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NAWC WARMINSTER
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ADDENDUM NO. 1 TO THE WORK PLAN FOR VARIOUS SOURCE REMOVAL SITES AT NAVAL AIR WARFARE CENTER WARMINSTER, PENNSYLVANIA

Prepared For:

NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY
LESTER PENNSYLVANIA 19113

CONTRACT NO. N62472-94-D-0398
DELIVERY ORDER NO. 0018

April 1997

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated with Contract Number N62472-94-D-0398, is in compliance with the Contract drawings and specification, can be installed in the allocated spaces, and is submitted for Government approval. Government approval of proposed variation, if any, is reco d.

Prepared by

Certified by Submittal Reviewer _____, Date 4/28/97
(Signature when applicable)

Certified by QC Manager _____, Date 4/28/97
(Signature)

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Revision	Date	Prepared By	Approved By	Pages Affected
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Prepare in quintuplicate (original and 4 copies)
CONTROL NO. 2F

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

CONTRACT NO.	DELIVERY ORDER #	ACTIVITY LOCATION
N62472-94-D-0398	0018	Warminster, PA

PROJECT TITLE:
Various Remedial Action at NAWC

FROM:	DATE
Foster Wheeler Environmental Corp. - Program QCM: Akram Aziz	April 28, 1997
TO:	DATE
S. Lehman (5 copies)	April 28, 1997

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

ITEM NO.	SUBMITTAL DESCRIPTION	PREPARED/ SUBMITTED BY	APPROVED	DISAPPROVED	REMARKS
2F	SD-18, Records	A. Aziz			
	Final Addendum #1 toWork Plan for				
	(Site 6)				

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1.0 INTRODUCTION

Foster Wheeler Environmental Corporation (Foster Wheeler Environmental) has been contracted by the Northern Division, Naval Facilities Engineering Command to provide various remedial actions at the Naval Air Warfare Center located in Warminster, Pennsylvania (NAWC Warminster). This is Addendum No. 1 to the previously submitted Work Plan, dated June 21, 1996, to satisfy requirements of Remedial Action Contract Number N62472-94-D-0398, Delivery Order #0018 for Various Source Removal Sites. This Addendum addresses Site 6. As additional information concerning the remaining sites becomes available, further Addendum's to the original Work Plan will be submitted. Sections of this Addendum which would be identical to sections in the original Work Plan are intentionally omitted in order to avoid redundancy.

2.0 SITE DESCRIPTION

2.1 PROJECT LOCATION AND DESCRIPTIONS

To date, at least eight sites on the NAWC Warminster property have been identified as sites used for disposal of wastes containing hazardous substances. The location of each site is shown in Figure 2-2. All eight sites are located within the facility boundaries and include the following:

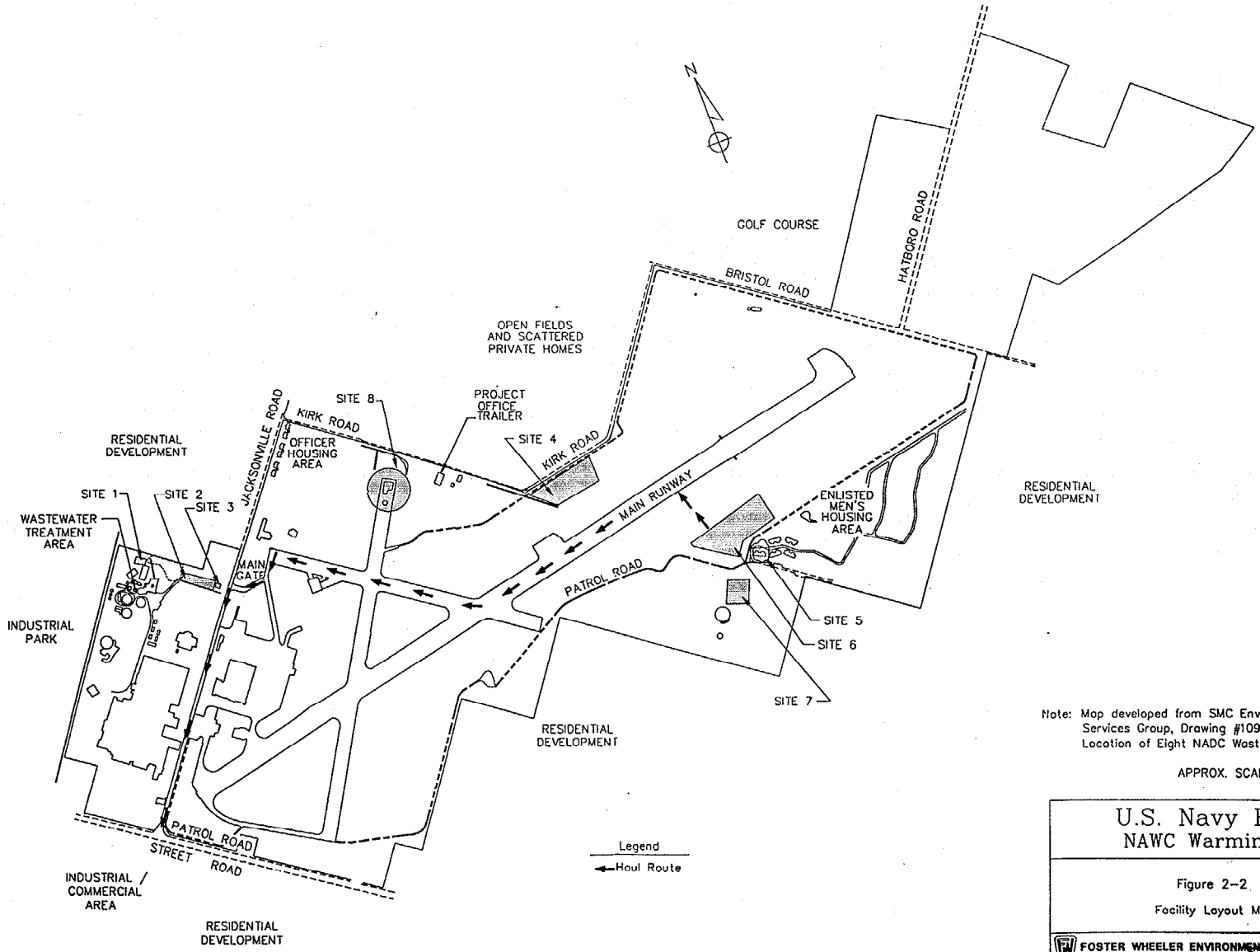
- Three waste burn and disposal pits (Sites 1, 3 and 6);
- Two sludge disposal pit areas (Sites 2 and 7);
- Two landfills (Sites 4 and 5); and,
- One fire training area (Site 8).

Historically, wastes at the facility were generated during aircraft maintenance and repair, pest control, fire fighting training, machine and plating shop operations, spray painting, and various materials research and testing activities. Wastes from these processes included paints, solvents, waste oils, construction and demolition debris, office trash, general refuse and other forms of solid waste.

2.1.1 Site 4 (See Original Work Plan)

2.1.2 Site 6

Site 6 is on the southern side of the mid-point of the main runway, just north of Patrol Road near the southern property boundary. The area slopes gently to the south-southeast and is overgrown with brush and trees. A dense area of small trees protect the southern boundary of the site area. Base housing is located immediately southeast of the site. The layout of Site 6 is shown on Figure 2-4.



Note: Map developed from SMC Environmental Services Group, Drawing #109 9328 880001, Location of Eight NADC Waste Sites, July 1990.

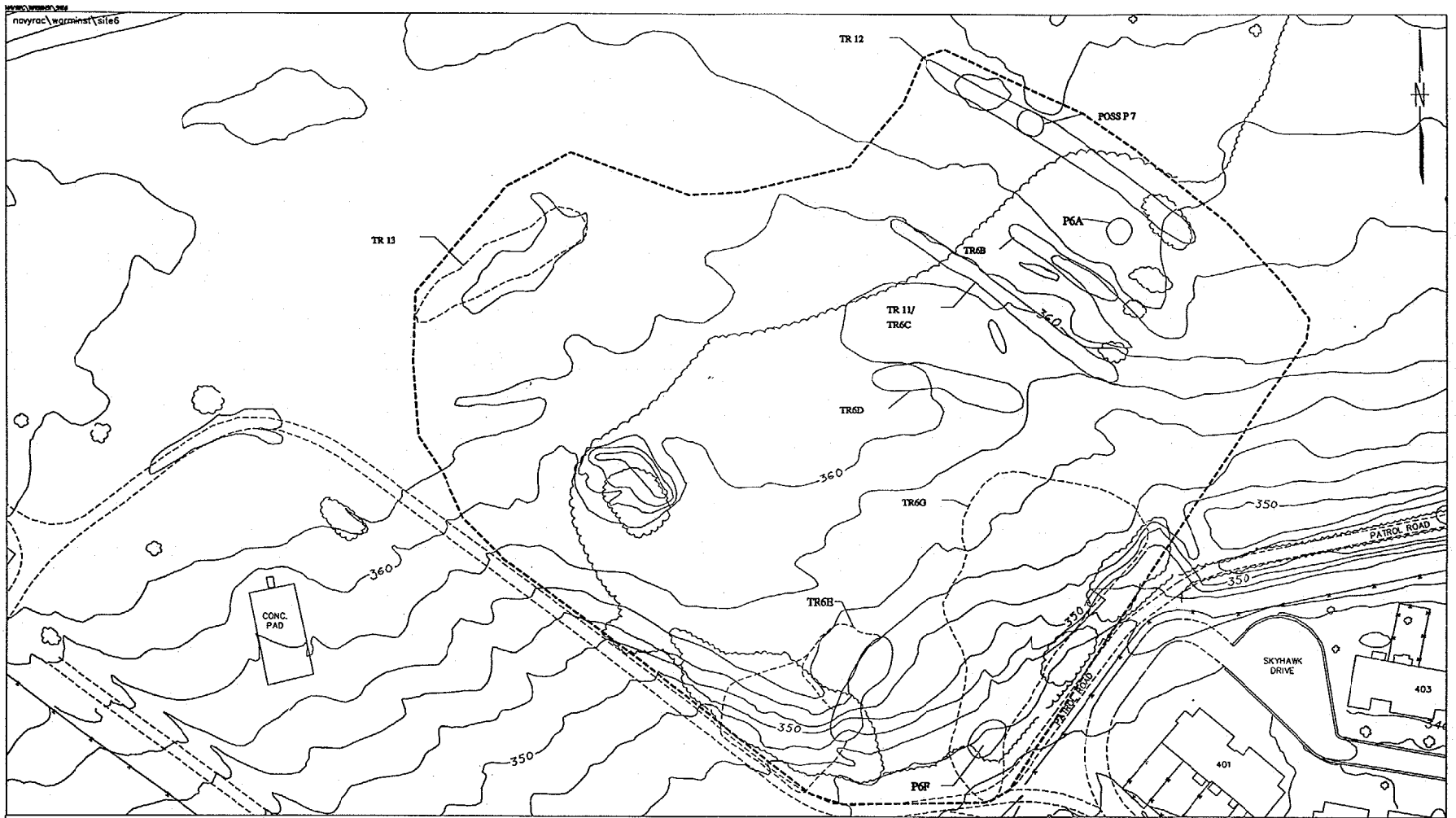
APPROX. SCALE: 1"=1000'

