U.S. NAVY NORTHERN DIVISION
REMEDIAL ACTION CONTRACT (RAC)
CONTRACT NO. N62472-94-D-0398
DELIVERY ORDER NO. 0006 - MOD #4

WORK PLAN
FOR
SITE 10 DEBRIS REMOVAL
BUILDING 111 REMOVAL OF LEAD DUST
CALF PASTURE POINT MUNITIONS BUNKER LEAD CLEAN UP
REMOVAL OF LEAD CONTAMINATED SOILS

NAVAL CONSTRUCTION BATTALION CENTER (NCBC)
DAVISVILLE, RHODE ISLAND

October 1996

Prepared by

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Boston, Massachusetts 02210

Revision	Date	Prepared by	Approved by	Pages Affected
Draft	10/25/96	L. Barbanti, P.E.	L. Kahrs, P.E.	All

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

ACRONYMS

AETS	Advanced Environmental Technical Services
AIHA	American Industrial Hygiene Association
ASTM	American Society for Testing and Materials
BEC	Base Evaluation Coordinator
CAA	Clear Air Act
CBC	Construction Battalion Center
CED	Construction Equipment Division
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
COC	Chain of Custody
CPPMB	Calf Pasture Point Munitions Bunker
CRC	Contamination Reduction Corridor
CRZ	Contamination Reduction Zone
CSO	Caretaker Site Office
DOT	Department of Transportation
DQOs	Data Quality Objectives
EPA	U.S. Environmental Protection Agency
EZ	Exclusion Zone
FARs	Federal Acquisition Regulations
FFA	Federal Facility Agreement
IRP	Installation Restoration Program
LDR	Land Disposal Restriction
MSDS	Material Safety Data Sheet
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NCBC	Naval Construction Battalion Center
NEESA	Naval Energy and Environmental Support Activity
NET	National Environmental Testing, Inc.
NIOSH	National Institute for Occupational Safety and Health
NORTHDIV	Northern Division
NPL	National Priority List
OSHA	Occupational Safety and Health Administration
PAHs	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PMO	Program Management Office
PPE	Personal Protective Equipment
ppm	parts per million
PQCM	Program Quality Control Manager
PSI	Professional Service Industries, Inc.
PUF	Polyurethane Foam
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan
RAC	Remedial Action Contract
RCRA	Resource Conservation Recovery Act
RIDEM	Rhode Island Department of Environmental Management
RIEDC	Rhode Island Economic Development Corporation
ROICC	Resident Officer In Charge of Construction
SAP	Sampling and Analysis Plan

SHERP	Safety, Health, and Emergency Response Plan
SHSO	Site Health and Safety Officer
SOP	Standard Operating Procedure
SPCC	Spill Prevention Control and Countermeasure
SQCM	Site Quality Control Manager
SVOC	Semivolatile Organic Compound
SZ	Support Zone
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TSCA	Toxic Substances Control Act
USACE	U.S. Army Corps of Engineers
VOC	Volatile Organic Compound

1.0 WORK DESCRIPTION

1.1 Project Basis

Foster Wheeler Environmental Corporation (Foster Wheeler) has prepared this Work Plan for Delivery Order No. 0006 under the U.S. Navy Northern Division Remedial Action Contract (RAC) N62472-94-D-0398, Modification Number 4. This Work Plan is based upon the Statement of Remediation Services issued by the Navy on April 24, 1996, the subsequent addenda dated July 22, 1996 and the Basis of Estimate issued by Foster Wheeler on June 24, 1996. These aforementioned documents are herein referred to as the Statement of Remediation Services (SRS).

This Work Plan defines the remedial services to be conducted by Foster Wheeler at the Naval Construction Battalion Center (NCBC) in Davisville, Rhode Island. There are four phases of work included in this Modification No. 4:

1. Site 10 solid waste debris removal;
2. Building 111 removal of lead dust;
3. Calf Pasture Point Munitions Bunker (CPPMB) removal of lead dust; and
4. Demolition of various buildings including lead contaminated soil removal.

This Work Plan will address Site 10, Building 111, CPPMB and lead contaminated soil removal. At the request of the Navy, a separate Demolition Work Plan will be submitted by the selected demolition contractor within two weeks of award of that subcontract.

A site vicinity map is included as Figure 1-1. The locations of Building 111 and CPPMBs are shown on Figure 1-2. Figure 1-2 also includes locations of buildings where lead contaminated soils are to be removed. Specific building locations are listed in Section 4.8 of this Plan. Camp Fogarty Site 10 is shown on Figure 1-3.

1.2 Objectives and Criteria

The objectives of this project are 1) to remove and dispose of approximately 1850 cubic yards of solid waste debris located in three piles at Site 10 of Camp Fogarty; 2) to remove lead dust from the interior of Building 111; 3) to remove lead dust from two bunkers at CPPMB; and 4) to demolish forty-one metal buildings and one masonry building which have been deemed structurally unsound including removal of concrete slabs and footings and lead contaminated soil.

- Site 10 - No clean up criteria has been established for Site 10 other than to remove the solid waste in its entirety.

- Building 111 and CPPMB - At Building 111 and CPPMB the clean up criteria established in the Statement of Remediation Services is less than 20 $\mu g/ft^2$ of lead for wipe samples on any surface based on Rhode Island Department of Health lead free standard. Foster Wheeler will make every attempt to attain this criteria. However, due to the porous nature of concrete in Building 111 and based on recent experience with lead dust removal in Building 224 and Building AC10 using standard procedures, this goal may be difficult to attain. This has been brought to the attention of the Design Navy Technical Representative. In the event that clean up criteria is not achieved using work practices identified in the Work Plan, Foster Wheeler will notify the Navy in the form of a letter report. The Navy will obtain concurrence for action with the BRAC Cleanup Team.

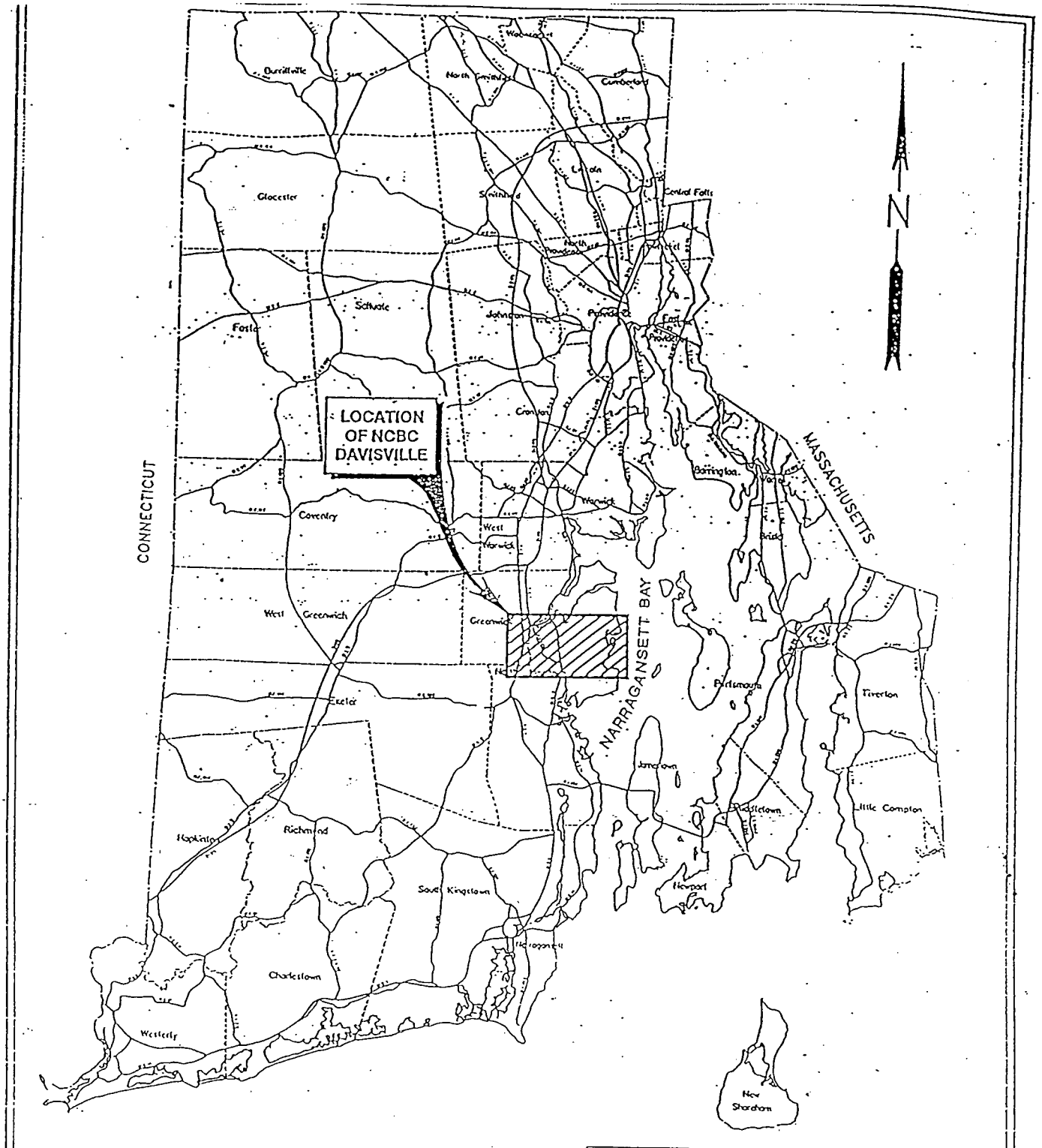


FIGURE 1-1

Naval Construction Battalion Center
Davisville, Rhode Island

SITE VICINITY MAP

SCALE: AS SHOWN

Figure 1-2 Lead Dust Removal Sites (See Pocket Insert)*

* **Previously submitted in Draft Plan - No changes were made.**

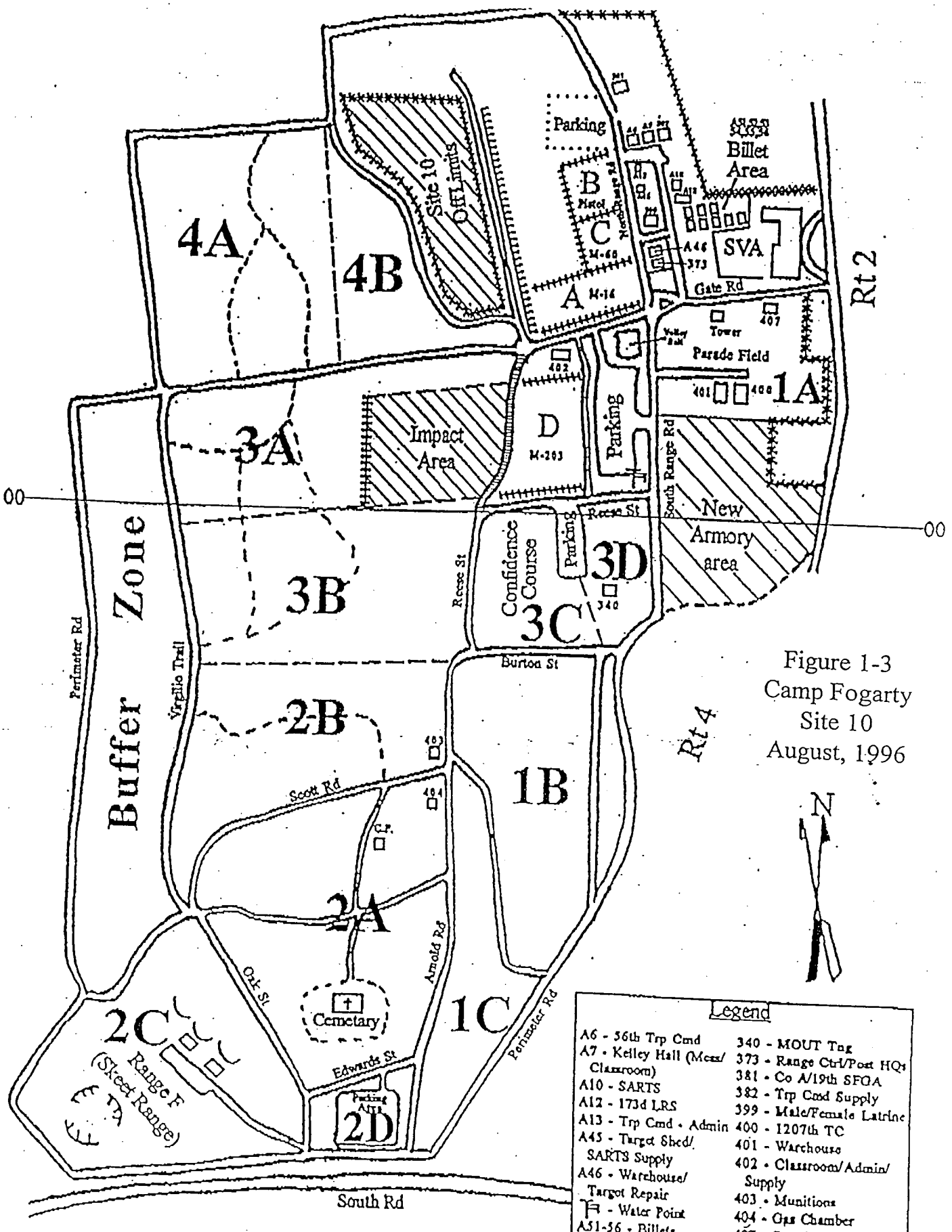


Figure 1-3
Camp Fogarty
Site 10
August, 1996

Not to Scale

- Demolition - No clean up criteria has been established for building demolition other than removal of the structures indicated. For lead contaminated soil removal, the clean up criteria has been determined by the Navy to be less than 500 ppm in accordance with the Lead-Free Standard for soil as established by RIDEM (R23-24.6-PB, amended August 1995, section B.2.4).

1.3 Subcontracting and Procurement

Foster Wheeler has developed Table 1-1 to better clarify the division of work between subcontractors and Foster Wheeler. Table 1-1 summarizes the activities that will be subcontracted as well as anticipated material procurements. Foster Wheeler will self perform all work not listed in this table. Further clarification is provided in Section 4.0.

The acquisition of materials and services to support this Delivery Order will be in conformance with the Federal Acquisition Regulations (FARs). These material and subcontract procurements will be initiated in the home office to support initial site activities, and will be managed from the field for the remainder of project activities.

Table 1-1

Summary of Subcontracts and Procurements

Subcontractor	Materials/Services	Status	Type of Contract
NET Cambridge Cambridge, MA	Laboratory Analyses	Modify Existing	FUR[1]
TBD	Demolition of Buildings and Slabs	New	LS[2]
TBD	Disposal of Solid Waste	New	FUR
AETS Marlborough, MA	T&D of Hazardous Waste	Modify Existing	FUR
Professional Services Industries East Providence, RI	Geotechnical/Materials Testing	Modify Existing	FP[3]
TBD	Backfill Material/Topsoil	New	FUR
TBD	Hydroseeding	New	FP

Note: [1] FUR: Fixed Unit Rate
[2] LS: Lump Sum
[3] FP: Field Procurement

For procurement of subcontract services, statements of work will be prepared by engineering staff. These documents identify the scope of services required, schedule constraints, and submittal requirements. In addition, they provide a site background summary and health and safety requirements for site work. A Safety, Health, and Emergency Response Plan (SHERP) has also been established for the site. Procurement personnel will provide the contractual and administrative portions of the package for subcontract services.

For procurement of materials and equipment (not included in table), purchase requisitions will be used. In addition to these procurements, local vendors will be identified and accounts established to supply commodity items such as office supplies, lumber, rental tools, building supplies, etc. to the site.

To the extent possible, existing contracts that Foster Wheeler has established for work at NCBC will be modified for this project. Table 1-1 reflects this approach.

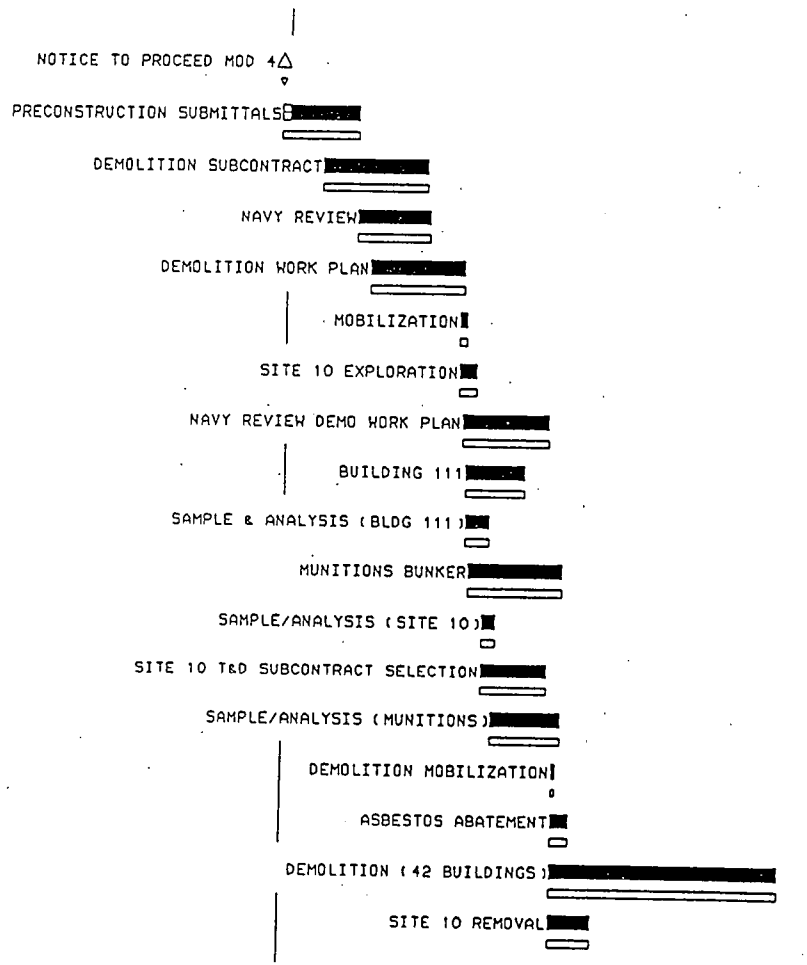
1.4 Close-Out Reporting

Within 30 calendar days of the completion of the project a Site Close-Out Report will be submitted to the Navy and will include a summary of work, volumes of waste removed, disposition of wastes removed, analytical results and waste tracking documentation. No record drawings are required.

1.5 Schedule

The schedule, enclosed as Figure 1-4, illustrates the major tasks and their anticipated start and completion dates. The removal actions at Building 111, CPPMB and Site 10 will be performed concurrently with demolition of buildings and such that the majority of the work can be conducted at one site while awaiting laboratory results from the other sites.

EARLY START	EARLY FINISH	MOD 4
23JUL96A	22JUL96A	NOTICE TO PROCEED MOD 4
23JUL96A	14AUG96	PRECONSTRUCTION SUBMITTALS
05AUG96	04SEP96	DEMOLITION SUBCONTRACT
15AUG96	05SEP96	NAVY REVIEW
19AUG96	16SEP96	DEMOLITION WORK PLAN
16SEP96	17SEP96	MOBILIZATION
16SEP96	20SEP96	SITE 10 EXPLORATION
17SEP96	11OCT96	NAVY REVIEW DEMO WORK PLAN
18SEP96	03OCT96	BUILDING 111
18SEP96	24SEP96	SAMPLE & ANALYSIS (BLDG 111)
19SEP96	15OCT96	MUNITIONS BUNKER
23SEP96	26SEP96	SAMPLE/ANALYSIS (SITE 10)
23SEP96	11OCT96	SITE 10 T&D SUBCONTRACT SELECTION
26SEP96	15OCT96	SAMPLE/ANALYSIS (MUNITIONS)
14OCT96	14OCT96	DEMOLITION MOBILIZATION
14OCT96	18OCT96	ASBESTOS ABATEMENT
14OCT96	20DEC96	DEMOLITION (42 BUILDINGS)
14OCT96	25OCT96	SITE 10 REMOVAL



DESC
MILESTONE
CRITICAL
PROGRESS
PLANNED

FOSTER WHEELER ENVIRONMENTAL CORPORATION.

PROGRAM MANAGER: A. HOLCOMB

DOM: L. KAHRS

MOD 4

FIGURE 1-4

RUN DATE 09AUG96	NCBC DAVISVILLE, RI
START DATE 17NOV95	D.O. 0006
DATA DATE 25JUL96	REMOVAL ACTION
FINISH DATE 03FEB97	BASELINE VS CURRENT
SURETRAK	NCBC DAVISVILLE, RI

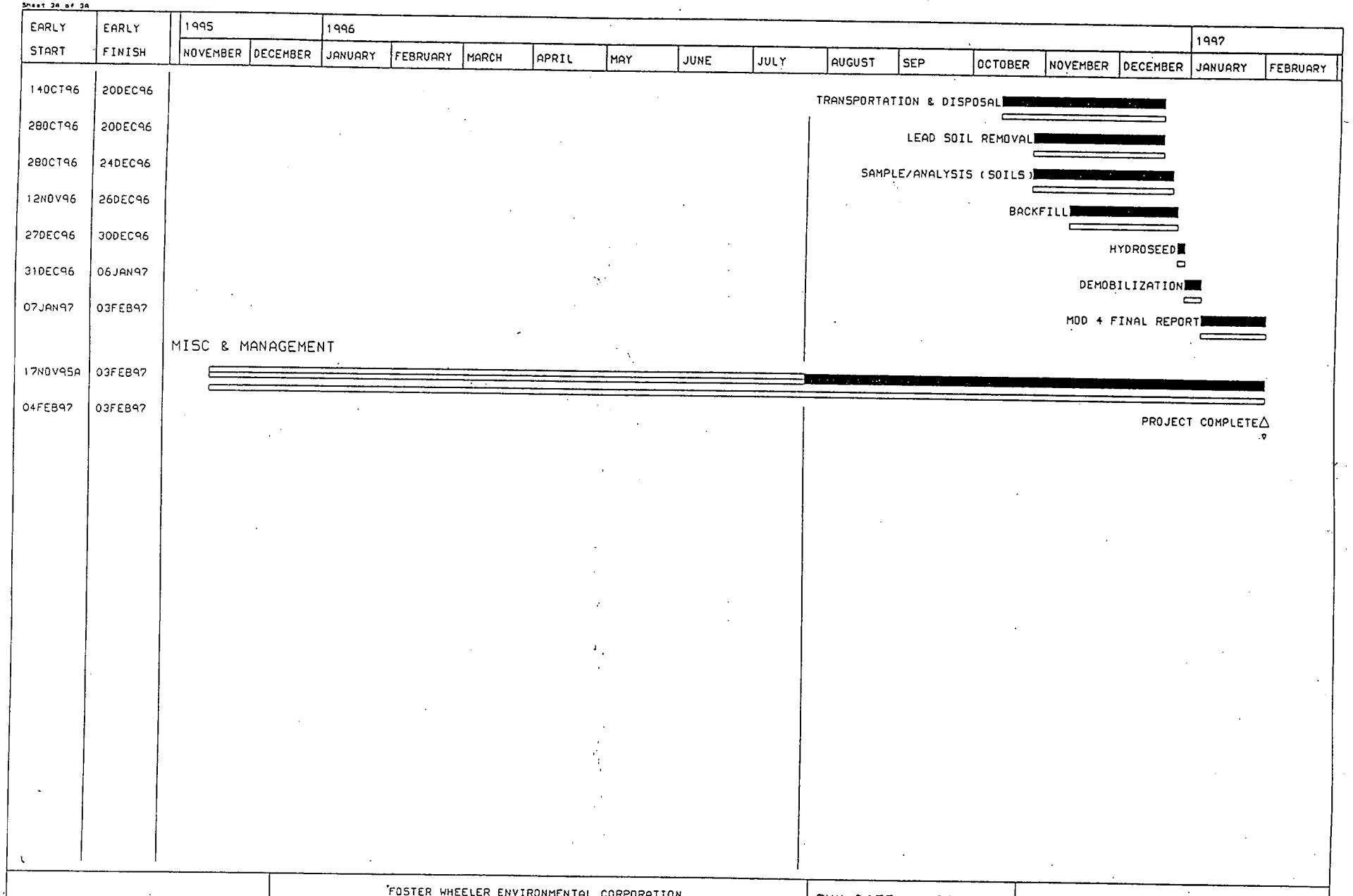

EARLY START
EARLY FINISH
1995
1996
1997
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEP
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
140CT96 20DEC96 TRANSPORTATION & DISPOSAL
280CT96 20DEC96 LEAD SOIL REMOVAL
280CT96 24DEC96 SAMPLE/ANALYSIS (SOILS)
12NOV96 26DEC96 BACKFILL
27DEC96 30DEC96 HYDROSEED
31DEC96 06JAN97 DEMOBILIZATION
07JAN97 03FEB97 MOD 4 FINAL REPORT
MISC & MANAGEMENT
17NOV95A 03FEB97
04FEB97 03FEB97 PROJECT COMPLETE
DESC
MILESTONE
CRITICAL
PROGRESS
PLANNED
FOSTER WHEELER ENVIRONMENTAL CORPORATION
PROGRAM MANAGER: A. HOLCOMB
DOM: L. KAHRS
MOD 4
RUN DATE 09AUG96
START DATE 17NOV95
DATA DATE 25JUL96
FINISH DATE 03FEB97
NCBC DAVISVILLE, RI
D O 0006
REMOVAL ACTION
BASELINE VS CURRENT
SURETRAK
NCBC DAVISVILLE, RI

FIGURE 1-4

2.0 QUALITY CONTROL

2.1 Corporate Statement

Foster Wheeler's RAC Program Organization is specifically designed to control work performed by the Foster Wheeler Team in accordance with the contract requirements. Foster Wheeler will manage this contract through a dedicated Program Management Office (PMO) located in Langhorne, PA.

The QC Plan provides for monitoring, auditing, and conducting field inspections to ensure compliance is being maintained. Maintenance of the project records and required reports and logs is also addressed. A program to assure that all submittals are correct and complete before forwarding to the Contracting Officer's Representative is included in this Plan.

2.1.1 QC Group

The QC Group assigned to the Program is technically responsible to the Foster Wheeler Quality Assurance (QA) Officer. The group is headed by the Program QC Manager (PQCM) who receives administrative direction from the Program Manager for the purpose of coordinating QC activities with the Delivery Order operations, testing sequences and schedule, and achieving timely resolution of quality issues.

The QC Group consists of the PQCM and the Site QC Manager (SQCM). The Quality Organization for the Program is shown in Figure 2-1, Foster Wheeler Organizational Chart.

2.1.2 Program QC Manager (PQCM)

The PQCM is responsible for approving the QC Plan for the project; assuring that all relevant portions of the Plan are implemented during the project through audits and surveillance of project activities; issuing reports to the Delivery Order Manager of any deviation from the approved plans; and authorizing the SQCM to act on his behalf for all site-related quality activities.

