flexible polyethylene (VFPE) geomembrane; woven and non-woven geotextiles; select fill; topsoil; and turf; base course; and bituminous concrete or aggregate surface course.
- Construct Skeet Range aggregate access road and parking lot.
- Install skeet range facilities and utilities, including sewage system, electric power and telephone.
- Revegetate all disturbed areas.
- Perform site cleanup. Demobilize resources.

### 3.2 MANPOWER REQUIREMENTS

FWENC estimates that the following union craft labor will be required for the proposed activities:

- General Operations
 

Operating Engineers -	10
Laborers -	8
Teamsters -	2
- Liner and Geotextile Installation
 

Operating Engineers -	1
Liner Technicians -	6
Laborers -	6

### 3.3 EQUIPMENT REQUIREMENTS

#### 3.3.1 Major Construction Equipment

Major construction equipment to be used on this project will include the following:

- Cat D-6 Bulldozer (3)
- Cat D-4H LGP Bulldozer (2)
- Cat D-5H LGP Bulldozer
- Smooth drum vibratory rollers (2)
- Cat 225 excavator

1,500 gallon water truck  
Cat IT-28 loader  
Volvo L-150 loader  
Volvo ADT-30 dump truck (2)  
Ditch Witch

The Project Superintendent will substitute/add equipment as required.

### 3.3.2 Radio Wave Emitting Equipment

Radio wave emitting equipment to be used on this project may include two-way radios, cell phones, surveying equipment, sampling equipment, and other similar devices. A list of this equipment with technical information (power and frequency) will be provided to the Navy for approval prior to use on site.

### 3.4 CONSTRUCTION QUALITY CONTROL

A Quality Control Plan has been prepared for this project. Construction quality control (CQC) will be performed by the QC Representative. He will be responsible for ensuring that construction conforms to the requirements of the technical specifications and the construction drawings, which includes: material testing, documentation of results, reporting results to the Project Superintendent, reporting deficiencies and certifying that all submittals are in compliance with contract requirements.

Quality control inspection and testing will be performed in accordance with the Technical Specifications and the Quality Control Plan. Testing encompasses geotechnical testing of soil materials; material testing of liners, seams, and other related cap components and general testing of materials to ensure compliance with the Technical Specifications. Testing will be conducted both on-site and off-site. Subcontracted testing laboratories will be utilized for testing of soils and cap components.

### 3.5 HEALTH AND SAFETY REQUIREMENTS

The site-specific Health and Safety Plan (HASP) provides requirements and guidelines that will be utilized in the field to protect the health and safety of workers. The SHSO will provide oversight of activities to ensure conformance with the HASP. The SHSO will supervise operations and be responsible for conducting site health and safety training/briefings, air and dust monitoring during operations, personnel monitoring, enforcing/modifying levels of PPE protection, ensuring compliance with decontamination procedures, maintaining monitoring equipment, and documenting and reporting all health and safety related accidents or injuries.

The SHSO will conduct site safety inspections. Weekly and monthly reports will be prepared and submitted to the Health and Safety Manager.

The following are specific components of the HASP that affect the daily activities of workers:

- A hazard assessment has been prepared for the major aspects of the project. Chemical, physical, and biological hazards associated with the project have been identified. Activity hazard analyses have been prepared to define the specific risks and means of mitigation that are associated with daily construction activities.
- Control measures to reduce the risk of exposure to chemical, physical, and biological hazards.
- Specific training requirements that will enable workers to operate at the site and improve their awareness of health and safety are presented in the HASP.
- Control of site operations, use of PPE, site safety equipment, and on-site communications.
- Real-time air monitoring and medical surveillance procedures are included in the HASP.
- Decontamination procedures, including contamination prevention, personnel decontamination, equipment decontamination, and disposal procedures, have been defined for site work.

### 3.6 PROCEDURES FOR DECONTAMINATION

This section describes the procedures necessary to ensure that both personnel and equipment are free from contamination. Detailed decontamination procedures are included in the HASP.

#### 3.6.1 Personnel Decontamination

The following site activities present an opportunity for personnel contamination:

- Clearing and grubbing.
- Excavation and placement of landfill waste material
- Decontamination of equipment.

FWENC will apply engineering and/or work practice controls as a means of protecting personnel in performance of site-specific tasks. Engineering controls will be implemented to reduce and maintain employee exposure below safe levels for those tasks that include possible exposure to contaminants. When engineering controls are impractical or insufficient to protect employees during site operations, FWENC will use personal protection equipment (PPE).

Any personnel exposed to possible contamination during daily activities will follow proper decontamination procedures. Decontamination procedures will ensure that material which workers may have contacted in the Exclusion Zone (EZ) does not result in personal exposure and is not spread to clean areas of the site. The EZs will be limited to the work areas that are considered or suspected to be contaminated, which will be revised and updated daily as waste material is exposed and subsequently covered with gas management layer/clean fill material.

### 3.6.2 Equipment Decontamination

All contaminated equipment will be decontaminated when switching from a contaminated task to a clean one and before leaving the site. Decontamination procedures may include sweeping, wiping or scraping the exterior of the equipment. Personnel performing this task will wear the proper PPE as specified in the HASP.

Decontamination solids will be placed within the “final limits of landfill material” while the subgrade is exposed and before clean landfill cap materials are installed.

#### 4. REMEDIAL CONSTRUCTION

This section provides a description of the major tasks that will be performed to accomplish the objectives of the remedial action. Tasks will be performed in accordance with the Construction Drawings and Technical Specifications prepared by Brown and Root Environmental, as listed below, unless noted, and in accordance with the site specific Health and Safety Plan.

#### CONSTRUCTION DRAWINGS DATED NOVEMBER 10, 1997

NAVFAC Drawing No.	Disc. Drawing No.	Drawing Title
	T-1	Title Sheet
	T-2	Legend and General Notes
	C-1	Erosion and Sediment Control Plan Notes
	C-2	Erosion and Sediment Control Revegetation Notes
	C-3	Existing Conditions Plan, Site 4
	C-4	Erosion and Sediment Control Plan, Site 4
	C-5	Excavation and Regrading Plan, Site 4
	C-6	Final Grading Plan, Site 4
	C-7	Cross Sections Site 4 (Sheet 1 of 2)
	C-8	Cross Sections Site 4 (Sheet 2 of 2)
	C-9	Wetlands Restoration Plan, Site 4
	C-10	Existing Conditions and Demolition Plan, Site 5
	C-11	Erosion and Sediment Control Plan, Site 5
	C-12	Regrading Plan, Site 5
	C-13	Final Grading Plan, Site 5
	C-14	Cross Sections Site 5 (Sheet 1 of 2)
	C-15	Cross Sections Site 5 (Sheet 2 of 2)
	C-16	Relocation of Skeet Range Facilities, Site 5
	C-17	Cover System Details, Site 4 and 5 (Sheet 1 of 2)
	C-18	Cover System Details, Site 4 and 5 (Sheet 2 of 2)
	C-19	Surface Water Management Details (Sheet 1 of 2)
	C-20	Surface Water Management Details (Sheet 2 of 2)

NAVFAC Drawing No.	Disc. Drawing No.	Drawing Title
	C-21	Miscellaneous Details (Sheet 1 of 2)
	C-22	Miscellaneous Details (Sheet 2 of 2)
	E-1	Existing Electrical Conditions Plan, Site 5
	E-2	Electrical Plan, Site 5
	E-3	Electrical One Line Diagram, Site 5
	E-4	Electrical Details, Site 5

TECHNICAL SPECIFICATIONS DATED NOVEMBER 1997

Specification Section	Title
<b>DIVISION 02 SITE WORK</b>	
02142	Very Flexible Polyethylene Geomembrane (VFPE)
02143	Gas Management Piping
02220	Site Demolition
02231	Clearing and Grubbing
02272	Geotextiles
02315	Excavation and Fill
02524	Monitoring Wells
02530	Sanitary Sewerage
02582	Electrical Manhole and Handhole
02631	Storm Drainage
02741	Bituminous Concrete Pavement
02921	Turf
02951	Mitigated Wetlands Area, Shrubs, Plants, and Grass
<b>DIVISION 03 CONCRETE</b>	
03300	Cast-In-Place Concrete
<b>DIVISION 10 SPECIALTIES</b>	
10400	Identification Devices

Specification Section	Title
DIVISION 16 ELECTRICAL	
16050	Basic Electrical Materials and Methods
16301	Overhead Transmission and Distribution
16400	Service and Distribution
16403	Underground Electrical Work - Low Voltage
16524	Exterior Lighting

#### 4.1 MOBILIZATION

##### 4.1.1 Support Zone Construction and General Site Mobilization

Temporary construction offices and facilities, lay down, staging and material storage areas, stabilized construction entrances, access ramps, and haul roads will be installed. Pinebrook Road will be improved to allow access to the EOD range when the main access road is not usable because of Site 5 construction. Facilities will include an office trailer, a craft trailer at each site, two or more storage containers, and portable toilets. Utility connections will be completed for power, water, and communications. Arrangements will be made for mail delivery and solid waste and sewage disposal services. Administrative staff, craft labor and equipment will be mobilized to the site. See the Site Layout Plans, Attachment 5.