U.S. Navy RAC
NAWC Warminster

Figure 2-2

Facility Layout Map

FOSTER WHEELER ENVIRONMENTAL CORPORATION



LEGEND:

INPHASE GEOPHYSICAL ANOMALY

APPROXIMATE BOUNDARY FOR SITE 6

TR6D — TRENCH OR PIT IDENTIFIER ASSIGNMENT FROM EPIC

SCALE IN FEET

U.S. Navy RAC
NAWC Warminster, PA

Figure 2-4

Site 6 Layout Map

FOSTER WHEELER ENVIRONMENTAL CORPORATION

AREA OF SIGNIFICANT SOIL GAS RESULTS

This site reportedly was operated from 1960 to 1980. Several trenches on the site were used to dispose of non-industrial solid waste, paints, waste oils, waste metals, construction debris, solvents and grease trap wastes. It is not known if wastes were segregated prior to disposal or whether wastes were placed randomly into each trench.

3.0 SCOPE OF WORK

3.1 GENERAL SCOPE

The general scope of work for Addendum No. 1 will be the remediation of targeted hot spot areas and surface debris at Site 6. Foster Wheeler Environmental will provide supervision, labor, equipment and materials required to perform removal activities in accordance with applicable regulations. Foster Wheeler Environmental will also provide construction quality control and health and safety personnel. The site tasks will include the following: waste characterization of contaminated material; and, excavation, transportation and disposal of this waste and debris.

3.2 SITE 4 (See Original Work Plan)

3.3 SITE 6

Remediation of Site 6 will include the following activities:

- Pre-Mobilization surveying and sampling, via drilling, of the targeted hot spots to be remediated.
- Mobilizing equipment and facilities to the site and preparing the area for remediation, including installing erosion and dust controls, haul road, decontamination pad and staging top soil. In addition, preparing for perimeter air monitoring.
- Clearing, grubbing and removing selected surface debris.
- Excavating and backfilling the hot spot areas including the following: excavating and disposing solid wastes and debris, backfilling and compacting the excavations and decontaminating all equipment and vehicles before leaving site.
- Restoring the site.
- Demobilizing all equipment, personnel and supplies at the completion of the project.

Health and Safety levels of protection requirements for project activities are located in Addendum #2 to the Site-Specific Health Plan.

3.3.1 Pre-Mobilization Surveying and Sampling

The following sections discuss the pre-mobilization tasks planned as part of the Site 6 remediation.

Surveying

Surveyors will be subcontracted by Foster Wheeler Environmental to perform the initial demarcation of the areas to be remediated. Prior to sampling activities, the surveyors will locate and mark the approximate locations of the hot spots areas at TR6E, P6F and pit 6A from previous coordinates and traverse points determined during the site characterization for the Removal Evaluation Report for Site 6 (Brown and Root Environmental, August 1996). All located points have documentation tracing them back to an existing property corner or bench mark. This documentation will be available for review upon request. A representative from Brown and Root will be requested to verify the demarcation areas before the drilling operations will begin.

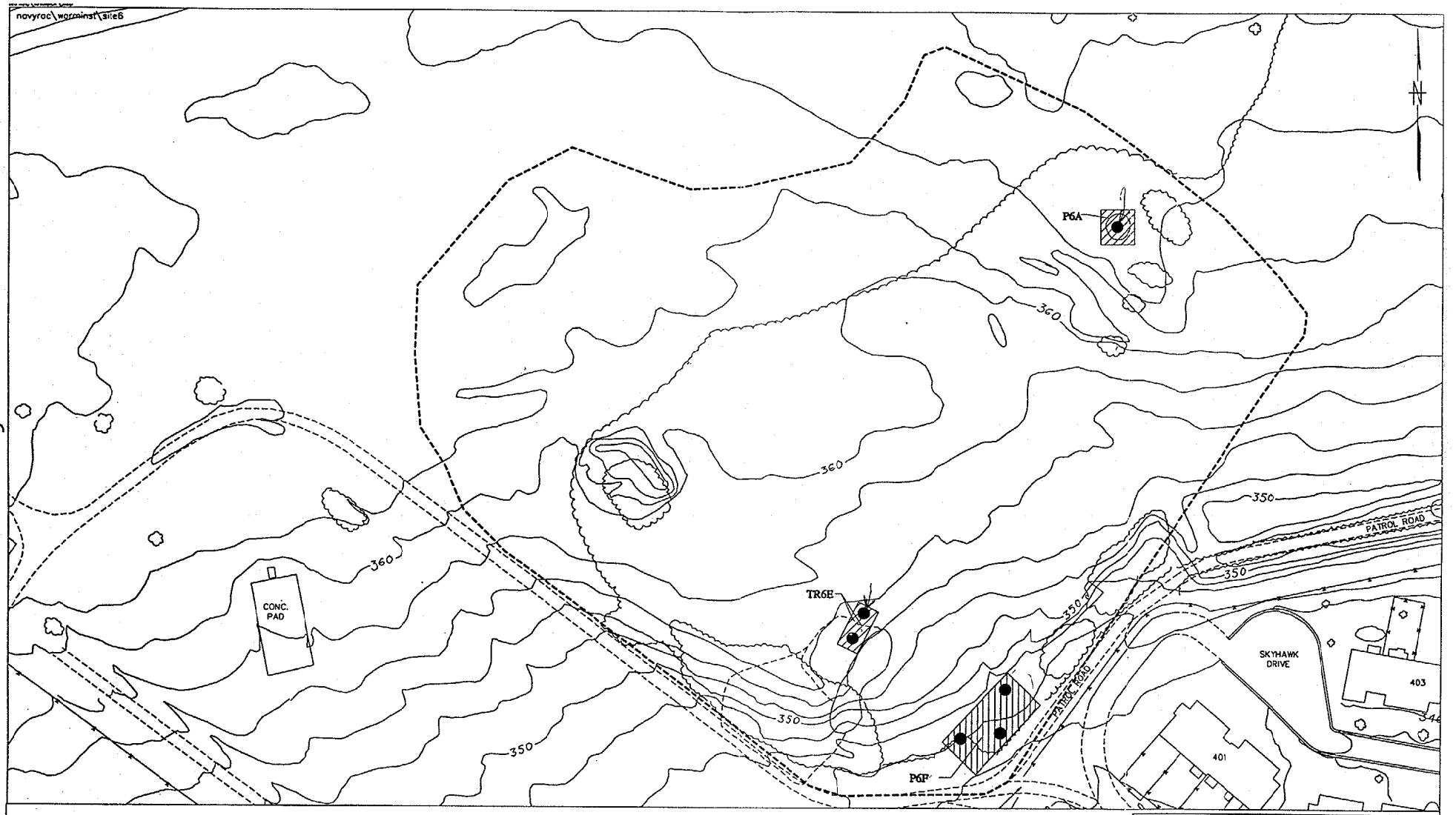
A Navy representative and Dig Safe will be contacted, and be asked to locate any utilities in and around Site 6 before drilling activities commence. Based upon the initial investigation, utilities are not expected to be found within the excavation area.

Soil Borings

A drilling contractor will be subcontracted by Foster Wheeler Environmental to perform soil boring advancement and to decontaminate the boring equipment, including building a temporary decontamination pad.

The decontamination of all drilling equipment, including appropriate portions of the drill rig, augers, drill casing, rods, tools, drilling fluid portable sumps, etc., will have been performed prior to arrival at the site. At the site, equipment will again be steam cleaned and collected prior to commencing drilling. In addition, the rear of the drill rig, all down-hole equipment and split spoons used for sampling will be steam cleaned between site locations. All decontamination water will be captured and temporarily stored in 55-gallon drums. The water will be properly disposed at the end of the project.

Six (6) soil borings will be advanced via a hollow stem auger to collect composite samples for pre-characterization of waste/soils for off-site disposal. See Figure 3-7 for approximate boring locations. Continuous split-spoon sampling, using 3-inch carbon steel spoons, will be performed at 2-foot intervals until the contaminated material (both waste and soil) is no longer encountered or bedrock is encountered. Boring termination will be based on visual observations and screening with an organic vapor analyzer (OVA) or photoionization detector (PID). After boring completion, the samples collected from each boring will be composited for analyses. If continuous refusal is encountered during



LEGEND:

- INPHASE GEOPHYSICAL ANOMALY
- APPROXIMATE BOUNDARY FOR SITE 6
- TR6D — TRENCH OR PIT IDENTIFIER ASSIGNMENT FROM EPIC
- EXCAVATIONS OF HOT SPOT AREAS
- SOIL BORING LOCATIONS

SCALE IN FEET

U.S. Navy RAC
NAWC Warminster, PA

Figure 3-7

Proposed Soil Boring Locations

FOSTER WHEELER ENVIRONMENTAL CORPORATION

the drilling operation, test pits may be used to obtain enough sample to perform waste characterization analyses. Additional borings may be required if analytical results show the material to be hazardous.