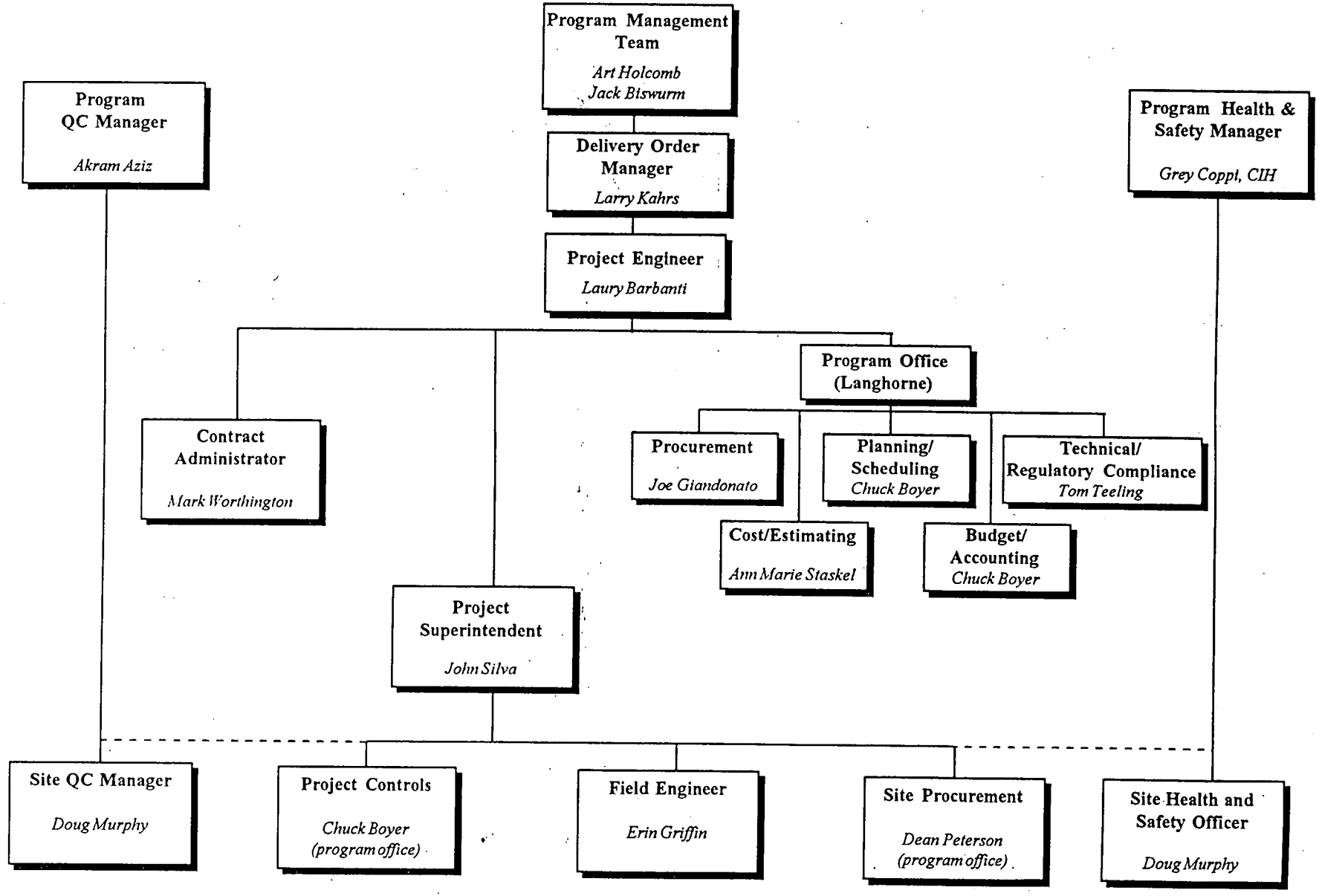
2.1.3 Site QC Manager (SQCM)

The SQCM will implement the Foster Wheeler Corporation QC Program and will have sole responsibility for ensuring compliance with the Project Specifications. He will have the authority to reject material or workmanship which does not comply. In addition, the SQCM will review and modify or correct all contract submittals prior to forwarding to the Contracting Officer's Representative. The SQCM, or a designated representative acceptable to the Navy, will be present at the project site whenever work or testing is in progress.

The major responsibilities of the SQCM, as outlined in Part 6.0 (Quality Control) of the Basic Contract, include:

- Managing and implementing an effective QC Program;
- Notifying EPA and RIDEM at least one (1) week in advance of any field activities and at least 24 hours in advance of any cancellations of work;
- Conducting QC meetings at the site with the Project Superintendent each week, notifying the Contracting Officer's Representative at least 48 hours in advance of each meeting, and preparing and submitting the meeting minutes to the Contracting Officer's Representative within two (2) working days after the meeting;
- Ensuring submission of weekly QC meeting minutes to EPA and RIDEM;

Figure 2-1
Foster Wheeler Organizational Chart
Delivery Order No. 0006 - Mod. No. 4
NCBC Davisville, RI



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- Ensuring documentation of field activities daily in the Contractor Production Report and the Contractor QC Report (See Appendix C);
- Ensuring, through audits or surveillance, conformance of all items of work and subcontractor performance to the applicable Project Specifications with respect to the materials, workmanship, construction finish, and functional performance;
- Ensuring monthly submission of the Testing Plan and Log, field test summary, and rework items list, as required by the Basic Contract;
- Performing preparatory, initial, and follow-up inspections as needed on each phase of work to ensure that materials are installed in accordance with the Project Specifications;
- Utilizing the services of qualified agencies or contractors to perform testing services or inspections as deemed necessary;
- Reviewing and modifying or correcting, as needed, submittals prior to forwarding to the Contracting Officer's Representative;
- Identifying, controlling, and assuring resolution of deficiencies, including corrective action implementation;
- Maintaining a current set of the Project Specifications noting all changes approved by the Contracting Officer's Representative; and
- Maintaining project records as required by the contract or statute.

2.2 Foster Wheeler Organization

Figure 2-1 depicts the Foster Wheeler project organization for this Modification. As noted on the chart, and discussed during negotiations, several key Foster Wheeler personnel will perform dual roles at the site for project implementation. The responsibilities for each of the roles are discussed in the following sections. Resumes for key individuals are included in Appendix A.

The project management team is configured such that one person, Mr. Larry Kahrs, has overall administrative and technical responsibilities for this Delivery Order. As the Delivery Order Manager, Mr. Kahrs reports directly to Messrs. Art Holcomb and Jack Biswurm, the Program Managers. Mr. Kahrs is responsible for planning and scheduling the removal actions, ensuring project deliverables are submitted on a timely basis, tracking and managing budgets and schedules, and maintaining a safe work environment and a record of site activities.

Mrs. Laury Barbanti will support Mr. Kahrs as the Task Manager and will be responsible for all technical support required to complete the work.

Mr. John Silva is the Project Superintendent. Mr. Silva will be responsible for managing and directing all on-site activities. These activities will include supervision of all subcontractors, site procurement of materials, interfacing with the Navy Resident Officer In Charge of Construction (ROICC) and Navy consultant, and ensuring compliance with the removal action scope.

Mr. Doug Murphy will act as the Site QC Manager, ensuring compliance with the QC Plan, Test Plan and Log, and Submittal Register.

Mr. Murphy will also serve as the Site Health and Safety Officer (SHSO) and will be responsible for adherence to the Safety, Health, and Emergency Response Plan (SHERP).

The Site Engineer's responsibilities will be handled by Ms. Erin Griffin on a part-time basis. Ms. Griffin will be responsible for sample collection, all engineering documentation, including sample tracking, hazardous waste characterization and manifesting, and field records.

Chemistry support is provided by Mr. David Peterson. He is responsible to develop and oversee sampling plans as well as provide data review and validation as required.

During the site activities, field staff will receive assistance from procurement and project controls personnel in the Langhorne, PA offices. These personnel will assist those on-site with field procurement, scheduling, status reports, and punch lists.

Prior to mobilization, procurement activities will be supported on a part-time basis through the Program Office in Langhorne, PA. Joe Giandonato will be responsible for procurement of materials at the site, management of subcontracts, and field accounting activities.

Mr. Chuck Boyer will provide part-time site Project Controls services on an as-needed basis from the Langhorne, PA office. Once developed, the Project Controls function will include updating the project schedule and cost tracking databases, and preparing status reports and punch lists.

Mr. Grey Coppi will provide Health and Safety support and guidance from the Program Office in Langhorne, Pennsylvania and is responsible to review and approve all Safety and Health Plans for this project.

Mr. Akram Aziz is the Navy program QC manager and will provide QC support and guidance from the Program Office in Langhorne, PA.

2.3 Project Organization

Navy personnel shall oversee the operation as depicted on the Project Organization Chart (Figure 2-2).

2.4 Submittals Processing

2.4.1 General

Foster Wheeler will institute and maintain a submittal system to track submittals from issue to approval (see Appendix B - Submittal Register) to comply with the Navy requirement for submittals. Foster Wheeler will forward submittals requiring Navy approval and will submit these items as listed on the Submittal Register and Test Plan and Log.

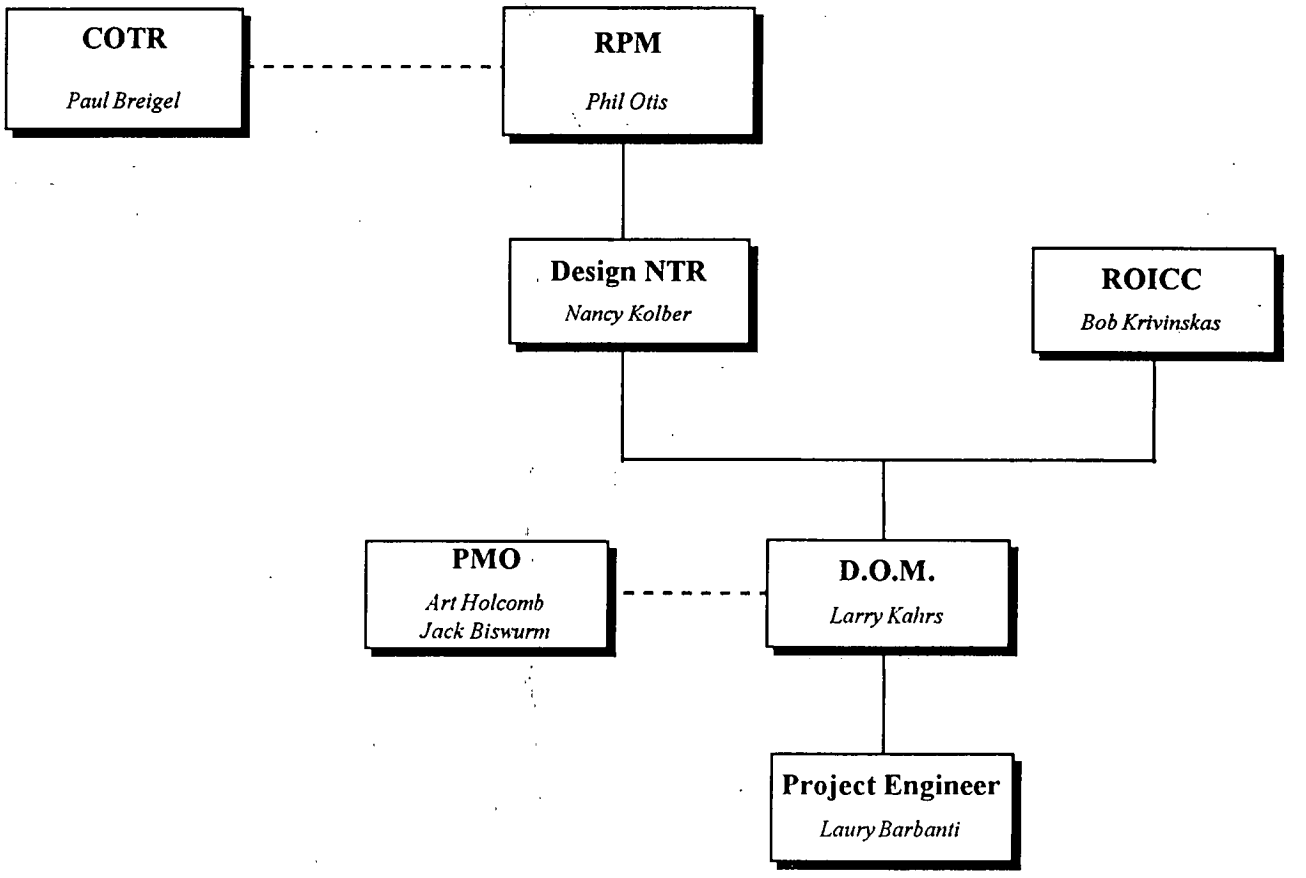
Each submittal will be complete and in sufficient detail for ready determination with the contract requirements. All items will be checked and approved by the SQCM and will be transmitted via Transmittal Form 4335/3 (see Appendix C) which will be initiated and dated by the SQCM indicating that the accompanying submittal conforms or does not conform to contract requirements. All submittals must be stamped with a QC Certification Stamp.

2.4.2 Receipt of Submittals

Submittals, in the quantity required by the contract, will be sent to:

Commanding Officer
Department of the Navy, Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, PA 19113-2090

Figure 2-2
Project Organizational Chart
Delivery Order No. 0006 - Mod. No. 4
NCBC Davisville, RI



and Navy personnel as specified under the Delivery Order distribution schedule.

Each transmittal will be identified with:

- Contract Number and Delivery Order Number;
- Unique sequential transmittal number (specification number followed by sequential number);
- Name and address of the submitting organization;
- Date of submittal;
- Description of item being submitted, including reference to specification section and specification paragraph number relevant to item; and
- Approval of submitting organization indicating conformance to requirements.

The SQCM will enter each transmittal into the Submittal Register, determine if approval is required by the Contracting Officer's Representative, and proceed with review of submitted material.

2.4.3 Review and Processing of Submittals Which Do Not Require Navy Approval

Material submitted for review by the SQCM or designated representative will indicate that it either conforms to established requirements or does not conform to established requirements. The SQCM will advise the submitter of the results of the review. The submittal log will be updated to indicate status.

Conforming submittals will be transmitted to Project and Navy personnel as determined by the distribution schedule.

Non-conforming submittals are returned to the submitter for correction, resolution of comments, and re-submittal.

2.4.4 Review and Processing of Submittals Which Require Navy Approval

Material submitted for review by the SQCM or designated representative will be signed to indicate that it conforms to requirements. The submittal will then be transmitted in accordance with the project distribution schedule for review and approval. All items sent to the Navy will be done so through Transmittal Form 4335/3 will indicate each item transmitted, the date reviewed by the SQCM, and its review status. Upon completion of review, the Contracting Officer's Representative will return the transmittal form to the SQCM for further action.

The SQCM will advise the submitter of the results of the review in writing and include any comments. The submittal log will be updated to indicate status.

Non-conforming submittals will be returned to the submitter for correction, resolution of comments, and re-submittal if required.

2.4.5 Revised Submittals

Revised submittals will be logged, reviewed, and processed in a manner identical with the initial submittal and will comply with the Navy requirements under the Basic Contract.

2.5 Testing and Sampling Methodology

2.5.1 Chemical Testing and Sampling

Testing and sampling activities, which are used to establish chemical content or degree of contamination, will be covered in Section 6.0 - Field Sampling and Laboratory Testing. The frequency of testing and sampling is indicated in Table 2-1.

2.5.2 Geotechnical Testing and Sampling

Geotechnical testing and sampling of materials will be carried out using approved methodology and at the frequency indicated in Table 2-1. The SQCM will be the responsible person, supervising all testing and sampling activities and reviewing the qualifications of the independent testing laboratory prior to submitting any samples for test. The Contracting Officer's Representative will approve the independent testing laboratory. Samples to be tested by the independent laboratory may be collected by either laboratory or trained field personnel.

The qualifications of the independent testing laboratory have been provided to the Contracting Officer's Representative during removal actions at Site 02 and Site 13 at NCBC. Additional copies are available upon request.

2.5.3 Chain of Custody

A Chain of Custody (COC) form will be used to provide evidence that samples for chemical analysis are under continuous control up until the analysis or test is complete. The COC form for laboratory chemical analysis is included in Appendix C.

2.5.4 Equipment Calibration

Equipment calibration frequency and methodology for the geotechnical tests performed by the independent test laboratory will be as described in the qualification statement of the laboratory. Calibration of air monitoring and other in-situ chemical concentration or characteristic measuring instruments are described in the SHERP.

2.5.5 Outside Organizations

Qualifications for any subcontractors who will provide on-site testing and services will be provided to the Navy at the time of service.

2.6 Site Quality Control Activities

2.6.1 Control of Subcontractors and Vendors

Construction subcontractor's qualifications to perform the required work will be evaluated by the SQCM. He will be responsible for ensuring project compliance in all work performed by these subcontractors. All subcontractor activities will be subject to QC inspection.

Table 2-1
Test Plan and Log

PROJECT TITLE AND LOCATION REMOVAL ACTIONS - DO 6 - MOD 4											CONTRACTOR FOSTER WHEELER ENVIRONMENTAL CORPORATION
ITEM OF WORK	TEST REQUIRED	ACCREDITED /APPROVED LAB		SAMPLED	TESTED BY	LOCATION OF TEST		FREQUENCY	DATE COMPLETED	DATE FORWARDED TO CONTR. OFF.	CRITERIA
		YES	NO			ON SITE	OFF SITE				
2) BUILDING 111 LOCKED VAULT WIPE SAMPLING - WIPE	TOTAL LEAD	X					X	ONE/100 FT^2			20 $\mu g/ft^2$
2) BUILDING 111 CONFIRMATORY WIPE SAMPLING - WIPE	TOTAL LEAD	X					X	SEVEN SAMPLES			20 $\mu g/ft^2$
3) CPPMB #59 AND #60 WIPE SAMPLING - WIPE	TOTAL LEAD	X					X	6 SAMPLES/ BUNKER			20 $\mu g/ft^2$
3) CPPMB #59 AND #60 CONFIRMATORY WIPE SAMPLING - WIPE	TOTAL LEAD	X					X	6 SAMPLES/ BUNKER			20 $\mu g/ft^2$
DECON SEDIMENT EQUIPMENT DECON BUILDING 11 CPPMB - SEDIMENT	TCLP LEAD	X					X	ONE TIME			5 mg/L
DECON WATER EQUIPMENT DECON. BUILDING 111 CPPMB - WATER	TOTAL LEAD	X					X	ONE TIME			5 mg/L
4) LEAD PAINT CHIPS	TCLP LEAD	X					X	ONE TIME			5 mg/L
4) LEAD SOIL REMOVAL CONFIRMATORY SAMPLING - SOIL	TOTAL LEAD	X					X	ONE COMPOSITE/ BUILDING			500 ppm
4) LEAD SOIL WASTE CHARACTERIZATION - SOIL	TCLP LEAD	X					X	ONE/ROLL-OFF			5 mg/L
4) BACKFILL MATERIAL ANALYTICAL TESTING - SOIL	TOTAL LEAD	X					X	ONE/SOURCE			100 ppm
4) BACKFILL MATERIAL GEOTECHNICAL TESTING - SOIL	GRADATION LIQUID LIMIT PLASTIC LIMIT MOISTURE DENSITY RELATIONSHIP	X X X X					X X X X	ONE/ SOURCE ONE/SOURCE ONE/SOURCE ONE/SOURCE			NAVY SPEC 02315
BACKFILL COMPACTION TESTING - SOIL	IN-PLACE DENSITY	X				X		ONE/1000 FT^2 PER LIFT			85% of MODIFIED PROCTOR
4) TOPSOIL MATERIAL GEOTECHNICAL TESTING	ORGANIC CONTENT PARTICLE SIZE	X					X	ONE/SOURCE			NAVY SPEC 02921
4) TOPSOIL MATERIAL ANALYTICAL TESTING	TOTAL LEAD	X					X	ONE/SOURCE			100 ppm

Material and equipment vendors will be required to submit certifications of compliance or manufacture data sheets for their products. Materials and equipment delivered to the job site will be inspected upon receipt for conformance to purchasing documents. All vendor materials and equipment will be subject to QC inspection.

Certificates of compliance (see Appendix C) will be filed in the Project Files by the SQCM and will be submitted to the Contracting Officer's Representative.

Receiving inspection activities will be documented in the Contractor QC Report.

2.6.2 Photographic Documentation

Still photographs will be taken periodically to record pre-construction, post-construction, and construction progress conditions. Photograph medium will be 35mm color prints. Pre-construction photographs will depict the entire site and those off-site facilities which are susceptible to damage from construction activities (e.g., egress roads). Progress photographs will be taken from the same locations, if possible, so that each sequence of photographs will be taken from the same perspective. Progress photographs will be taken as needed to show significant milestone events, unique operations, or nonconformance events.

Each set of photographs taken will be recorded in a photograph log with the following information:

- Date photograph was taken;
- Photographer;
- Description of view shown on photograph;
- Exposure number; and
- Unique serial number.

2.6.3 QC Inspection Activities

The SQCM will perform three (3) phases of control to ensure that work complies with contract requirements. The three (3) phases of control, as defined below, will adequately cover both on-site and off-site activities for each definable feature of work. A definable feature of work is a task which is separate and distinct from other tasks and requires separate control requirements. The definable features of work are identified in Table 2-2.

2.6.3.1 Preparatory Phase

The SQCM will notify the Contracting Officer's Representative at least two (2) work days in advance of each preparatory phase inspection to allow the Contracting Officer's Representative to participate in the inspection if desired. Preparatory phase inspections will be documented in the Preparatory Inspection Checklist (see Appendix C) and the Contractor QC Report. The SQCM will perform the following prior to the commencement of each definable feature of work:

a. Review each paragraph of the applicable Project Specification sections;
b. Verify that appropriate shop drawings and submittals for materials and equipment have been submitted and approved, and verify receipt of approved factory test results when required;
c. Review the testing plan and ensure that provisions have been made to provide the required QC testing;
d. Examine the work area to ensure that the required preliminary work has been completed;

Definable Features of Work
Delivery Order No. 0006 - NCBC Davisville

Item No.	Definable Work Phases and Specific Items to be Evaluated
1.0	**Mobilization**
1.1	Review Submittals
	Work Plan - Site 10, Building 111, CPPMB
	Work Plan - Demolition
	SHERP Amendment - Site 10, Building 111, CPPMB
	SHERP Amendment - Demolition
1.4	Provide Temporary Utilities
	Verification of telephone utility installation as specified
	Verification that portable/ temporary utilities are installed, connected, and tested
2.0	**Demolition of 42 Buildings**
2.2	Site Preparation
	Photo documentation
	Verification of Emergency Response Plan
	Verification of availability of spill and discharge control materials
2.3	Establish Work Zones
	Assurance that work areas are posted and security barriers are in place
	Assurance that ingress/egress sites are in place and that pathways in/out of zones are clearly marked
2.4	Provide Temporary Utilities
	Verification that portable/ temporary utilities are installed, connected, and tested
2.5	Construct Decontamination (Decon) Facilities
	Verification that decon facilities are located and erected in accordance with SHERP
2.6	Fencing and Signs
	Verification that fencing is repaired or replaced per Contract Documents
	Verification that signs are sized and located per Contract Documents
2.7	Establish Staging Areas
	Verification that staging and stockpile areas are located and constructed per Contract Documents
2.8	Erosion, Dust, and Stormwater Control
	Verification that sediment erosion control procedures are followed
	Verification that runoff controls are in place per Contract Documents
	Verification that measures are in place to suppress dust generation
2.9	Asbestos Abatement
	Review Asbestos Abatement Plan (Sub)
2.10	Salvage Windows and Lights
	Confirm number and suitability of windows and frames
	Confirm number and suitability of light fixtures
2.11	Building demolition
	Quonset Huts (25)
	Pre engineered buildings (11)
	Miscellaneous (5)
2.12	Slab/Foundation Demolition
	Quonset Huts (25)

Item No.	Definable Work Phases and Specific Items to be Evaluated
	Pre engineered buildings (11)
	Miscellaneous (4)
	Confirm concrete is removed to one foot below grade
2.13	Recycling/Disposal of debris
	Metal - confirm transporter qualifications and disposal facility approval
	Concrete - confirm transporter qualifications and disposal facility approval
	Construction debris - confirm transporter qualifications and disposal facility approval
3.0	**Excavation of Lead Contaminated Soil**
3.1	Site Preparation
	Photo documentation
	Verification of Emergency Response Plan
	Verification of availability of spill and discharge control materials
3.2	Establish Work Zones
	Assurance that work areas are posted and security barriers are in place
	Assurance that ingress/egress sites are in place and that pathways in/out of zones are clearly marked
3.3	Provide Temporary Utilities
	Verification that portable/ temporary utilities are installed, connected, and tested
3.4	Construct Decontamination (Decon) Facilities
	Verification that decon facilities are located and erected in accordance with SHERP
3.5	Fencing and Signs
	Verification that fencing is repaired or replaced per Contract Documents
	Verification that signs are sized and located per Contract Documents
3.6	Establish Staging Areas
	Verification that staging and stockpile areas are located and constructed per Contract Documents
3.7	Erosion, Dust, and Stormwater Control
	Verification that sediment erosion control procedures are followed
	Verification that runoff controls are in place per Contract Documents
	Verification that measures are in place to suppress dust generation
3.8	Confirm results of baseline soil samples (all reports by Barnes & Jarnis)
3.9	Rake and/or vacuum loose paint chips from surface
	Drum, label and stage paint chips
	Confirm that all visible paint chips are removed from surface
3.10	Excavate three foot wide by six inch deep trench around demolished buildings (25)
	Perform confirmatory soil sampling
	Receive confirmatory analysis results
	Continue excavation if necessary
	Perform additional confirmatory soil sampling if necessary
	Confirm sampling results with Navy and BRAC Clean Up team
3.11	Perform Waste Characterization Sampling in accordance with Table 2-1
	Receive analysis of waste characterization
	Transport and dispose of soil failing TCLP lead analysis at approved RCRA disposal facility
	Transport and dispose of soil passing TCLP lead analysis at approved Subtitle D disposal facility
	Verification of Disposal Documentation
3.12	Backfill (41 buildings)
	Test backfill material for geotechnical properties
	Test backfill material for chemicals of concern (lead)
	Perform Density Testing

Item No.	Definable Work Phases and Specific Items to be Evaluated
3.13	Topsoil (41 buildings)
	Test topsoil for geotechnical properties
	Test topsoil for chemicals of concern (TCLP lead)
	Install three inches of topsoil
3.12	Install Hydroseed (41 buildings)
	Confirm mix design
	Confirm coverage
4.0	**Building 111 Lead Dust Cleanup**
4.1	Site Preparation
	Photo documentation
	Verification of Emergency Response Plan
	Verification of availability of spill and discharge control materials
4.2	Establish Work Zones
	Assurance that work areas are posted and security barriers are in place
	Assurance that ingress/egress sites are in place and that pathways in/out of zones are clearly marked
4.3	Provide Temporary Utilities
	Verification that portable/ temporary utilities are installed, connected, and tested
4.4	Construct Decontamination (Decon) Facilities
	Verification that decon facilities are located and erected in accordance with SHERP
4.5	Fencing and Signs
	Verification that fencing is repaired or replaced per Contract Documents
	Verification that signs are sized and located per Contract Documents
4.6	Establish Staging Areas
	Verification that staging and stockpile areas are located and constructed per Contract Documents
4.7	Verification that dust suppression control measures are in place
	Triple rinse miscellaneous debris
	Transport and dispose of miscellaneous debris
4.8	Open locked vault
4.9	Perform investigative wipe sampling in vault
4.10	Triple wash/rinse (8800 sf)
	Collect, drum, label and stage decontamination water and sediment
	Verification of Disposal Documentation
4.11	Perform confirmatory wipe sampling
	Receive results of sample analysis
4.12	Navy and BRAC Clean Up team review of results
5.0	**CPPMB-Bunker Lead Cleanup**
5.1	Site Preparation
	Photo documentation
	Verification of Emergency Response Plan
	Verification of availability of spill and discharge control materials
5.2	Establish Work Zones
	Assurance that work areas are posted and security barriers are in place
	Assurance that ingress/egress sites are in place and that pathways in/out of zones are clearly marked
5.3	Provide Temporary Utilities
	Verification that portable/ temporary utilities are installed, connected, and tested
5.4	Construct Decontamination (Decon) Facilities
	Verification that decon facilities are located and errected in accordance with SHERP

Item No.	Definable Work Phases and Specific Items to be Evaluated
5.5	Signs
	Verification that signs are sized, located, and constructed per Contract Documents
	Establish Staging Areas
5.6	Verification that staging and stockpile areas are located and constructed per Contract Documents
5.7	Verification that measures are in place to suppress dust generation
5.8	Access bunker
5.9	Triple wash/rinse (3600 sf)
	Collect, drum, label and stage decontamination water and sediment
	Verification of Disposal Documentation
5.10	Perform confirmatory wipe sampling
	Receive results of sample analysis
5.12	Navy and BRAC Clean Up team review of results
6.0	**Site 10 Debris Removal**
6.1	Site Preparation
	Photo documentation
	Verification of Emergency Response Plan
	Verification of availability of spill and discharge control materials
	Establish Work Zones
	Conduct a walkthrough with Air National Guard
	Identify Salvage Items
6.2	Assurance that work areas are posted and security barriers are in place
	Assurance that ingress/egress sites are in place and that pathways in/out of zones are clearly marked
6.3	Fencing and Signs
	Verification that fencing is repaired or replaced per Contract Documents
	Verification that signs are sized and located per Contract Documents
6.4	Establish Staging Areas
	Verification that staging and stockpile areas are located and constructed per Contract Documents
6.5	Erosion, Dust, and Stormwater Control
	Verification that sediment erosion control procedures are followed
	Verification that runoff controls are in place per Contract Documents
	Verification that measures are in place to suppress dust generation
6.6	Uncover Waste piles
	Examine composition
6.7	Load out waste
	Verify limits of removal
	Verify transporters qualifications and disposal facility approval
7.0	**Transportation and Disposal of generated wastes**
7.1	Collect samples and analyze decontamination water
	Transport and dispose of decontamination water to approved facility
7.2	Collect samples and analyze decontamination sediment
	Transport and dispose of decontamination sediment to approved facility
7.3	Collect samples and analyze PPE
	Transport and dispose of PPE to approved facility
	Verification of Disposal Documentation
8.0	**Demobilization**

e. Examine the required materials, equipment, and sample work to ensure that they are available and conform to the approved shop drawings and submitted data;
f. Review the SHERP and appropriate activity hazard analysis to ensure that applicable safety requirements are met and that required Material Safety Data Sheets (MSDSs) are submitted; and
g. Discuss construction methods.