#### 4.2 SITE PREPARATION

##### 4.2.1 Erosion and Sediment Controls

The Erosion and Sediment Control Plan prepared for Sites 4 and 5 will be implemented in accordance with drawings C-1, C-2, C-4, C-11, C-19, and C-20 and associated Technical Specifications. Prior to site disturbance, the perimeter soil erosion and sediment control devices will be constructed. Channels and berms will be constructed to direct surface water to the sediment basins. Channels, berms and basins will be constructed immediately after the sites are cleared and grubbed. Following cap construction, vegetation/permanent stabilization will be established and the Site 4 sediment basins will be removed while Site 5 sediment basins will remain to be used as stormwater detention basins.

During construction, erosion and sediment control features will be inspected and maintained as required. During subgrade preparation, and finally, just before complete covering of the subgrade, sediment will be removed from silt fence and basins and incorporated into the landfill. After landfill waste is covered, sediments will be spread on the ground.

#### 4.2.2 Site Survey

An initial site survey will be performed to establish controls required to conduct construction surveys. The limits of disturbance, the drainage channels, and the limit of final cover system, as shown on the drawings, will be staked in the field.

#### 4.2.3 Demolition/Relocation

On Site 5, existing structures, facilities, utilities, paved areas, and other items associated with the existing Skeet Range, as shown on Drawing C-10, will be removed and disposed or stored in accordance with Specification Section 02220 and Drawing C-10. On Site 4, the existing water line identified on Drawing C-3 will be abandoned in place or, if required, a portion will be removed and incorporated into the landfill. Organic building debris and other material to be disposed will be disposed off site.

#### 4.2.4 Monitoring Wells

Existing monitoring wells identified on Drawing C-11 to be abandoned will be abandoned as described in Specification Section 02524. Existing monitoring wells to be modified, identified on Drawing C-11, will be modified as shown on Drawing C-21 by extending the casings to final grade.

#### 4.2.5 Clearing and Grubbing and Topsoil Removal

Clearing and grubbing will be performed in areas within the limits of disturbance in accordance with Specification Section 02231. Clearing and grubbing debris will be chipped and used as mulch for wetlands restoration or will be disposed off-site at an on-base location to be determined. Topsoil will be stripped from clean areas and stockpiled for later use.

#### 4.2.6 Wetlands Considerations

The Site 4 "limits of final cover system" encroach into the wetlands limits. However, restoration of an area that is currently part of the landfill to a wetland will result in a net increase in the wetlands area.

##### 4.2.6.1 Wetlands Protection

No construction work will be undertaken in the wetlands except as planned in Site 4. Silt fence will be installed between the cap construction limits of disturbance and the wetlands limits at Sites 4 and 5. A 50'-0" buffer zone will be maintained between wetlands and any area where hazardous materials and/or equipment are stored.

### 4.3 STORM DRAINAGE SYSTEM

Surface drainage for the landfill caps is provided by a system of channels and culverts, which are part of the erosion and sediment controls discussed in paragraph 4.2.1, above. Additional temporary culverts are required at haul road/drainage channel crossings and will be designed in the field and constructed of corrugated HDPE pipe.

Surface drainage should be provided during construction by installing the perimeter channels early in the construction phase, which will provide pathways for diverting stormwater to the basins and the temporary channel for discharge into the wetlands.

#### 4.4 FINAL COVER SYSTEM SUBGRADE PREPARATION

The final cover system subgrade will be constructed to design grade, as shown on the Drawings and in accordance with Specification Section 02220 and 02315. Landfill waste material is potentially contaminated and work will be conducted in accordance with the Health and Safety Plan.

##### 4.4.1 Landfill Waste Material Excavation

Within the “limits of regraded waste,” landfill waste material will be cut and filled as required to achieve the subgrade as shown on Drawings C-5 and C-12. Landfill waste material extending laterally beyond these limits will be excavated and placed within the limits. It is not anticipated that dewatering or shoring will be required to accomplish the landfill cap construction or landfill waste material excavation.

Drawings C-5 and C-12 indicate areas where landfill waste material extends laterally beyond the “limits of regraded waste.” Excavation will be performed to the visual limits of waste in the indicated areas. Removed landfill waste material will be incorporated into the landfill within the “limits of regraded waste.” Select fill will be used to bring the subgrade to design grade.

##### 4.4.2 Ordnance Related Materials

Site personnel will be trained to recognize ordnance or suspected ordnance related materials. Ordnance materials will not be handled by FWENC site personnel. If suspected ordnance related materials are encountered, work will stop and personnel will evacuate the site. Navy Explosive Ordnance Disposal personnel will be contacted, who will be responsible for removal and disposal of ordnance materials.

##### 4.4.3 Wetlands Restoration

Excavation of landfill waste material will be performed in the wetlands on the west side of Site 4. Removal of waste will allow the area to be restored to a permanent wetlands area. Wetlands soil removed from adjacent areas during subgrade preparation will be used to construct the wetland area. Once landfill waste material is excavated and placed within the “limits of regraded waste,” surface soil in the adjacent areas will be removed and used to backfill the excavation.

##### 4.4.4 Excess Landfill Material

Any excess landfill material resulting from cut and fill activities during subgrade preparation will remain on site and be incorporated into the subgrade, beneath the landfill cap.

## 4.5 FINAL COVER SYSTEM

The final cover system comprises a bedding/gas management layer, a very flexible polyethylene (VFPE) geomembrane, a drainage layer, woven and non-woven geotextiles, riprap, a select fill layer and, depending upon the proposed use of the cap, either topsoil and turf or a base course and a bituminous concrete or aggregate surface course as shown on Drawing C-17 and Drawing C-18. Soil materials will be obtained from off-site sources. Selection of soil materials will be based on meeting the requirements of the material specifications and also on optimizing the structural performance of the soil layers in the landfill cap.

### 4.5.1 Bedding/Gas Management Layer

Bedding/gas management layer material and construction will be in accordance with Specification Section 02315.

### 4.5.2 VFPE Geomembrane

VFPE geomembrane material and installation (by FWENC labor) will be in accordance with Specification Section 02142.

### 4.5.3 Drainage Layer

Drainage layer material and construction will be in accordance with Specification Section 02315.

### 4.5.4 Woven and Non-Woven Geotextiles

Woven and non-woven geotextile material and installation will be in accordance with Specification Section 02772.

### 4.5.5 Base Course and Aggregate Surface Course

Base course and aggregate surface course material and construction will be in accordance with Specification Section 02315.

### 4.5.6 Bituminous Concrete Surface Course

Surface course material and construction will be in accordance with Specification Section 02741.

### 4.5.7 Select Fill Layer

Select fill layer material and construction will be in accordance with Specification Section 02315.

### 4.5.8 Riprap

Riprap will be used along the perimeter of the cap as shown on Drawings C-17 and C-18. Material and construction will be in accordance with Specification Section 02315.

#### 4.5.9 Topsoil and Turf

Topsoil layer material and construction and turf materials and installation will be in accordance with Specification Section 02921.

#### 4.6 GAS MANAGEMENT PIPING

Gas management piping and gas vents are located as shown on Drawings C-6 and C-13. Details of the gas vents are shown on Drawing C-21. Gas management piping and vents materials and construction will be in accordance with the Drawings and Specification Section 02143.

#### 4.7 WETLANDS RESTORATION

Wetlands to the west of, and adjacent to, the Site 4 cap will be impacted by cap construction. Landfill waste material will be excavated from an area that will be subsequently restored as a wetland. Wetland restoration will be in accordance with Drawing C-9 and Specification Section 02951.

#### 4.8 SKEET RANGE DEMOLITION AND CONSTRUCTION

##### 4.8.1 Utilities Demolition

Existing Skeet Range utilities, which include electric power telephone and a septic tank sanitary sewer system, will be either removed and disposed or abandoned in place (depending on field conditions) in accordance with Specification Section 02220 and Drawings C-10 and E-1. Demolition of the electrical system will be coordinated with the Navy to minimize power disruption.

##### 4.8.2 Facilities Demolition

Existing Skeet Range facilities, which include the clubhouse trailer, trailer contents, deck, high house, low house, trap house, clay launch houses, and flag pole will be either removed and disposed or removed and stored for reuse in accordance (depending on field conditions) with Specification Section 02220 and Drawing C-10.

##### 4.8.3 Utilities Construction

Electric power, telephone, and sanitary sewer systems will be constructed in accordance with Specification Sections 02530, 02582, 16050, 16301, 16400, 16403, and 16524, and Drawings C-16, C-22, E-1, E-2, E-3, and E-4.

##### 4.8.4 Facilities Construction/Reinstallation

Concrete foundations will be constructed for the new trailer, high house, low house, trap house, clay houses, and potable water and propane tanks as located and detailed on Drawings C-16 and C-22 and as specified in Specification Section 03300. Reinstallation of Skeet Range facilities will be coordinated with the Navy.

#### 4.9 SITE RESTORATION

Site restoration will consist of the removal of temporary constructed features, such as haul roads and staging and material lay-down areas, removal of temporary sedimentation and erosion control features, restoration of areas to their original or design conditions, general site clean-up, fine grading, and establishment of vegetation in areas that were disturbed by construction activities. Seeding will be done in accordance with Specification Section 02921 and Drawings C-1 and C-2. Site restoration work will primarily be completed following the completion of construction in an area and will be performed just prior to demobilization.

#### 4.10 DEMOBILIZATION

Following completion of construction activities, temporary facilities and utilities, personnel, equipment and materials will be removed from the site and the support zone area will be restored. Construction equipment will be decontaminated before leaving the site.