All split spoons used during the boring process for sampling will be decontaminated via steam cleaning before being used again, along with any other equipment which comes into contact with the contaminated material. Additional decontamination will be performed on the split-spoons prior to their reuse. Decontamination water will be collected into drums and disposed with decontamination water generated during remedial activities.

Sampling

Pre-mobilization sampling will be conducted in accordance with Section 5.0 of the original Work Plan and special site considerations addressed in Section 5.0 of Addendum No. 1. Samples will be sent to an approved Navy laboratory for analysis. After all sample analytical results are received, a pre-remediation sampling report will be submitted. This report will provide data summary tables, data interpretation, conclusions and recommendations for disposal of the contaminated material from the hot spot areas at Site 6. Additional sampling may be required at a future date, due to an increase in volume of contaminated material from the original estimate, or if unique contamination is encountered during excavation.

3.3.2 Mobilization and Site Preparation

Mobilization and site preparation will consist of mobilization of the following items and services to site: equipment, support trailers, utility hook-up, and preparation of the site for initiation of excavation activities. Activities performed prior to starting remediation will include the following: coordination of labor resources; procurement of surveying, drilling, laboratory and transportation and disposal services; and, the procurement of materials, equipment and supplies related to the remediation effort. Craft labor will be hired, as needed, from the local union halls.

The specific requirements for site preparation for the NAWC Warminster Site 6 project are provided in the following sections.

Temporary Construction Facilities and Utilities

The project office trailer has been previously located as part of the original Work Plan (see Figure 2-2). The site trailer will be relocated from its current location by Site 4 to an area closer to Site 6. A portable generator will be used to provide power to the trailer. All electrical and set up activities associated with the relocation will follow guidelines discussed in the original Work Plan. Other equipment and facilities will be transferred from the previous site or rented and obtained on an as needed basis.

Erosion and Dust Control

Prior to the construction activities, erosion and sediment control measures will be implemented as shown in Figure 3-8. These controls will include the following:

- Installation of silt fence along the down gradient side of Site 6 along the southern edge of the site and any other areas where surface water run off may be a concern;
- Dust control measures via water spraying of exposed soil areas;
- Construction of a temporary haul road consisting of stone; and,
- Provisions (i.e., high pressure water wash) will be made to prevent construction vehicles from tracking excess dirt and mud off-site.

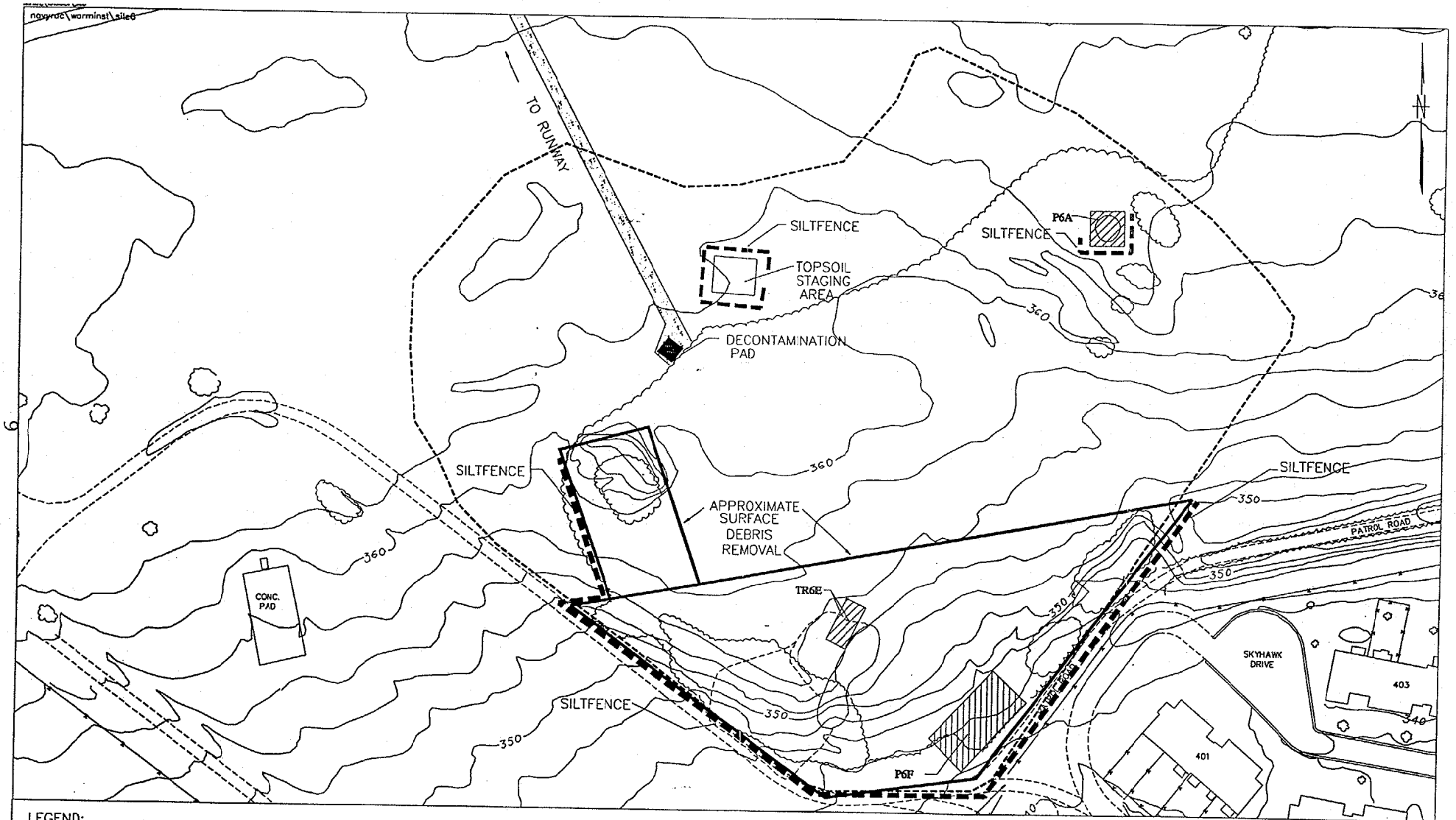
Foster Wheeler Environmental will have a pick-up truck with a water tank and a gravity fed sprinkler system drive through the accessible areas of the site to control dust. A pump and hose will also be available on the truck to wet down areas out of reach of the sprinkler system.

Foster Wheeler Environmental will maintain these controls for the duration of the project. A more detailed plan for erosion and surface water control is provided in Section 7.2 of the this Addendum to the original Work Plan.

Construction Entrance/Haul Roads

Access to the site will be through gate 33, off Jacksonville Road. Construction traffic will use existing facility roads and runways to get close to Site 6 (see Figure 2-2). A temporary gravel haul road will be constructed from the main runway to Site 6. Site maps will be provided to the transportation subcontractor to direct truck traffic from Jacksonville Road to Site 6.

Topsoil will be stripped from an area approximately 600 feet long and 12 feet wide and stockpiled on site. Stone from the existing haul road at Site 4, if available, will be reused for the road at Site 6. Additional 2-inch to 3-inch gravel will be delivered to the site to cover the remaining stripped area. Upon completion of remedial activities, the road will be left in place.



LEGEND:

- INPHASE GEOPHYSICAL ANOMALY
- APPROXIMATE BOUNDARY FOR SITE 6
- TR6D — TRENCH OR PIT IDENTIFIER ASSIGNMENT FROM EPIC
- EXCAVATIONS OF HOT SPOT AREAS
- APPROXIMATE LOCATION OF HAUL ROAD

SCALE IN FEET

U.S. Navy RAC
NAWC Warminster, PA

Figure 3-8

Remedial Layout for Site 6

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Decontamination Pad

A temporary decontamination pad will be built at Site 6 to contain contamination removed from all trucks and equipment leaving the remediation area. The approximate location of the pad is shown as part of Figure 3-8.

Soil Stockpile Areas

Separate stockpile areas will be utilized for the staging of topsoil and any uniquely hazardous material removed from the trenches. The probable location of the top soil area is shown in Figure 3-8. If a staging area is needed to store suspected hazardous material, supplies are available on-site to build this area. This staging area will be constructed near the decontamination pad. The exact location will be determined during field operations, at the time it is needed.

The top 6 inches of soil will be removed from the haul road route and staged in a clean area away from excavation activities. Silt fence will be used around the perimeter of the pile to prevent erosion. Following completion of backfilling and grading, the top soil will be re-used as final cover. Confirmatory sampling of the topsoil will not be required prior to its re-use as cover, since the soil was removed from an area outside the contaminated zones.

If necessary, a cell of ample size to store any suspected hazardous material removed from the hot spot areas will be built, since several weeks may lapse between the time samples are collected, and analytical results and all required approvals for disposal are received. Hay bales covered with double layered 10 mil. liner will be used to contain water run off. Sufficient room will be provided within the cell to allow for equipment to dump loads and to work the stockpile. Any material stored on the liner will be covered with plastic sheeting, and the plastic secured to direct rain water away from the contamination.

Perimeter Air Monitoring

Air monitoring stations will be remobilized and set up at Site 6.

3.3.3 Clearing, Grubbing and Removing Selected Surface Debris

Before the hot spot areas are remediated, some clearing and grubbing will be performed to enable equipment access. The clearing and grubbing will be kept to a minimum. The cleared material will be disposed with other non-hazardous material.