2.6.3.2 Initial Phase

The SQCM will notify the Contracting Officer's Representative at least two (2) work days in advance of each initial phase inspection. When construction crews are ready to start a definable feature of work, an initial phase inspection will be conducted with the Project Superintendent and the foreman responsible for that definable feature of work. The initial segment of the definable feature of work will be observed to ensure that the work complies with contract requirements. An initial phase inspection will be repeated for each new crew to work on-site, or when acceptable levels of specified quality are not being met. Initial phase inspections will be documented in the Initial Inspection Checklist (see Appendix C) and the Contractor QC Report. The SQCM will perform the following for each definable feature of work:

a. Establish the quality of workmanship required;
b. Resolve conflicts;
c. Review the SHERP and the appropriate activity hazard analysis to ensure that applicable safety requirements are met; and
d. Ensure that testing is performed by the approved laboratory.

2.6.3.3 Follow-Up Phase

Follow-up phase inspections are similar in content and approach to initial phase inspections, and will be performed daily during ongoing work. Follow-up phase inspections will be documented in a Follow-Up Inspection Checklist (see Appendix C) and the Contractor QC Report. The SQCM will perform the following for each definable feature of work:

a. Ensure the work is in compliance with contract requirements;
b. Maintain the quality of workmanship required;
c. Ensure that testing is performed by the approved laboratory; and
d. Ensure that rework items are being corrected.

In the final follow-up phase inspection, the SQCM shall develop a punch list of any open items requiring completion and which potentially do not conform to the Project Specifications. The punch list shall be included in the Contractor QC Report along with an estimated date of when the work will be completed and when non-conforming items will be corrected.

2.6.4 Notification of QC Inspection Activities for Off-Site Work

The SQCM will notify the Contracting Officer's Representative at least two (2) weeks prior to the start of the preparatory and initial phase inspections.

2.6.5 Work Features Requiring Inspection or Testing

Prior to implementation of individual phases of work activities, the SQCM and Project Superintendent will meet to identify specific work requirements, including submittal information, construction sequence and scheduling, and QC forms and acceptance criteria. This joint review allows close coordination of work and

maximizes efficiency of operations. Project roles, potential problems, and procedures for resolving issues will be established up-front at these discussions to allow for clarification of direction and immediate response to any problems which may arise. As a result of this approach, QC activities will be maintained as an integral component of the overall project approach.

2.7 Documentation

2.7.1 General

All inspection and testing activities performed will be documented. The SQCM or his designee will record his inspection activities in the Contractor QC Report. In addition to the forms provided in this Work Plan, forms required by the Navy will be completed and submitted to the Contracting Officer's Representative as applicable.

2.7.2 Contractor QC Report

The Contractor QC Report will be completed by the SQCM and submitted to the Navy's representative daily. Reports for weekends and holidays will be included on the first working day's report following those periods.

2.7.3 Results of Tests

Copies of test results will be included in the Contractor QC Report for the day the test was performed. Test results of field sampling or in-situ testing will be included in the appropriate phase inspection. Formal test reports will be submitted monthly with the updated Test Plan and Log.

2.8 Corrective Action Program

2.8.1 Identification and Control of Deficiencies

Deficient conditions have been divided into three categories:

2.8.1.1 In-Process Deficiencies

In-process deficiencies are those conditions discovered during the course of QC inspections which are intended to be corrected or brought into conformance with requirements. These are noted briefly on the Contractor QC Report and in detail on the In-Process Deficiency Punch List (see Appendix C). The SQCM will maintain a file of the punch lists. Items on the punch list which cannot be corrected will be treated as installed deficiencies.

2.8.1.2 Installed Deficiencies

Installed deficiencies are those conditions discovered during the course of QC inspection of completed work which do not meet established acceptance criteria or requirements, and are not intended to, or cannot, be brought into conformance with requirements. These conditions will be noted on a Rework Items List in addition to, or instead of, a Construction Deficiency Notice for evaluation and disposition (see Appendix C). The Deficiency Notice will be issued by the SQCM within 24 hours of the discovery of installed deficiencies and will summarize any discrepancies with the contract requirements and may outline suggested corrective actions. In the event that a Deficiency Notice is not resolved with seven (7) calendar days after its issuance, a notice of non-response will be issued to the Delivery Order Manager. Each notice

will be consecutively numbered, logged, and statused by the SQCM. Resolution of installed deficient conditions will be approved by the Delivery Order Manager. Copies of completed notices will be sent to the Navy Representative.

2.8.1.3 Conditions Which Require a Stop-Work Order

If corrective actions are insufficient, resolution cannot be reached, or results of prior work are indeterminate, work may be stopped by a Stop-Work Order. The Stop-Work Order can only be authorized by the Project Superintendent and the SQCM in writing. If there is a disagreement between the SQCM and the Project Superintendent, the difference will be brought to the attention of succeeding levels of management until resolution is achieved.

The conditions for which the Stop-Work Order was issued will be described in sufficient detail on a Rework Items List (punch list) to allow evaluation of the problems and to effect proper corrective action. Work will not continue until the Stop-Work Order has been rescinded by the individual who authorized the Order.

2.8.2 Contracting Officer's Representative Notification of Construction Deficiency Conditions

In the event the Navy notifies Foster Wheeler of a construction deficiency condition, the party so notified will immediately contact the Project Superintendent or SQCM to begin action which will resolve the condition. The Navy Representative may issue a Stop-Work Order if Foster Wheeler does not institute, or fails to promptly institute, corrective action.

2.8.3 Cause and Action to Prevent Recurrence

The SQCM will track the Construction Deficiency Notices, analyze the corrective actions required, and take the necessary steps to resolve the causes of the deficient conditions in order to prevent recurrence.

2.9 Quality Management

2.9.1 Quality Overview of Site Activities

In addition to the performance of the QC field function, the Foster Wheeler QC Program requires a Quality Management overview of the site QA/QC Program implementation. The Program QC Manager will perform regular internal QC checks on the site implementation of the QA/QC Program. These checks will include the following:

- Possession and use of the latest approved procedure(s), standards, and/or project specific instruction(s);
- Conformance to appropriate procedures, standards, and instructions;
- Thoroughness of the performance; and
- Identification and completeness of documentation generated during performance.

These QC management checks will be conducted by the PQCM or qualified auditors using written checklists. Reports of any deficiencies will be reported to Project Management for corrective action.

3.0 ENVIRONMENTAL PROTECTION

The purpose of this section is to provide an Environmental Protection Plan which identifies the applicable environmental regulatory requirements and establishes the appropriate project controls to meet these requirements during the removal of solid waste debris at Site 10 of Camp Fogarty; excavation of lead contaminated soil from around forty-one buildings and the removal of lead dust from the interior of Building 111 and two bunkers at CPPMB. Environmental protection requirements associated with the demolition of the twenty-five buildings will be addressed in Foster Wheeler's subcontractors work plan.

This section also identifies Foster Wheeler's environmental compliance procedures and training requirements for this project. The Delivery Order Manager will be responsible for verifying that all project personnel are aware of the requirements outlined in this Plan.

3.1 Regulatory Drivers

The removal actions will be conducted pursuant to the Navy's Installation Restoration Program (IRP) which is subject to the requirements, policies, and procedures set forth under the Federal Facility Agreement (FFA) between the U.S. Navy, EPA, and RIDEM. The FFA provides that the parties recognize CERCLA Section 121(e)(1) which states that activities conducted entirely on-site are exempt from having to obtain federal, state, and local permits. However, compliance with the substantive requirements of applicable federal, state, and local regulations will be required.

Foster Wheeler will perform this removal action in accordance with the substantive requirements of all other applicable federal, state, and local regulations. The Contractor will call to the Navy's attention any identified permitting requirements and will rely on Navy directive as to whether the permitting process will be adhered to.

3.2 Environmental Regulatory Compliance

3.2.1 Hazardous Waste

During the removal actions numerous waste streams contaminated with lead may be generated. These waste streams include soils, sediment, decontamination water, miscellaneous articles and PPE. The federal hazardous waste regulations and Rhode Island Rules and Regulations for Hazardous Waste Management characterize wastes with lead toxicity concentrations greater than 5 mg/l as a D008 hazardous waste. Therefore, the waste streams will be managed as hazardous waste until sampling and analysis determines whether the toxicity concentrations exceed 5 mg/l (TCLP lead method 1311 and/or 6010). Waste which is characterized as hazardous waste based on analytical results will be manifested, transported, and disposed of accordingly.

3.2.2 Transportation

Regulatory requirements pertaining to waste transportation are addressed in Section 5.0 of this Work Plan.

3.2.3 Air Pollution Control

The site is located within the authority of RIDEM, which is authorized by EPA to enforce the Clean Air Act (CAA). NORTHDIV will be responsible for obtaining a Record of Non-Applicability for the CERCLA exemption of the CAA conformity rule. Foster Wheeler will meet the substantive state permit requirements for any point source air discharges during removal actions. Rhode Island Air Pollution

Control Regulations (12-031-002) provide limitations and requirements pertaining to fugitive dust emissions. These limitations and requirements have been incorporated in the Work Plan. The execution of the removal action as proposed are consistent with the limitations and requirements this Work Plan.

3.2.4 Water Discharge

Activities requiring water discharges are not anticipated as part of the removal actions However, the control of stormwater runoff during the removal actions may be required. Best management practices will be used during excavation and lead decontamination to minimize contaminated water migration and sediment suspension and transport. Erosion control measures will be applied in the vicinity of each work area as required to prevent the migration of contaminated soils away from the areas of concern. The Rhode Island Soil Erosion and Sedimentation Control Handbook will be consulted, as necessary, in order to identify appropriate erosion and sedimentation controls at the site.

3.2.5 Wetlands Protection

Foster Wheeler has researched National Wetland Inventory maps issued by the U.S. Fish and Wildlife Service for the subject areas to confirm that no work will be performed within 200 feet of a wetland.

Additionally, a field survey was performed on October 21, 1996 at Site 10 and no wetlands were identified in the vicinity of the removal areas included in this Work Plan. Therefore, the potential to impact or disturb wetlands does not appear to exist. A copy of the field survey report including those findings is on file at Foster Wheeler Environmental.

3.2.6 Coastal Zone Management

NORTHDIV personnel will be responsible for obtaining the necessary consistency determination from the Coastal Resource Management Committee (CRMC).

Demolition of Building 280, which is in the proximity of Allen Harbor, is addressed under a separate Demolition Work Plan. There is no slab removal, lead contaminated soil removal, or backfilling required at Building 280. The Committee has determined no special requirements for demolition work. A copy of the CRMC documentation will be posted at the work site.

3.3 Release Reporting

An Emergency Response Plan is included in Section 12.0 of the existing project SHERP (spill control and response is described specifically in Section 12.12). The information contained in these sections details how Foster Wheeler will address spill control, prevention, and emergency response activities on-site.

3.4 Training and Certification Requirements for Project Personnel

As indicated in Section 13.0 of the existing project SHERP, and pursuant to 29 CFR 1910.120, site personnel performing any activities in an exclusion zone must have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations. In addition to the required initial training, each employee must have received three (3) days of directly supervised on-the-job training appropriate for the activities they will be required to perform. Annual 8-hour refresher training will be required of all hazardous waste site personnel in order to maintain their qualifications for field work. Both the SHSO and the Project Superintendent will also have received 24 hours of on-the-job supervised training, 8-hour supervisor training, and First Aid/CPR with blood borne pathogens training.

Pursuant to 40 CFR 172 Subpart H, Foster Wheeler site personnel involved in shipping material regulated by the U.S. Department of Transportation (DOT) will be trained in U.S. DOT regulations. A discussion of waste handling is included in Section 5, "Transportation and Disposal".

3.5 Inspection and Audit Procedures

3.5.1 Inspections by Regulatory Agencies

Site personnel will notify the Project Superintendent if contacted by a regulatory agency for a site inspection. The Project Superintendent will contact the Delivery Order Manager, who will notify the NORTHDIV Remedial Project Manager and the Foster Wheeler Director of Regulatory Compliance. In the event of an unannounced inspection, the NORTHDIV Project Manager and the Foster Wheeler Director of Regulatory Compliance will be contacted immediately.

3.5.2 Inspections by Third Parties

Any outside party requesting access to the site will be referred to the Project Superintendent who will initiate the appropriate notification of the Delivery Order Manager and the NORTHDIV Remedial Project Manager. Foster Wheeler personnel will not grant site access or answer questions for unauthorized personnel.

4.0 CONSTRUCTION TECHNIQUES

4.1 Mobilization

Mobilization for this work requires a minimal effort in that site trailers, temporary utilities, portable toilet facilities, electric generators and pressure washers as well as key field personnel have been previously established at the site and will be utilized for the duration of this project. The location for the office trailer, parking, sanitary facilities, and equipment storage area are shown on Figure 1-2. Temporary telephone service has been established at this location and can be accessed by dialing (401) 294-6605. A craft trailer will be mobilized to support each work site as activities require. All other utilities and facilities will be portable and temporary (i.e. a generator and portable water tanks).

Foster Wheeler will mobilize heavy equipment for the debris removal at Site 10 and for lead contaminated soil removal and backfill at various buildings. Mobilization for demolition will be addressed in the Demolition Work Plan to be submitted under separate cover.

Prior to any excavation activities, Foster Wheeler will contact Rhode Island Economic Development Corporation (RIEDC) and Port Authority, Caretaker's Site Office (CSO), and Dig Safe at 1-800-225-4977 to identify buried obstructions and utilities in the removal action areas.

4.2 Site Preparation

Site preparation requires establishing decontamination areas and waste staging areas at each of the work sites. All waste will be staged at work areas in accordance with Section 5 of this Plan. In addition, at lead soil removal areas, storm water/erosion control measure will be installed as discussed below. Additional preparation activities will occur in accordance with the SHERP and the Construction QC Plan (Section 2.0). Zone delineations for exclusion zones, contamination reduction zones, and support zones are presented in Figures 4-1A, 4-2A, and 4-2B. Discussion of those zone delineations including lead soil removal zones is included in Section 4.3.2. An addendum to this Work Plan will be issued for work zone delineation after receipt of the Final Sampling and Analysis Plan by Barnes and Jarnis.

4.3 Decontamination

4.3.1 Heavy Equipment Decontamination

A temporary equipment decontamination pad will be constructed at each soil removal site and will be equipped with a portable water tank or truck and a high-pressure hot water washer. Each pad will be constructed of an impervious barrier of polyethylene sheeting having a minimum thickness of 30 mils, with 8" x 8" timbers forming a berm at the perimeter. Steel grating will span the pad to receive the equipment. An electrical sump pump will be placed at the lowest point inside the pad, and all rinsate will be pumped into 55-gallon drums. Each pad will be sized so as to accommodate the largest piece of equipment to be used at each site. Any solids which accumulate in the pad will be placed into 55-gallon drums. All drums will be labeled and equipped with resealable lids.

At the conclusion of each removal action, the collected rinsate and solids will be characterized and disposal arrangements will be made. At the conclusion of the project, the materials used to construct the pad will be handled and disposed of along with the PPE.

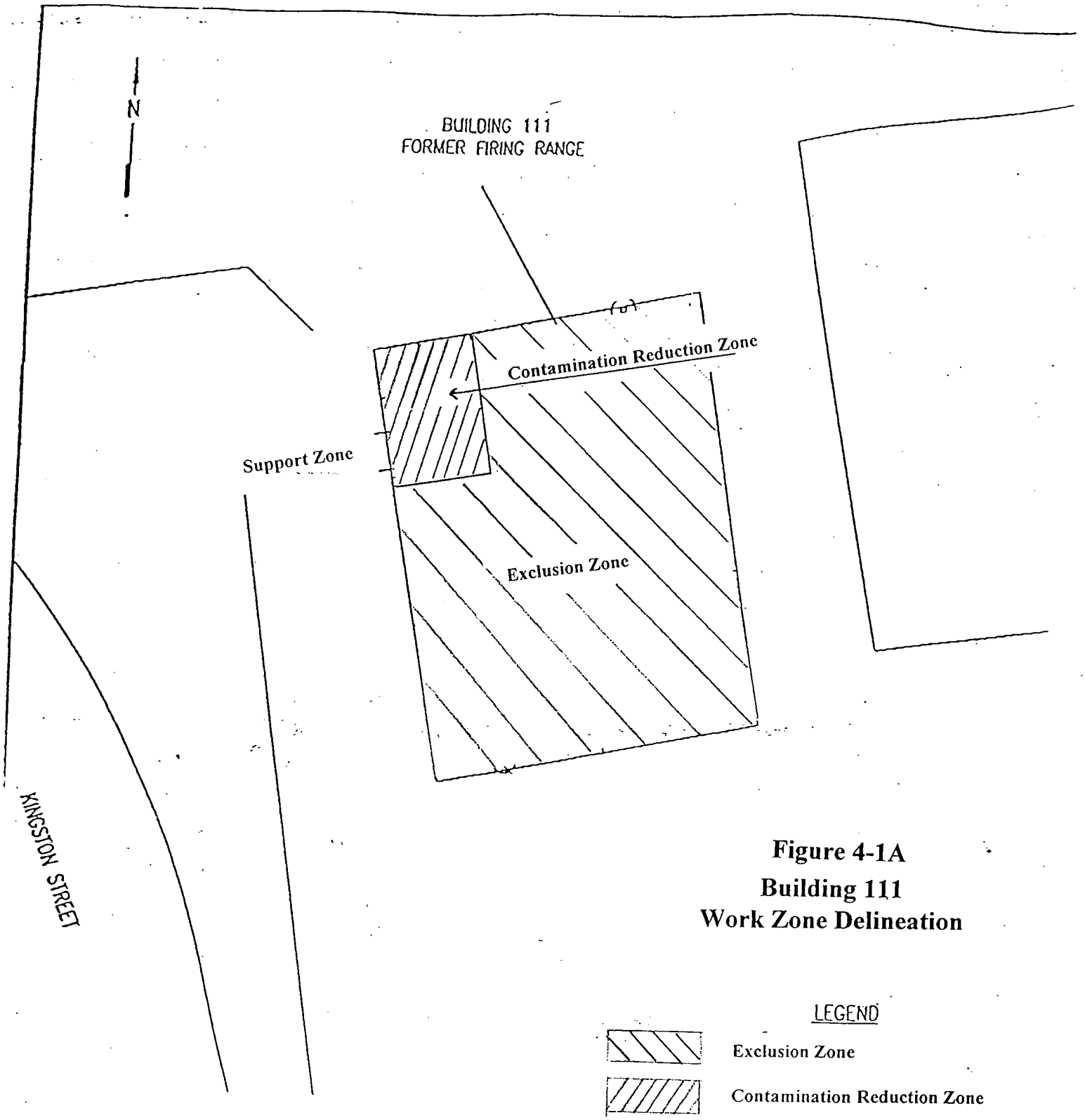


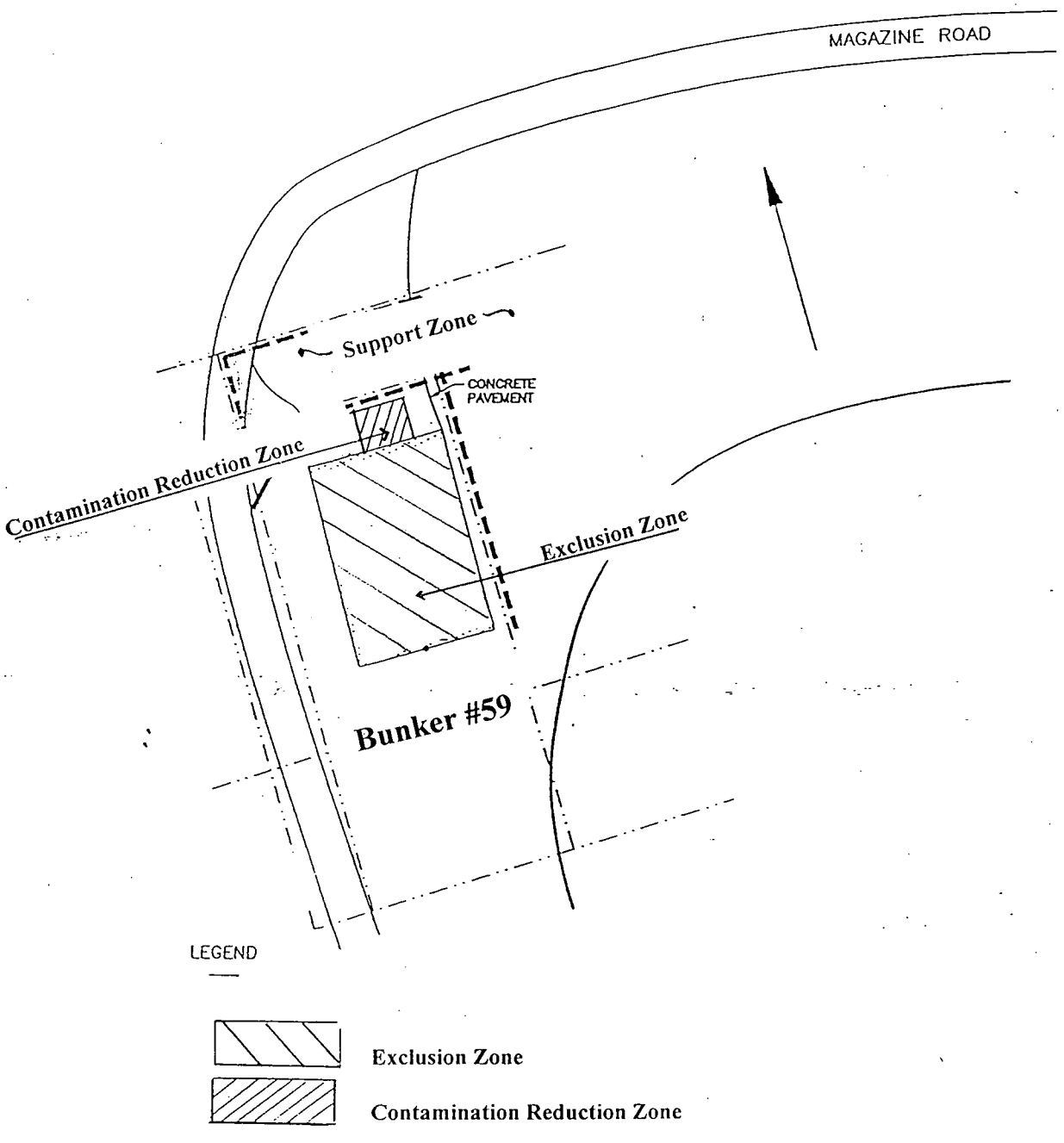
Figure 4-1A
Building 111
Work Zone Delineation