#### 4.11 SUBCONTRACTED WORK

The following tasks will be performed by FWENC Subcontractors:

- surveying
- electrical work
- off-site transportation and disposal
- geotechnical testing
- geomembrane laboratory testing
- clearing and grubbing
- paving
- cast-in-place concrete work
- seeding and planting

FWENC will self-perform all other work.

#### 4.12 DUST CONTROL

Dust control measures will be implemented during active construction on site. Water will be applied by the water truck to work areas, haul roads, and access roads as often as required to prevent excessive dust emissions.

## 5. FINAL REPORT

A final engineering report will be written and finalized within 30 days of project completion and furnished to the Navy. The 30 days will commence on the first day after the final inspection has been completed and the work is accepted by the Navy. The final engineering report will contain the following items:

- Summary of Record Documents
- Discussion of Remediation Activities Performed
- Record Drawings

## 6.0 REGULATORY COMPLIANCE

### 6.1 MONITORING WELL ABANDONMENT

Well abandonment procedures will conform to the State of NJ's well abandonment protocol as published in NJAC 7:26 E and EPA 600/4-89/034. A well abandonment permit is not required, however, the substantive requirements of the well abandonment regulations, including the submission of a NJDEP Well Abandonment Form and Report 6 will be followed for each well abandoned.

### 6.2 WETLANDS ACTIVITIES

The sedimentation basin at Site 4 will be constructed in the adjacent wetlands and will disturb approximately 0.4 acres of existing freshwater wetlands of intermediate resource value. Construction activities will comply with regulations promulgated under Section 404 of the Clean Water Act and the NJDEP Freshwater Wetlands Regulations (NJAC 7-74). NJDEP has been authorized by EPA to administer the federal wetlands program.

Construction of the sedimentation basin will be performed in accordance with the NJDEP Statewide General Permit #4 for construction activities in wetlands. Wetlands Mitigation will be performed in accordance with the procedures of NJAC 7:7A-14 for all disturbed areas. Restoration will be performed at ratio of one acre restored to one acre lost, modified, or disturbed to restore the site to pre-activity condition. If restoration has not been completed within 6 months of disturbance, then creation will be required at a ratio of 2 acres created to one acre lost or disturbed. All wetlands activities will be conducted as specified in Section 4.7 of the Work Plan, Section 4.1 and 4.11 of the "Environmental Permit Report for Remedial Action at OU-1", September 1997.

#### 6.2.1 Wetlands Transition Areas

The area within 50 feet of the intermediate resource value freshwater wetland in Site 4 is classified as a wetlands transition area. Activities including excavation, land disturbance, fueling, paving are normally prohibited unless the activities are being conducted under a Statewide General Permit transition area waiver. Activities under this project will be in accordance with the transition area waiver requirements under the Statewide General Permit as specified in Section 4.7 of the Work Plan and Section 4.12 of the "Environmental Conditions Report for Remedial Action OU-1," September 1997.

### 6.3 STORM WATER DISCHARGE

Construction activities at Site 4 will result in discharges of storm water run off into the adjacent wetland. Although no permits will be required for this activity, the activity must comply with the substantive requirements of the NJDEP Statewide General NJDPES Storm Water Permit #NJ0088323 for storm water discharges from construction activities that disturb 5 or more acres.

There are no specific effluent limitations or monitoring required for this discharge, however no discharges of hazardous substances, as defined in NJAC 7:1E-1.7, are permitted. The construction of the storm water outfall structures in the wetland shall comply with the substantive requirements of NJDEP Wetlands General Permit II. A sedimentation basin will be constructed to treat the storm water to minimize sediment and discharge to the wetland. All outfall structures shall be constructed in accordance with the Standards for "Soil Erosion and Sediment Control in New Jersey" and New Jersey DEP requirements specified in Section 411 of the Environmental Conditions Permit Report for Remedial Action at OU1, Sept 1997.

#### 6.4 SEPTIC TANK SYSTEM

An existing septic tank at Site 5 which serviced the clubhouse will be closed and abandoned in place. All waste water will be removed from the tank and disposed in the sanitary sewer system on site. The tank will be filled with clean soil and abandoned in place. A new waste water holding tank will be constructed in accordance with NJ DEPE requirements under NJ AG7:14 A023 as specified in Section 4.8.3 of the work plan.

#### 6.5 EARTH MOVING OPERATION

All excavation, grading and earth moving operation will be conducted in accordance with the "Standards for Soil Erosion Sediment Control in New Jersey," although a Soil Erosion Control Permit will not be required, a Soil Erosion and Sediment Control Plan has been prepared.

#### 6.6 LANDFILL CLOSURE AND CAP DESIGN

The landfills at Sites 4 and 5 were used for disposal of domestic solid waste, construction and demolition debris and small amounts of industrial waste. Landfill closure and cap design and construction are being conducted in accordance with NJDEP landfill engineering and design standards under NJAC 7:26-2A7, as specified in the design prepared by Brown & Root.

#### 6.7 WASTE MANAGEMENT

As per the "Environmental permits Report for Remedial Action at Operable Unit 1 (Sites 4 and 5)" Sept 1997, Brown & Root, RCRA Hazardous Wastes will not be generated during remedial activities, only solid wastes are expected to be generated.

Solid wastes generated on site will be managed in accordance with NJDEP Solid Waste Regulations published under 7:26, and the Record of Decision dated Sept 1997.

If RCRA hazardous wastes are encountered, they will be managed in accordance with RCRA requirements under 40CFR parts 260-268 and NJDEP requirements under 7:26G and this plan will be amended to include all applicable requirements for hazardous waste management.

The following waste materials will be generated during remedial activities.

- Excavated waste from landfill Sites 4 and 5.
- Wood and other construction and demolition debris generated during Skeet Range building demolition.

- Uncontaminated vegetative waste generated during cleaning and grubbing activities at Sites 4 and 5.
- PPE consisting of Tyvecs, booties, gloves, etc. from intrusive activities at Sites 4 and 5.
- Sanitary waste water from septic tank closure at Site 5.

All disposal facilities and transporters used for off-site disposal will be approved in accordance with FWENC Corporate Regulatory Compliance Procedure RC-2 and will be approved by the Navy prior to use. FWENC will prepare all waste documentation (profiles, Bills of Lading, manifests) for Navy review and signature. FWENC personnel will not sign one waste documentation unless approval is obtained from the FWENC Legal Department.

#### 6.7.1 Excavated Wastes - Sites 4 and 5

As per the ROD, all previously landfilled wastes previously landfilled at Sites 4 and 5 which are distributed during excavation and grading activities or which extends laterally beyond the "limits of regraded waste" will be placed back in the landfills within the limits of regraded waste." There will be no off-site disposal of landfill waste material.

If intact waste drums are encountered during excavation activities, they will be excavated and overpacked in DOT approved container and staged on-site pending further direction from the Navy. This will be considered a change in site conditions. Intact drums will not be crushed, emptied or otherwise disposed on-site.

#### 6.7.2 Construction and Demolition Debris.

Construction and demolition debris consisting of wood, concrete, metal and other building materials will be generated from clubhouse demolition at Site 5 and other site activities. This Construction and Demolition waste is expected to be non-hazardous as per the Project Specification and will be disposed off-site at a permitted Subtitle D Solid Waste Landfill. Off-site recycling is not considered to be feasible as the material must be source separated prior to shipment to permitted recycling facilities. Sampling and analysis of waste material if necessary will be conducted in accordance with disposal facility requirements.

#### 6.7.3 Vegetative waste.

Vegetative waste generated from above grade cleaning activities and grubbing waste generated from below grade activities on uncontaminated areas will be considered to be uncontaminated and will be shipped on-site and disposed at a Navy landfill on-site.

Vegetative waste generated from below grade grubbing operations in Sites 4 and 5 which may have been in contact with waste materials or contaminated solids will be shipped on-site and placed under the cap at Sites 4 and 5. If these materials cannot be placed under the cap, they will be segregated and stockpiled in a dual lined stockpiled area sampled and tested for RCRA characteristics (ignitability, corrosivity, reactivity, and toxicity). If determined to be non-hazardous they will be disposed at a Navy Landfill site with the other vegetative waste stream. If RCRA hazardous, the material will be disposed off-site at a permitted RCRA Subtitle C Facility.

#### 6.7.4 PPE

Tyvec, gloves and other PPE generated during intrusive work at Sites 4 and 5 may be contaminated with site wastes and will be placed under the cap at Sites 4 and 5.

#### 6.8 HAZARDOUS WASTE DISPOSAL

Each waste stream generated during this project will be evaluated to ensure that it meets the waste acceptance criteria and packaging requirements for the proposed treatment, storage, and disposal (TSD) facilities prior to transport.

If subcontracted by Foster Wheeler Environmental, the disposal facility will be approved under Foster Wheeler Environmental Subcontracting Procedures which require that the disposal facility:

- Is in physical compliance with RCRA or other applicable federal and state laws;
- Is not releasing any hazardous wastes, hazardous constituents or hazardous substances;
- Meets minimum technology requirements; and
- All releases, including environmentally significant releases at non-receiving units, at the facility will be addressed by a corrective action program.

The facility must demonstrate a properly designed system, and must presently operate (and historically have operated) in a manner that controls the types of materials accepted for disposal. Invoices will be returned by the landfill operators verifying that the waste was received and properly disposed. Foster Wheeler Environmental will provide a copy of the facility compliance check documentation to the Navy with the Waste Profile.