After hot spot excavation activities have been completed, surface debris will be cleared and disposed from throughout the area shown in Figure 3-8. An estimated 600 cubic yards of non-hazardous debris (concrete, brick, metal, etc.) is expected to be removed from the areas. Brush clearing will be done to enable pieces of debris to be located, and to allow equipment to perform removal activities. Care will be taken when working around larger trees, in an effort not to damage them. No excavation activities are expected to occur during debris removal. Most clearing activities should be able to be performed using a small loader.

3.3.4 Excavation and Backfilling

Excavating and backfilling will be performed in accordance with Navy specifications, NFGS-02225. Approximately 1,240 cubic yards of soil and waste material will be excavated from the hot spot areas. Backfilling of each area will occur upon receipt of soil analytical results which confirm that the limits of excavation meet the cleanup criteria for chemicals of concern.

Confirmatory, post-excavation sampling will be performed by other Navy contractors. The proposed cleanup criteria will be established by the Base Closure Team (BCT) for Site 6 in the near future.

Chemicals of Concern	Cleanup Levels (mg/kg)

Underground utilities are not anticipated with the area of excavation; however, the Navy or Dig Safe will be called to locate or provide documents identifying underground utilities that are located along the perimeter of the excavated area. These utilities will be staked prior to pre-mobilization sampling activities. The following sections describe the excavation and backfilling activities associated with Site 6.

Excavation and Removal of Solid Waste/Debris

Excavator(s) will be used to remove contaminated material from the hot spot areas and direct load it into dump trucks. The approximate areas of contamination are as follows:

- P6A - 30' x 30' x 7' deep = 233 cubic yards
- TR6E - 40' x 20' x 10' deep = 296 cubic yards
- P6F - 80' x 40' x 6' deep = 711 cubic yards

The estimated 1,240 cubic yards of soil and contaminated material will have been previously delineated and approved for disposal as non-hazardous or hazardous during the pre-mobilization sampling. The soil and material will be periodically field screened with an OVA or PID and visually observed as it is removed from the trenches by the excavator to further determine the presence of possible hazardous material. Also, screening of the last buckets from the bottom of each section of the excavation will be performed in the same manner, until no visible contamination exists, and instrument readings are at background levels. If uniquely contaminated material is encountered during excavation, the material will be staged in a separate stock pile area for proper waste characterization. If pre-mobilization sampling identifies areas of hazardous materials, further delineation will be performed to better define the extent of contamination for direct loadout.

Foster Wheeler Environmental will place caution tape around the active excavations to prevent trucks from driving too close to the trenches during direct load-out of the material. The equipment operators will exercise care in loading the trailers to keep areas outside the fence free of contaminated materials; therefore, disposal trucks will have minimal contact with contaminated materials.

Excavation will continue until native material is observed or no contamination is visible in the excavation, both horizontal and vertically. When all the material and contaminated soil are removed based on visual observation and PID readings, confirmation sampling and analysis will be performed by Others. If compounds in a confirmation sample analytical results are above the clean up levels, an additional six to twelve inches of material will be removed around the corresponding area in the excavation. If the excavation hits fractured bedrock after the removal of the additional material, no additional sampling will be performed. If soil is still present in the area excavated, the excavation will again be sampled in that area. All excavation activities will follow health and safety standards as part of the site specific Health and Safety Plan Addendum No. 2.

Backfill and Compaction

A third party Navy subcontractor will conduct the post-excavation confirmatory sampling. Upon receipt of post-excavation confirmation sample results indicating the limits of the excavation are below cleanup levels, the excavation will be backfilled and compacted with common fill. Certified clean fill from off-site sources will be used. The vendor will provide certification which will meet PADEP Document 258-2182-773. The common fill will be compacted in less than 12 inch lifts to 85% of maximum density as determined by a standard proctor test (ASTM D698). After initial field testing (ASTM D2922) demonstrates the method of compaction is meeting 85% of maximum density, no further testing will be required. The compaction method will be the method previously approved and documented at Site 4.

Equipment and Truck Decontamination

High pressure water spray, brushes and shovels will be located at the decontamination pad near the staging area to rid trucks of mud and dirt. A laborer will use a shovel and brushes to remove any gross material from the equipment. A final rinse will then be performed with a steam pressure washer to remove any additional debris, if needed. A final inspection will be performed by the Site Health and Safety Officer or the Project Superintendent before releasing the truck or equipment. All decontamination work will be performed in accordance with safety requirements dictated by the site-specific HASP.

Solid material will be cleaned off the decontamination pad as needed, or at a minimum of the end of each workday, and placed into a dump truck leaving the site. Decontamination water will be transferred to labeled 55-gallon drums or to a poly tank and stored in an appropriate area until the water is approved for disposal.

3.3.5 Restoration

Restoration of Site 6 will include final grading and seeding. After backfilling and compacting the excavations, the operators will grade and level the area with equipment that has been previously decontaminated. Final grading of the six inches of top soil will blend in with existing contours on the site. After completing the final grading, all areas where vegetation was disturbed during the remedial action will be seeded with a commercially available wild flower mix.

3.3.6 Demobilization

All excavation equipment used during Site 6 activities will be demobilized unless it may be utilized as part of any future work, which would be mobilizing within a reasonable time schedule. The plastic from the stockpiled soil areas will be disposed as part of the last shipment of waste removed from site. Support zone equipment and personnel will remain until notice is given by the Navy to demobilize.

4.0 WASTE REMOVAL PLAN

This section addresses the handling of the various waste in streams that will be generated from on-site remedial activities. These materials may include both non-hazardous and hazardous waste. Foster Wheeler Environmental will coordinate all disposal activities with the designated NAWC Warminster facility Transportation and Disposal Coordinator (T&D Coordinator). The designated Navy representative will be required to sign all bills of lading, manifests, land ban forms or other forms of paperwork required by regulations and the disposal facility.

4.1 WASTE ANALYSIS/CLASSIFICATION

4.1.1 Site 4 (See Original Work Plan)

4.1.2 Site 6

As minimal analytical testing results have been provided, Foster Wheeler Environmental assumes the approximate 600 cubic yards of surface debris will be classified non-RCRA hazardous. A majority of the 1,240 cubic yards of waste from the hot spot areas will be classified non-RCRA hazardous and suitable for Subtitle D landfill; and, part of the waste will be classified RCRA hazardous and require Subtitle C landfill. Foster Wheeler Environmental will submit six samples for Form U laboratory analyses to classify the buried waste material from the hot spot areas for disposal as part of the pre-mobilization sampling. Surface debris from outside the hot spot areas will not require sampling for waste characterization.

Non-hazardous debris will include, in addition to the waste material from the excavation determined to be non-hazardous, office and support zone trash and PPE. Areas of non-hazardous material will be kept separate from all hazardous material, and clearly marked and /or labeled. Proper handling and storage requirements will be maintained during the extent of the project.

If hazardous wastes are found on site in concentrations above land disposal regulations, other treatment technologies may be needed. These include off-site incineration and chemical/physical treatment.

As part of the equipment decontamination, an unknown volume of water will be generated which will need to be disposed. The water will be stored as non-hazardous and tested for constituents of concern by the subcontractor. Storage of the water will most likely be in drums; however, if larger quantities of water are generated, a poly tank will be utilized.

4.2 DOCUMENTATION (See Original Work Plan)

4.3 TRANSPORTATION (See Original Work Plan)

4.4 DISPOSAL (See Original Work Plan)

5.0 FIELD SAMPLING AND ANALYSIS PLAN

The remedial actions to be performed at the NAWC Warminster facility require field sampling and analysis data for the decision making process. Post-excavation, confirmatory sampling will be performed by other Navy contractors and will not be addressed in this section. The types of sampling per site are described below.

Site 6

Two types of sampling will be performed as part of the Site 6 remediation, Pre-Mobilization and Perimeter Air Monitoring. Pre-Mobilization samples include waste characterization sampling of the hot spot areas. Perimeter Air Monitoring will include air samples collected from the perimeter of the site to survey for off site dust migration.

5.1 SAMPLING PROCEDURES

5.1.1 Sampling Objectives

5.1.1.1 Site 4 (See Original Work Plan)

5.1.1.2 - Site 6

Data generated by implementation of the field sampling and analysis plan will be used for the following purposes:

- To characterize waste streams for off-site disposal; and
- To monitor the site boundary for air emissions from the remedial activities.

Table 5-2 presents the analytical testing requirements, as well as the analytical methodology, bottleware and allowable holding times for the sample analysis. The actual locations of the samples will be marked on a drawing, and a description of the sample material and location will be submitted to the Navy with the analytical results. Personnel air monitoring, equipment, personnel decontamination and other health and safety related issues are discussed in the HASP.