LEGEND

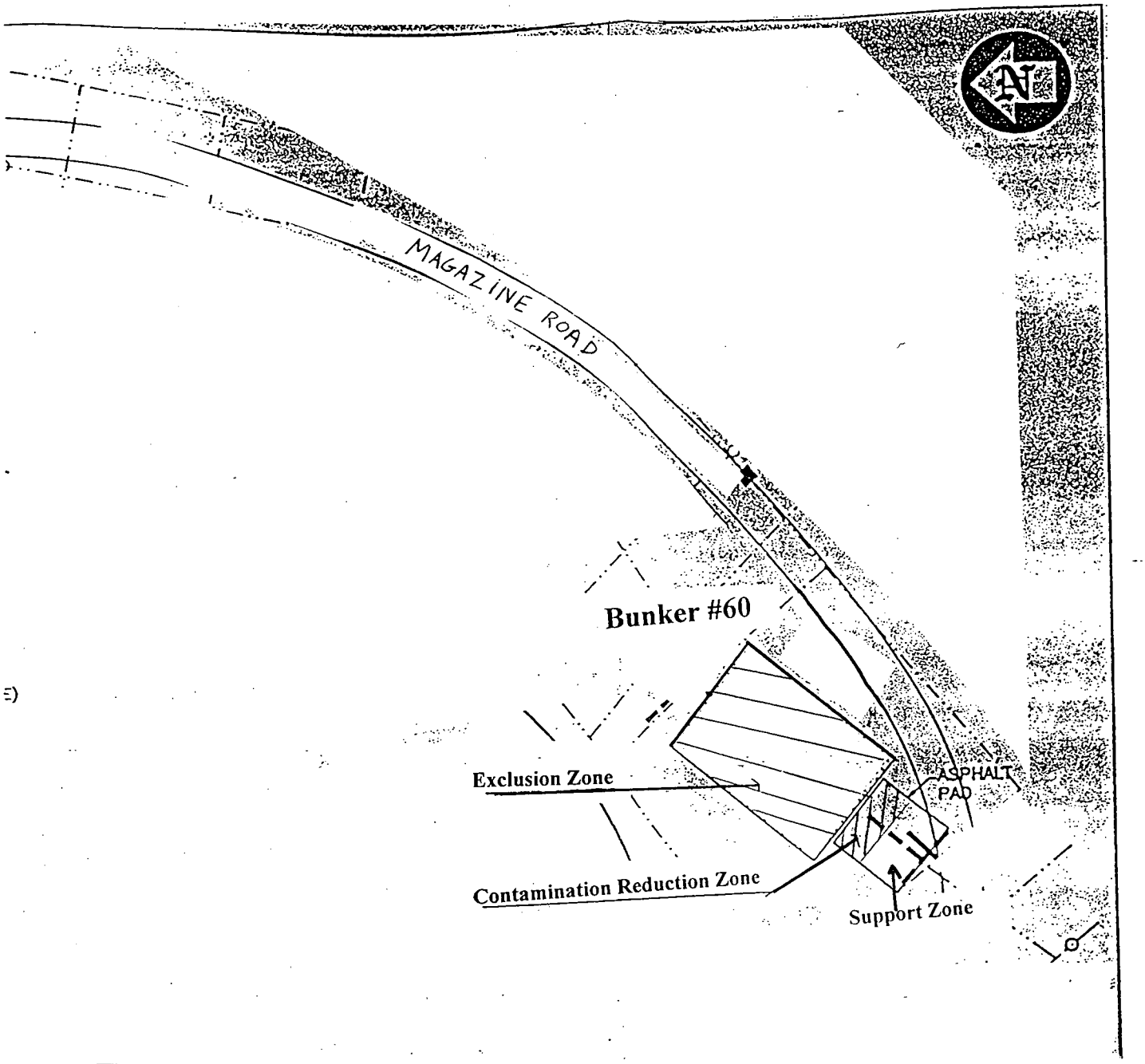
Exclusion Zone

Contamination Reduction Zone

Foster Wheeler Environmental Corp.	NAVAL CONSTRUCTION BATTALION CENTER DRAFT EBS PHASE II REPORT DAVISVILLE, RHODE ISLAND	Figure 4-1A Building 111 Work Zone Delineation September 19, 1996 LAB



Foster Wheeler Environmental Corp. September 19, 1996 JS/LAB	Figure 4-2A **Bunker #59** **Work Zone Delineation**



Exclusion Zone

Contamination Reduction Zone

CALF PASTURE POINT MUNITIONS BUNKERS
NCBC DAVISVILLE, R.I.

Foster Wheeler Environmental Corp.

September 19, 1996
JS/LAB

FIGURE 4-2B'

Bunker #60
Work Zone Delineation

4.3.2 Hand-Held Equipment and Personnel Decontamination

Personnel and hand-held equipment leaving the exclusion zone shall be thoroughly decontaminated in accordance with the SHERP. The following will be provided at the CRC for personnel and hand-held equipment decontamination: four small tubs (two sets of wash and rinse water), scrub brushes, towels, a PPE disposal bag or drum, and respiratory cleaning solution. Non-phosphate detergent and water will be used as the decontamination solution. All receptacles for PPE will be equipped with lids that can be closed to prevent the release of contaminants and the collection of rainfall. At the conclusion of the project, collected PPE and decontamination water will be characterized and disposed of off-site.

4.4 Site 10 Debris Removal

Before proceeding with any work at Site 10, Foster Wheeler will walk the area with a Camp Fogarty representative to determine which, if any, stored materials should not be removed. These materials will be relocated out of the work area by Air National Guard personnel.

Because Site 10 is located within the confines of a firing range Foster Wheeler contacted the Air National Guard at Camp Fogarty regarding the possibility of unexploded ordinance (UXO). Since Site 10 is and has been used solely for pistol and rifle fire, and because the area has been swept previously, there will be no UXO activities required for this work.

The waste piles are overgrown with heavy vegetation and are indistinguishable in their present state. Waste piles cannot be visibly seen from the surface.

Upon notice to proceed from the Navy Foster Wheeler will use heavy equipment to uncover the existing waste piles to delineate the limits of the waste piles and better define their composition. A solicitation will then be issued to procure a subcontractor for solid waste transport and disposal. Based on discussions with commercial waste haulers, solid waste can either be disposed of as is, at a local commercial landfill or brought to a transfer station, pulverized, and used for landfill cover, depending on the composition of the debris. Any material that has economic value will be salvaged. Cost and Navy approval will govern which option is exercised subsequent to review of proposals.

To manage and maintain control of the operation, Foster Wheeler personnel will load out all debris. The debris material, which is characterized as a solid waste, will be visually inspected as it is loaded. If materials are discovered that are suspected to be hazardous, Foster Wheeler will notify the Navy in writing and wait for further direction. Based upon review of the Draft RI/FS, all of the material scheduled for disposal at Site 10 is thought to be non-hazardous. It should be noted that a change in the composition of the waste at Site 10 would affect the schedule and costs significantly.

Trucks will be loaded for transportation using a front end loader and it is estimated that roughly 200 cubic yards per day will be removed from the site. Excavation outside of the waste piles will be prohibited. No confirmatory sampling or backfilling is planned. The excavations that will be performed at the site are expected to be shallow and do not present a safety hazard. In addition, the site area will be secured by a fence. No revegetation is required. The access gate will be secured at the end of each shift and at the completion of the work.

4.5 Building 111

Foster Wheeler has determined through the Design Navy Technical Representative that none of the miscellaneous materials stored in Building 111 will be salvaged. The materials will be triple wash/rinsed and disposed of as construction debris in accordance with Section 5.0.

Wipe sample results provided by EA Engineering indicate lead dust existing within Building 111 (refer to Appendix D). The building has been used as an armory since 1987. The formerly locked vault existing in Building 111 has been accessed by the ROICC. No previous sampling has been conducted in the vault. Wipe samples will be collected to determine if lead dust exists in the vault. The door to the vault will remain closed until results of analysis are received so as not to cross contaminate the vault with lead dust from other areas of the building. If sample analysis shows lead levels exceeding the clean up criteria on any surface, the vault will be decontaminated using the procedure outlined below. Confirmatory samples will be collected from locations previously sampled and analyzed for total lead.

Foster Wheeler will triple wash/rinse the interior of the Building 111 using a high pressure washer and a solution of one part Ledizolv and five parts water. An MSDS for Ledizolv is included as an appendix to this Work Plan. Decontamination water will be collected using a wet vacuum and containerized in 55 gallon drums.

Confirmatory wipe sampling will be performed at the locations of pre-decontamination sampling performed by EA Engineering as shown on Figure 4-1 and in Appendix D. Confirmatory sample results will be reviewed by the Navy before any further cleaning will occur. This procedure will be repeated until the results of confirmatory sample are below the clean up criteria, or until the Navy determines that cleaning efforts shall cease.

4.6 CPPMB

Wipe sample results provided by Halliburton NUS indicate lead dust existing within the three bunkers located at CPPMB (refer to Appendix D). However, because the sample analyses for lead were not specifically detailed in the Study Area Screening Evaluation Report (September 1984), Foster Wheeler will collect and analyze additional wipe samples in accordance with Table 2-1. HNUS sample locations are shown on Figure 4-2.

The bunkers have been accessed by torch burning through the welds at the doors with the assistance of the BRAC Cleanup Team. All requirements outlined in the final Addendum No. 3 to the SHERP regarding the use of torches were adhered to. There are no materials presently stored inside that should be saved.

During a site walk with the Navy on August 15, 1996, it was determined that Bunker 339 will not be decontaminated. Instead Bunker 339 will be added to the scope of work for demolition.

The interior of Bunkers #59 and #60 will be triple washed/rinsed using a high pressure washer and a solution of one part Ledizolv and five parts water. Decontamination water will be collected using a wet vacuum and containerized in 55 gallon drums.

Confirmatory wipe sampling will be performed at the locations of pre-decontamination sampling performed by Foster Wheeler. Confirmatory sample results will be reviewed by the Navy before any further cleaning will occur. This procedure will be repeated until the results of Confirmatory sample are below the clean up criteria or until the BRAC Cleanup Team determines that cleaning efforts shall cease.

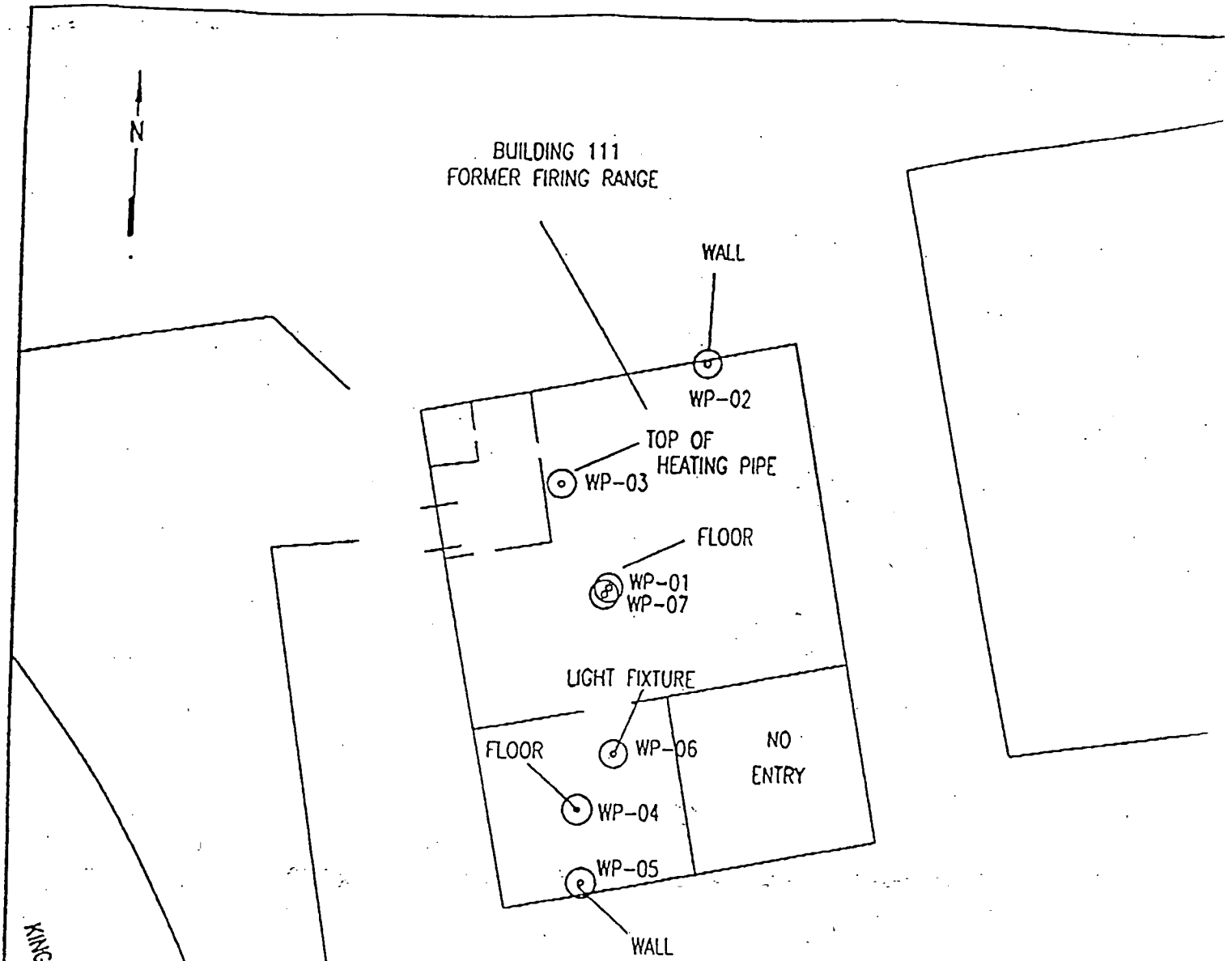


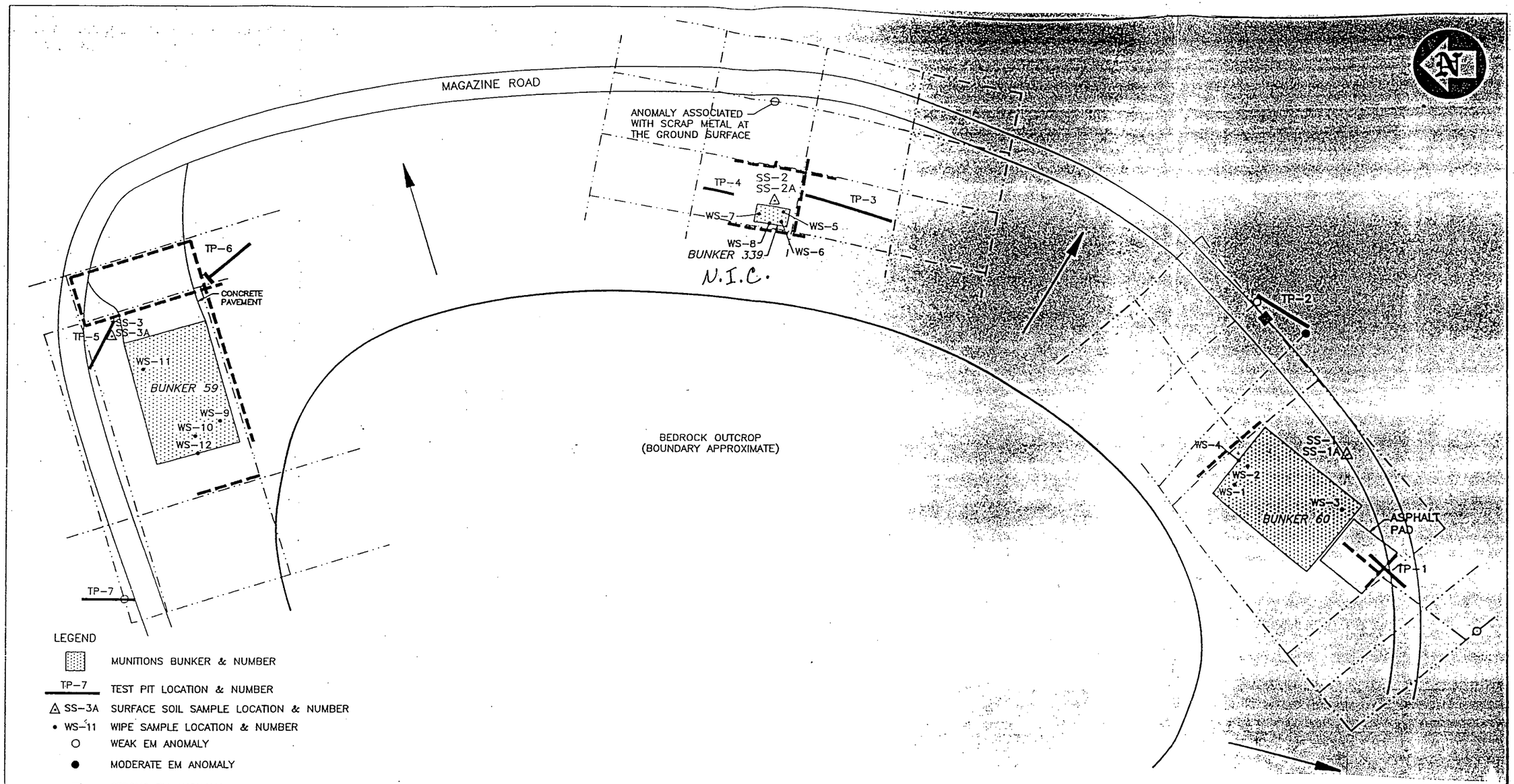
Figure 4-1
Wipe Sample Locations
Building 111

LEGEND

⊙ WIPE SAMPLE

FILE: F:\PROJECTS\29600.60\2290\GOODYEAR-69.DWG

EA ENGINEERING, SCIENCE, AND TECHNOLOGY			NAVAL CONSTRUCTION BATTALION CENTER DRAFT EBS PHASE II REPORT DAVISVILLE, RHODE ISLAND			REVIEW ITEM 69 BUILDING 111 SAMPLE LOCATION MAP	
PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT NO	
JMC	KTS	JFW	JMC	NOT TO SCALE	4-1-96	29600.60.2290	



CALF PASTURE POINT MUNITIONS BUNKERS			
NCBC DAVISVILLE, R.I.			
DRAWN BY:	R. SARGENT	REV.:	0
CHECKED BY:	G. GLENNON	DATE:	06 APR 94
SCALE:	1" = 40'	CONTRACT NO.:	N62472-90-D-1298

FIGURE 4-2
WIPE SAMPLE LOCATIONS
CALF PASTURE POINT
MUNITIONS BUNKERS

Upon Navy and Regulator concurrence that the cleanup is complete, the doors to the bunkers will be welded shut.

4.7 Demolition of Various Buildings

A solicitation has been issued to procure a subcontractor for demolition of the forty-two buildings. The scope of work will include asbestos abatement (non-friable), salvage of 120 window frames and 25 light fixtures, demolition of forty-one metal buildings, salvage/disposal of metal debris, demolition of forty concrete slabs and foundations to one foot below grade, disposal of concrete debris and disposal of miscellaneous construction debris. Demolition and removal of Bunker #339 will be added to the scope of work for demolition after award of subcontract. The selected demolition contractor will submit a Demolition Work Plan and a Safety and Health Plan within two weeks of award of their subcontract. Both documents will be submitted to the Navy for approval prior to initiating demolition. Before any demolition work is initiated, Foster Wheeler will confirm that the Navy has completed all of the historical records requirements for the Quonset huts.

4.8 Lead Contaminated Soil Removal

Based on the Navy Statement of Remediation Services dated April 24, 1996, there are twenty-five (25) buildings identified where removal of lead contaminated soils is required. These buildings are B-11, 363, T2, T3, T4, T7, T11, T13, T15, T16, T19, S82, S83, S84, S102, S110, S118, C118A, T5, T6, T8, T17, T18, S103, and S104. Barnes and Jarnis have not completed their additional sampling effort as of this writing and, therefore, this scope of work is subject to change.

Lead contaminated soil removal will commence only after the demolition of each building cluster is complete. This approach will recover any lead paint inadvertently dispersed during demolition.

Prior to excavation, Foster Wheeler will collect loose paint chips by raking and/or vacuuming the areas around the buildings. Paint chips will be containerized in 55-gallon drums, labeled, and staged on-site for appropriate disposal. This effort is planned to reduce the TCLP Lead content in soils prior to soil disposal.

Prior to beginning excavation, work areas will be protected from soil erosion and storm water run off by installing hay bales around the work area as shown typically on Figure 4-3. These materials will be removed after backfilling and hydroseeding is complete. In the event that hydroseeding is not complete due to early winter conditions, hay bales will remain in place throughout the winter. The hay bales will be managed in the same manner as the soil. Hay bales will be sampled for waste characterization and analyzed for TCLP lead at a frequency to be determined by the disposal facility.

After removal of surficial paint chips, Foster Wheeler will excavate lead contaminated soils from around the perimeter of the building pods identified by Barnes and Jarnis as having total lead concentration greater than 500 ppm, the cleanup criteria determined by the Navy in accordance with the Lead-Free Standard for soils as established by RIDEM (R23-24.6-PB, amended August 1995, Section B.2.4).

Site zones will be used in preparation of excavation and are intended to control the spread of contamination throughout NCBC Davisville and off-site roadways. Specific zones (an exclusion zone, a contamination reduction zone, and a support zone) will be established for each work site. Typical site zones will be depicted in the final SHERP. Note that the SHSO and Project Superintendent may adjust the boundaries of the specific zones prior to commencement of work. Should the configurations of the zones change, the changes will be incorporated into the SHERP. A description of each zone is as follows:

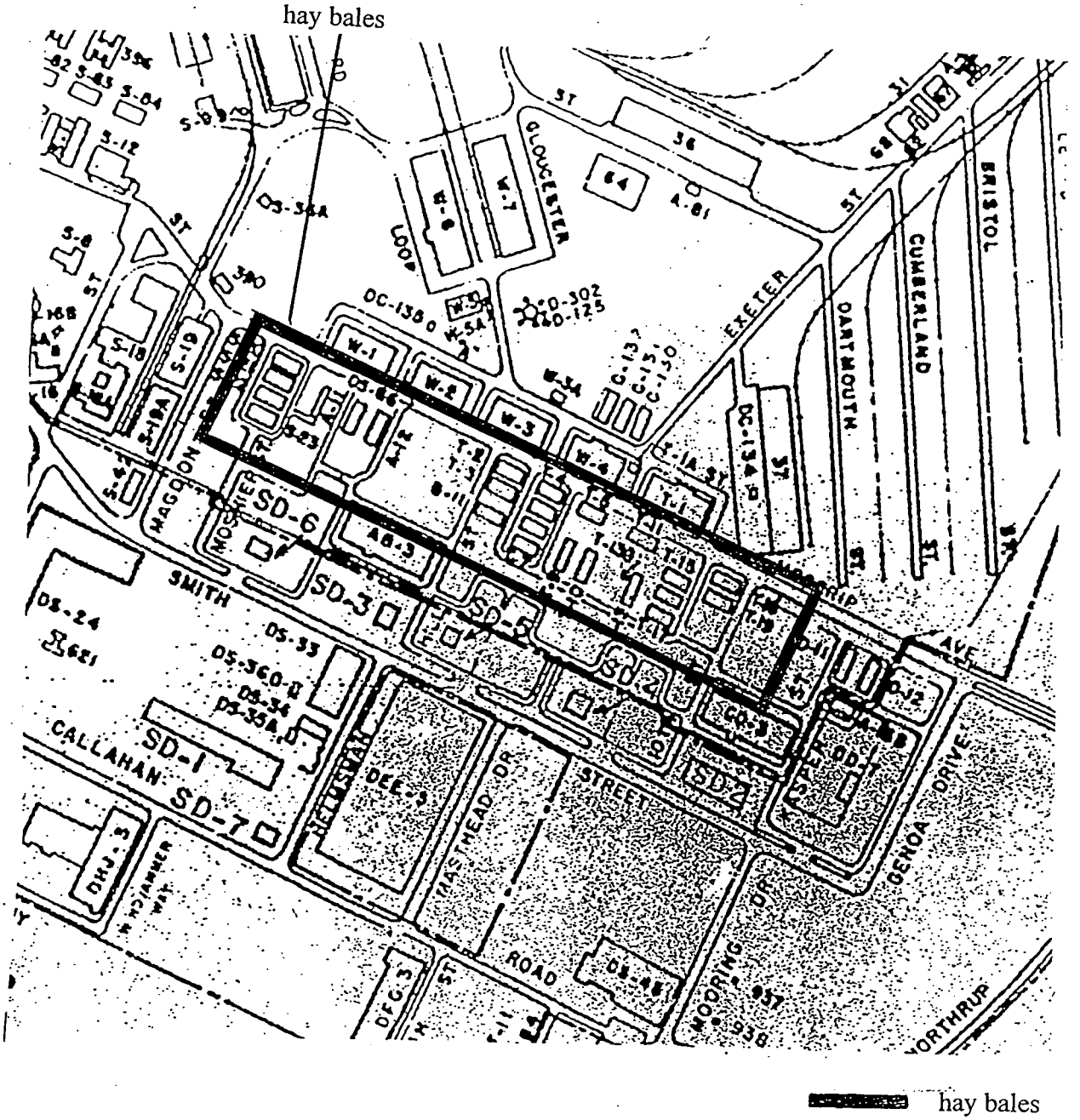


Figure 4-3
Typical Location
of Hay Bales

- All intrusive activities which may involve exposure to hazardous materials and/or conditions will be contained within an exclusion zone (EZ). This zone will be clearly delineated by a fence, tape, cones, or other means. The area will be prepared to accommodate all excavation activities, field personnel, and emergency equipment.

- The area just beyond the EZ is called the contamination reduction zone (CRZ). The CRZ contains the contamination reduction corridor (CRC) which provides an area for decontamination of heavy equipment, hand-held equipment, and personnel. The CRC will be used for EZ entry and egress in addition to access for heavy equipment and emergency support services.

- The support zone (SZ) is the uncontaminated area following the CRZ and will be the field support area for most operations. The SZ provides for field team communications and staging for emergency response. Appropriate sanitary facilities and safety equipment will be located in this zone.

As established in the SHERP, the initial level of personal protective equipment (PPE) will be modified Level D.

The removal of soil shall consist of excavating a three foot wide by six inch deep trench around the immediate perimeter of the building using a rubber tire backhoe. Soils will be loaded into roll-off containers for disposal. For each roll-off container, a composite sample will be collected and analyzed for TCLP Lead to determine whether the soil will be disposed of as RCRA waste or as special waste at a reduced cost.

Confirmatory sampling will be performed to determine if the excavated area is within the lead safe soil standard for Rhode Island (<500 ppm). A sampling plan for this work is described in Section 6 of this Plan. Sample results will be confirmed by the Navy before backfilling of any sites will occur.