Foster Wheeler Environmental will be responsible for preparation of the waste disposal manifests. The manifests will be reviewed and signed by the Navy as generator of the waste. Manifests will be carried by the transporters and will include the following:

- The generator's name, mailing address, site address if different from the mailing address, and phone number;
- The generator's EPA I.D. number;
- The hauler (or haulers) name, phone number;
- The hauler (or haulers) EPA I.D. number;
- The treatment, storage or disposal facility's name, address, and telephone number (designated facility);
- The treatment, storage, or disposal facility's EPA I.D. number;
- The name, type, and quantity of hazardous waste being shipped, proper DOT shipping name, hazard class, and I.D. number;
- Special handling instructions and any other information required on the form to be supplied by the generator;
- When shipping hazardous waste to a waste reuse facility, the generator will enter the waste reuse facility I.D. number in section G; and,
- The proper codes that accurately describe the shipment of hazardous waste.

Before allowing the manifested waste to leave the property, the appropriate Navy representative must:

- Sign the manifest certification by hand;
- Obtain the handwritten signature of the initial hauler and date of acceptance on the manifest;
- Retain one copy; and
- Give the remaining copies of the manifest form to the hauler.

#### 6.9 AIR POLLUTION CONTROL

Fugitive dust emissions may result from project operations. Consequently, engineering controls will be used to control dust emissions. This shall include keeping surfaces adequately wet during invasive activities and covering materials being transported to prevent fugitive dust emissions.

#### 6.10 TRANSPORT

To ensure safe transport of the waste, only transporters who have demonstrated competence and the required license and permits for transporting waste will be used. Foster Wheeler Environmental policies and procedures for subcontracting will be followed. Transporter EPA/State identification numbers will be kept in project and compliance files. Trucks will be covered to prevent fugitive releases of material during transport.

#### 6.11 DOT REQUIREMENTS

All waste materials destined for off-site material are expected to be non-hazardous and will not meet the definition of a DOT hazardous material, however in the event hazardous materials are encountered, FWENC will follow the following requirements. Hazardous material will be properly classed, described, packaged, marked, labeled and in condition for shipment as required by 49 CFR 171.

Waste that does not exhibit one of the nine DOT hazard class characteristics (i.e., explosive, flammable, poison, combustible, etc.) is not regulated under DOT rules for the transportation of hazardous material. If waste is suspected to be hazardous, then it will be shipped under the suspected hazard class. If a particular hazard class is unable to be determined, then the soil or water may be shipped under either of the following:

Shipping Name	Hazard Class	ID Number	Packing Grou	Label
Environmentally hazardous substances, liquid, n.o.s.	9	UN3082	III	CLASS 9
Environmentally hazardous substances, solid, n.o.s.	9	UN3077	III	CLASS 9

When using either one of these "n.o.s." (not otherwise specified) shipping names, at least two technical names must follow (i.e., "Environmentally hazardous substances, liquid, n.o.s. [Benzene and Acetone]").

The shipping name, identification number, packing group, instructions, cautions, weights, EPA waste code numbers and consignee/consignor designations will be marked on packages for shipment. Labeling provides information regarding the DOT hazard class.

The label to be placed on material will depend upon the results of sampling. Once the waste is characterized, reference should be made to the Hazardous Materials Table in 49 CFR 172.101 to determine the appropriate label. The package (or drum) will be marked and labeled as specified in 49 CFR 172.301.

The person offering hazardous material for shipment will offer placards (49 CFR 172.506). Any quantity of material listed in Table 1 of the regulations will be placarded. However, if there is less than 1,000 lb. of a Table 2 material, no placard is required. No Class 9 placard is required for domestic shipments. If a placard is required, the label referenced above will be affixed on each side and each end of the vehicle(s).

Hazardous material shipping papers will have the following description of the hazardous material, in the following order:

- Proper shipping name;
- Hazard class or division;
- Identification number;
- Packaging group;
- Total quantity (must appear either before or after the above information); and,
- Technical and chemical group names may be entered in parentheses between the proper shipping name and hazard class or following the basic description (e.g., "Flammable liquids, n.o.s. [contains xylene and benzene], 3 UN1993, PG II").

Other required information includes:

- EPA identification (manifests);
- Emergency Response Guidebook numbers;
- Twenty-four (24) hour emergency response number, supplied by the generator and answered by a knowledgeable person;
- Signatures; and
- Shipper's certification.

## 7 FIELD ADMINISTRATIVE PROCEDURES

### 7.1 DAILY SAFETY MEETING

FWENC supervisory personnel will hold daily tailgate safety meetings to advise the workers of proper methods of performing the work planned for the day. The topics of discussion will be listed on a sign-in sheet and the sheet will be kept as a record of the meeting.

### 7.2 STATUS REPORTS

FWENC will prepare monthly status reports of the current condition of the project. The status reports will include a Technical Progress Report, Non-Compliance Report, Cost Performance Report, Project Schedule, updated Submittal Register, Government Materials Tracking Report, Variance Analysis Report, and a Waste Materials Report.

### 7.3 DAILY REPORT/CQC REPORT

Every day that work is performed, FWENC will prepare and submit the Daily Report/CQC Report to the Navy. The report will be submitted the following business day.

### 7.4 SUBMITTAL REGISTER

The CQC representative will prepare and continually update a Submittal Register to document quality control for materials, inspection, and testing. The Submittal Register will be maintained on site and available for review.

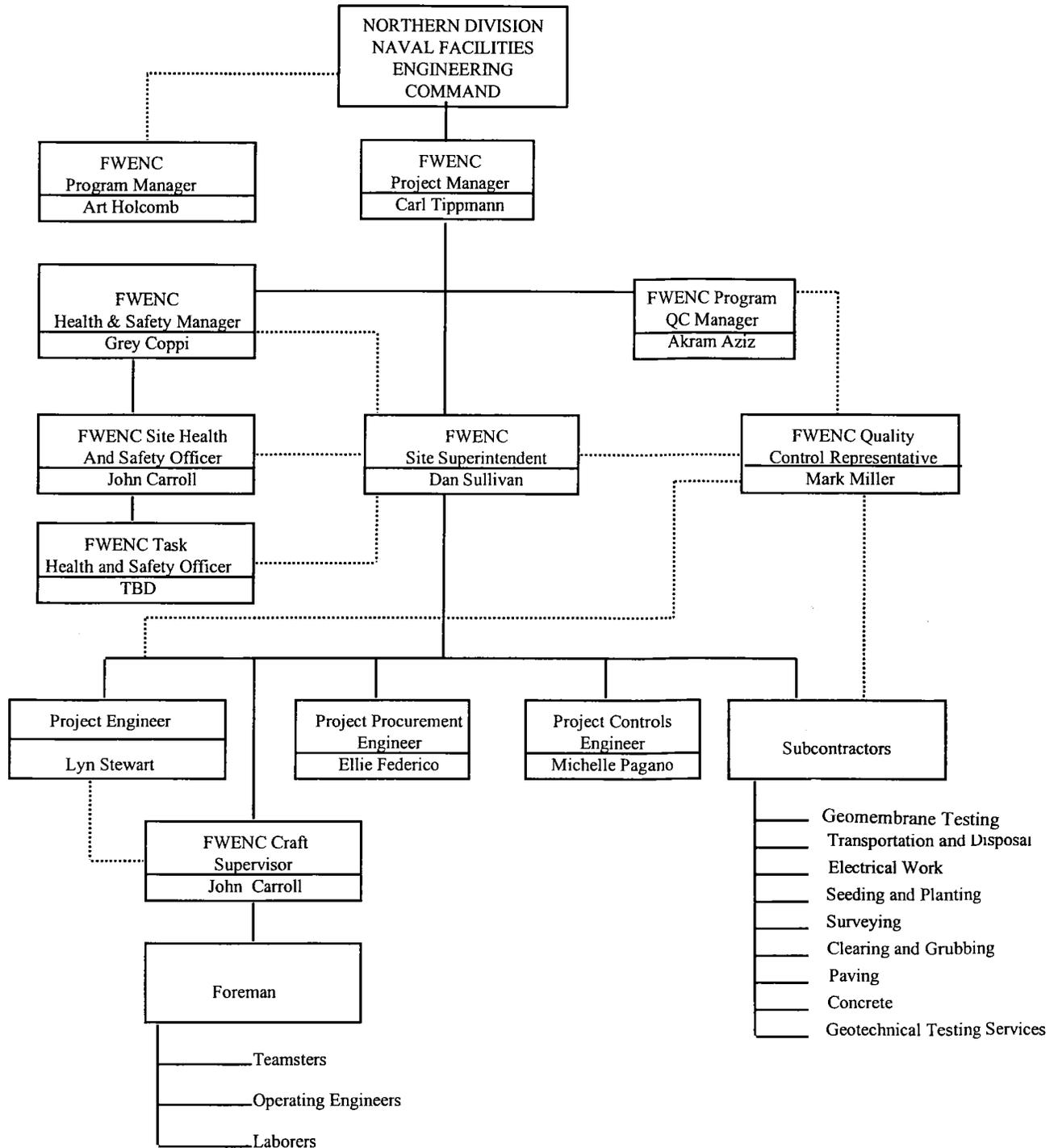
### 7.5 REGULATORY AGENCY PERSONNEL SITE VISITS

Regulatory agency personnel who visit the site and who have questions or comments concerning the work will give those questions or comments, in writing, to the project superintendent, who will then forward it to the Navy NTR.