Pre-Mobilization Sample Strategy

Six (6) soil boring samples will be collected and analyzed for full Form U parameters. Each boring location will be spaced to represent approximately 200 cubic yards of material. One composite sample will be collected for each boring. Additional samples may be required if any of the soil and material is characterized as being hazardous. At a minimum, at least one

TABLE 5-2
NAVAL AIR WARFARE CENTER
WARMINSTER, PA (DO #0018)
SITE 6
SAMPLE COLLECTION AND ANALYTICAL PROTOCOL INFORMATION
(Page 1 of 4)

Location/ Objective	Sample Type/ Matrix	Sample Quantity	Parameters	Sample Container	Sample Preservative	Analytical Method	Method Detection Limit	Holding Times
				SITE 6 - LANDFILL				
Site 6 - Profile Samples	Waste Characteri-zation (soils) PADEP Form U Table A Analysis	6	TCLP Volatile Organics (VOAs)	(1) 8 oz. glass jar	Cool to 4°C	Extract as per zero headspace extraction in Method 1311. Analyze as per Method 8240B (SW 846)	Compound-specific (0.2-100 mg/L)	14 days extract 14 days analyze
			TCLP Semi-volatiles (SVOAs)	(1) 8 oz. glass jar	Cool to 4°C	TCLP extraction as per Method 1311. Analyze as per Method 8270B (SW 846) **	Compound-specific (0.008-400 mg/L)	14 days extract 7 days analyze
			TCLP Metals Analysis, plus copper, nickel and zinc	(1) 8 oz. glass jar	Cool to 4°C	TCLP extraction as per Method 1311. Analyze as per Method 7000 Series (SW-846)	Analyte-specific (0.2-100 mg/L)	6 months ; 28 days for Hg
			TCLP Pesticides	(1) 8 oz glass jar	Cool to 4°C	TCLP extraction as per Method 1311. Analyze as per Method 8080 (SW-846)	Compound-specific (0.008-10.0 mg/L)	7 days to extraction 40 days to analysis
			TCLP Herbicides	(1) 8 oz glass jar	Cool to 4°C	TCLP extraction as per Method 1311. Analyze as per Method 8150 (SW-846)	Analyte-specific (1.0-100 mg/L)	7 days to extraction 40 days to analysis
			PCB	(1) 8 oz. glass jar	Cool to 4°C	Method 8080 (SW846)	Compound-specific (33-67 ug/kg)	7 days extract 40 days analyze
			pH	(1) 4 oz. glass jar		Method 9040,9045 (SW846)		Analyze immediately
			Ignitability	(1) 4 oz. glass jar		Method 1010 (SW 846)		7 days

TABLE 5-2
NAVAL AIR WARFARE CENTER
WARMINSTER, PA (DO #0018)
SITE 6
SAMPLE COLLECTION AND ANALYTICAL PROTOCOL INFORMATION
(Page 2 of 4)

Location/ Objective	Sample Type/ Matrix	Sample Quantity	Parameters	Sample Container	Sample Preservative	Analytical Method	Method Detection Limit	Holding Times
			Reactivity	(1) 4 oz. glass jar	Cool to 4°C	Method 7.3.3.2,7.3.3.4 (SW846)		7 days
			Oil and Grease	(1) 8 oz. glass jar w/Teflon-lined cap	Cool to 4°C	Method 418.1	10 ug/kg 30,000 ug/kg haz waste	7 days extract 7 days analyze
			Paint filter test	(1) 4 oz. glass jar	Cool to 4°C	Method 9095		
			Total Solids	(1) 4 oz glass jar	Cool to 4°C	Method 160.3 (SW-846)		7 days
			Total Volatile Solids	(1) 4 oz glass jar	Cool to 4°C	Method 160.4 (SW-846)		7 days
			Chemical Oxygen Demand	(1) 4- oz glass jar	Cool to 4°C	ASTM water leachate extraction as per Method D3957. Analyze as per Method 410.4 (EPA 600)	3 mg/L	
			Total Solids	(1) 4 oz glass jar	Cool to 4°C	ASTM water leachate extraction as per Method D3957. Analyze as per Method 160.3 (SW-846)		7 days
			Oil and Grease	(1) 4 oz glass jar	Cool to 4°C	ASTM water leachate extraction as per Method D3957. Analyze as per Method 413.1 (EPA 600)	5 ug/L	7 days
			Ammonia-N	(1) 4-oz glass jar	Cool to 4°C	ASTM water leachate extraction as per Method D3957. Analyze as per Method 305.2 (EPA 600)		28 days

TABLE 5-2
NAVAL AIR WARFARE CENTER
WARMINSTER, PA (DO #0018)
SITE 6
SAMPLE COLLECTION AND ANALYTICAL PROTOCOL INFORMATION
(Page 3 of 4)

Location/ Objective	Sample Type/ Matrix	Sample Quantity	Parameters	Sample Container	Sample Preservative	Analytical Method	Method Detection Limit	Holding Times
Site 6 - Surface/ Decontamination Water	Waste Characteri-zation (water)	2	TCL Volatile Organics (VOAs)	(3) 40 mL amber VOA vial	Cool to 4°C; pH < 2 w/ HCl	Analyze as per Method 624*	Compound-specific (5-10 ug/L)	14 days extract 14 days analyze
			TCL Semi-Volatile Organics	(2) 1 L amber glass jar	Cool to 4°C	Method 625*	Compound-specific (0.05-25 ug/L)	5 days extract; 40 days analyze
			TAL Metals Analysis	(1) 1 L plastic jar	Cool to 4°C; pH > 2 w/ HNO_3	Analyze as per Method 200 Series*	Analyte-specific (0.2-5000 ug/L)	6 months; 28 days for Hg
			PCBs	(2) 1 L amber glass jar	Cool to 4°C	Method 608*	Compound-specific (1-2 ug/L)	7 days extract 40 days analyze
			pH	(1) 500 mL plastic jar		Method 150*		Analyze immediately
			TSS/TDS	(1) 500 mL plastic jar	Cool to 4°C	Methods 160.2/160.1*		7 days
Site 6 - Perimeter Air Samples	Dust	20	Chromium Lead	(1) 47 mm fiber/quartz filter	N/A	Method 7300 (NIOSH)	0.1 ug 2.0 ug	N/A
			Total Suspended Particulate (TSP) Analysis	(1) 47 mm fiber/quartz filter		Modified 7191 (NIOSH)	240 ug	N/A
Air Samples (Blank)	Dust	2	Total Suspended Particulate (TSP) Analysis	(1) 47 mm fiber/quartz filter		Modified 7191 (NIOSH)	240 ug	N/A
			Chromium Lead	(1) 47 mm fiber/quartz filter	N/A	Method 7300 (NIOSH)	0.1 ug 2.0 ug	N/A

TABLE 5-2
NAVAL AIR WARFARE CENTER
WARMINSTER, PA (DO #0018)
SITE 6
SAMPLE COLLECTION AND ANALYTICAL PROTOCOL INFORMATION
(Page 4 of 4)

Notes:

1. QC/QA samples are not required for the waste characterization sampling.
2. The number in parentheses in the "sample container column" denotes the number of containers needed.
3. Method abbreviations:
   SW-846 - Test Methods for Evaluating Solid Waste, OSWER, November 1986, revised January 1995.
4. Detection limits for soil samples may vary due to percent moisture. The limits listed for soil are based on wet weight.
5. All holding times listed are from Verified Time of Sample Receipt (VTSR) by the laboratory unless noted otherwise.
6. * = All analytical performed in accordance of EPA Water/Waste Water Methods, 600/4-79-020, 3/83.
7. ** = After TCLP extraction, pH will be obtained by Method 9040, 9045 (SW-846).

boring would be advanced on either side of the boring where hazardous material waste is detected midway between the two adjacent borings.

Perimeter Air Monitoring Sample Strategy

Engineering controls will mitigate fugitive dust emissions during excavation activities. The air sampling program is designed to obtain periodic confirmation air samples to monitor off-site dust migration from remediation activities. TSP/ metals were selected as indicator contaminants. Samples will be collected two times per week for the duration of the hot spot excavation activities at four locations, with collocated samplers at one location. The location of the samplers will be determined in the field. Field blanks will be collected at a rate of one per every ten samples.

Total Suspended Particulates (TSP) sampling will be conducted using AIRMETRICS MiniVol Portable Survey Samplers. These samplers are portable, battery operated, and can be suspended from a bracket mounted on a variety of structures (final mounting determination will be made in the field). Ambient air is pumped through a 47 mm filter at a rate of 5 liters per minute. At the end of each sampling period, the filter assembly and battery pack are removed and replaced for the next sampling period. Sampling periods will be 24-hours in duration. The air samples will be analyzed for gravimetric weight (TSP) and/or the presence of pre-determined target metals. The target metals include chromium, copper and lead.

Air sampling results will be validated, reduced, and tabulated. Results will be evaluated to determine the magnitude of site perimeter air contamination.

5.1.2 Sample Turnaround Time (See Original Work Plan)

5.1.3 Sample Tracking System (See Original Work Plan)

5.2 CHEMICAL QUALITY ASSURANCE/QUALITY CONTROL

All quality assurance/quality control (QA/QC) requirements will be consistent with those described in the NAVY INSTALLATION RESTORATION LABORATORY QUALITY ASSURANCE GUIDE: Interim Guidance Document, NFESC, February 1996.

In order to meet the data quality objectives, Foster Wheeler Environmental Corporation and its contracted laboratory will utilize a reduced deliverable data package equivalent to the Navy's Level C data package. Data validation will not be performed unless requested by the Navy.

5.2.1 QA/QC Samples (See Original Work Plan)

5.2.2 Sample Shipping and Packaging (See Original Work Plan)

5.2.3 Laboratory Data Reporting (See Original Work Plan)

5.2.4 Records (See Original Work Plan)

6.0 HEALTH AND SAFETY REQUIREMENTS

Addendum #2 to the Original Site-Specific Health and Safety Plan (SHSP), dated May 13, 1996, was finalized and submitted on November 15, 1996 under Transmittal Control No. 1F.

7.0 ENVIRONMENTAL PROTECTION AND REGULATORY COMPLIANCE

Activities associated with the completion of this project will be conducted in accordance with the requirements identified in Part 4.0, Environmental Requirements, of the RAC, as well as the requirements in the Foster Wheeler Environmental Regulatory Compliance Policies and Procedures.

No environmental permits will be required for these cleanup activities. However, compliance with applicable Federal and State environmental and construction regulations will be followed. Discussion of applicable regulations and standards follows.

7.1 AIR POLLUTION CONTROL (See Original Work Plan)

7.2 STORM WATER AND EROSION CONTROL

This section contains information about remedial activities that will require erosion and sedimentation control. Descriptions of all remediation activities can be found in Section 3.0 of this Addendum No. 1 to the original Work Plan.