Foster Wheeler will backfill concrete slab excavations and lead contaminated soil excavations upon receipt of satisfactory results from the confirmatory soil sampling and approval of the Navy. Excavations will be backfilled and compacted to 85% the maximum dry density with suitable off site borrow material and will approximate the existing contours. The excavation and backfilling operations will be performed in accordance with Navy Specification 02315, entitled "Site Work, Excavation and Fill". Site restoration will include three inches of topsoil and hydroseed. Every attempt will be made to vegetate prior to the on set of winter conditions. If vegetation does not occur this year, hydroseeding will be performed in the spring of 1997 as soon as weather permits. Topsoil and vegetation will be installed in accordance with Navy Specification Section 02921, "Turf".

4.9 Utility Requirements

Lead removal at Building 111 and CPPMB as well as equipment decontamination will require an electric generator, a portable pressure washer and a portable water truck. Water will be obtained from hydrants located throughout the base via arrangement with the Rhode Island Port Authority.

5.0 TRANSPORTATION AND DISPOSAL

5.1 Objective

The objective of this section is to facilitate the proper handling, on-site management, transportation, and disposal of hazardous and non-hazardous wastes generated during the removal actions. This objective will be achieved through compliance with federal, state, and local regulations. This section identifies the waste streams and waste management responsibilities of Foster Wheeler, the Navy, transporters, and disposal facilities. This section also describes the equipment and waste management practices that will be implemented for sampling, analyzing, classifying, segregating, staging, storing, packaging, transporting, and disposing of the generated wastes.

5.2 Naval Assistance

The ROICC will review all submittals designated for Navy approval. These submittals will include disposal facilities operating permits, waste analysis and classifications, waste profile/approval forms, Land Disposal Restriction (LDR) certifications, manifests/shipping papers, and manifest discrepancy and exception reports. After the submittals have been approved by the ROICC, no re-submittals will be given consideration unless accompanied by a written justification as to why a change is necessary. Foster Wheeler will rely on the Navy to provide final waste characterization, sign as the generator, and track all waste streams leaving the site. Treatment/disposal facilities and transporter approval will also be made by the Navy.

5.3 Waste Streams

The estimated quantities and analyses of waste streams generated from the removal actions are indicated in Table 5-1. Any analyses, other than those listed below, necessary for disposal of each waste stream will be performed by hazardous waste materials transporter. The results of such analyses will be forwarded to the Contracting Officer's Representative in accordance with the Submittal Register.

Table 5-1

Estimated Quantities and Analyses for Transportation and Disposal

Waste Stream	Estimated Quantity	Planned Analyses
1. Lead soils	600 tons	TCLP Lead
2. Lead Paint Chips	30 drums	TCLP Lead
3. Site 10 Debris	1850 CY	None Planned
4. Decontamination Sediment	two 55-gal drums	TCLP lead
5. Decontamination Water	500 gallons	Total lead
6. PPE, 30 mils polyethylene sheeting, and decon materials	ten 55-gal drums	TCLP lead

5.4 On-Site Waste Management

5.4.1 Containerization

All waste streams will be evaluated prior to generation to determine the most cost-effective method of handling and storage. All containerized wastes will be stored in U.S. DOT specification containers. Bulk and non-bulk containers will be considered based on estimated volumes of waste to be generated. All waste destined for off-site disposal will be stored in U.S. DOT specification containers. This will eliminate the need to re-package for off-site shipment material.

All containers used for storage will conform to 49 CFR 178 manufacturing requirements. Decontamination water will be stored in U.S. DOT specification 1A1 containers. Sediment and PPE will be stored in 1A2 containers with removable heads. Excavated soils will be containerized in roll-offs.

Drummed waste will be staged in the previously established staging area east of Building C130. The staging area has a containment berm and is impermeable. Roll-off containers for lead contaminated soil will be covered and staged in the immediate work area until off-site disposal occurs. It is anticipated that roll-offs will be removed immediately as they are filled.

5.4.2 Hazardous Waste Management

The federal hazardous waste regulations and Rhode Island Rules and Regulations for Hazardous Waste Management characterize wastes with lead toxicity concentrations greater than 5 mg/l as a hazardous wastes D008. RIDEM's Division of Air and Hazardous Waste Management has adopted the RCRA 90-day storage requirements, as set forth in 40 CFR Parts 262.34 and 264.175. Lead contaminated wastes streams being stored on-site will adhere to the 90-day storage requirements until off-site disposal or until the waste streams are determined not to be a hazardous waste based on analytical results or generator knowledge. Pursuant to the FFA which provides that the parties recognize CERCLA Section 121(e)(1), hazardous waste storage requires compliance with only the substantive 90-day storage requirements. Storage beyond 90 days is not anticipated. The 90-day storage requirements are presented below:

- All stored hazardous wastes will be removed from the project site for off-site disposal within 90 days of first being accumulated.
- Each container will be marked with the date on which the accumulation period begins.
- All hazardous waste storage areas will be marked with signs stating "Hazardous Waste".
- For waste containers containing free liquids, the container storage areas will have a containment system capable of collecting and holding spills, leaks, and precipitation. The containment system will have an impervious base underlying the containers which is free of leaks, gaps, or cracks. The capacity will be sufficient to contain 110% of the entire volume of the largest container. Run-on into the containment system will be prevented. Spilled or leaked waste and accumulated precipitation will be removed from the containment system in as timely a manner as necessary to prevent overflow of the containment system.
- For waste containers which do not contain free liquids, a secondary containment system will not be provided. The storage area, however, will be designed and operated to drain and remove liquid resulting from precipitation, or the containers will be elevated and removed from contact with accumulated precipitation.
- Containers holding reactive or ignitable waste will be stored at least 50 feet from the property line.
- Each container of hazardous waste will be marked and labeled in accordance with U.S. DOT requirements under 49 CFR 172.

- Hazardous Waste Containers will meet the U.S. DOT requirements under 49 CFR Parts 173, 178, and 179.
- Each container of hazardous waste of 110 gallons or less will be marked in accordance with U.S. DOT requirements under 49 CFR 173.204 with the following:
  HAZARDOUS WASTE - FEDERAL LAW PROHIBITS IMPROPER DISPOSAL. If found, contact the nearest police or public safety authority or the Environmental Protection Agency.
  Generator Name and Address:
  Manifest Document Number:
- Waste will be placed in containers in good condition. If a container begins to leak, the contents will be transferred from the defective container into a good container.
- The containers used will be made of, or lined with, a material that does not react with and is compatible with the waste.
- The containers will remain closed during storage except when waste is being added to or removed from the containers.
- The containers will not be opened, stored, or handled in a manner which will cause the container to leak.
- The containers will be labeled accurately to identify their contents.
- The storage area and containers will be inspected at least weekly to identify leaks and/or deterioration. Inspection reports will be documented in writing with originals posted in the area and copies left in a separate file.
- Incompatible wastes will not be placed within the same container or in an unwashed container that previously held an incompatible waste or material.
- A container holding a waste that is incompatible with other wastes or materials will be segregated from the other materials or protected by means of an impermeable dike, wall, berm, or other devise.
- Upon project closure, all hazardous waste and hazardous waste residues will be removed from the containment system. The containment system will be decontaminated and all wastes will be disposed of off-site at a permitted disposal facility.
- Appropriate hazardous training will be provided to site personnel as per 40 CFR 265.16.
- A Contingency Plan will be developed to handle fire, spill, or emergency, and appropriate emergency response equipment (spill cleanup materials, fire protection equipment, communication devices, and alarms to notify workers of an emergency) will be present as required under 40 CFR 265 Subparts C and D.

During the removal actions waste streams may be generated intermittently such that containers will be remain partially filled. RIDEM's Division of Air and Hazardous Waste Management has adopted the RCRA 90-day storage requirements, as set forth in 40 CFR Parts 262.34(c)(1). This section provides that a generator may accumulate a much as 55 gallons of hazardous waste in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste for an indefinite period of time provided that:

- if a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this part.

- the owner or operator uses a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

- the container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

In addition, Rhode Island Rules and Regulations for Hazardous Waste Management provides that satellite storage of accumulated liquids requires secondary containment. However, satellite storage of liquids is not required to be at or near the point of generation. Therefore, storage at a building with secondary containment which is located away from the area of activities is acceptable. Also, note that Rhode Island state policy provides that if satellite containers are also to be used as the shipping containers, the 90-day labeling as mentioned above is necessary.

5.5 Transportation and Disposal Plan

Upon characterization of each waste stream, transportation and disposal paperwork will be submitted to the Contracting Officer's Representative in accordance with the Submittal Register and will include the following information:

- Copies of all permits and contaminant level limitations for the receiving facilities
- Written confirmation from each of the disposal facilities indicating that they will accept the materials generated
- Waste Transporter:
  - Name:
  - Address:
  - EPA Transporter Identification Number and/or State Permit Number:
- Out-of-State Waste Transporter:
  - Name:
  - Address:
  - EPA Transporter Identification Number and/or State Permit Number:
- EPA Hazardous Waste Generator Identification Number: RI6170022036
- Proof of permit, license, or authorization to transport oil and hazardous materials in all affected states

For every load disposed of at the approved disposal facilities, copies of the manifests, bills of lading, and tare and gross weight slips will be provided to the Contracting Officer's Representative.

5.6 Transportation and Disposal Requirements

This section identifies the procedures that the Foster Wheeler team will follow in an effort to transport and dispose of hazardous and non-hazardous waste streams according to regulatory requirements. The proposed treatment, storage and disposal facilities for generated waste streams are presented in Table 5-2 below:

Table 5-2

Disposal Facilities and Technologies

Waste Stream	Disposal Facility	Technology
Decontamination water	Cecos Niagara Falls, NY	Wastewater Treatment
Site 10 Debris, miscellaneous construction debris	Central Landfill or other local facility	Commercial Landfill
Soil (Failing TCLP Lead) and Decontamination Sediment	Chemical Waste Management Model City, NY	Secure Chemical Landfill
Lead Paint Chips	Chemical Waste Management Model City, NY	Severe Chemical Landfill
Soil (Passing TCLP Lead)	Turnkey, NH	Subtitle D Landfill
PPE, 30 mils polyethylene sheeting, and decon materials	Chemical Waste Management Model City, NY	Secure Chemical Landfill

5.6.1 Hazardous Waste

Waste streams which are identified as a hazardous waste must comply with the disposal requirements provided in Rhode Island Rules and Regulations for Hazardous Waste Management Section 5. These requirements are similar to federal hazardous waste regulations provided in 40 CFR 262. The regulations provide for EPA identification numbering, manifesting, packaging, labeling, marking, placarding, record keeping, and reporting requirements. Packaging, labeling, marking, and placarding requirements reference U.S. DOT requirements provided in 49 CFR 171 through 178.

5.6.2 U.S. DOT Requirements

The off-site transportation of EPA designated hazardous wastes must comply with U.S. DOT regulations as set forth in 49 CFR 171 through 178. These regulations provide for training, shipping paper, packaging, marking, labeling, placarding, emergency response information, and shipper requirements.

5.6.3 EPA Hazardous Waste Generator Identification Numbers

The anticipated hazardous wastes and regulated wastes accumulated during the removal actions will be disposed of using the Navy's EPA Hazardous Waste Generator Identification Number RI6170022036. The Navy will be responsible for obtaining and supplying to Foster Wheeler any additional Generator Identification Numbers required. Transporter and disposal facility identification numbers will be obtained and verified by Foster Wheeler.

5.6.4 Transportation Routes

The transportation routes that will be taken when the hazardous and non-hazardous wastes are removed from the sites will be dependent upon the locations of the Navy-approved disposal facilities, and will likely be developed by the transportation and disposal subcontractor.

5.6.5 Laboratory Sample Shipment

Off-site laboratory services will be used for this project. Generally, EPA designated hazardous waste is a U.S. DOT hazard class 9 waste. Although hazardous waste samples undergoing analysis are excluded from regulation under RCRA as per 40 CFR 261.4(d), U.S. DOT Hazardous Material Regulations still would apply in cases where a carrier is used to transport the samples, the laboratory picks up the samples at the site, or Foster Wheeler transports the samples in personal or company vehicles to the off-site laboratory. Site personnel should coordinate with Foster Wheeler waste management personnel approximately five days prior to shipping the first set of samples off-site and two days prior to shipping all subsequent samples. Pursuant to 40 CFR 172 Subpart H, Foster Wheeler policy requires site personnel involved in shipping U.S. DOT regulated material be trained in U.S. DOT regulations.

5.6.6 Land Disposal Restrictions

LDRs prohibit placement of untreated hazardous wastes on or in the land, except in an EPA approved management unit. LDRs specify treatment technologies and treatment standards for hazardous wastes. Foster Wheeler will identify LDRs for site generated wastes and will prepare Generator Land Disposal Restricted Waste Notification and Certification forms required for all off-site hazardous waste shipments. The Notification and Certification forms will be provided to the Navy ROICC for review and signature prior to off-site waste shipments

5.7 Spill Prevention

Every effort will be made, through proper planning and management of the transportation process, to prevent the potential for a spill or release of hazardous substances. However, contingency measures will be in place in the case of such an occurrence. This includes providing personnel, equipment, and materials to control, contain, and cleanup any spilled material that may adversely affect the health of the public or the environment in accordance with 40 CFR 761, Subpart G. Transporters responsible for taking waste materials to the designated disposal facilities will be required to provide and implement their own Emergency Response Plan which will be reviewed and approved by Foster Wheeler prior to the start of work. All vehicles will be inspected prior to leaving the area of contamination for leakage or materials adhering to the wheels or undercarriage. If necessary, vehicles will be cleaned with a high pressure hot water washer to remove contaminated material.

The following equipment will be available at work locations at all times for quick response to unexpected spills:

- Sorbents and spill cleanup materials, including spill control pillows, absorbent booms, packs, and blankets
- 55-gallon containers
- Shovels, brooms, and similar hand tools
- Pressure washer

Additional information relative to spill response can be found in Section 12.12 of the SHERP. A Spill Prevention Control and Countermeasure (SPCC) Plan, prepared according to 40 CFR Part 112, will not be required for this project.

6.0 FIELD SAMPLING AND LABORATORY TESTING

6.1 Overall Objective

The proposed sampling effort for each site is primarily for confirmatory sampling and analysis upon completion of site decontamination or excavation activities. Other site related sampling activities will include waste characterization for disposal purposes, wipe sampling in the vault of Building 111 where no preliminary sampling was performed, and personal air monitoring for lead during lead contaminated soil removal. A summary of sampling activities are included in Table 6-1.

The removal actions to be performed at NCBC Davisville require field sampling and analysis data in support of the decision making process. To be valuable, this data must accurately describe the characteristics and concentration of constituents in the samples analyzed. The field sampling program will ensure that the chemical data meet the Navy Installation Restoration Laboratory Quality Assurance Guide dated February 1996 (which replaces Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program, NEESA 20.2-047B) requirements for completeness, precision, accuracy, representativeness, comparability, dependability, and legal defensibility.

Table 6-1

Summary of Sampling Programs, QC Requirements, and Analytical Procedures

Sampling Program /Analysis [1]	Method	Field Samples	Field Dup.	MS/Lab Dup.	Equip. Blanks	Field Blanks	Reporting Limit	Regulatory Criteria
Wipe Sampling								
Building 111 Vault Pre-Decon, Total Lead	SW846 6010	5	1	1/1	-	1	3.0 $\mu g/ft^2$	20 $\mu g/ft^2$
Building 111 Confirmatory, Total Lead	SW846 6010	12	1	1/1	-	1	3.0 $\mu g/ft^2$	20 $\mu g/ft^2$
CPPMB #59,#60, Pre-Decon, Total Lead	SW846 6010	10	1	1/1	-	1	3.0 $\mu g/ft^2$	20 $\mu g/ft^2$
CPPMB #59,#60 Confirmatory, Total Lead	SW846 6010	10	1	1/1	-	1	3.0 $\mu g/ft^2$	20 $\mu g/ft^2$
Soil Confirmatory Sampling								
Total Lead	SW846 6010	25	3	1/1	8	2	10 mg/kg	500 mg/kg
Waste Disposal Characterization								
Paint Chips, TCLP Lead	SW846 1311/6010	1	-	1/1	-	-	0.1 mg/L	5 mg/L
Soil/Sediment, TCLP Lead	SW846 1311/6010	25	-	2/2	-	-	0.1 mg/L	5 mg/L
Decon Water, Total Lead	SW846 1311/6010	1	-	1/1	-	-	0.1 mg/L	5 mg/L
Backfill Material Sampling								
Soil, Total Lead	SW846 6010	2	-	2/2	-	-	10 mg/kg	100 mg/kg

Notes: 1. Field sample frequencies are identified in Table 2-1.

6. 2 Data Quality Objectives

Chemical data generated for this project will be used to ensure cleanup goals are achieved, and to characterize materials in order to determine applicable regulatory and disposal requirements.

All analyses will be performed in strict accordance with USEPA SW-846 methods. Detection limits will be sufficiently below action levels and regulatory criteria so as to provide accurate enough data to determine if the action levels have been achieved. Sample collection will utilize approved techniques that will ensure that the sample will be representative of current environmental conditions. QA/QC samples will be collected and analyzed for the purpose of assessing the quality of the sampling effort and of the analytical data. Table 6-1 indicates the number of samples, number of QA/QC samples, analytical methods, and reporting limit requirements. All laboratory analysis will be performed by National Environmental Testing, Inc. (NET)-Cambridge Division, of Bedford, MA. NET-Cambridge Division is both a Navy IRP and RI Certified Laboratory which uses EPA approved methodologies. NET's lab certification will remain current throughout the duration of the project. Specific information concerning NET's certifications has been previously submitted. Additional copies will be forwarded if required. The laboratory quality control criteria are identified in the NET's laboratory quality assurance plan included in Appendix E. Analytical results will be provided to the Contracting Officer's Representative within 24 hours of their receipt. The laboratory will supply a full data package in order to support any data review or validation requirements. Boundaries of the control area will not be removed until the site is determined to be satisfactorily clean by the Contracting Officer's Representative. All health and safety personal air monitoring samples will be analyzed by NET's Cedar Falls Division. NET-Cedar Falls Division is an American Industrial Hygiene Association (AIHA) accredited laboratory.

6.3 Sampling Procedures

Samples will be taken utilizing the following procedures. QA/QC samples will be collected as identified in Section 6.4. All sampling equipment will be decontaminated prior to use by the procedure identified in Section 6.5. All sample identification and labeling, custody procedures, sample tracking, and sample packing and transportation will be performed in accordance with procedures identified in Sections 6.6 to 6.9. Sample containers, preservatives, and holding time requirements are included in Table 6-2.

Table 6-2

Sample Containers, Preservatives, and Holding Times

Media/Analysis	Container	Preservative	Holding Time [1]
Wipe Sampling			
Total Lead	4 oz. wide mouth jar with deionized water soaked gauze wipe	Ice to 4° C	Analyze within 6 months
Solid Sampling			
TCLP Lead	4 oz. wide mouth jar	Ice to 4° C	TCLP extraction within 180 days, analyze extract within 180 days
Total Lead	2 oz. wide mouth jar	Ice to 4° C	Analyze within 6 months.
Water Sampling			
Total Lead	1 liter polyethylene container	Ice to 4° C , HNO_3 to pH <2	Analyze within 6 months

Notes: 1. Holding times are measured from the time of sample collection.

6.3.1 Wipe Sampling Procedure

Wipe sampling will be performed both before building decontamination, in order to characterize the lead contamination prior to decontamination, and after decontamination (confirmatory) in order to verify that clean-up goals have been achieved. Confirmatory wipe samples will be collected from Building 111 and the Calf Pasture Point Bunkers at sample locations identical to the locations of pre-decontamination sampling performed during previous site investigations. Exact location are shown on Figures 4-1 and 4-2.

Pre-decontamination samples will be collected from the locked vault in Building 111 to determine if decontamination is necessary. Samples will be collected at a frequency of 1 per 100 square feet giving a total of five samples. One sample will be collected from each wall and one from the floor. Locations will be determined after the vault is opened by a locksmith and identified in a field notebook. If pre-decontamination results indicate decontamination is required, confirmatory samples will be collected at a location adjacent to the pre-decontamination samples.

Wipe samples will be taken using laboratory supplied gauze pads soaked in deionized water. Samples will be taken by thoroughly wiping a one square foot area utilizing a template to define the area. A copy of the wipe sampling procedure is included in Appendix F. Samples will be placed in appropriate labeled containers and analyzed for total lead.

6.3.2 Confirmatory Soil Sampling

After trench excavation is complete as described in Section 4.8, confirmatory samples will be collected from each building area in order to confirm that clean-up goals have been achieved. One sub-sample will be collected from the bottom of the excavation for each of the four sides of the building utilizing a stainless steel spoon. The four sub-samples will be placed in a stainless steel bowl and mixed thoroughly for a total of one composite sample per building. Samples will be placed in appropriate labeled container and analyzed for total lead. If results do not indicate that clean-up goal has been achieved, further excavation will be required. Following further excavation, an additional confirmatory sample will be collected until the sample indicates clean-up goals have been achieved.

6.3.3 Waste Disposal Characterization Sampling

Samples will be taken of excavated soil and site waste in order to characterize the materials for proper disposal. Sampling is anticipated to include excavated soils, paint chips, personal protective equipment, and decontamination sediment and water. All solid waste will be sampled by collecting four sub-samples with a stainless steel spoon. The four sub-samples will be taken at various depths and locations within a drum of drummed solid waste, and from each corner of a roll-off container. The four sub-samples will be placed in a stainless steel bowl and thoroughly mixed for a composite sample. The composite samples will be placed into an appropriate labeled container and analyzed for TCLP lead for solid waste. A grab sample will be taken of the drummed decontamination water. A drum thief will be slowly lowered into the drum and the contents will be placed into the appropriate, labeled sample bottle. The drum thief will ensure that the sample is taken over the entire depth of the drum. The grab sample will be placed into an appropriate labeled container and analyzed for total lead.

6.3.4 Backfill Material Sampling

Backfill material will be tested in order to ensure that the material is not contaminated. A sample will be taken of soil from each borrow source. One sub-sample will be collected from four locations from the borrow utilizing a stainless steel spoon. The four sub-samples will be placed in a stainless steel bowl and

mixed thoroughly for a total of one composite sample. Samples will be placed in appropriate labeled container and analyzed for total lead. An acceptance criteria of 100 ppm total lead will be used in order to ensure that the backfill is not RCRA hazardous for lead.

6.4 Quality Control Sample Requirements

QA/QC samples are analyzed for the purpose of assessing the quality of the sampling effort and of the analytical data. QA/QC samples include field and referee duplicates, equipment blanks, field blanks, and trip blanks. The descriptions below include sampling methodologies, sample frequencies, and the purpose of the samples. A summary of QC sample requirements are included in Table 6-1.

6.4.1 Field Duplicate Samples

Field duplicate samples are multiple grab or composite samples, collected separately, that equally represent a medium at a given location and time. Field duplicates will be collected at a frequency of 10% per sample matrix. For small sampling events where the determination of heterogeneity of the media is not an issue, such as waste characterization sampling, field duplicates will not be collected. Each duplicate sample will be assigned a designated field identification number similar to the other samples collected during that sampling event. There will be no reference to the fact that the sample is a field duplicate. In this manner, the sample will be submitted to the testing laboratory and analyzed as a "blind" duplicate which can then be used to assess the quality of the analytical data generated by the laboratory. Note that the same samples used for field duplicates will be split by the laboratory and used as the laboratory duplicate or matrix spike/matrix spike duplicate (MS/MSD) at a frequency of one for every twenty field samples collected.

6.4.2 Referee Duplicate QA Samples

Referee duplicates are samples which are collected, homogenized, split, and placed into separate containers. Volatile organic compound (VOC) samples, however, are not homogenized and must therefore be collected first as grab samples which are taken separately at the same location and time. Referee duplicates may be sent to a referee QA laboratory if the Navy or regulatory agencies collect split samples or if a special problem occurs in sample collection or analysis. Referee duplicates are not anticipated for this project at this time.

6.4.3 Equipment Blanks

Equipment blanks are samples consisting of a reagent (analyte-free) water collected daily during a sampling event from a final rinse of sampling equipment after the decontamination procedure has been performed. The purpose of equipment blanks is to determine whether the sampling equipment is causing cross contamination of samples. One equipment blank per day per sampling event will collected for this project.

6.4.4 Field Blanks

Field blanks, sometimes referred to as ambient blanks, are samples of contaminant-free media (typically reagent grade water) which are prepared at the site and handled in the field in the same manner as all other field samples. Field blanks are not collected using the same sampling equipment as the field samples. The contaminant-free medium is placed directly in the same type of container, and preserved and stored in the same manner as field samples. A field blank will be collected for wipe samples and for soil confirmatory samples for each set of ambient conditions present during sampling.

6.4.5 Trip Blanks

Trip Blanks are containers of organic-free reagent water that are kept with the field sample containers from the time they leave the laboratory until they are returned to the laboratory. One trip blank will accompany each cooler containing samples to be analyzed for VOCs, and will be stored at the laboratory with the samples. Trip blanks will be analyzed in order to evaluate the effect of ambient site conditions and sample shipment integrity, and to ensure proper sample container preparation and handling techniques. Trip blanks will not be required for this project.

6.5 Equipment Decontamination Procedures

For the Sampling and Analysis program, both disposable and non-disposable sampling equipment may be used. All non-disposible sampling equipment will be decontaminated prior to collecting each sample. The following sequence will be used:

- Remove all visible contaminants using laboratory detergent and potable water.
- Rinse with potable water.
- Rinse with deionized water.
- Rinse with methanol for organic sampling equipment. For inorganic sampling equipment, rinse with 10% nitric acid in water, followed by deionized water.

Decontamination fluids generated will be collected and stored on site for later disposal as specified in Section 5.0.

6.6 Sample Identification and Labeling

The sample identification system that will be utilized for project will assign a unique sample identifier to each sample collected. Data management will be consistent with this sample identification system.

Each sample will be assigned the site ID, a unique code that identifies the media from which the sample was collected, and a sample number. The media identifier and the field sample number will be used to track analytical data. The protocols for assigning field sample numbers are described below.

Each sample collected will have its own identifier, which will apply for the duration of the project. The sample identifier will consist of an alpha-numeric code that will identify: the sample location (or job designation), the type of sample, the sample number, the sample date, and QC sample designation (if applicable).

The sample location will identified as the building number. Alternatively, the job designation will be used: 04

The sample types are:
WP - Wipe Sample
SS - Confirmatory Soil Sample
SW - Soil for Waste Disposal
DW - Decontamination Water
DS - Decontamination Sediment
PP - PPE sample
PC - Paint Chip Sample
BF - Backfill Material

The quality control sample designations are:

EB - Equipment Rinsate
FB - Field Blank
TB - Trip Blank
MS/DUP - Matrix Spike/Duplicate
RD - Referee Duplicate (if required)

Field duplicates will be identified as the sample number multiplied by 100.