ATTACHMENT 1  
PROJECT ORGANIZATION CHART  
Attached - Electronic file

ATTACHMENT 1  
PROJECT ORGANIZATION CHART  
Attached - Electronic file

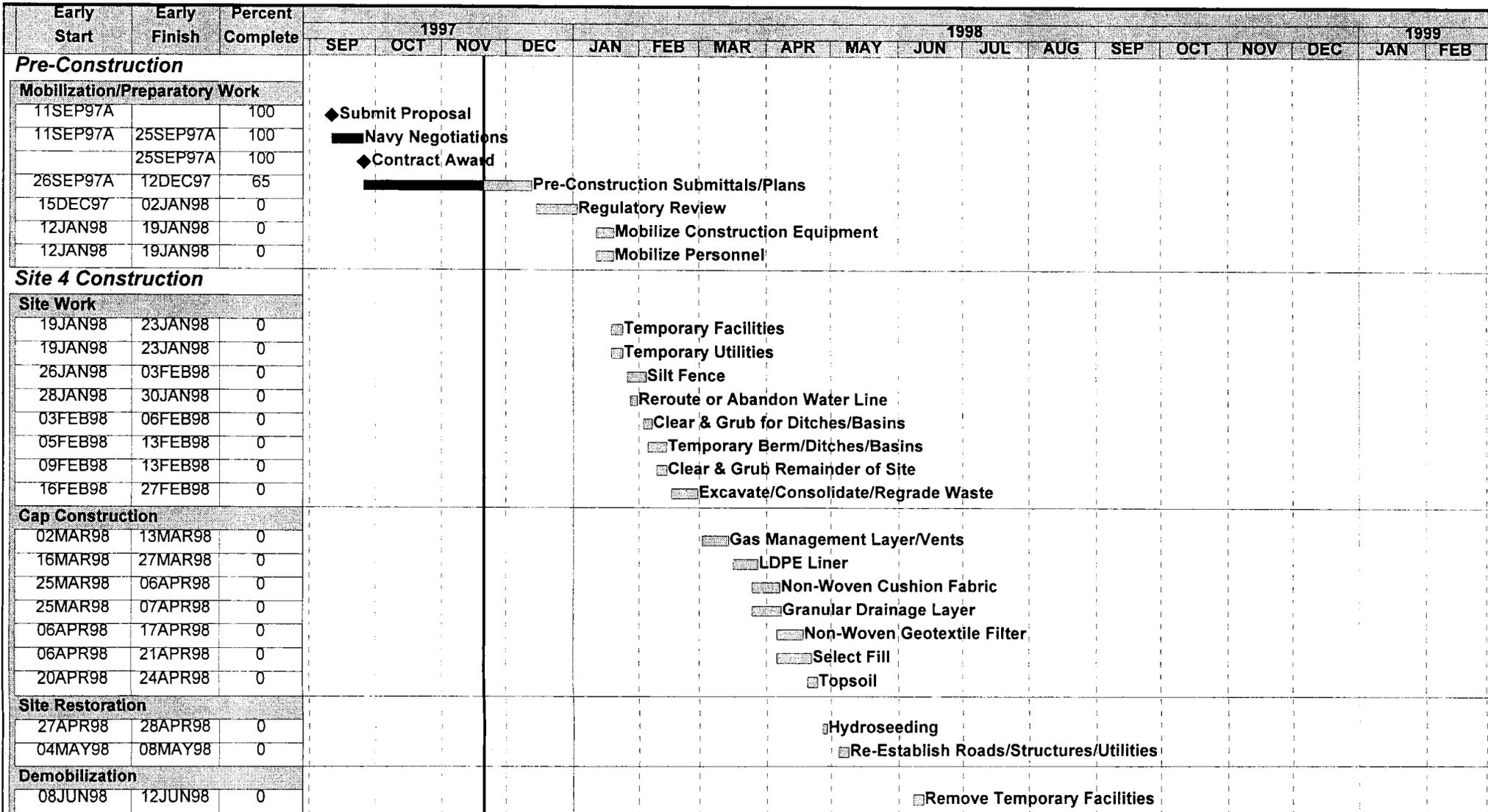
ATTACHMENT 1



LEGEND:  
 TBD - To be Decided  
 ————— Reports to  
 ..... Interfaces with

PROJECT ORGANIZATION CHART  
 REMEDIAL ACTION  
 NAVAL WEAPONS STATION EARLE  
 COLTS NECK, NEW JERSEY  
 prepared for  
 DEPARTMENT OF THE NAVY  
 NORTHERN DIVISION  
 NAVAL FACILITIES ENGINEERING COMMAND  
 LESTER, PENNSYLVANIA

ATTACHMENT 2  
CONSTRUCTION SCHEDULE



Project Start 01SEP97  
 Project Finish 03AUG98  
 Data Date 21NOV97  
 Run Date 12DEC97

3400

Sheet 1 of 3

**D.O. 34 - NWS EARLE**  
**Landfill Cap Construction**

Early Start	Early Finish	Percent Complete	1997												1998				1999		
			SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	
<b>Site 5 Construction</b>																					
<b>Site Work</b>																					
12JAN98	19JAN98	0	<input type="checkbox"/> Temporary Facilities <input type="checkbox"/> Silt Fence <input type="checkbox"/> Skeet Range Demolition <input type="checkbox"/> Clear & Grub for Ditches/Basins <input type="checkbox"/> Clear & Grub Remainder of Site <input type="checkbox"/> Temporary Ditches/Basins <input type="checkbox"/> Excavate/Consolidate/Regrade Waste																		
19JAN98	27JAN98	0																			
19JAN98	12FEB98	0																			
28JAN98	03FEB98	0																			
04FEB98	11FEB98	0																			
09FEB98	06MAR98	0																			
09MAR98	27MAR98	0																			
<b>Cap Construction</b>																					
23MAR98	10APR98	0	<input type="checkbox"/> Gas Management Layer/Vents <input type="checkbox"/> LDPE Liner <input type="checkbox"/> Non-Woven Cushion Fabric <input type="checkbox"/> Granular Drainage Layer <input type="checkbox"/> Non-Woven Geotextile Filter <input type="checkbox"/> Select Fill <input type="checkbox"/> Topsoil																		
06APR98	24APR98	0																			
20APR98	07MAY98	0																			
20APR98	08MAY98	0																			
27APR98	14MAY98	0																			
27APR98	15MAY98	0																			
11MAY98	22MAY98	0																			
<b>Site Restoration</b>																					
27APR98	08MAY98	0	<input type="checkbox"/> U/G Electrical/Telephone <input type="checkbox"/> Rock Base Course <input type="checkbox"/> Asphalt Wear Course <input type="checkbox"/> Re-Establish Skeet Range <input type="checkbox"/> Hydroseeding																		
11MAY98	15MAY98	0																			
18MAY98	22MAY98	0																			
25MAY98	05JUN98	0																			
25MAY98	27MAY98	0																			
<b>Demobilization</b>																					
08JUN98	12JUN98	0	<input type="checkbox"/> Remove Temporary Facilities																		
<b>Post-Construction</b>																					
<b>Demobilization</b>																					
08JUN98	03AUG98	0	<input type="checkbox"/> Final Report <input type="checkbox"/> Demobilize Construction Equipment <input type="checkbox"/> Demobilize Personnel																		
15JUN98	19JUN98	0																			
22JUN98	26JUN98	0																			

Project Start 01SEP97  Early Bar  
 Project Finish 03AUG98  Progress Bar  
 Data Date 21NOV97  
 Run Date 12DEC97

3400

Sheet 2 of 3

**D.O. 34 - NWS EARLE**  
**Landfill Cap Construction**

ATTACHMENT 3  
SUBMITTAL REGISTER

**SUBMITTAL REGISTER**

Contract Number: N62472-94-D-0398 D.O. # 0034

Project Title: Landfill Caps for Sites 4 and 5

LOCATION: NWS-Earle, NJ

CONTRACTOR: Foster Wheeler Environmental Corporation

SPEC SECTION NO.	SD NO. & TYPE OF SUBMITTAL-MATL OR PRODUCT	SPEC PARA NO.	CLASSIF/ APPR BY CO *	GOVT OR A/E REVR	TRANS CONTL NO.	PLANNED SUBMITTAL DATE	CONTRACTOR ACTION			APPROVING AUTHORITY ACTION				CONTR	
							ACT. CODE	DATE OF ACTION	DATE FWD TO APPR AUTH / DATE RECD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RECD FROM OTHER REVIEWER	ACT. CODE	DATE OF ACTION	MAILED TO CONTR / RECD FROM APPR AUTH	REMARKS
(a)	(b)	(c)	(D)	(e)	(f)	(g)	(h)	(I)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
02142	SD-02, Manufacturer's Catalog Data														
	VFPE Geomembrane	2.1	G			2/14/98									
	SD-04, Drawings														
	Panel Layout	1.2.2.1	G			2/14/98									
	SD-06, Instructions														
	VFPE Geomembrane	2.1	G			2/14/98									
	SD-08, Statements														
	Manufacturer's Qualifications	1.4.1	G			2/14/98									
	Installer's Qualifications	1.4.2	G			2/1/98									
	Manufacturer's Warranty	1.5.1	G			5/1/98									
	SD-10, Test Reports														
	Shear Test Requirements	1.2.5.1	G			2/28/98									
	SD-12, Field Test Reports														
	Field Technical Service Reports	1.2.6.1	G			As Placed									
	SD-13, Certificates														
	VFPE Geomembrane	2.1	G			2/14/98									
	Site Preparation	1.2.7.2	G			As Placed									
	SD-14, Samples														
	VFPE Geomembrane	2.1	G			2/14/98									