7.2.1 Introduction (See Original Work Plan)

7.2.2 Site 4 (See Original Work Plan)

7.2.3 Site 6

Site Preparation

The first task associated with site preparation is the construction of a silt fence in the areas indicated on the site map. The silt fence will be installed as shown on Figure 7-1 of the original Work Plan.

Silt fence will be utilized as a temporary erosion and sedimentation control around the project areas as indicated on Figure 3-8. Silt fence will also be placed as necessary to accommodate site conditions at the direction of the Project Superintendent and/or Delivery Order Manager. The silt fence will be inspected and maintained throughout the course of the project.

Other activities that will take place during the site preparation phase are construction of the soil stockpile area and construction of the temporary construction haul roads.

A silt fence will be installed down gradient to activities on Site 6. The silt will parallel Patrol Road around the southern edge of the site.

Excavation and Load-Out

Dust control measures consisting of water spray will be implemented as necessary during excavation and other activities that generate dust.

Soil will be directly loaded from the excavations onto the trucks to minimize the amount of open trenches and to reduce the amount of exposed soil.

Stockpile Staging Activities

The stockpile area for top soil will be located as indicated on the site map, Figure 3-8. This area will be used to stockpile excavated top soil. The soil stockpile area will be constructed prior to excavation.

If a stockpile area is needed for hazardous material, it will be constructed as discussed in Section 3.3.2 of this Addendum. The hazardous stockpile area would be maintained throughout the course of the project, including the performance of work inside the area (i.e. earth moving activities) to maintain the integrity of the berm and liners. Any water runoff will be transferred to a storage vessel.

Dust control measures consisting of water spray will be implemented as necessary during stockpile activities.

Hauling Activities

All waste disposal trucks will utilize the stabilized construction roads consisting of 6 inches of compacted gravel. A decontamination pad will be located in the vicinity of the stockpile area to rid trucks of dirt/mud and prevent material from being tracked off-site.

Site Restoration

Upon completion of remedial tasks associated with this project the site will be restored to its original conditions. Disturbed areas will be re-vegetated and re-planted as necessary to establish pre-construction conditions.

Silt fence will be installed on the up gradient side of the re-seeded and re-vegetated areas at Site 6 to prevent channeling or erosion caused by storm run-off.

Removal of the silt fence will be the final task associated with restoration activities and will only be done after vegetative cover has been established.

7.3 WASTE MANAGEMENT (See Original Work Plan)

7.4 TRANSPORTATION (See Original Work Plan)

7.5 DISPOSAL (See Original Work Plan)

7.6 EMERGENCY RESPONSE AND SPILL CONTROL (See Original Work Plan)

8.0 PROJECT MANAGEMENT

8.1 PROJECT SCHEDULE

8.1.1 Site 4 (See Original Work Plan)

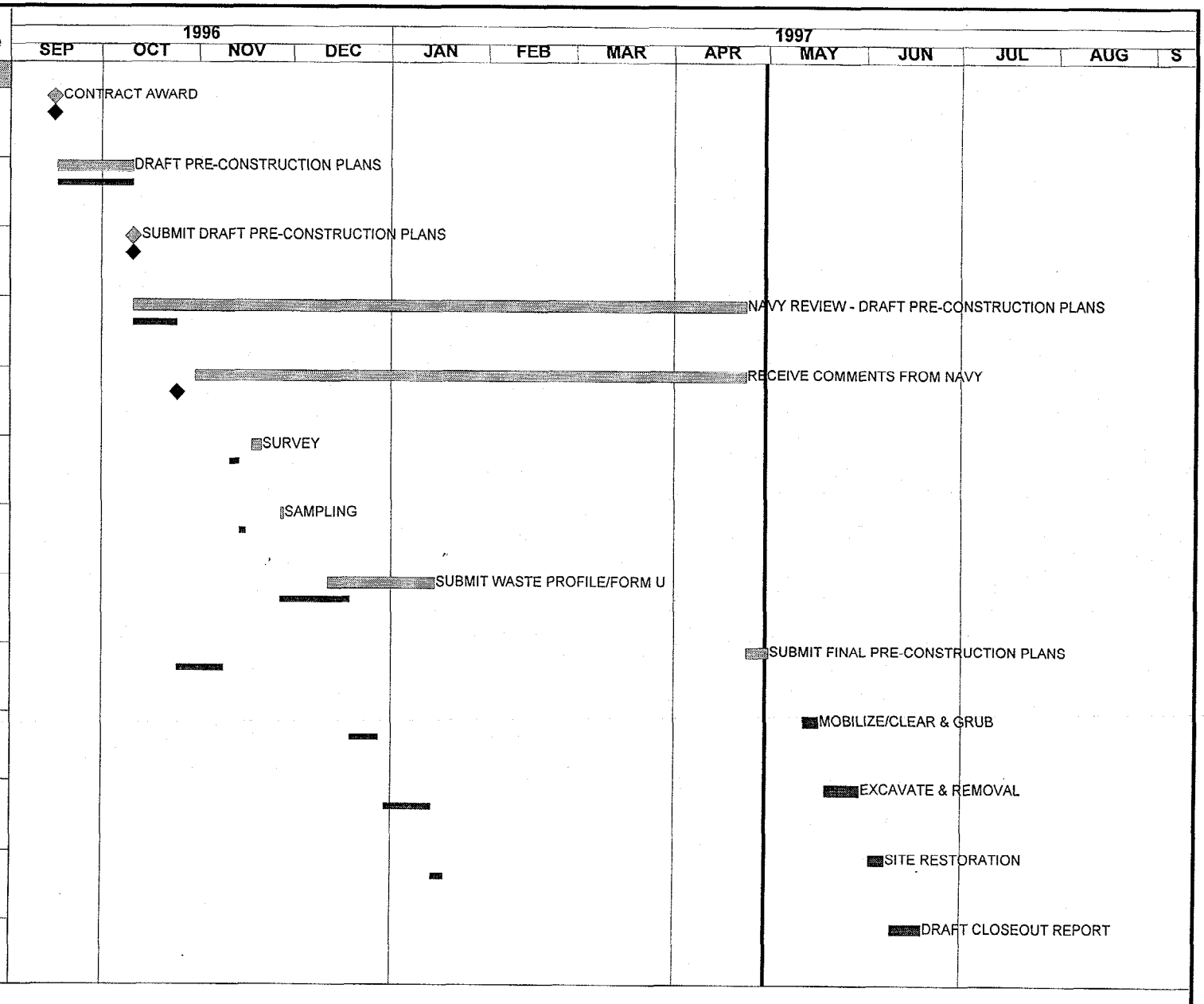
8.1.2 Site 6

Figure 8-3 depicts the integrated project schedule.

8.2 PROJECT STAFFING PLAN

8.2.1 Site 4 (See Original Work Plan)

Early Start	Early Finish	Percent complete	
MOD 2			
16SEP96A		100	CONTRACT AWARD
17SEP96A	10OCT96A	100	DRAFT PRE-CONSTRUCTION PLANS
	10OCT96A	100	SUBMIT DRAFT PRE-CONSTRUCTION PLANS
11OCT96A	23APR97A	100	NAVY REVIEW - DRAFT PRE-CONSTRUCTION PLANS
31OCT96A	23APR97A	100	RECEIVE COMMENTS FROM NAVY
18NOV96A	20NOV96A	100	SURVEY
27NOV96A	27NOV96A	100	SAMPLING
12DEC96A	14JAN97A	100	SUBMIT WASTE PROFILE/FORM U
24APR97A	30APR97A	100	SUBMIT FINAL PRE-CONSTRUCTION PLANS
12MAY97	16MAY97	0	MOBILIZE/CLEAR & GRUB
19MAY97	29MAY97	0	EXCAVATE & REMOVAL
02JUN97	06JUN97	0	SITE RESTORATION
09JUN97	18JUN97	0	DRAFT CLOSEOUT REPORT



Project Start	05APR96
Project Finish	18JUN97
Data Date	30APR97
Plot Date	28APR97

© Primavera Systems, Inc.

Early Bar
Target Early Ba
Progress Bar
Critical Activity

1800

NAWC WARMINSTER, PA
D.O. 0018 - MOD 2
FIGURE 8-3

Sheet 1 of 1

Date	Revision	Checked	Approved

24

8.2.2 Site 6

Figure 8-4 depicts the project organization chart for Site 6. This chart has been organized to depict technical and administrative functions as well as lines of communication and reporting for the project. The on-site project staff will include a Project Superintendent and a Site Health and Safety Officer. Resumes for the identified staff are located in the Work Plan as Appendix B. Craft staffing is discussed in Section 3.3.2 of this Addendum.