For example, when the first wipe sample is being taken from Building 111 on October 09, 1996, the sample identification will be:

111-WP1-100996

If the above sample is a field duplicate, the sample identification will be:

111-WP100-100996

For required daily QC samples, such as an equipment blank taken on October 09, 1996 the sample identification will be:

EB100996

Sample labels will be completed by field personnel. Labels will include the project identification, sample identification, date and time of sampling, sampler, analyses to be performed on the specific sample bottle, type of sample (grab or composite) and preservative (if applicable). Sample label will be filled out completely with indelible ink.

6.7 Sample Custody

To maintain and document sample possession, chain-of-custody (COC) procedures will be implemented. These procedures are necessary to insure the integrity of samples from the time of collection through data reporting. The COC protocol provides the ability to trace possession and handling of samples. A sample is considered under custody if it is/was:

- in a person's possession; or
- in a person's view after being in possession; or
- in a person's possession and locked up; or
- in a designated secure area.

Personnel collecting samples are responsible for the care and integrity of those samples until they are properly transferred or dispatched. Therefore, the number of people handling a sample will be kept to a minimum.

COC records will be completed by the sampler. The sampler will sign the form where indicated and fill in the sample number, date, time, sample location, and analysis for each sample collected. The sample paperwork preparer will check off each sample analysis required on the COC form and check the sample label and COC record for accuracy and completeness.

6.8 Sample Tracking

When transferring custody of samples, individuals relinquishing custody and individuals receiving custody will sign, date, and record the time on the COC form. The COC form documents the transfer of samples from the sampler to the analytical laboratory. When samples are being shipped to the laboratory via courier or shipping company (Federal Express), the company will be indicated as receiving custody. Upon receipt of shipment at the laboratory, a designated sample custodian will accept custody of the samples and verify that information on the sample labels matches the COC form. Pertinent information on shipment, air bill number, pickup, courier, date, and time will be recorded on the COC. It is then the laboratory's responsibility to maintain logbooks and custody records throughout sample preparation and analysis.

6.9 Sample Packing and Transportation

Samples for off-site laboratory analysis will be shipped via overnight delivery service or courier in waterproof coolers using the following procedures. In general, the samples taken for this project will be considered low-level or environmental samples for packaging and shipping purposes. If samples are encountered that contain sufficient concentrations of hazardous materials, Department of Transportation (DOT) and International Air Transport Association (IATA) shipping requirements will be observed. The sample packing procedures are:

- After filling out the pertinent information on the sample label, if necessary cover the label with clear tape.
- Place about three inches of inert cushioning material such as vermiculite or bubblepack in the bottom of the cooler.
- Place bottles upright in the cooler in such a way that they do not, and will not, touch during shipment.
- Put in additional inert packing material or foam inserts to partially cover sample bottles (more than halfway).
- Fill cooler with cushioning material.
- Place bags of ice around, among, and on top of the sample bottles.
- Put paperwork (chain-of-custody record) in a waterproof plastic bag and tape it to the inside lid of the cooler.
- Tape the drain shut.
- Secure lid by taping. Wrap the cooler completely with strapping tape at a minimum of two locations. Do not cover any labels.
- Attached completed shipping label to top of the cooler if shipping.
- Affix two signed and dated custody seals on opposite corners.

Prior to shipping or courier pick-up, samples will be stored on ice and a trip blank will be placed with volatile organic samples from the time of sample collection.

6.10 Data Review

All data will be reviewed by laboratory QC personnel prior to submittal to Foster Wheeler. Data collected for Calf Pasture Point Munitions Bunkers (CPPMB) will receive a full EPA tier II data validation due to it being a CERCLA site. In addition, the Foster Wheeler chemistry staff will perform a review of QA/QC data for all other sample analysis results. The review will include the following:

- Review of chain-of-custody and sample receipt documents to verify sample identities.
- Review of sample log-in documents to verify any potential problems with sample custody, integrity, preservation , labeling, etc.
- Review of field blank data to ascertain any problems with container or preservative contamination, or field contamination.
- Review of method blank data to determine the presence and approximate concentration of sources of contamination in the analytical process.
- Review of matrix spike data as a measure of matrix effects and analytical precision.
- Review of field and laboratory duplicate data as a measure of sampling technique applicability, homogeneity, and analytical precision.
- Review of standard reference material or laboratory control sample data as a measure of analytical accuracy. Data will be compared to the certified acceptable ranges of analytical values.
- Review of sample dates, extraction/digestion dates, and analysis dates to determine of maximum holding times were met or exceeded.

Where appropriate, data validation qualifiers will be incorporated into certain data summary tables generated for this project. A brief summary of the data QA/QC review will be included in the final report.

7.0 REPORTING

7.1 Site Close-Out Report

At the completion of the project, Foster Wheeler will prepare a Site Close-Out Report describing the removal actions at Site 10, Building 111, CPPMB and removal of lead contaminated soils. The following is a proposed outline for this report:

I. Introduction

II. Summary of Action
- A. Removal of waste at Site 10
- B. Removal of lead dust at Building 11
- C. Removal of lead dust at CPPMB
- D. Removal of Lead Soils

III. Summary of Record Documents
- A. Site Plans
- B. Laboratory Testing Reports (Including Data and Test Results)
- C. Hazardous Waste Manifests
- D. Disposal Site Certifications

Results of field activities will be provided to the Navy and to the state and federal authorities. Decision making will be conducted by the BRAC Cleanup Team. The report will also include confirmatory sample locations and analytical results including required QA/QC and validation reports.

A close-out report for demolition will be submitted under separate cover by the selected subcontractor.

APPENDIX A

Resumes of Key Individuals

LAWRENCE E. KAHRS, P.E., C.P.G.
Senior Engineer

EXPERIENCE SUMMARY

Mr. Kahrs is a senior engineer with 11 years of experience in the environmental field. This experience includes design, implementation, managerial and technical supervision of government and private-sector projects in both the civil engineering and geological fields. As an senior engineer in the Geosciences Group in the New England office since July, 1995, he is engaged in the management of large projects, in addition to providing technical oversight to ensure and maintain engineering and geological quality on specific project tasks. He is currently involved in several removal action projects and is assisting in the design and installation of groundwater treatment systems.

EDUCATION:	B.S., Engineering Geology, Purdue University - 1984
TRAINING:	40-hour Hazardous Waste Site Health and Safety Training
CERTIFICATION/ REGISTRATION:	Registered Professional Engineer - Indiana, Illinois (inactive), Connecticut Certified Professional Geologist, AIPG, #8324 Certified Professional Geologist, Indiana, #963 Licensed Site Professional, Massachusetts, (full license) #2890
PROFESSIONAL AFFILIATIONS:	National Water Well Association Licensed Site Professional Association American Institute of Professional Geologists

REPRESENTATIVE PROJECT EXPERIENCE

U.S. Navy (USN), Naval Weapons Industrial Reserve Plant (NWIRP) (Bedford, MA) - Project Engineer for the design of a groundwater extraction system involving chlorinated VOCs. Responsible for interpretation of hydrogeologic conditions at the site, development of remedial alternatives, and development of drawings and specifications for the selected remedy. Duties also include providing technical support to the Project Manager relative to the construction of a groundwater treatment plant at the site.

U.S. Environmental Protection Agency (USEPA), W.R. Grace Superfund Site (Acton, MA) - Project Engineer for the USEPA ARCS I contract for oversight of Potentially Responsible Parties (PRP) activities. Responsibilities involve oversight of sludge solidification, landfill construction and groundwater remediation. Specific responsibilities include review and evaluation of PRP design criteria, coordination of field operations, and evaluation of PRP conclusions and recommendations to Government parties.

PRIOR PROJECT EXPERIENCE

Prior to joining Foster Wheeler Environmental, Mr. Kahrs managed environmental divisions in both Indianapolis and Boston for a national environmental consulting firm. He was responsible for the coordination of projects, in addition to the supervision of subordinate geologists, engineers and environmental scientists. As the operations manager, he was responsible for ensuring technical quality and meeting the financial goals of senior management.

U.S. Air Force (USAF), Hanscom Air Force Base (Bedford, MA) - Project Manager for a Indefinite Quantity (IQ) Contract involving petroleum clean-up activities. Contract involved UST removal and installation, remedial action involving soil excavation, and preparation of Removal Action Measure (RAM) plans and Response Action Outcome (RAO) submittals as defined under the Massachusetts Contingency Plan (MCP). Mr. Kahrs provided management, scheduling and budgeting services as the primary point of contact during the preparation of subcontractor specifications, field activities, and negotiations.

United Airlines, UAL Maintenance Center (Indianapolis, IN) - Assisted in the management of all phases of pre-construction activities for the siting of the United Airlines Indianapolis Maintenance Center. Activities included geotechnical study to evaluate subsurface conditions for design and construction criteria, base-line environmental study to determine existing conditions and establish spill contingency plans, and obtaining permits for construction and operation of the facility. This work involved developing specifications, bid documents for subcontractors, scheduling, and developing a framework for regulatory review and permit acquisition. Mr. Kahrs was specifically responsible for execution of the environmental portion of the project and analyzing the subsurface conditions beneath the site to allow the client to determine preferential flow paths and migration rates in the event of a release of fuels, fire retardants, and other hazardous materials.

General Motors Corporation, Delco Moraine NDH (Bristol, CT) - Project Manager for environmental assessment and remediation at a General Motors manufacturing facility. Investigative activities involved the installation of monitoring wells and the collection of groundwater and soil samples for laboratory analysis. Based upon the initial findings, two areas of concern were identified; chromium-contaminated soil beneath a plating area, and area of free-phase product beneath a heat treating area. Follow-up work included sampling and analysis in the area of soil contamination to determine the extent of contamination, and the installation of a product recovery system.

LAURY A. BARBANTI, P.E.
Project Engineer

EXPERIENCE SUMMARY

Ms. Barbanti is a registered professional engineer with over thirteen years of experience in construction projects involving civil engineering and hazardous waste remediation. Since joining Foster Wheeler in 1995, she has completed a $30 million demolition project as part of a Brownsfield Incentive project for the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (USEPA). Ms. Barbanti has a successful track record for completing projects on schedule and under budget while servicing clients in both the public and private sectors.

EDUCATION: M.S., Civil Engineering, University of Massachusetts - Lowell, 1993
B.S., Civil Engineering, University of Massachusetts - Amherst, 1983

TRAINING: 40-hour OSHA Health and Safety Hazardous Waste Training and current refresher
8-hour OSHA Health and Safety Hazardous Waste Supervisory Training, 1995

CERTIFICATION/
REGISTRATION: Professional Engineer - Massachusetts

REPRESENTATIVE PROJECT EXPERIENCE

USACE, New England Total Environmental Restoration Contract (TERC), Raymark Superfund Site (Stratford, CT) - Project Engineer responsible for developing Standard Operating Procedures (SOPs) for USEPA's "Brownsfield Incentive Project" involving demolition of 15 acres of former manufacturing buildings contaminated primarily with asbestos, PCBs, lead, and volatile organic compounds (VOCs). Sixteen individual SOPs were issued and approved by the USACE in less than three months time to support a fast track construction schedule. Managed a team of six construction engineers during demolition while acting as the liaison to the design team for the 33 acre RCRA cap to follow demolition. Developed preliminary fast track cap construction schedule to include site improvements for a future commercial development. Activities included deep dynamic compaction of the subgrade, pile driving, NAPL extraction, gas collection, liner installation, utilities, and on-site treatment facilities. Supervised the development of Statements of Work (SOWs) for over forty procurements, using government procedures, to support design-build construction of the 30 acre RCRA cap, subgrade improvements, and treatment facilities.

PRIOR PROJECT EXPERIENCE

Perini Corporation, New Bedford Harbor Hot Spot Operable Unit, Project Engineer - Developed and implemented project plans and schedules for a National Priority List Superfund site in New Bedford, Massachusetts incorporating dredging in a river estuary, water treatment plant construction and operation, ambient air monitoring, and operating/monitoring a confined disposal facility. Waste streams include river sediment and sea water contaminated with PCBs, lead, copper, cadmium and chromium. Responsible for over $750,000 in change order work and value engineering change proposals with the USACE under the direction of the USEPA. Construction activities were completed on time despite public opposition and political deterrence.

Metcalf & Eddy, Cost Estimator/Project Manager - Responsible for estimating and developing work plans for a $1.5 million remediation at a former smelting facility in Mojave, California under the California Department of Toxic Substances Control Superfund Program. Upwards of 10,000 cubic yards of scrap materials were decontaminated and salvaged as part of the effort reducing disposal costs by $250,000. Waste streams included dioxins, furans, PCBs, heavy metals, and VOCs. Responsible for estimating and managing a $.6 million contract for remedial services at Pease Air Force Base in New Hampshire. Two hangar buildings were decontaminated on a fast track schedule involving removal or abandonment of solvent tanks, oil/water separator systems and several thousand feet of associated waste lines. Waste streams included petroleum hydrocarbons, VOCs, trichloroethylene and other chlorinated solvents. Remedial strategy allowed for on-going National Guard activities at the site during the effort. Responsible for numerous underground storage tank removal projects throughout New England including Massachusetts Contingency Plan 21E sites.

Westinghouse Environmental and Geotechnical Services, Cost Estimator/Project Manager - Responsible for estimating and developing work plans for remediation of 4,000 cubic yards of soil contaminated with PCBs and heavy metals in accordance with TSCA and state regulations at an international electronics manufacturing facility in Virginia. Implemented final closure plans for RCRA regulated lagoon closures at several industrial facilities in Connecticut involving disposal of heavy metal sludge and installation of geosynthetic liner systems, soil impoundments and bituminous caps. Assisted in remedial site assessments at gasoline station locations throughout Connecticut for an international oil company. Assisted in design and implementation of a soil vapor extraction system at a former coal gasification site in Connecticut.

Masachi Engineering, Cost Estimator/Field Engineer/Project Manager - Responsible for estimating, engineering and managing numerous earthworks projects involving underground utilities, building foundations, roadways, parking lots and playing fields.

Mobile Excavating Corp., Cost Estimator/Project Manager/Office Manager - Responsible for estimating, bidding and managing earthworks projects including strip malls, underground parking garages, roadways, parking lots, utilities and residential clusters.

AKRAM I. AZIZ
Quality Control Site Supervisor

EXPERIENCE SUMMARY

Mr. Aziz has over ten years of experience performing quality assurance engineering activities in the design, development and implementation of systems and programs for environmental, industrial and related applications.

Currently the Program Quality Control Manager on the U.S. Navy Northern Division Remedial Action Contract (RAC). Previously was the Quality Control System Manager on the BROS Project which consists of hazardous waste cleanup operation involving a 12-acre lagoon with its attendant dredging work, lagoon surface cleanup and all those support activities to enable thermal destruction of dredged spoil and surface excavation. Responsible for supervision, quality control, inspection and document activities. The department methodology consists of an environmental auditing, monitoring, review and submittal process.

Previous assignment responsibilities have included performance of QA audits, surveillance, QC inspection, engineering design for environmental and civil projects including landfills, hazardous waste, multistory structures, geotechnical and foundation design, laboratory analysis and interpretation of tests performed on soil samples. On construction projects, responsibilities have included control of earth work operations, foundation excavation including blasting and quality assurance and quality control aspects of construction. Also, performed project documents and procedures review for Enserch's environmental projects.

EDUCATION:
M.S., Engineering Management (in progress), Drexel University
B.S., Civil Engineering, College of Engineering, Alexandria University, Egypt, 1986

TRAINING:
40-Hour OSHA Hazardous Waste Health and Safety Training - 1991
8-Hour OSHA Hazardous Waste Health and Safety Supervisor Training
8-Hour OSHA Hazardous Waste Health and Safety Refresher Course - Current
Troxler Electronic Laboratories, Inc., Training course for the Use of Nuclear Testing Equipment (radiological safety and gauge operation)
Red Cross First Aid Certified
Red Cross CPR Certified
MSA Level II SCBA
Special Concentrated Course on RCRA Regulations
Special Concentrated Course on CERCLA/Superfund Laws and Regulations
Special Concentrated Course on Environmental Reporting and Recordkeeping Requirements
Special Concentrated Course on Practical Environmental Science
Special Concentrated Course on Chemistry for Hazardous Materials
Special Concentrated Course on Environmental Sampling and Data Analysis
Special Concentrated Course on Environmental Audits

PROFESSIONAL AFFILIATIONS:
Egyptian Association of Civil Engineers - 1986

CERTIFICATION/
REGISTRATION: Engineer-in-Training for the State of Delaware

REPRESENTATIVE PROJECT EXPERIENCE

BROS Project (Superfund), Bridgeport, NJ - Responsible for providing and maintaining an effective quality control program; ensuring, through audits or surveillance, conformance of all items of work to applicable specifications or drawings; performing preparatory, initial, follow-up and identification of any safety deficiencies; reviewing and modifying or correcting as needed all submittals for approval. Identifying, controlling and assuring resolution of deficiencies, including corrective action implementation. Maintaining project records as required by the contract or statute and supervises QC inspectors.

Sterling Drug Project, Collegeville, PA - Interacted with client and contractor to perform testing and inspection for the construction of the research complex. Reviewed field quality assurance/quality control reports, Laboratory test results and vendor surveillance reports. Responsible for performance of record maintenance and document control of the project records. Updated job specifications, shop drawings and architectural drawings. Prepared and analyzed routine quality control charts. Submitted daily reports and scheduled manpower requirements. Provided technical support to the field team, utilizing job specifications, ASTM, ACI and AWS standards, and Pennsylvania DOT requirements.

Client	Project	Size	Type	Position
USACE	BROS Project	12 AcreLagoon Cleanup	Hazardous Waste Cleanup	QC System Manager
Gilbane	Sterling Drug	Research Complex	Commercial Construction	QC Engineer
Camden County	Camden County Water Facility	N/A	Environmental Sampling Facility	Field Water QA Engineer
PENN DOT	Devon Site Road	State Road	State Road	Field Engineer
Gilbane	Hudson County Correctional Facility		Commercial Construction	Field Engineer
Gilbane	Squibb	Lab-Cogen Facility	Commercial Construction	Field Engineer
Millville Municipal	Millville Municipal Airport	Municipal Airport	Municipal Airport	Field Engineer
Trans Continental Gas Company	Hackensack Water Crossing	Gas Pipeline	Commercial Construction	Field Engineer

PRIOR PROJECT EXPERIENCE

Lippincott Engineering Associates
Riverside, NJ

Field Engineer - Responsible for the testing and inspection of concrete (normal and steel reinforced); structural fill placement and compaction testing utilizing the sand cone method and the nuclear density gauge; soil borings and classification; piles installation; and utilities installations. Participated in environmental field sampling work related to groundwater monitoring and soil sampling. Familiar with use of field instruments for environmental monitoring. Projects included: Hudson County Correctional Facility, South Kearny, NJ; Squibb Chemical Development Plant, North Brunswick, NJ; Millville Municipal Airport, Millville, NJ; Hackensack Water Crossing (Transcontinental Gas Company), Hackensack, NJ; and Devon State Road (PENN DOT), Chester County, PA.

The Architectural Engineering Contracting Office
Alexandria, Egypt

Project Engineer - Duties included design and inspection of shallow and deep foundation and retaining structures, reinforced concrete analyses and design, and design and inspection of steel structures. Projects included design and inspection for the construction of a 40-story hotel and construction of the waste water pipelines for the greater Alexandria area.

GREY P. COPPI, CIH
Health and Safety Supervisor

EXPERIENCE SUMMARY

Mr. Coppi is a Certified Industrial Hygienist and a Certified Safety Professional with over 11 years of technical and managerial experience in occupational health and safety.

Background includes experience with a Federal regulatory agency that involved health and safety standard applications and enforcement in the manufacturing, chemical, construction and maritime industries. Additional private sector experience has included performing site audits, training course development and presentations and written health and safety program creation. Areas of expertise include Health and Safety Plan preparation and implementation, site auditing and air monitoring methods and applications.

Joined Foster Wheeler Environmental Corporation in September 1995, and was assigned to the five-year, $250 million US Navy Northern Division Remedial Action Contract Program to provide health and safety support for contracts awarded within this region. Also responsible for supporting the administration of the Foster Wheeler Environmental internal Health and Safety Program.

Provided technical and site support to over 100 projects that involved the USACE, USDOE and commercial clients. Project activities included, soil and groundwater sampling, test pit excavations, well installations, soil excavation, in-situ treatment of soil and water, stabilization, landfill capping, drum removal and sampling and groundwater pump and treat plant construction. Contaminants included PCB's, metals, VOC's, dioxins and pesticides.

EDUCATION:	M.S., Environmental Health Science, City University of New York, Hunter College, 1986 B.S., Health Science, City University of New York, Brooklyn College, 1980
TRAINING:	40-Hour OSHA Health and Safety Hazardous Waste Training, 1988 8-Hour OSHA Health and Safety Hazardous Waste Supervisory Training, 1991, 1993, 1995 8-Hour OSHA Health and Safety Hazardous Waste Refresher, Current Red Cross First Aid and CPR - 1994 Confined Space Entry, 1988, 1993
CERTIFICATION/ REGISTRATION:	Certified Industrial Hygienist (CIH), #5279 - 1991 Certified Safety Professional (CSP), #11120 - 1992 Certified Hazard Control Manager (CHCM), #2379 - 1992

REPRESENTATIVE PROJECT EXPERIENCE

Provided technical, managerial and leadership oversight to the New Jersey Turnpike Authority (NJTA) during their $500,000,000 roadway widening program that involved the excavation, segregation and placement of soil contaminated with lead and VOC's. Responsible for assessing compliance with Contractual specifications for 13 separate contracts. Specific duties included the approval of all on-site

health and safety personnel (25) employed by the construction contractors; performed site audits and assessments, and developed an audit checklist and communicated results and recommendations to contractors and the NJTA; provided oral and written correspondence to NJTA, environmental firms, contractor's and section engineers, evaluated air monitoring data and maintained training records.

Provided project health, safety and environmental support to a construction firm who was involved in a $10,000,000 plus addition to an existing NYC waste water pollution control plant located on Wards Island, NYC. Wrote the HASP, supervised the on-site health and safety officer and performed bi-weekly site audits to assess compliance with the Contract Specifications and with the site-specific HASP.

Functioned as the full-time on-site Health and Safety Officer for a $15,000,000 residential remediation located in Northern New Jersey. Over the years, soil had become contaminated with lead and mercury from a nearby explosives manufacturing plant. This project involved the excavation, transportation and disposal of 100,000 tons of soil, backfilling and restoration of lawns, walkways, garages, decks, etc. Duties involved ensuring adherence with the HASP, maintenance of training, air, medical and biological monitoring records; provided training to all personnel; supervised and implemented perimeter and personal air monitoring strategies for dust, lead and mercury. Interfaced with client, NJDEP and oversight engineer.

Functioned as the on-site CIH for a $12,000,000 plus project for a construction contractor who was tasked with capping a municipal landfill located in Westchester, New York. The 65- acre site activities included clearing and grubbing, swale construction, regrading, leachate and methane gas collection systems and monitoring well construction and installation. Potential on-site hazards included methane gas, VOC's and ionizing radiation.

Functioned as Eastern Division Industrial Hygienist for a large hazardous waste remedial firm. Oversaw projects that included remediation of PCB containing soils for three New Jersey compressor stations belonging to a natural gas pipeline transmission company; remediation of soil containing mercury and lead at a New Jersey explosives facility complying with an ACO agreement; remediation of ponds and lagoons containing VOC's at a fragrance manufacturer located in New Jersey; performed weekly site visits for a building demolition and UST removal for a chemical manufacturer located in New Jersey; functioned as health and safety officer for a building decon (mercury) of piping, ladders, walkways and for the excavation and removal of soil and AST decommissioning; responsible for health and safety operations for a USACE cleanup and capping for a $20,000,000 municipal landfill located in Pennsylvania; responsible for health and safety operations for the construction and closure of a TSD landfill located in Ohio; responsible for chemical and township sewer cleanup (Buffalo, NY) contaminated with mercury and dioxin; and a number of sites contaminated with herbicides and insecticides were remediated.

JOHN SILVA, Jr.
Construction Superintendent

EXPERIENCE SUMMARY

Mr. Silva has over ten (10) years of experience in the field of construction and environmental management.

TRAINING:	40-Hour OSHA Hazardous Waste Health and Safety Training OSHA Hazardous Waste Site Supervisor Training 24-Hour OSHA Emergency Response Training DOT Training American Red Cross First Aid/CPR Certification MSA Regulator Repair Certification
LICENSES:	Licensed for Hydraulic Operations Class "2a" Commercial Drivers License (Class B-X)

PRIOR PROJECT EXPERIENCE

Groundwater Technology Government Services, Inc. - Area Superintendent responsible for planning, managing, and directing numerous construction activities at the Norwood PCB Superfund Site in Norwood, MA. Project experience included identification of upcoming tasks/activities; interpretation of design drawings and specifications to determine means and methods of construction; determination of construction logistics and resource requirements (labor, equipment, subcontractors); scheduling and coordination of Union Labor, including negotiations with business agents to establish jurisdictions, labor agreements, and determine appropriate wage rates; management and direction of laborers, equipment operators, and subcontractors; management of equipment, materials, and tools distribution; ensuring completeness of required paperwork by construction staff; conducting daily safety meetings with the site Health and Safety Officer; and thorough documentation of daily site activities.

Environmental Products and Services, Inc. - Field Operations Manager responsible for all site activities, including management of field technicians, subcontractors, and field equipment. Project experience included supervision of construction projects such as monitoring well installation, groundwater management, and carbon filtration systems; serving as DOT Training Instructor and Site Evaluation Cost Estimator; sampling, bulking, and excavation of drums containing hazardous waste during recovery operations; removal of over 200 underground storage tanks, including excavation, accessing, cleaning, and transportation and disposal; building decontamination using various phases of high-pressure washing and hydro-blasting; and building demolition.

Westinghouse Environmental Services - Field Supervisor responsible for environmental projects. Duties involved reporting project data and submitting field progress and completion reports. Project experience included supervision of three major river spill cleanups, over 20 PCB decontamination projects, and several mercury decontamination projects.

ENPRO Services, Inc. - Foreman and Equipment Operator whose duties included groundwater management, tank removals, hazardous waste transportation, emergency incident response, and off-site remediation efforts.

DOUGLAS W. MURPHY
Construction Quality Control

EXPERIENCE SUMMARY

Over twenty-five (25) years of engineering design and construction experience on environmental and hazardous waste projects. Experience encompasses roles as engineering designer, construction inspector and manager, construction quality control and quality assurance inspector on projects for the U.S Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (USEPA), numerous municipal and state clients, and private industry. Expertise includes landfill construction and closure, soil treatment, construction of water and wastewater pipeline and treatment facilities, and groundwater pumping and treatment.