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\* Navy Notes: Approved by: G: Contracting Officer Blank: CQC Manager  
 \* NASA Notes: Approved by: Blank: Contracting Officer  
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Contract Number: N62472-94-D-0398 D.O. # 0034

**SUBMITTAL REGISTER**

Project Title: Landfill Caps for Sites 4 and 5

LOCATION: NWS-Earle, NJ

CONTRACTOR: Foster Wheeler Environmental Corporation

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							ACT. CODE	DATE OF ACTION	DATE FWD TO APPR AUTH / DATE RECD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RECD FROM OTHER REVIEWER	ACT. CODE	DATE OF ACTION		
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02143	SD-02, Manufacturer's Catalog Data														
	Polyvinyl Chloride (PVC) Plastic	2.1				2/1/98									
	Pipe and Fittings														
	SD-06, Instructions														
	Installation	3.1.1				2/1/98									
02220	SD-08, Statements														
02272	SD-02, Manufacturer's Catalog Data														
	Non-woven Cushion Material	2.1.1.1	G			2/21/98									
	Roadway Stabilization Fabric	2.1.1.2	G			3/10/98									
	Non-woven Geotextile	2.1.1.3	G			3/3/98									
	SD-06, Instructions														
	Manufacturing, Sampling and Testing	2.2.1				3/3/98									
	SD-13, Certificates														
	Non-woven Cushion Material	2.1.1.1	G			3/25/98									
	Roadway Stabilization Fabric	2.1.1.2	G			5/1/98									
	Non-woven Geotextile	2.1.1.3	G			4/2/98									
	SD-14, Samples														
	Non-woven Cushion Material	2.1.1.1				2/21/98									
	Roadway Stabilization Fabric	2.1.1.2				3/10/98									

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LOCATION: NWS-Earle, NJ

CONTRACTOR: Foster Wheeler Environmental Corporation

CONTRACTOR ACTION									APPROVING AUTHORITY ACTION					CONTR	
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	Non-woven Geotextile	2.1.1.3				3/3/98									
02315	SD-11, Factory Test Reports														
	Acid Producing Soil Test	2.2.1.1				3/30/98									
	SD-12, Field Test Reports														
	Select Fill/Backfill	3.9.2.1				2/7/98									
	Granular Material	3.9.2.2				2/14/98									
	Density Tests	3.9.2.3				As Placed									
02524	SD-12, Field Test Reports														
	Well Abandonment Form	3.1	G			As Placed									
02524	SD-13, Certificates														
	Casing	2.1.2				3/3/98									
	Cement	2.1.5				3/3/98									
02530	SD-02, Manufacturer's Catalog Data														
	Pipeline materials	2.1	G			4/14/98									
	Tank Materials	2.2	G			4/14/98									
	SD-04 Drawings														
	Holding Tank	2.2.1	G			4/14/98									
	SD-05 Design Data														
	Design Calculations	1.3.3.1	G			4/14/98									
	SD-12 Field Test Reports														

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Contract Number: N62472-94-D-0398 D.O. # 0034

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Project Title: Landfill Caps for Sites 4 and 5

LOCATION: NWS-Earle, NJ

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	Leakage Testing	3.2.2.1	G			As Laid											
02582	SD-02 Manufacturer's Catalog Data																
	Precast Concrete Structures	2.1.3.1	G			3/26/98											
	Frames and Covers	2.1.1.2	G			3/26/98											
	Frames and Covers	2.1.3.2	G			3/26/98											
	Sealing Material	2.1.3.1	G			3/26/98											
	Cable racks, Arms & Insulators	2.1.2	G			3/26/98											
	SD-04 Drawings																
	Precast Handhole	1.3.2.1	G			3/26/98											
	Pulling-in Irons	3.1.4.3	G			3/26/98											
02631	SD-02 Manufacturer's Catalog Data																
	Corrugated Plastic Piping	2.1.1				2/1/98											
02741	SD-08 Statements																
	Mix Delivery Record	1.2.1.1				As Placed											
	Asphalt Concrete	2.1				4/21/98											
02741	SD-11 Factory Test Reports																
	Trial Batch	1.2.2.1				4/21/98											
	Mix Design	1.2.2.2				4/21/98											
	SD-12 Field Test Reports																
	Asphalt Concrete	2.1				As Placed											

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Project Title: Landfill Caps for Sites 4 and 5

LOCATION: NWS-Earle, NJ

CONTRACTOR: Foster Wheeler Environmental Corporation

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	Density	3.2.2.2				As Placed										
	Density	3.3.2.3				As Placed										
	Thickness	3.3.2.2				As Placed										
	Thickness	3.3.2.3				As Placed										
	Straightedge Test	3.3.2.2				As Placed										
	SD-13, Certificates															
	Asphalt Concrete	2.1				As Used										
	Curbs	2.3				As Used										
	SD-14 Samples															
	Uncompacted Mix	3.3.2.1				As Used										
	Cores	3.2				As Used										
02921	SD-02 Manufacturer's Catalog Data															
	Fertilizer	2.5				3/21/98										
	SD-07 Schedules															
	Seed	2.1				3/21/98										
	SD-10 Test Reports															
	Topsoil Composition Tests	1.3.3.1				3/21/98										
	SD-11 Factory Test Reports															
	Acid Producing Soil Test	2.2.1.1				3/21/98										
02951	SD-07 Schedules															

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Project Title: Landfill Caps for Sites 4 and 5

LOCATION: NWS-Earle, NJ

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03300	Nursery Certifications	2.1.1				3/28/98										
	SD-06 Instructions															
	Liquid Membrane Forming Compounds	2.3.2				3/28/98										
	SD-13 Certificates															
16301	Concrete	2.1				As Used										
	SD-01 Data															
	Tested Transformer Losses	2.5.2	G			3/21/98										
	SD-02 Manufacturer's Catalog Data															
	Transformer	2.5	G			3/21/98										
	SD-11 Factory Test Reports															
	Routine and Other Tests	2.8.2	G			3/21/98										
	SD-12 Field Test Reports															
	Acceptance Checks & Tests	3.2.1	G			AS Installed										
	Ground Resistance Test Reports	1.4.4.1	G			As Installed										
	SD-18 Records															
	Transformer Test Schedules	2.8.1	G			3/21/98										
16400	SD-02 Manufacturer's Catalog Data															
	Panelboard	2.1				3/21/98										
	SD-04 Drawings															

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**SUBMITTAL REGISTER**  
Project Title: Landfill Caps for Sites 4 and 5

LOCATION: NWS-Earle, NJ

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									DATE FWD TO APPR AUTH / DATE RECD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RECD FROM OTHER REVIEWER	ACT. CODE	DATE OF ACTION			
(a)	(b)	(c)	(D)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	
	Panelboard	2.1				3/21/98										
	SD-18 Records															
	Service & Distribution	1.2.3.1				As Installed										
16403	SD-02 Manufacturer's Catalog Data															
	Wires & Cables	2.1				3/21/98										
	Conduit	2.3				3/21/98										
	Conduit Fittings	2.4				3/21/98										
16403	Ground Rods	2.5				3/21/98										
	SD-12 Field Test Reports															
	Cable Test	3.2.1				As Installed										
16524	SD-02 Manufacturer's Catalog Data															
	Lighting Fixtures	2.1				3/21/98										
	SD-04 Drawings															
	Installation Details	1.2.2.1				3/21/98										
	SD-12 Field Test Reports															
	Operational Test	3.2				As Installed										

\* Navy Notes:  
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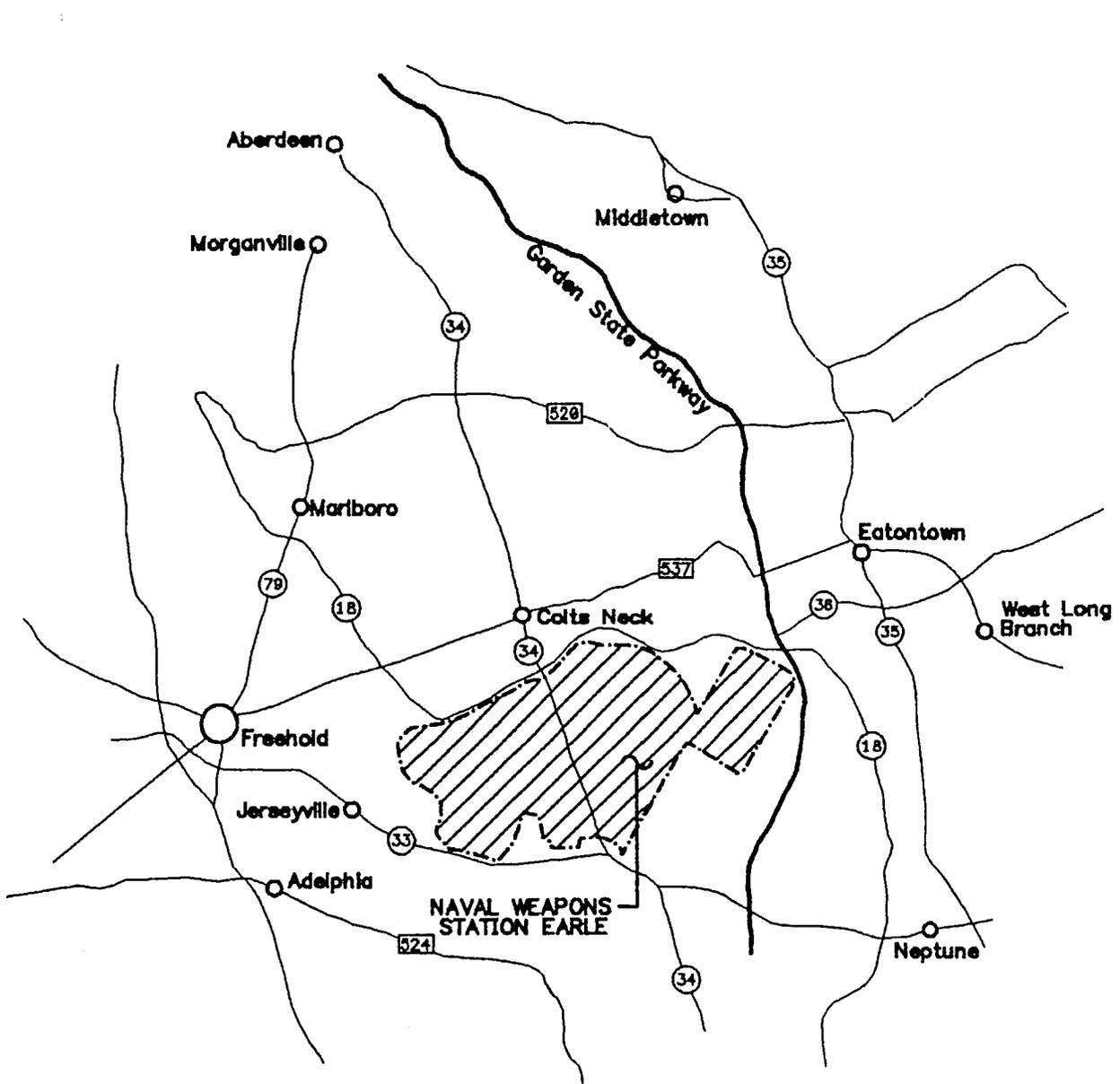
\* Army Notes:  
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**ATTACHMENT 4**  
**SITE MAPS -FIGURES 1 AND 2**  
Attached - Hard copy only