8.2.3 Project Superintendent (See Original Work Plan)

8.2.4 Site Health and Safety Officer (See Original Work Plan)

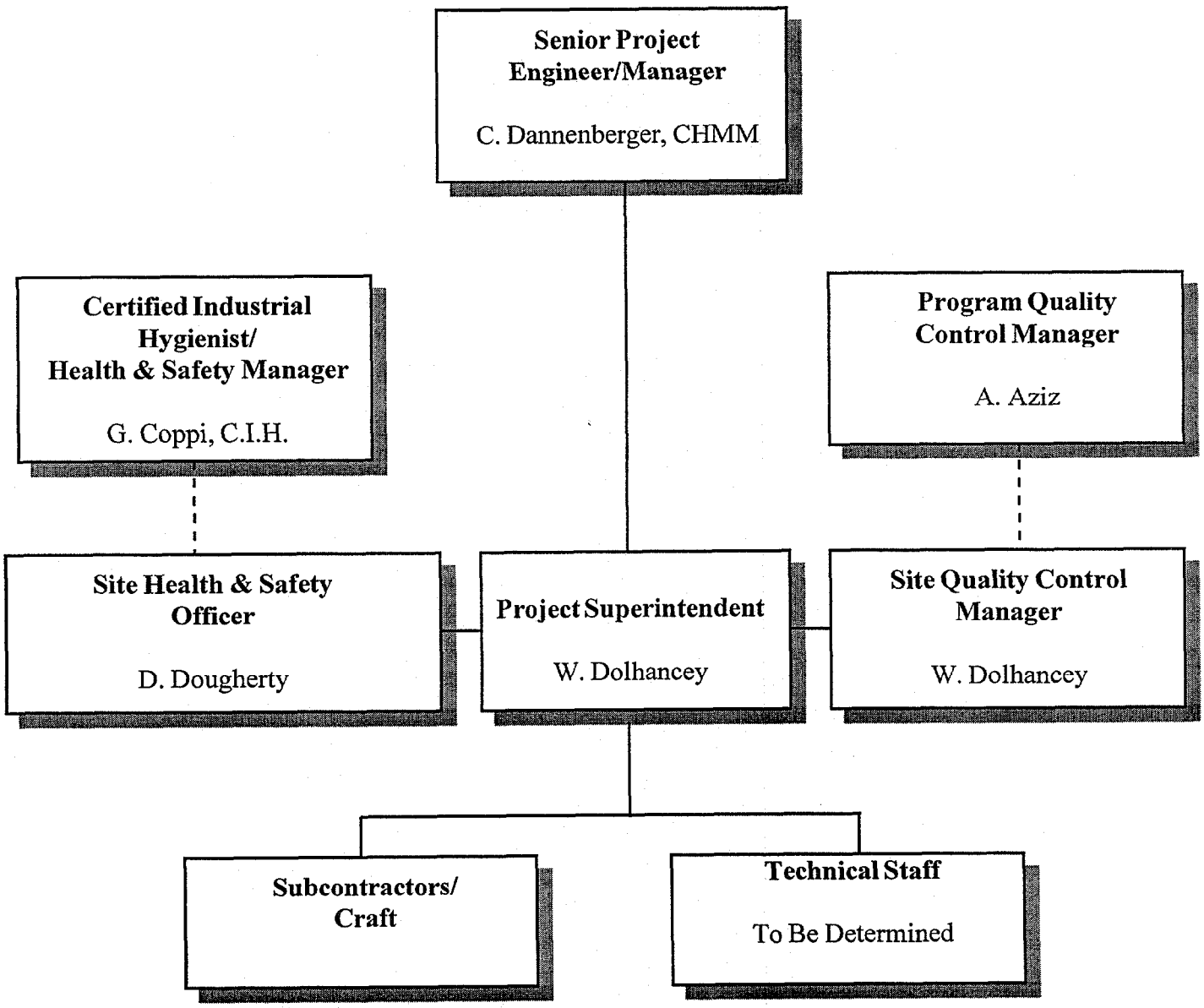
8.2.5 Quality Control Manager (See Original Work Plan)

8.3 MEETINGS (See Original Work Plan)

9.0 CIVIL QUALITY ASSURANCE/QUALITY CONTROL

A separate Civil Quality Control Plan (QC Plan) was submitted for D. O. #0018 on June 21, 1996.

Figure 8-4
NAWC Warminster, PA
Project Organization Chart



CGWOOD/97174F84.ppt

APPENDIX A

SAMPLE COLLECTION AND ANALYTICAL PROTOCOL INFORMATION

(SEE ORIGINAL WORK PLAN)

APPENDIX B

RESUMES OF KEY PEOPLE

Carl R. Dannenberger, C.H.M.M.

Senior Project Manager

EXPERIENCE SUMMARY

More than 23 years of experience in engineering and construction of waterways, commercial and power facilities and large-scale excavation projects. Thirteen of 21 years of experience are in the environmental field, where projects have included large excavation, incineration, stabilization, drum and tank removal, impoundment and landfill closure and demolition.

Responsibilities have included manpower planning and scheduling, management of subcontractors, client liaison, implementation of QA/QC programs, Health & Safety Programs and permit compliance.

REGISTRATIONS / CERTIFICATIONS

New Jersey Department of Environmental Protection, Underground Storage Tank Closure Certification, New Jersey, No. 0010071 - (Expiration Date: April 1998)
C.H.M.M., Master Level, No. 6679 - (Issued November 1995; Expiration Date: December 1996)

EDUCATION

M.A., Environmental Studies, Rowan College - 1982
B.A., Physical Geography/Biological Science, Indiana University of Pennsylvania - 1970
Construction Supervision, Contracting and Field Operations, Engineers' Club of Philadelphia - 1988
Hazardous Waste Management, New Jersey Institute of Technology - 1985

TRAINING

40-Hour OSHA Hazardous Waste Health and Safety Training - 1986
8-Hour OSHA Hazardous Waste Health and Safety Supervisor Training - 1995
8-Hour OSHA Hazardous Waste Health and Safety Refresher Course - Current
RCRA Hazardous Waste Management (40 CFR 265.16) - 1996
DOT/HM-126F Hazmat Training - 1995
Adult CPR and Standard First Aid - 1995
Practical Loss Control Leadership - 1995
Site Safety Officer Training - 1989

REPRESENTATIVE PROJECT EXPERIENCE

Foster Wheeler Environmental; Langhorne, Pennsylvania; 03/95-Present

Senior Project Manager - Provides oversight on multiple projects with responsibility for contract administration, client relations, project staffing, subcontractors, schedule management, financial management and environmental and health and safety compliance.

Assists in project and business development.

Carl R. Dannenberger, C.H.M.M.

Senior Project Manager

PRIOR EXPERIENCE

***Total Years Prior Experience* 22**

RUST Remedial Services, Inc.
Bensalem, PA
1989-1994

Senior Project Manager; 1989-1994 - Overall responsibility for multiple projects. Major responsibilities assisting project development group in bidding projects, directing the professional growth of junior Project Managers, ensuring compliance with contract documents, and providing budgetary and schedule oversight.

Cyprus Foote Waste Relocation and Cap Construction
Duffield, VA

General management of project involving large-scale excavation and waste relocation and construction of a surface drainage system and impermeable cap.

DuPont Ditch Remediation
Deepwater, NJ

General management of project involving sludge remediation and pipe cleaning/replacement.

DuPont A/B Basin Closure
Deepwater, NJ

General management of project involving closure of 18-acre basin and remediation of a 16-acre basin. Work included stabilized sludge relocation and placement of geosynthetic materials.

Brandywine DRMO Tanks Project
Andrews AFB, NJ

General management of soil excavation, removal of aboveground and underground tanks and drums, structural demolition and debris disposal, water treatment and disposal. Value: $3.5 million.

New Windsor Landfill Closure
New Windsor, NY

Direct management of landfill closure with synthetic cap and leachate collection system. Value: $3.4 million.

Carl R. Dannenberger, C.H.M.M.

Senior Project Manager

Bog Creek Farm Site
Howell, NJ

General management for Operable Unit 2 of the Bog Creek Farm Superfund Site Project under oversight by USACE. Scope of work included installation of a slurry wall, 32 extraction wells, groundwater treatment system modifications and recharge trenches. Value: $2.6 million.

Project Manager - On site responsibility for assigned projects. Major responsibilities included planning and scheduling of manpower, equipment, transportation and disposal; contract administration including purchasing, liabilities and change orders; compliance with health and safety plans and standards; compliance with federal, state, local and company's regulatory standards; management of subcontractors; management of on site client relations; project productivity and morale; reporting of costs, revenues and resources, and project financial achievement.

Southland Inc.

Excavation and transportation of approximately 450 tons of PCB-contaminated soil.

Hüls America, Inc.

New Jersey ECRA remediation for an operating chemical facility which included soil removal and disposal, UST closures, building decontamination and painting, storm sewer construction, and design and construction of a groundwater recovery system.

ALOCA

Excavation, disposal, and closure of two sedimentation ponds. Approximately 1,500 tons of sludge was stabilized prior to off-site disposal.

Cortese Landfill
Narrowsburg, NY

Excavation of test pits in search of drums containing hazardous waste.

Quality Components, Inc.
St. Mary's, PA

Excavation of contaminated soil and drums.

Belleville Remediation
Belleville, NJ

NJDEPE remediation included dismantling, PCB decontamination, UST removal, asbestos abatement and excavation of contaminated soil.

Carl R. Dannenberger, C.H.M.M.

Senior Project Manager

Quality Control System Manager - Full responsibility and authority for implementation of the Quality Control and Quality Assurance program at the Bog Creek Farm Superfund Site Project Operable Unit 1. Assigned as a full-time on site manager. Project scope involved excavation and on site incineration of 16,000 tons of solvent-contaminated soil. Project schedule was 18 months, revenue $16.5 million.

Rollins Environmental Services (FS), Inc.
Wilmington, DE
1986-1989

Project Manager; 1986-1989 - Supervised hazardous waste remedial projects involving excavating, drum removal, tank cleaning, lagoon closing, soil sampling and waste transport. Site investigation and preparation of remediation proposals. On site environmental compliance and management of Health and Safety programs.

Bechtel Power Corporation
Hope Creek Nuclear Generating Station
Salem, NJ
1980-1986

Field Construction Engineer/Environmental Permits Compliance Engineer; 1980-1986 - Responsible for obtaining and monitoring all environmental construction permits. Oversaw management of Hazardous Waste Disposal program. Interfaced with PSE&G, Permits and Licensing Department, Bechtel Management, and the New Jersey Department of Environmental Protection on a regular basis. Reviewed and provided direction for all on site environmental problems. Coordinator of project's Oil Spill Task Force.

Skinner, Compton & Fralinger
Salem, NJ
1973-1979

Engineers/Planners/Environmental Consultants; 1973-1979 - Performed duties of assistant engineer including preliminary research, design and construction of residential developments, highways, commercial buildings, municipal recreational facilities and waterway development. Performed duties of Survey Party Chief for seven years.