EDUCATION: Drafting Major, Northeast Institute of Industrial Technology, 1968-1969

TRAINING: 40-Hour OSHA Hazardous Waste Health and Safety Training
8-Hour OSHA Hazardous Waste Site Supervisor Training
OSHA 29 CFR 1926 Subpart P Excavation and Trenching Competent Person Training
DOT and Dangerous Goods Shipping Seminar
USACE Construction Quality Management for Contractors Training

REPRESENTATIVE PROJECT EXPERIENCE

Project involves contaminated soil excavation, construction of 60 gpm groundwater treatment plan for VOC destruction plus extraction wells and treated water discharge line construction. Major responsibilities include: ensuring that Quality Control inspections and testing are performed and documented to comply with the Construction Quality Control Plan. Monitoring, overseeing, and/or performing periodic on-site inspections of work in progress to determine if the work is proceeding in accordance with the Contract Documents. Ensuring that health and safety and project chemistry functions are being properly and effectively implemented by their respective lead personnel in accordance with their approved project plans. Expected project cost is $60 million.

PRIOR PROJECT EXPERIENCE

Roy F. Weston, Inc.

Extensive construction management on numerous projects, involving full time on-site role as owners representative responsible for technical performance, schedule and costs.

Construction Quality Assurance of Surface Remediation Project, General Motors, Inland Fisher Guide Division (Flint, MI) - Inspector on project involving soil excavation stabilization, and placement in new 0.5 million cubic yard capacity landfill. The landfill is double-lined with leachate collection and leak detection. The liner is 60 mil HDPE. Total project cost was $25 million.

Wastewater Treatment Plant Construction, Sanford Sewerage District (Sanford, ME) - Construction Inspector on Wastewater Treatment Plant project. Total project cost was $7 million with a construction period of 2 years.

Construction and Operation of the Gilson Road Groundwater Treatment Pilot Plant, State of New Hampshire (Nashua, NH) - The project included a 2-month operation period for the 10 gpm pilot plant.

Construction Management of New Water Supply and Distribution Project, USEPA Tibbetts Road Superfund Site (Barrington, NH) - Construction Inspector on $ 1 million new water supply project for 75 homes with contaminated well water. Project involved installation of intake piping in the source lake and construction of a pumping and treatment plant with remote slow sand filters and distribution piping.

Construction Oversight of Landfill Closure, Illinois Environmental Protection Agency (Belvedere, IL) - Construction Inspector on project involving a 25-acre landfill with a clay cap, venting and monitoring well, groundwater collection, and transportation. Total project cost was $7 million.

Construction Management, Town of Derry Landfill Closure (Derry, NH) - Construction Inspector on project involving a 21-acre municipal landfill with a 20 mil PVC cap, which was chemically bonded. The construction period was 1 year, including road relocation. Total project cost was $850,000.

Drafting and Design Assistance on Secure Ash Landfill (Derry, NH) - Draftsman.

Construction Management, Sewer Rehabilitation Project, Sanford Sewerage District (Sanford, ME and Lincoln, NH) - Construction inspection on sewer system rehabilitation projects over a period of 2 years.

Construction Inspection on Town of Plymouth Sewer Separation Project (Plymouth, NH) - Construction Inspector.

Other Representative Projects:

- Construction Inspector on Sewer System Extension Project, Beaver Lake Area, Derry, NH - Construction Inspector.
- Design of Sewer System Extension, Beaver Lake Area, Town of Derry, NH - Designer.
- Field Survey and Drafting Assistance for the U.S. Army Corps of Engineers, Avco Lyncoming, Stratford, CT - Surveyor and Draftsman.
- Field Study and Review of Infiltrating Sewer System, Shenango Township, PA.
- Source Emissions Testing for Pennsylvania Power and Light Company, Martins Creek, PA - Team Member.
- Sewer System Evaluation Survey, Various Locations, Multiple Clients - Surveys were performed for Towns of Lincoln and Littleton, NH; also Kennebunkport and South Berwick, ME.

Town Planning and Engineering, Inc.

Transitman on Field Survey Crew - Land surveying on various projects for USACE and Commonwealth of Massachusetts.

Fay Spofford and Thordike, Inc.

Draftsman and Field Survey Crew Member - Drafting and field survey on projects for Boston, Cambridge, Malden and Worcester, Massachusetts Redevelopment Authorities.

JOHN WALKER
Chemist/Health & Safety Coordinator

EXPERIENCE SUMMARY

Mr. Walker has nine (9) years of experience in health and safety coordination, field investigations, data analysis, and chemical and physical laboratory testing.

EDUCATION: B.S., Biology/Chemistry, Oakwood College, 1986

TRAINING:
40-Hour OSHA Remedial Response Health and Safety Training
16-Hour OSHA Specialized Supervisory Health and Safety Training
Fundamentals of Industrial Hygiene Course
Comprehensive Industrial Hygiene Review
American Red Cross First Aid/CPR Certification
Hazardous Waste Site Sampling, EPA
NIOSH 582 equ. Asbestos Sampling/Analysis Course
40-Hour Asbestos Abatement Supervisor Course
Removal Cost Management System, EPA
Industrial Pretreatment Course

CERTIFICATION/
REGISTRATION: Certification of Laboratory Analysts - #011049 (Georgia State Board of Examiners)

REPRESENTATIVE PROJECT EXPERIENCE

Responsible for performing health and safety activities at various hazardous waste sites, coordinating health and safety training of regional personnel, maintaining records of training, ensuring all field personnel training is kept up to date and current, establishing a medical surveillance program for the assigned region, ensuring scheduling of all employee physical examinations, and maintaining files of all regional personnel. Other duties include implementing and developing health and safety, accident prevention, and emergency response plans; conducting and reviewing audits; designating health and safety officers; and implementing respiratory and hearing protection programs and excavation programs. Additional responsibilities involve sample coordination with various analytical laboratories; consultation with site personnel on sample planning and analysis protocols; and the performance of site assessments, field investigations, and data validation.

U.S. Army Corps of Engineers (USACE), New England Division, Total Environmental Restoration Contact (TERC), Raymark Facility Remediation (Stratford, Connecticut) - Served as Site Safety and Health Technician at the Raymark Facility Remediation Project for a site workforce consisting of approximately 120 craft and 40 professional personnel. Provided construction safety oversight, industrial hygiene air monitoring, and perimeter public health air monitoring support. The project consisted of the decontamination and demolition of a 30-acre site which housed a manufacturer of asbestos products. The site was contaminated with friable asbestos fibers, polychlorinated biphenyls (PCBs), lead, and organic compounds. The project scope included demolition of the buildings, removal of bulk asbestos, groundwater treatment, and construction of a RCRA-composite cap over the entire site. Also integrated into the total design were provisions for construction of a major retail center on the property upon completion of remediation efforts. The project was conducted without a lost-time incident, and was the recipient of the USACE Division Engineer's Award for Outstanding Contractor Safety Performance.

U.S. Environmental Protection Agency (USEPA), ARCS IV, SCRDI/Dixiana and South Carolina Superfund Sites - Responsible for Comprehensive Field Sampling Program which included sampling contaminated groundwater (influent and effluent) associated with a 20-well groundwater extraction and treatment system. Additional responsibilities included general inspection of the treatment plant to ensure proper functioning, coordination with subcontractor in correcting site deficiencies, and implementation of a comprehensive sample tracking system.

Georgia Department of Natural Resources, Georgia Underground Storage Tank (GUST) Trust Fund Projects - Served as Health and Safety Coordinator and provided field support on several GUST site investigations conducted throughout Georgia. GUST site investigation activities included the installation of groundwater monitoring wells and subsurface soil and groundwater sampling to determine the presence and extent of contamination from leaking underground storage tanks (LUSTs).

U.S. Department of Energy (DOE) - Provided contractor and health and safety oversight during cone penetration monitoring.

Fort Gordon (Augusta, Georgia) - Provided contractor oversight and health and safety coordination for the USACE during drilling, monitoring well installation, and subsurface soil and groundwater sampling activities at various on-site locations potentially contaminated by LUSTs.

Fort Jackson (Columbia, South Carolina) - Provided contractor oversight and health and safety coordination for the USACE during drilling, monitoring well installation, and subsurface soil and groundwater sampling activities at various on-site locations potentially contaminated by LUSTs.

Laurinburg Maxton Airbase (Laurinburg, North Carolina) - Provided contractor oversight and health and safety coordination for the USACE during drilling, monitoring well installation, and sampling activities at base landfills. Other duties included developing and implementing Health and Safety Plans (HASPs) and other planning documents.

New Hanover International Airbase (Wilmington, North Carolina) - Provided contractor oversight and health and safety coordination for the USACE during drilling, monitoring well installation, and sampling activities at base landfills. Other duties included developing and implementing Health and Safety Plans (HASPs) and other planning documents.

USACE, Mobile District, Alabama Army National Guard (ARNG) - Participated as a member of 20 teams responsible for ensuring ARNG environmental compliance with federal and state regulations under the Environmental Compliance Assessment System (ECAS).

Longhorn Army Ammunition Depot - Duties included sampling depositions from the static firing of Pershing P1 rocket motors at the Longhorn Army Ammunition Depot using a modified version of the Standard Method for Collection and Analysis of Dustfall (Settleable Particles), ASTM D1739-70. In addition to deposition samples, ambient air samples were collected for PM_{10} and ambient air HCl concentrations during plume passage. Provided health and safety oversight in conjunction with all sampling activities.

Martin Marietta Uranium Enrichment Plant/Gerthy Miller - Provided contractor oversight and health and safety monitoring during drilling, monitoring well installation, well development, and subsurface soil and groundwater sampling activities at approximately 300 site locations to determine the presence and extent of TCE contamination from on-site lagoons.

City of Atlanta Underground Storage Tank (UST) Removal Program (Atlanta, Georgia) - Provided contractor oversight and health and safety monitoring during removal of USTs, excavation of contaminated soil/debris, and sampling activities at various site locations to determine the presence and extent of contamination from LUSTs.

Gwinnett County USTs - Provided contractor oversight and health and safety monitoring during drilling, monitoring well installation, and subsurface soil and groundwater sampling activities at various Gwinnett County fueling locations to determine the presence and extent of contamination from LUSTs. Also monitored subcontractors during the Petro-Tite tank testing prior to well installation.

USEPA, ARCS IV and REM III - Participated in developing Remedial Investigation reports for the Wrigley Charcoal Plant, Geiger (C&M Oil) Site, and Tri-City Disposal Site. Duties included technical writing, tabulation of analytical results, and preparation of risk assessments.

USEPA, REM III, Independent Nail and Galloway Pond - Developed a technical summary evaluating the analytical results for third and fourth quarter operations and maintenance sample activities for the various sites.

PRIOR PROJECT EXPERIENCE

Roy F. Weston, Inc. (Atlanta, Georgia) - Worked under the Technical Assistance Team contract for the emergency response branch of USEPA Region IV. Responsible for providing technical assistance to USEPA On-Scene Coordinators (OSCs) during emergency response and removal actions. Tasks included researching and developing treatment and disposal options, bench-scale testing of treatment processes, investigating hazardous materials and oil spills, and cost monitoring of cleanup contractors. Also responsible for generating technical reports to the agency on which enforcement actions were based.

Carolina Chemical (Columbia, South Carolina) - Technical Assistance Team Leader (TATL) for the emergency response cleanup of all on-site hazardous wastes. Duties included monitoring subcontractors, monitoring subcontractors cost (Removal Cost Management Systems), serving as Site Health and Safety Officer (SHSO), sampling, and overseeing excavation. Worked closely with all parties involved in the cleanup and provided interface between the cleanup contractor and the OSC during all phases of the contract.

Chemical Removal Phase II (PRP Removal) (Brunswick, Georgia) - TATL for the emergency response cleanup of all on-site hazardous wastes. Duties included serving as SHSO, monitoring and documenting the responsible party cleanup, and verifying sampling activities. Worked closely with all parties involved in the cleanup and provided interface between the cleanup contractor and the OSC during all phases of the contract.

Slater Plant (Slater, North Carolina) - Participated in field investigation activities to pinpoint geophysical anomalies. Duties included serving as SHSO, geophysical surveying, and subsequent sampling using the EM-31.

Cahaba Wood Preserving (Suttle/Sprott, Alabama) - Field Investigation Leader for the sampling, file searching, and geophysical surveying investigation necessary to characterize site conditions and contaminants. Responsible for health and safety monitoring and for the supervision of technical staff during the investigation.

Fulton County Public Works (Atlanta, Georgia) - Served as environmental analyst, conducting tests and field investigations to obtain data for use by environmental, engineering, and scientific personnel for the determination of sources and methods of controlling pollutants in water, soil, and sludges. Using chemistry and engineering principles, determined characteristics of solid and liquid materials and substances by applying the use of pH meters, chemicals, autoclaves, microscopes, centrifuges, spectrophotometers, analytical instrumentation (AA, GC, TOC), and other chemical laboratory equipment. Installed, operated, and performed routine maintenance on mechanical equipment and other test instrumentation.

ERIN P. GRIFFIN
Associate Engineer

EXPERIENCE SUMMARY

Ms. Griffin is an Associate Engineer with over three years of experience in Civil and Environmental Engineering. She has experience with field investigations (sampling and analyses), U.S. Environmental Protection Agency (USEPA) field oversight, environmental site assessments, oil pollution prevention plans, and procurement.

EDUCATION:	B.S., Civil/Environmental Engineering, Cornell University, 1992
TRAINING:	40-Hour OSHA Hazardous Waste Health and Safety Training 8-Hour OSHA Hazardous Waste Site Supervisor Training DOT Employee Training Environmental Compliance Assessment System Training
PROFESSIONAL AFFILIATIONS:	American Society of Civil Engineers

REPRESENTATIVE PROJECT EXPERIENCE

U.S. Army Corps of Engineers (USACE), TERC, Raymark Superfund Site (Stratford, CT) - Provided technical/engineering support for government procedure procurements of materials and services to support construction of a RCRA cap, a NAPL groundwater extraction system, and a soil gas collection and treatment system for the remediation of the Raymark Superfund Site. Responsibilities include reviewing technical drawings and specifications; developing statements of work, identifying potential vendors, and performing technical evaluation of work plans and proposals received from vendors.

U.S. Environmental Protection Agency (USEPA), ARCS I, W.R. Grace Superfund Site (Acton, MA) - Assisted Field Operations Leader in the oversight of field activities at a Superfund hazardous waste site in Acton, MA. Field oversight activities conducted at the site included monitoring remedial activities such as excavation and landfilling of contaminated soils and sludges from several lagoons and other waste areas, post excavation confirmatory soil sampling, stormwater management, worker and public health and safety air monitoring, vehicle decontamination, and quality control implementation. Oversight responsibilities also included coordinating split soil sampling efforts; communicating with various government parties; maintaining daily logs, daily reports, and photographic documentation; issuing non-conformance reports; communicating with quality assurance/control personnel; and providing technical support for the EPA during weekly construction progress meetings.

Confidential Client (Plainville, MA) - Performed soil, sediment, and groundwater sampling for a fortune 500 industrial client whose site is subject to cleanup requirements of the USEPA RCRA Corrective Action Program, TSCA, and the Nuclear Regulatory Commission.

USACE, New England Division, Nyanza Chemical Site (Ashland, MA) - Field Operations Leader whose responsibilities included the implementation of a Chemical Data Acquisition Plan and Statement of Work for predesign investigations at a 5-acre mercury-contaminated wetland and associated streams. The field program included installation of over 50 subsurface soil borings and extensive surface water and sediment sampling. Acted as Field Operations Leader during the field program, directing and overseeing drilling and soil sampling; packaging, labeling, and completing necessary sampling paperwork according to EPA

Contract Laboratory Program (CLP) criteria; communicating with the Project Manager and on-site USACE representative; and completing daily logs and QA/QC paperwork.

USACE, Mobile District, Defense Fuel Support Points (Searsport, ME; Melville, RI; and Verona, NY) - Assisted Project Engineer in the preparation of Spill Prevention Control and Countermeasure Plans, Oil Pollution Prevention Operation Manuals, and Facility Response Plans for three Government-owned, contractor-operated, fuel storage and distribution terminals in accordance with applicable federal and state regulations. These plans address the facility's spill response and mitigation procedures, response training and drills of personnel, emergency notification procedures, and appropriate pollution prevention containment and/or diversionary structures.

USACE, Mobile District, Defense Fuel Support Points (Martinez, San Pedro, and Norwalk, CA) - Assisted in consolidating and updating Response Plans for Onshore Oil Pipelines for three Government-owned, contractor-operated, fuel storage and distribution terminals in accordance with applicable federal and state regulations. These plans address spill response and mitigation procedures, response training and drills of facility personnel, and emergency notification procedures.

USACE, Mobile District, Redstone Arsenal Installation (Huntsville, AL) - Assisted in the preparation of an Environmental Assessment for Redstone Arsenal. Areas of responsibility included socioeconomic, biological resources, infrastructure, wetlands, geology, and soils. The action evaluated in the Environmental Assessment is the implementation of the Redstone Arsenal Master Plan through its component plans, particularly the Natural Resource Management Plan, for continued operational support of the installation for the next 15 to 20 years.

USACE, Mobile District, Fort McClellan (Anniston, AL) - Lead data gathering for, and assisted in the preparation of, an Environmental Assessment for Fort McClellan. The action proposed by the U.S. Chemical and Military Police Centers and Fort McClellan in its Environmental Assessment is to continue its ongoing mission and operations in accordance with the installation Master Plan Narrative for the next 15 to 20 years.

USACE, Mobile District, Army National Guard Sites (Mississippi and Puerto Rico) - Performed technical reviews of environmental audits using the Environmental Compliance Assessment System (ECAS) developed for the Army National Guard.

APPENDIX B

Submittal Register

Submittal Register
Delivery Order No. 0006 - NCBC Davisville

Description	Transmittal Control #	Date Submitted	Northern Division	ROICC	CSO	EPA	RIDEM	Date Approved
Preconstruction Submittals								
Health & Safety Plan(Site 10,Bldg 111,CPPMB)			X	X	X	X	X	
Health & Safety Plan (Demolition)			X	X	X	X	X	
Work Plan (Site 10, Bldg 111, CPPMB)			X	X	X	X	X	
Work Plan (Demolition)			X	X	X	X	X	
Records								
QC Meeting Minutes			X	X	X			
Test Results Summary Report			X	X	X			
Contractor's Production Report			X	X	X			
Miscellaneous Documentation			X	X	X			
Results of Excavation			X	X	X			
Wipe Sample Results (Bldg. 111 vault)			X	X	X			
Confirmatory Wipe Samples (Bldg 111)			X	X	X			
Wipe Samples (CPPMB)			X	X	X			
Confirmatory Wipe Samples (CPPMB)			X	X	X			
Disposal Facilities Operating Permits			X	X	X			
Contaminated Water Disposal Paperwork			X	X	X			
Contaminated Sediment Disposal Paperwork			X	X	X			
Solid Waste Disposal Paperwork (Site 10)			X	X	X			
Area Sampling (Air) Results			X	X	X			
Lead Paint Chip Disposal Paperwork			X	X	X			
Lead Soil Disposal Paperwork			X	X	X			
Confirmatory Sampling Results (Soil)			X	X	X			
Chemical Analysis of Imported Backfill			X	X	X			
Geotechnical Tests of Imported Backfill			X	X	X			
Chemical Analysis of Imported Topsoil			X	X	X			
Geotechnical Tests of Imported Topsoil			X	X	X			
Hydroseed mix specification			X	X	X			
Field Test Reports								
Density Tests			X	X	X			
Reports								
Laboratory Testing Reports			X	X	X			
Closeout/Final Report								
Northern Division & ROICC: Specific Submittal Review/Approval - Lester, PA /Newport, RI								

APPENDIX C

QC Forms

Includes the following:

- Contractor Production Report
- Contractor Quality Control Report
- Transmittal Form 4025
- Chain of Custody Record
- Preparatory Inspection Checklist
- Initial Inspection Checklist
- Test Plan and Log
- In-Process Deficiency Punch List
- Rework Items List
- Construction Deficiency Notice
- Statement of Compliance
- Statement and Acknowledgment
- Mishap Reporting Procedures
- Contractor Significant Incident Report

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NO.	TITLE AND LOCATION	DATE REPORT NO.
CONTRACTOR	SUPERINTENDENT	
AM WEATHER	PM WEATHER	MAX TEMP: °F MIN TEMP: °F

WORK PERFORMED TODAY

WORK LOCATION AND DESCRIPTION	EMPLOYER	NUMBER	TRADE	HRS

JOB SAFETY

WAS A JOB SAFETY MEETING HELD THIS DATE? (If YES attach copy of the meeting minutes)	☐ YES	☐ NO	TOTAL WORK HOURS ON JOB SITE THIS DATE
WERE THERE ANY LOST TIME ACCIDENTS THIS DATE? (If YES attach copy of completed OSHA report)	☐ YES	☐ NO	CUMULATIVE TOTAL OF WORK HOURS FROM PREVIOUS REPORT
WAS TRENCHING/SCAFFOLD/HV ELECTRICAL/HIGH WORK DONE? (If YES attach statements or checklist showing inspection performed)	☐ YES	☐ NO	TOTAL WORK HOURS FROM START OF CONSTRUCTION
WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT? (If YES attach description of incident and proposed action)	☐ YES	☐ NO	

LIST SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED

☐ SAFETY REQUIREMENTS HAVE BEEN MET

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

CONSTRUCTION AND PLANT EQUIPMENT ON JOB SITE TODAY, INCLUDE NUMBER OF HOURS USED TODAY

DESCRIPTION	HOURS	DESCRIPTION	HOURS	DESCRIPTION	HOURS
BACKHOE		F-150 PICK-UP			
ROLLER		CHIPPER			
PRESSURE WASHER		CHAINSAW			

REMARKS

CONTRACTOR/SUPERINTENDENT _____ DATE _____

CONTRACTOR QUALITY CONTROL REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE

CONTRACT NO.

REPORT NO.

PHASE	Y - YES; N - NO; SEE REMARKS; BLANK - NOT APPLICABLE		IDENTIFY DEFINABLE FEATURE OF WORK, LOCATION, AND LIST PERSONNEL PRESENT
PREPARATORY	THE PLANS AND SPECS HAVE BEEN REVIEWED		
	THE SUBMITTALS HAVE BEEN APPROVED		
	MATERIALS COMPLY WITH APPROVED SUBMITTALS		
	MATERIALS ARE STORED PROPERLY		
	PRELIMINARY WORK WAS DONE CORRECTLY		
	TESTING PLAN HAS BEEN REVIEWED		
	WORK METHOD AND SCHEDULE DISCUSSED		
INITIAL	PRELIMINARY WORK WAS DONE CORRECTLY		TESTING PERFORMED & WHO PERFORMED TEST
	SAMPLE HAS BEEN PREPARED/APPROVED		
	WORKMANSHIP IS SATISFACTORY		
	TEST RESULTS ARE ACCEPTABLE		
	WORK IS IN COMPLIANCE WITH THE CONTRACT		
FOLLOW-UP	WORK COMPLIES WITH CONTRACTS AS APPROVED IN INITIAL PHASE		TESTING PERFORMED & WHO PERFORMED TEST

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)	REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)

REMARKS

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

AUTHORIZED QC MANAGER AT SITE _____ DATE _____

GOVERNMENT QUALITY ASSURANCE REPORT

DATE

QUALITY ASSURANCE REPRESENTATIVES REMARKS AND/OR EXCEPTION TO THE REPORT

GOVERNMENT QUALITY CONTROL MANAGER _____ DATE _____

CONTRACTOR QUALITY CONTROL REPORT CONTINUATION SHEET

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NO.	DATE
	REPORT NO.

PHASE	IDENTIFY DEFINABLE FEATURE OF WORK, LOCATION, AND LIST PERSONNEL PRESENT	Y - YES; N - NO; SEE REMARKS; BLANK - NOT APPLICABLE	
PREPARATORY			THE PLANS & SPECS HAVE BEEN REVIEWED
			THE SUBMITTALS HAVE BEEN APPROVED
			MATERIALS COMPLY WITH APPROVED SUBMITTALS
			PRELIMINARY WORK IS DONE CORRECTLY
			SAFETY REQUIREMENTS HAVE BEEN MET
			TESTING PLAN HAS BEEN REVIEWED
			WORK METHOD/SCHEDULE DISCUSSED

PHASE		TESTING PERFORMED & WHO PERFORMED TEST		
INITIAL				PRELIMINARY WORK IS DONE CORRECTLY
				SAMPLE HAS BEEN APPROVED/PREPARED
				SAFETY REQUIREMENTS HAVE BEEN MET
				TEST RESULTS ARE ACCEPTABLE
				WORK IS IN COMPLIANCE WITH THE CONTRACT

CONTRACTOR QUALITY CONTROL REPORT CONTINUATION SHEET

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NO.	DATE
	REPORT NO.

PHASE	IDENTIFY DEFINABLE FEATURE OF WORK, LOCATION, AND LIST PERSONNEL PRESENT	TESTING PERFORMED & WHO PERFORMED TEST	Y - YES; N - NO; SEE REMARKS; BLANK - NOT APPLICABLE: WORK COMPLIES WITH CONTRACT AS APPROVED IN INITIAL PHASE
FOLLOW-UP			

NAVAL CONSTRUCTION BATTALION CENTER
U.S. NAVY RAC N62472-94-D-0398
DELIVERY ORDER NO. 0006
FOSTER WHEELER ENVIRONMENTAL CORPORATION

DAILY QUALITY CONTROL REPORT

Daily Report No.: _____ Date: _____

Weather: _____ Precipitation: _____ In: _____

Temperature: Min: _____ Max: _____

1. Site Personnel, Equipment, and Work Performed Today (see attached Daily Report to Inspector)

2. Job Safety (see attached Daily Safety Report)

3. Inspection Activities Performed (circle applicable inspections; inspections attached):

   Preparatory / Initial / Follow-Up / Completion Inspections

4. Material Received (if not covered on Inspection Checklists): _____

5. Submittals received/reviewed (if not covered on Inspection Checklists):

	DESCRIPTION	SPEC/PLAN/OTHER REFERENCE
1.		
2.		
3.		
4.		
5.		
6.		

6. Verbal Instructions (Navy instructions received or given with action to be taken): _____

NAVAL CONSTRUCTION BATTALION CENTER
U.S. NAVY RAC N62472-94-D-0398
DELIVERY ORDER NO. 0006
FOSTER WHEELER ENVIRONMENTAL CORPORATION

DAILY QUALITY CONTROL REPORT NO.: _____(Cont'd)

7. Remarks (Potential conflicts/compliance issues; delays encountered): _____

QC's Verification: On behalf of Foster Wheeler Environmental Corporation, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the Contract Documents to the best of my knowledge, except as may be noted above.