PLOT DATE DEC 1, 1997 D:\EarleLandfill\Fig1-2



N.T.S.



**FOSTER WHEELER  
ENVIRONMENTAL  
CORPORATION**

SITE VICINITY  
US NAVY RAC  
NAVAL WEAPONS STATION EARLE  
COLTS NECK, NEW JERSEY

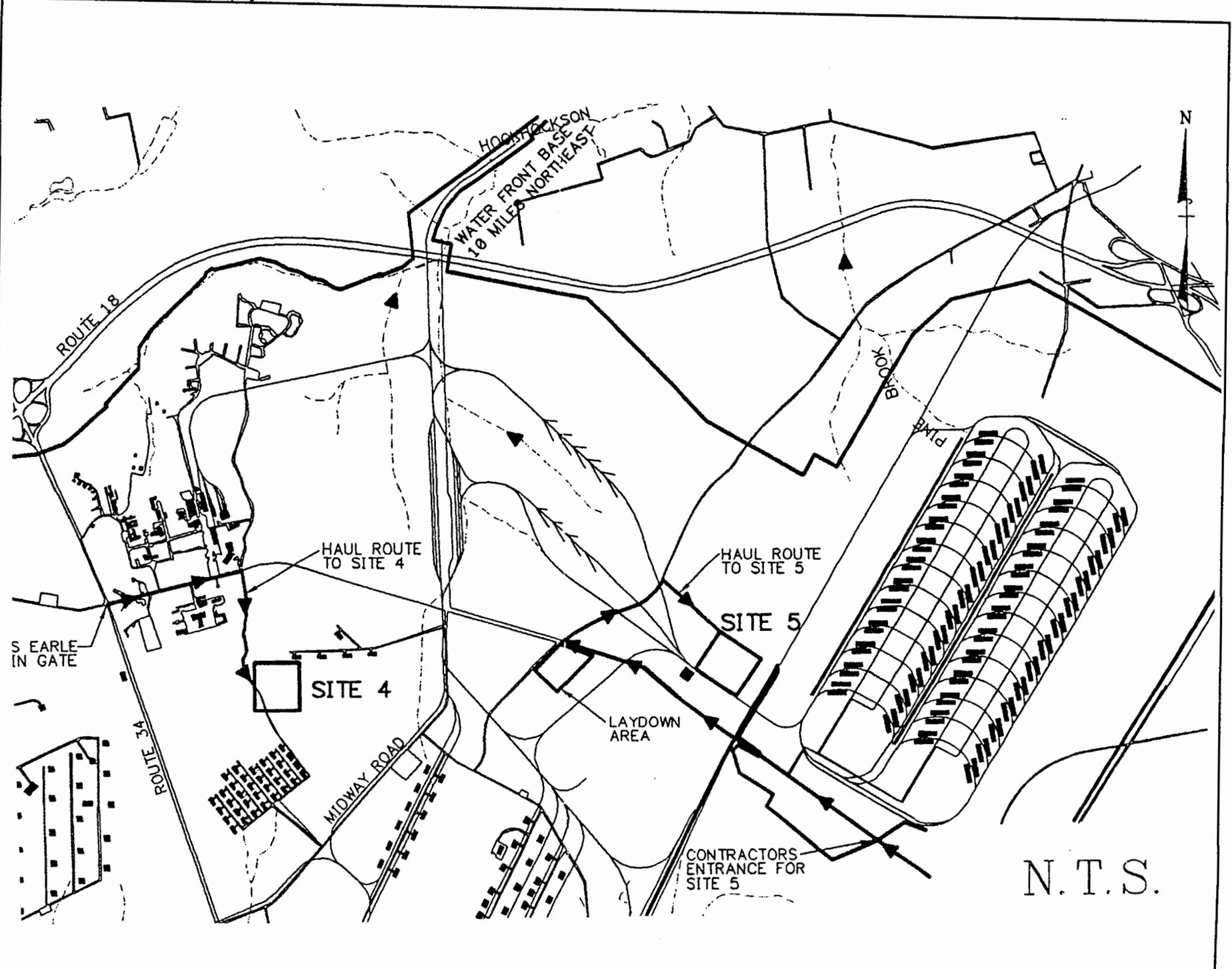
Figure  
**1**

**FOSTER WHEELER  
ENVIRONMENTAL  
CORPORATION**

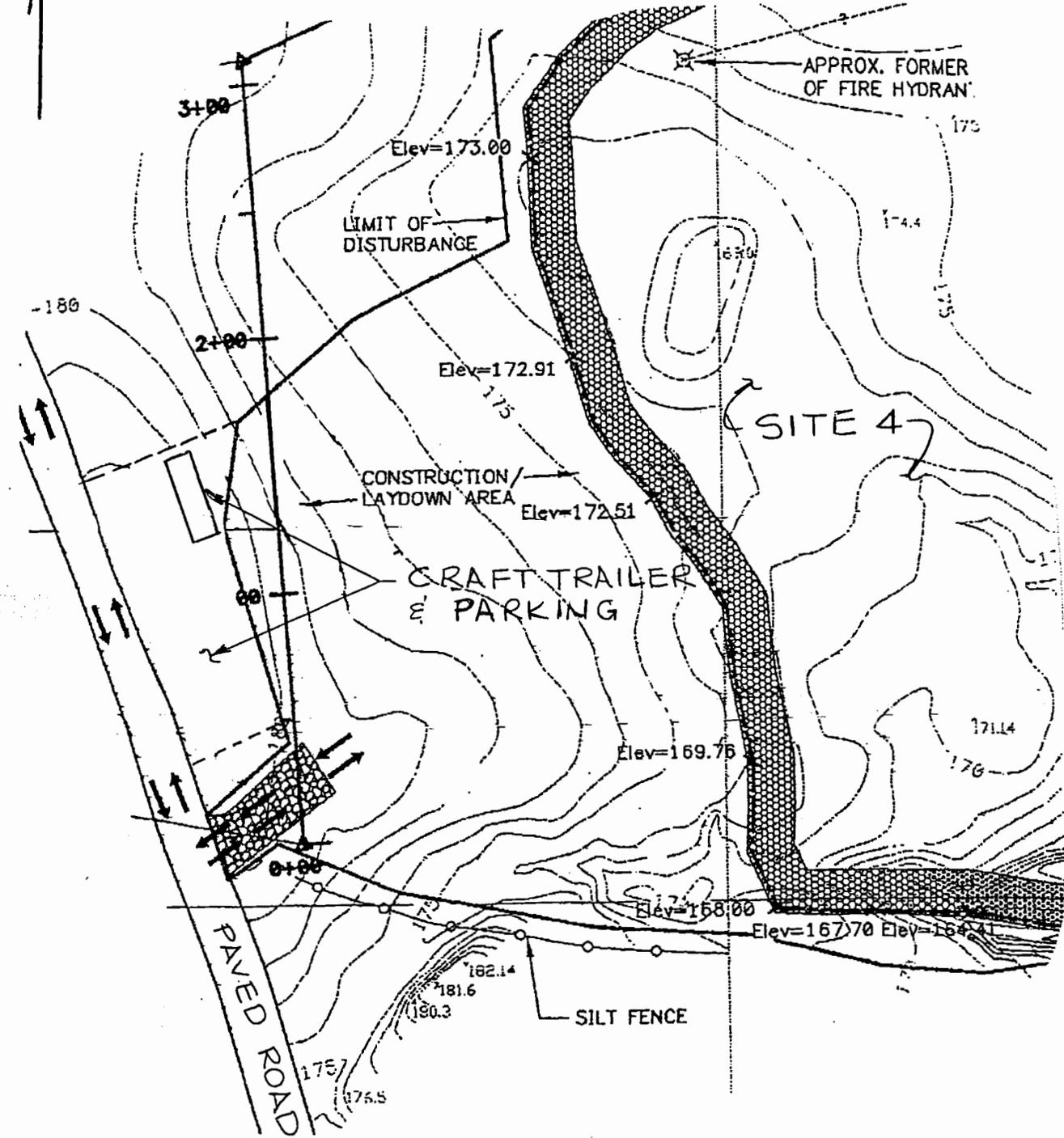


**PROJECT LOCATION**  
US NAVY RAC  
NAVAL WEAPONS STATION EARLE  
COLTS NECK, NEW JERSEY

Figure  
**2**



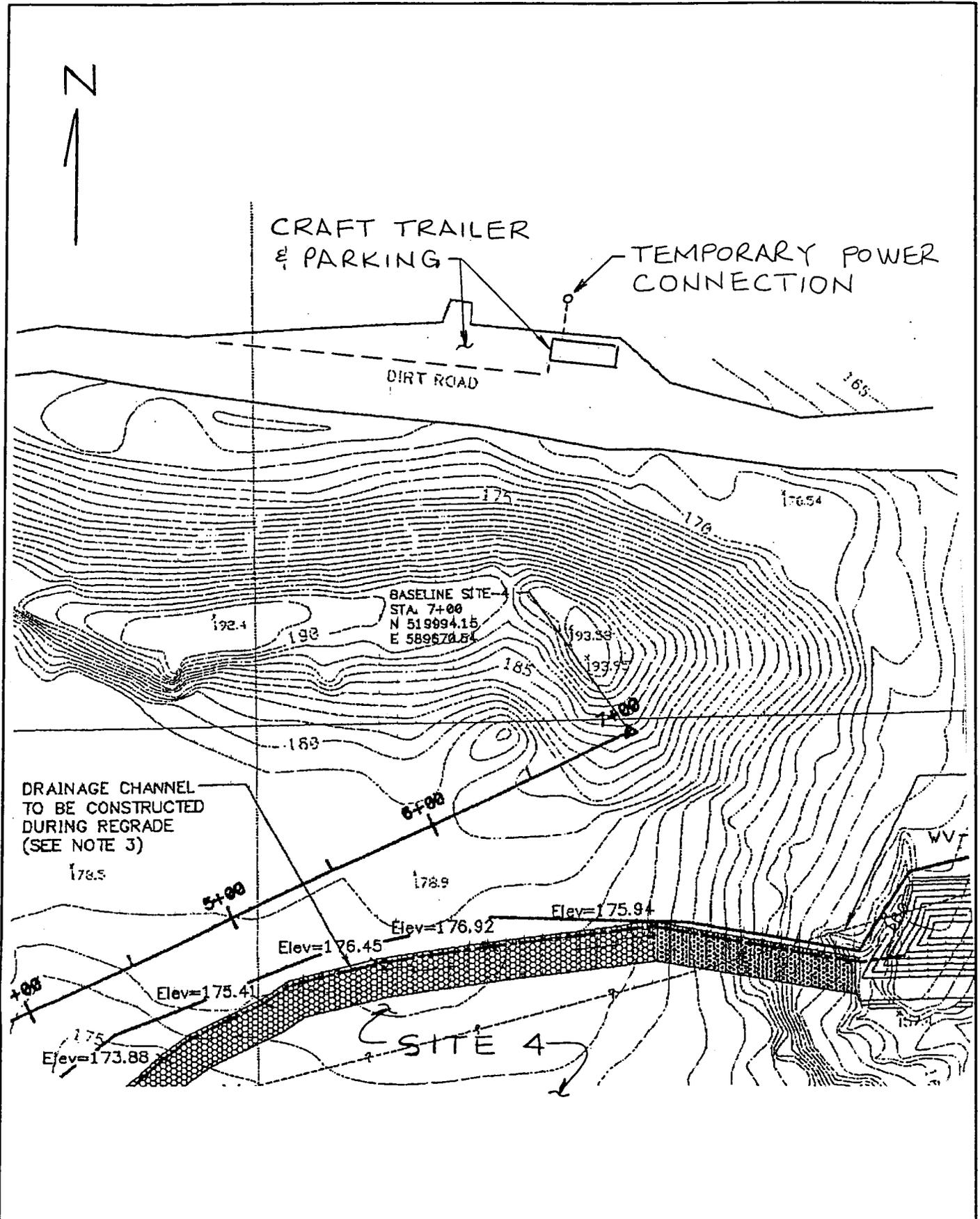
ATTACHMENT 5  
SITE LAYOUT PLAN, FIGURES 3, 4, AND 5  