William F. Dolhancey
Superintendent

EXPERIENCE SUMMARY

More than nine years experience in supervising and implementing various safety, sampling, air monitoring, remediation, construction, and demolition plans. Areas of expertise include construction of wastewater treatment facilities, health and safety, hazardous waste remediation, and incineration of PCB- and TNT-contaminated soils. Extensive experience working with the USACE, DOE, EPA, USAF, USN, as well as with the private sector. Also has experience in heavy equipment inspection, maintenance, suspension, operation of lattice and hydraulic boom cranes; welding and metal fabrication; underground utility installation and repair; pipe fitting and plumbing; carpentry; grade setting; minor surveying; hydraulic installation and repair; roofing and siding; refractory repair and installation; demolition; tank removal; erosion control; potable water distribution; marine engine and related systems operation and repair; concrete (pour, form, and finish); land clearing; tree surgery; and paving.

REGISTRATIONS/CERTIFICATIONS

Certified Level B Protection Supervisor and Health and Safety Coordinator
Certified Pennsylvania State Inspection Mechanic, License No. 17-685-643
Certified Level B Supervisor (Hazardous Waste) (Roy F. Weston)
Certified Health and Safety Coordinator (Roy F. Weston)
Certified Health and Safety Coordinator (Foster Wheeler Environmental)
Department of Defense R-13 Security Clearance
Certified JLG Aerial Lift Operator

EDUCATION

GED / New Hampshire State Department of Education / /

TRAINING

40-Hour OSHA 1910.120(e) Remedial Response Health and Safety Training Course
8-Hour OSHA 1910.120(e) Refresher Training - Current
4-Hour OSHA 1910.120(e) Supervisor Training - Current
Qualitative Respirator Fit Test - Current
Blood Borne Pathogen Training
29 CFR 1926 10-Hour Construction Industry Outreach Training
80-Hour Transportable Incineration System Control Room Operator Training
CPR and First Aid, American Red Cross - Current
Level B-T Hazardous Waste (Roy F. Weston)
Site Safety Coordinator Training (Roy F. Weston)

REPRESENTATIVE PROJECT EXPERIENCE

Foster Wheeler Environmental Corporation; Atlanta, GA; August 1994-Present

U.S. Navy; N.W.I.R.P.; NAV-RAC; Bedford, MA; Site Superintendent/Health and Safety Officer - The project involves the construction of a groundwater treatment facility. Services as the site superintendent as well as the health and safety officer.

U.S. Army Corps of Engineers; Silresim Superfund Site; New England TERC; Lowell, MA; Site Superintendent - Construction of on-site water treatment facility. Installation of 25 extraction wells. Soil capping utility installation and final restoration in vinyl chloride-contaminated soil. Fifteen months with no lost time incidents.

PRIOR EXPERIENCE

U.S. Navy
Construction Remediation Services Division
Earl Naval Weapons Station
Coltsneck, NJ
December 1990-August 1994

Senior Crew Chief; December 1990-August 1994 - Soil, groundwater sampling, removal, disposal and restoration of 23 underground No. 2 fuel oil tanks. Performed air monitoring for confined space entry with CGI/O2 meter for entry of personnel.

U.S. Army Corps of Engineers
Rocky Mountain Arsenal
Denver, CO

Training Supervisor - Decontamination and removal of 16 aboveground pesticide tanks. Demonstrated and trained operators in the correct use of a Trachoe-mounted rotating shear, aerial lift and fall protection equipment used in the decontamination and dismantling of 100,000-gallon aboveground tanks. Tank demolition procedures was documented on film by the client to be used as a precedent for safely completing this type of demolition. Worked closely with on-site health and safety personnel during equipment inspection. PPF requirements for decontamination activities and containment to prevent cross-contamination.

U.S. Army Corps of Engineers
Illinois Environmental Protection Agency
Savanna Army Depot
Savanna, IL

Site Foreman/Health and Safety Officer/Control Room Operator - Removal of 50,000 cubic yards of TNT-contaminated soil and water treatment for stream discharge of 7 million gallons of leachate. Performed the role of Health and Safety Officer and was responsible for soil remediation and the construction of 20 ton per hour transportable incineration system. Also performed duties as a Control Room Operator responsible for emission requirements under the permit guidelines set by the Illinois EPA.

Mobile Chemical Company
Tank Removal and Installations
Holyoke, MA

Construction Health and Safety Officer - Removal and installation of four 50,000-gallon styrene tanks and related ancillary equipment. Work performed included extensive use of two 75-ton lattice boom cranes, sheet pile driving equipment, perimeter air monitoring and real-time air monitoring, as well as confined space permitting for tank cleaning. Excavation in excess of 20 feet required in-depth training for fall protection and confined space entry. Mobil Chemical of

Holyoke is the first member of the OSHA S.T.A.R. program with an untarnished record for safety. Was able to complete the contract with no recordable incidents.

Canonie Environmental
1990

Operating Engineer/Night Shift Foreman; 1990 - Sixty-acre claymax containment area of PCB-contaminated soils in wetlands.

RTP Highway Contractors
1989-1990

Operating Engineer/Foreman; 1989-1990 - All types of highway and curb construction. Asphalt paving and milling. Utility relocation. Ninety percent (90%) of work performed for Pennsylvania and Delaware Departments of Transportation.

Weston Services
Thermal Group
Beardstown, IL
1987-1989

Crew Chief/Operating Engineer; 1987-1989 - Excavation of PCB-contaminated salvage yard. All types of incinerator maintenance kiln nose ring reconstruction as well as welding, pipe fitting, and mechanical applications.

Pickering Group
Morgantown, PA

Crew Chief/Operator - Refurbish entire potable water treatment facility. Clear well, filter tanks, floc tank, pumps, valves, chemical system, and polishing ponds.

Pennsylvania Department of Transportation
Blue Route
Springfield, PA

Crew Chief/Operator - Four million dollar disposal and containment of PCBs and heavy metals. Land clearing, on-site scale construction, bridge pier excavation, sanitary sewer by-pass and installation. Design, install, and maintain erosion control.

Pantex
Amarillo, TX

Crew Chief/Operator - Tank removal on high security ammunition facility. Removal, demolition, and restoration of chemical storage facilities.

Selas
Fort Washington, PA

Crew Chief/Operator - Sludge removal, sewer relocation, and site restoration. On-site septic field remediation for sale of property.

R.T. Stewart & Sons
1985-1987

Operator/Foreman; 1985-1987 - Subcontractor to Coatesville Water Authority water and sewer distribution maintenance and installation for the entire CCA system. Underground distribution, reservoir, and treatment plant maintenance.

R.N. Pizio
1983-1985

Operator/Truck Driver/Mechanic; 1983-1985 - Heavy equipment operation and maintenance.

Alan Funk General Contractor
1981-1983

Operator/Carpenter; 1981-1983 - Hydraulic lift installation.

Tom's Auto Repair
1977-1981

Certified State Inspection Mechanic; 1977-1981 - Custom metal fabrications. All types of car/truck repair welding.

General Electric Company
1974-1977

1974-1977 - Foundry pour-off. Casting and pouring of alloys, ferrous, and non-ferrous metals.

Miley Brown Chrysler Plymouth
1972-1974

Auto Mechanic; 1972-1974

David N. Dougherty
Site Safety and Health Officer

EXPERIENCE SUMMARY

Performed Site Safety and Health Officer functions for more than four years at a DoD Superfund site. Expertise in asbestos abatement supervision, air monitoring for site operations, thermal destruction, confined space entry training, and site inspections.

EDUCATION

High School Diploma / / / 1987

TRAINING

40-Hour OSHA 29 CFR 1910.120 Training
8-Hour OSHA Supervisor Trained
Red Cross First Aid and CPR
Level III Trained for Inspection and Maintenance of MSA Supplied Air Respirators
Asbestos Project Inspector, City of Philadelphia
State of Pennsylvania Asbestos Supervisor

REPRESENTATIVE PROJECT EXPERIENCE

Foster Wheeler Environmental Corporation 11/2/92 - Present

Foster Wheeler Environmental; Bridgeport, NJ; November 1992-Present

U.S. Army Corps of Engineers; Bridgeport Oil and Rental Services (BROS) Site; Bridgeport, NJ; Assistant Health and Safety Officer - Responsible for real-time and time-weighted air monitoring for site operations including waste lagoon excavation, backfill, thermal destruction unit operation and maintenance, drum removal and drum sampling. Materials encountered onsite include PCBs, heavy metals, sludge, oily waste, and VOCs. Performs employee training for, and air monitoring of, confined space activity. Conducts site inspections to ensure compliance with all applicable regulations involving construction and Hazmat operations.

Ebasco Constructors, Inc.; 1992; On-site Administrative Assistant - Responsible for all daily and weekly reporting at the BROS Superfund site. Implemented the site medical surveillance program. Also conducted all regulatory compliance training.

Various Firms; 1987-1991; Field and Office Technician - Oversaw the quality control for the demolition and reconstruction of a bulkhead, and also provided documentation and reporting for this project. Performed other tasks, both indoors and outdoors, involving machine operation and painting for commercial and private entities.

PRIOR EXPERIENCE

Ebasco Constructors, Inc.
BROS Site
January 1992-November 1992

Administrative Assistant; January 1992-November 1992 - Responsible for all daily and weekly reporting, site medical surveillance program, and for all regulatory compliance training.

Smith and Wolf Painting

March 1991-December 1991

Painter; March 1991-December 1991 - Painted interiors and exteriors of custom homes.

Ruberti's
August 1990-March 1991

Machine Operator; August 1990-March 1991 - Applied labels and stitched numbers and letters to athletic sportswear.

A&B Cleaners
March 1990-August 1990

Buffer; March 1990-August 1990 - Operated a floor buffer for commercial and residential property.

Mid-Atlantic Technical Services
August 1987-February 1990

Field Technician; April 1989-February 1990 - Oversaw the quality control for the demolition and reconstruction of a bulkhead (sea wall) for a local chemical plant.

August 1987-August 1988 - Responsible for all documentation and reporting for the bulkhead project.