Attached - Hard copy only



  
FOSTER WHEELER  
ENVIRONMENTAL  
CORPORATION

SITE 4 LAYOUT PLAN "A"  
US NAVY RAC  
NAVAL WEAPONS STATION EARLE  
COLTS NECK, NEW JERSEY

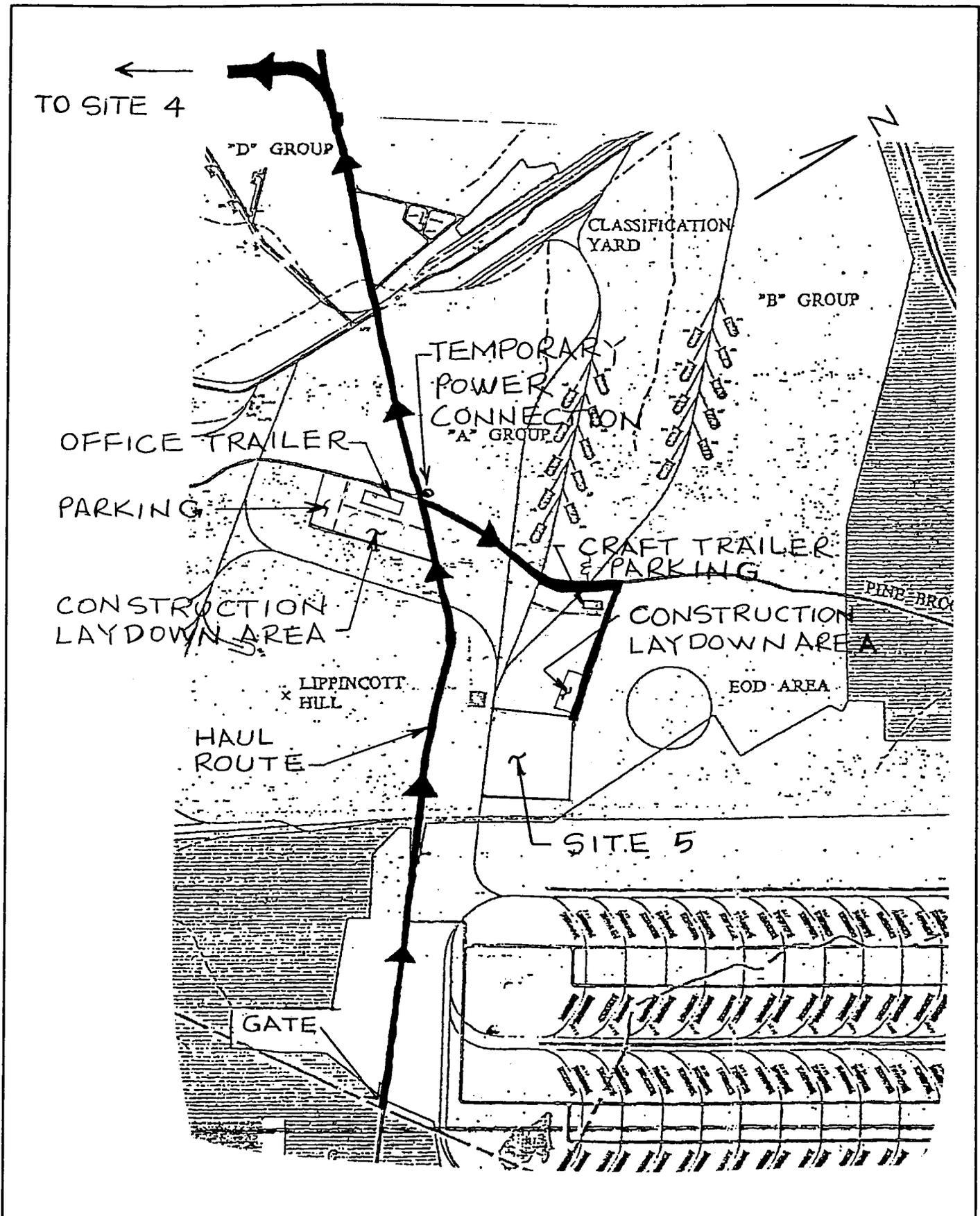
Figure  
3



  
**FOSTER WHEELER**  
 ENVIRONMENTAL  
 CORPORATION

**SITE 4 LAYOUT PLAN "B"**  
 US NAVY RAC  
 NAVAL WEAPONS STATION EARLE  
 COLTS NECK, NEW JERSEY

Figure  
**4**



  
 FOSTER WHEELER  
 ENVIRONMENTAL  
 CORPORATION

SITE 5 LAYOUT PLAN  
 US NAVY RAC  
 NAVAL WEAPONS STATION EARLE  
 COLTS NECK, NEW JERSEY

Figure  
 5