Site Quality Control Manager: _____ Date: _____

Project Superintendent: _____ Date: _____

DAILY REPORT TO INSPECTOR

DATE:

CONTRACT NO.: N62472-94-D-0398	TITLE AND LOCATION:	REPORT NO.:
CONTRACTOR *(Prime or Subcontractor)*:	NAME OF SUPERINTENDENT OR FOREMAN:	

PRIME CONTRACTOR/SUBCONTRACTOR WORKFORCE *(If space provided below is inadequate, use additional sheets)*				LOCATION AND DESCRIPTION OF WORK PERFORMED
NUMBER	TRADE	HOURS	EMPLOYER	

TOTAL WORK HOURS ON JOB SITE THIS DATE:		WERE THERE ANY LOST TIME ACCIDENTS THIS DATE? ☐ YES ☐ NO IF "YES", A COPY OF THE COMPLETED OSHA REPORT IS REQUIRED
CUMULATIVE TOTAL OF WORK HOURS FROM PREVIOUS REPORT:		
TOTAL WORK HOURS FROM START OF CONSTRUCTION:		

CONSTRUCTION AND PLANT EQUIPMENT LEFT ON JOB SITE UNTIL USE IS COMPLETED

DESCRIPTION	DATE FIRST ON JOB *(First time only)*	HOURS WORKED THIS DATE	HOURS IDLED	DATE OF FINAL REMOVAL FROM JOB SITE

SPEC. PARA. AND/OR DRAWING NO.	EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB *(Description, Sizes, Quantity)*	SUBMITTAL NO. OR CERTIFICATION	DATE APPROVED

REMARKS *(Include directions received from ROICC/AROICC, visitors, compliance notices received, errors and/or omission in P/S; pertinent information)*:

CONTRACTOR/SUPERINTENDENT DATE

DAILY CREW REPORT

TASK PERFORMED: _____

JOB NUMBER: _____ DATE: _____

FOREMAN: _____

PERSONNEL:

TRADE	NAME	HOURS WORKED

EQUIPMENT	HOURS WORKED

TASKS PERFORMED:

UNUSUAL CONDITIONS, DISCREPANCIES, ACTIONS TO BE TAKEN:

SIGNATURE: _____

INSPECTION NOTIFICATION FORM

Date: _____

Preparatory: _____ Initial: _____

Follow-Up: _____ Completion: _____

Planned Definable Feature of Work to be Inspected: _____

_____

_____

_____

_____

_____

Date of Planned Inspection: _____

_____ _____

Originator Date

_____ _____

SQCM Signature Date

_____ _____

ROICC Acknowledgment Date

NAVAL CONSTRUCTION BATTALION CENTER
U.S. NAVY RAC N62472-94-D-0398
DELIVERY ORDER NO. 0006
FOSTER WHEELER ENVIRONMENTAL CORPORATION

DAILY SAFETY REPORT (Cont'd)

Date: _____ **Report #:** _____

Monitoring Equipment Checklist:

Contaminant	Number of Samples	Sampling Pump/Monitor

Comments: _____

_____

_____

_____

_____

Name: _____

Signature: _____

NAVAL CONSTRUCTION BATTALION CENTER
U.S. NAVY RAC N62472-94-D-0398
DELIVERY ORDER NO. 0006
FOSTER WHEELER ENVIRONMENTAL CORPORATION

DAILY SAFETY REPORT

Date: _____ **Report #:** _____

Time Period: _____

Work Performed: _____

_____

_____

Level of Protection/Work Activity:

Respiratory/Dermal Activity

_____

_____

_____

Air Monitoring Results: _____

_____

_____

Personnel in Exclusion Zone: See attached Entry/Egress EZ Log

Daily Inspections: _____

_____

_____

Monitoring Equipment Used:

OVA S/N - _____
MICROTIP S/N - _____
MINIRAM S/N - _____
MSA CGI 261 S/N - _____
NOISE METER S/N - _____

Accidents or Breach of Procedures: _____

_____

_____

Weather Conditions: _____

Physical Conditions of Workers: _____

_____

PREPARATORY INSPECTION CHECKLIST

CONTRACT NO.: _____ DATE: _____

TITLE: _____ SPEC SECTION: _____

MAJOR DEFINABLE FEATURE OF WORK: _____

A. PERSONNEL PRESENT:

	NAME	POSITION	COMPANY
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

B. TRANSMITTALS INVOLVED:

	NUMBER AND ITEM	CODE	CONTRACTOR OR GOVERNMENT APPROVAL
1.			
2.			
3.			
4.			
5.			
6.			
7.			

B-I. Have all items involved been approved? Yes _____ No _____

PREPARATORY INSPECTION CHECKLIST (Cont'd)

B-II. What items have not been approved?

	ITEM	STATUS
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

C. ARE ALL MATERIALS ON HAND? Yes _____ No _____

C-I. Are all materials on hand in accordance with approvals? Yes _____ No _____

C-II. Items not on hand or not in accordance with transmittals:

1. _____
2. _____
3. _____
4. _____

D. TESTS REQUIRED IN ACCORDANCE WITH CONTRACT REQUIREMENTS:

	TEST	PARAGRAPH
1.	_____	_____
2.	_____	_____
3.	_____	_____

E. ACCIDENT PREVENTION PREPLANNING - HAZARD CONTROL MEASURES:

E-I. Applicable Outlines (attach complete copies):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

PREPARATORY INSPECTION CHECKLIST (Cont'd)

E-II. Operational Equipment Checklists:

ATTACHED FOR:

1. _____
2. _____
3. _____

ON FILE FOR:

1. _____
2. _____
3. _____

_____

Site Quality Control Manager

INITIAL INSPECTION CHECKLIST

CONTRACT NO.: _____ DATE: _____

DESCRIPTION AND LOCATION OF WORK INSPECTED: _____

_____

REFERENCE CONTRACT DRAWINGS: _____ SPEC SECTION: _____

A. PERSONNEL PRESENT:

	NAME	POSITION	COMPANY
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____

B. MATERIALS BEING USED ARE IN STRICT COMPLIANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS: Yes _____ No _____

IF NOT, EXPLAIN: _____

_____

_____

C. PROCEDURES AND/OR WORK METHODS WITNESSED ARE IN STRICT COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS: Yes _____ No _____

IF NOT, EXPLAIN: _____

_____

_____

INITIAL INSPECTION CHECKLIST (Cont'd)

D. WORKMANSHIP IS ACCEPTABLE: Yes _____ No _____

STATE AREAS WHERE IMPROVEMENT IS NEEDED: _____

_____

_____

E. SAFETY VIOLATIONS AND CORRECTIVE ACTION TAKEN: _____

_____

_____

_____

Site Quality Control Manager

FOLLOW-UP INSPECTION CHECKLIST

CONTRACT NO.: _____ DATE: _____

DESCRIPTION AND LOCATION OF WORK INSPECTED: _____

_____

REFERENCE CONTRACT DRAWINGS: _____ SPEC SECTION: _____

A. PERSONNEL PRESENT:

	NAME	POSITION	COMPANY
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____

B. MATERIALS BEING USED ARE IN STRICT COMPLIANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS: Yes _____ No _____

IF NOT, EXPLAIN: _____

_____

_____

C. PROCEDURES AND/OR WORK METHODS WITNESSED ARE IN STRICT COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS: Yes _____ No _____

IF NOT, EXPLAIN: _____

_____

_____

FOLLOW-UP INSPECTION CHECKLIST (Cont'd)

D. WORKMANSHIP IS ACCEPTABLE: Yes _____ No _____

STATE AREAS WHERE IMPROVEMENT IS NEEDED: _____

_____

_____

E. SAFETY VIOLATIONS AND CORRECTIVE ACTION TAKEN: _____

_____

_____

_____

Site Quality Control Manager

NAVAL CONSTRUCTION BATTALION CENTER
U.S. NAVY RAC N62472-94-D-0398
DELIVERY ORDER NO. 0006
FOSTER WHEELER ENVIRONMENTAL CORPORATION

INPROCESS DEFICIENCY PUNCH LIST

LOCATION: _____

OR FEATURE INSPECTED: _____

_____

_____

Report Reference Numbers if a Deficiency Report is Required

_____

_____

ITEM NO.	DEFICIENCY	OBSERVATION DATE	CORRECTION DATE

REMARKS:

SQCM: _____

Final Issue Date: _____

NAVAL CONSTRUCTION BATTALION CENTER
U.S. NAVY RAC N62472-94-D-0398
DELIVERY ORDER NO. 0006
FOSTER WHEELER ENVIRONMENTAL CORPORATION

CONSTRUCTION DEFICIENCY NOTICE

CDN No.: 1284-0006- Issue Date: _____ Sheet _____ of _____ Closure Date: _____

Work Area or Feature Inspected: _____ Deficient Subcontractor: _____

Applicable Plans, Drawings, Specifications: _____

Description of Deficient Condition: _____

Project Superintendent's Signature: _____ Date: _____

Recommended Disposition: _____

Recommender's Signature: _____ Date: _____

Subcontractor Response: _____

Reinspection Required: Yes _____ No _____

Performed on: _____

Acceptable: Yes _____ No _____

Distribution:
Project Superintendent
Quality Control Manager
Delivery Order Manager
Site Engineer
Subcontractor

REWORK ITEMS LIST

Contract No. and Title: _____

Contractor: _____

NUMBER	DATE IDENTIFIED	DESCRIPTION	CONTRACT REQUIREMENT (Spec. Section and Para. No., Drawing No., Detail No., etc.)	ACTION TAKEN BY QC MANAGER	RESOLUTION	DATE COMPLETED

TEST PLAN AND LOG

CONTRACT NUMBER		PROJECT TITLE AND LOCATION								CONTRACTOR		
SPECIFICATION SECTION AND PARAGRAPH NUMBER	ITEM OF WORK	TEST REQUIRED	ACCREDITED/ APPROVED LAB		SAMPLED BY	TESTED BY	LOCATION OF TEST		FREQUENCY	DATE COMPLETED	DATE FORWARDED TO CONTR. OFF.	REMARKS
			YES	NO			ON SITE	OFF SITE				

Foster Wheeler Environmental Corporation
CHAIN OF CUSTODY RECORD

PROJECT:							ANALYSIS								PRESERVATION	
SAMPLERS: (Signature)																
SAMPLE ID	MATRIX	DATE	TIME	COMP.	GRAB	NO. CONTAINERS								REMARKS OR SAMPLE LOCATION	ICED	SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN
Relinquished by: (Signature)	Date/Time	Received by: (Signature)				Relinquished by: (Signature)						Date/Time	Received by: (Signature)			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)				Relinquished by: (Signature)						Date/Time	Received by: (Signature)			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)				Remarks:										

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

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

CONTRACT NO.:	DELIVERY ORDER NO.:	ACTIVITY LOCATION:

PROJECT TITLE:

FROM:	DATE:
TO:	DATE:

1. **THE CONTRACTOR SUBMITTALS LISTED BELOW ARE FORWARDED FOR YOUR:**

☐ **APPROVAL,** APPLY APPROPRIATE STAMP IMPRINT TO EACH SUBMITTAL, RETAIN ONE (1) COPY OF THIS TRANSMITTAL FORM.

☐ **REVIEW & COMMENT,** RETURN REVIEWED COMMENT COPIES.

☐ **INFORMATION ONLY.**

2. **SUBMITTALS SHOULD BE RETURNED BY: (DATE)** _____ ☐ **NO RETURN REQUIRED**

RETURN TO: ☐ ROICC ☐ FOSTER WHEELER ENVIRONMENTAL ☐ OTHER _____

3. **APPROVAL REQUIRED BY:** ☐ NORTHDIV ☐ ROICC ☐ A/E ☐ OTHER _____

COPY TO:

☐ ROICC ☐ DESIGNER ☐ OTHER

_____
SIGNATURE AND DATE

FROM:	DATE:
TO:	DATE:

1. THESE SUBMITTALS LISTED BELOW HAVE BEEN REVIEWED AND ARE RETURNED, WITH ACTION TAKEN AS INDICATED.
2. _____

COPY TO:

☐ ROICC ☐ DESIGNER ☐ OTHER

_____
SIGNATURE AND DATE

FROM:	DATE:
TO:	DATE:

1. THE SUBMITTALS LISTED BELOW HAVE BEEN REVIEWED AND ARE APPROVED/DISAPPROVED AS SHOWN BELOW AND ON EACH STAMP IMPRINT.

COPY TO:

☐ CONTRACTOR - FOSTER WHEELER ENVIRONMENTAL ☐ OTHER

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

ITEM NO.	SUBMITTAL DESCRIPTION	PREPARED/SUBMITTED BY	APPROVED	DISAPPROVED	REMARKS

Foster Wheeler Environmental
Change Request Form

Sections 1 thru 4 to be filled out by Foster Wheeler, Section 5 to be filled out by Navy

PROJECT:	OFS No.:	Change Request Form: CRF- Rev.

To: _____ Dept.: _____ Location: _____ Date: _____

Re: ☐ Drawing No.: _____ Title: _____

☐ Spec. No.: _____ Title: _____

☐ Other: _____

1. DESCRIPTION (*Items involved, submit sketch if applicable*): _____

2. REASONS FOR CHANGE (*If from disposition of nonconformance report, list report number*): _____

3. RECOMMENDED DISPOSITION:

☐ Technical Direction (Minor Scope Shift-<10%/50k) [COTR/NR approval required]

☐ Technical Direction (Major Scope shift->10%/50k) [CO approval required]

☐ ROM Estimate $ _____

☐ Cost Growth

☐ Out of Scope(Minor-<10%/50k) [CO approval required]

☐ Out of Scope (Major->10%/50k) [CO approval required]

☐ Schedule Impact _____

Initiator (Signature): _____

4. Resident Engineer (Signature):	Date:	Project Superintendent Concurrence (Signature):	Date:

5. Disposition:

☐ Approved per recommended disposition

☐ Not approved (give reason)

☐ Approved with modification(s) [describe below]

Project Manager (*Signature*):	Date:	ROICC Approval (*Signature*):	Date:
Contracting Officer Technical Representative Approval (*Signature*)(as required):		Contracting Officer Approval (*Signature*):	Date:

Engineer signs and transmits to Resident Engineer with copies to:
Delivery Order Manager: _____
Project Superintendent: _____
Quality Control: _____
Others as Required: _____
File: _____

REQUEST FOR INFORMATION

To: NAVFAC Contracts Office
Narragansett Bay Area
Newport, RI 02841

RFI No.: _____ Date: _____

Contract N62472 - _____

Attn: _____

Title: _____

From: _____

References:

Drawing: _____

REPLY NEEDED BY: _____

Spec Sec: _____

QUESTION:

Copy to: Name: _____

REPLY:

Date: _____

This reply is given with the expressed understanding that it does not constitute the basis for a change to the price or time for the contract.

If you do not concur, **DO NOT PROCEED**, and notify this office **IMMEDIATELY**.

Name: _____

Title: _____

STATEMENT OF COMPLIANCE

PAYROLL NUMBER	PAYROLL PAYMENT DATE	CONTRACT NUMBER

Date _____

I, _____ (Name of signatory party), _____ (Title) do hereby state:

(1) That I pay or supervise the payment of the persons employed by _____ (Contractor or subcontractor) on the _____ (Building or work); that during the payroll period commencing on the _____ day of _____, 19 _____ and ending the _____ day of _____, 19 _____, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said _____ (Contractor or subcontractor) from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 *(29 CFR Subtitle A)*, issued by the Secretary of Labor under the Copeland Act, as amended *(48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. 276c), and described below:*

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ - In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ - Each laborer or mechanic listed in the above referenced payroll has been paid as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION *(Craft)*	EXPLANATION

REMARKS

NAME AND TITLE	SIGNATURE

The wilful falsification of any of the above statements may subject the contractor or subcontractor to civil or criminal prosecution. See Section 1001 of Title 16 and Section 231 of Title 31 of the United States Code.

STATEMENT AND ACKNOWLEDGMENT

FORM APPROVED OMB NO. 9000-0014

PART I - STATEMENT OF PRIME CONTRACTOR

1. PRIME CONTRACT NO.	2. DATE SUBCONTRACT AWARDED	3. SUBCONTRACT NUMBER

4. PRIME CONTRACTOR (Name, address and ZIP code)	5. SUBCONTRACTOR (Name, address and ZIP code)

6. The prime contractor states that under the contract shown in Item 1, a subcontract was awarded on date shown in Item 2 by (Name of Awarding Firm) _____

to the subcontractor identified in Item 5, for the following work:

7. PROJECT	8. LOCATION

9. NAME AND TITLE OF PERSON SIGNING	10. BY (Signature)	11. DATE SIGNED

PART II - ACKNOWLEDGMENT OF SUBCONTRACTOR

12. The subcontractor acknowledges that the following clauses of the contract shown in Item 1 are included in this subcontract:

Contract Work Hours and Safety Standards Act - Overtime Compensation - Construction	Davis-Bacon Act
	Apprentices and Trainees
	Compliance with Copeland Regulations
Payrolls and Basic Records	Subcontracts
Withholding of Funds	Contract Termination-Debarment
Disputes Concerning Labor Standards	Certification of Eligibility

13. NAME(S) OF ANY INTERMEDIATE SUBCONTRACTORS, IF ANY

14. NAME AND TITLE OF PERSON SIGNING	15. BY (Signature)	16. DATE SIGNED

(11/95)

MISHAP REPORTING PROCEDURES FOR CONTRACTORS PERFORMING WORK ON NAVFAC CONTRACTS

Requirement - each contractor shall be required to provide to the Contracting Officer a copy of a mishap report as described below.

The definitions of the mishap categories and the "Contractor Significant Incident Report (CSIR-1)" form are attached.

Mishap Category	Investigating & Reporting Requirements
Tier One Serious	Provide notification to OSHA and the Contracting Officer within 8 hours. Submit form CSIR-1 with appropriate information completed.
Tier Two Significant	Provide notification to the Contracting Officer within 24 hours. Submit form CSIR-1 with appropriate information completed.
Tier Three Other	Provide a copy of all written reports to the Contracting Officer within 5 work days. Submit copies of OSHA required reports.

4.5.2 Definitions.

a. Activity Safety Office - EFD/EFA/Independent OICC/PWC/CBC/NFESC Safety Office.

b. Tier One - Serious Contractor Mishap: Any contractor mishap involving a fatality or the hospitalization of three or more workers, or resulting in property damage exceeding $200,000 in value.

c. Tier Two - Significant Contractor Mishap: Any contractor mishap which involves:

(1) Falls of 4 feet or more which result in a lost time injury, or property damage of $10,000 or more, but less than $200,000.
(2) Electrical mishaps which result in a lost time injury; property damage of $10,000 or more, but less than $200,000; fire department or emergency medical treatment (EMT) assistance.
(3) Confined space mishaps which result in a lost time injury; property damage of $10,000 or more, but less than $200,000; fire department or emergency medical treatment (EMT) assistance.
(4) Diving mishaps which result in a lost time injury; property damage of $10,000 or more, but less than $200,000; or emergency medical treatment (EMT) assistance.
(5) Crane mishaps which result in a lost time injury; property damage of $10,000 or more, but less than $200,000.
(6) Trenching/entrapment mishaps which involve a depth of four feet or greater and result in a lost time injury.
(7) Hazardous Material/Hazardous Waste mishaps which result in a lost time injury or a spill of a reportable quantity.
(8) Equipment mishaps which result in a lost time injury; property damage of $10,000 or more, but less than $200,000.
(9) Fire mishaps which result in a lost time injury; property damage of $10,000 or more, but less than $200,000; or emergency medical treatment (EMT) assistance.
(10) Any mishaps which result in lesson(s) learned that may affect government contracts or a new OSHA standard.

d. Tier Three - General Contractor Mishap: Any OSHA recordable mishap not meeting the definitions of tier one - serious or tier two - significant contractor mishap.

e. Lost time injury - Any injury or illness which results in a loss of time from work beyond the day or shift on which it occurred.

f. OSHA recordable - Any lost time injury.

Contractor Significant Incident Report

Report Date:	Contracting Activity/ROICC Office:

1. Accident Classification:

☐ Injury ☐ Illness ☐ Fatality ☐ Property Damage ☐ Procedural Issues ☐ Environmental

Involving:

☐ Hazardous Materials ☐ Electrical ☐ Equipment/Motor Vehicle/ Material Handling ☐ Diving ☐ Falls

☐ Confined Space ☐ Crane/Rigging ☐ Trenching/Entrapment ☐ Fire ☐ Other

☐ Waterfront Operations ☐ Demolition/Renovation

2. Personal Data:

A. Name (Last. First. M.)	B. Age	C. Sex	D. Social Security Number

E. Job Description/Title	F Employed By	G. Supervisor's Name

3. Witness Personal Data (Attach Signed Witness Statements To Report):

A. Name (Last. First. M.)	B. Age	C. Sex

D. Job Description/Title	E. Employed By

4. General Information:

A. Date of Accident (Month/Day/Year)	B. Time of Accident	C. Exact Location of Accident	D. Type of Construction Equipment (Make. Model. Serial Number. Vin Number)

E. Contract Number/Title	F Construction Activity SIC	G. Hazardous Material Spill/Release

H. Type of Contract

☐ Construction
☐ A/E
☐ Service
☐ RAC
☐ CLEAN
☐ JOC
☐ Other _____

I. Contractor's Name/Address/Phone Number

(1) Prime:

(2) Sub:

J. Safety Manager's Name	Phone #	K. Insurance Carrier	
(1) Prime:	(2) Sub:	(1) Prime:	(2) Sub:

L. Work Activity Involved at Time of Accident	M. Personal Protective Equipment?
	(1) Available & used ☐ (2) Not required ☐ (3) Available & not used ☐ (4) Not related to mishap ☐ (5) Wrong PPE for job ☐ (6) List type(s) used:

5. Injury/Illness/Fatality Information:

A. Severity of Illness/Injury	B. Estimated Days Lost	C. Estimated Days Hospitalized	D. Estimated Days Restricted Duty

E. List Body Part(s) Effected	F. Nature of Illness/Injury	G. Type and Source of Injury/Illness (1) Type: (2) Source:

6. A. Accident Description (Describe in your own words) (Use additional paper, if necessary):

B. Who provided first aid and/or cleanup of mishap site?

C. Any blood borne pathogen exposure by other than EMTs? If so who?

D. Was site secured and witness statements taken immediately?

E. List OSHA and EM-385-1-1 standards that were violated?

7. Casual Factors (Explain **yes answers on supplementary sheet**)	Yes	No
Design - Was design of facility, workplace or equipment a factor?	☐	☐
Inspection/Maintenance - Were inspection & maintenance procedures a factor?	☐	☐
Persons Physical Condition - In your opinion, was the physical condition of the person a factor?	☐	☐
Operating Procedures - Were operating procedures a factor?	☐	☐
Job Practices - Were any job safety/health practices not followed when the accident occurred?	☐	☐
Human Factors - Did any human factors such as size or strength of person, etc., contribute to accident?	☐	☐

	Yes	No
Environmental Factors - Did heat, cold, dust, sun, glare, etc., contribute to the accident?	☐	☐
Chemical & Physical Agent Factors - Did exposure to chemical agents, such as dust, fumes, mists, vapors or physical agents such as noise, radiation, etc., contribute to the accident?	☐	☐
Office Factors - Did office setting such as lifting office furniture, carrying, stopping, etc., contribute to the accident?	☐	☐
Support Factors - Were inappropriate tools/resources provided to properly perform the activity task?	☐	☐
Personal Protective Equipment - Did the improper selection use, or maintenance of personal protective equipment contribute to the accident?	☐	☐
Drugs/Alcohol - In your opinion, was drugs or alcohol a factor?	☐	☐
Job Hazard Analysis - Was the lack of an adequate (IAW EM-385-1-1 Sec 01.A) activity hazard analysis a contributing factor?	☐	☐
- Was it site specific and addressed the type of work/operations performed when the mishap occurred?	☐	☐
Management - Did a lack of adequate supervision contribute to the accident?	☐	☐
- Was inadequate information provided at pre-con meeting?	☐	☐
8. Training:		
A. Was person trained to perform activity/task?	☐	☐
B. Type of training?		
C. Date of most recent formal training? / / D. List topics discussed		
9. Fully Explain What Allowed Or Caused The Accident, Include Direct And Indirect Causes:		
A. Direct Cause		
B. Indirect Cause		
C. Action(s) taken to prevent occurrences or provide on-going corrective actions.		

(1) Beginning (Mo/Da/Yr) / /	(2) Anticipated Completion (Mo/Da/Yr) / /

10. OSHA:

A. Date OSHA Was Notified: / /	C. Date of OSHA Citation: / / (Include cy of citation)
B Date OSHA Investigated. / /	D. $ Amount of Penalties: $_____

11. Report Preparer

Print Name & Title of Supervisor Completing Report

Signature _____ Date (Mo/Da/Yr) _____

12. Management Review (Contracting Officer)

A. ☐ Accepted	B. ☐ Amendments Required	C. ☐ Comments (include program improvements required for your command, NAVFACHQ construction safety program, and EM-385-1-1)

D Print Name & Title of Official Completing Report

Signature _____ Date (Mo/Da/Yr) _____

13. Safety And Occupational Health Office Review

A. ☐ Concur	B. ☐ Non Concur	C. ☐ Additional Actions/Comments

D. Print Name & Title of Safety Personnel Reviewing

Signature _____ Date (Mo/Da/Yr) _____

APPENDIX D

Lead Dust Removal Information - Previous Sample Results

Date Printed: 04/01/96
Page: 1

PROJECT DATA SHEET/PISES

ctivity: DAVISVILLE RI,CBC UIC: N62578 Last Updated: 04/01/96
laimant: NAVFAC Priority:
roject: BLDG 111; REMOVE LEAD DUST

PROJECT ID's

ACT: REUSE
FIS:
Other:
DIV #: 90A
uth #:
nds #:

Const Cont #: 94-D-0398 FY: 96
AE Cont #: EBS PH II Funds: B2ENVC
JO Number: Scope:
Task : B3AC Curr Auth:
Wrk Item : ECC :
Wrk Pack :

[redacted]

Project Planning

RFD in:
RFD out:

Site Apprv Req:
Site Approval:

Step II in:
Step II Appr:

AE ACQUISITION

Auth SSS:
Auth PEP:
th Final:
MOA:
BD to 02:
BD Close:
Slate:
ep App A:
Select:
Gov Est:
egotiate:

Award:

mend Awd:

DESIGN

Schematic in:
out:
Design Dev in:
out:
Progress in:
out:
Finals in:
out:
SBD:

Rel to AM:

CONSTRUCTION

Preinvite:
To 02:
IFB: 05/01/96 E
BOT: 05/15/96 E

Const Awd: 06/01/96 E
Complete: 09/01/96 E

ESR/Step II: E
Date Received:
Due Date:
Approved:
Action/Review:
18: X
20:
Other1:
Other2:

AM: A/RK
Planner:
esign Spec:
onstr Spec:
DM: 4023/
Other: 1823/PO
AE Firm:
ROICC: RI.NWPT

Type Action: CONST (E)
Status:
Next Action: PREP G/E
Action Date: 04/30/96

timated Design Cost

E Contract Cost:
H Labor Cost :
H Support Cost :
H Travel Cost :
pro P&S for IFB:

$0.00

PCAS Cost

Submit Review Cost:
A/E Spcl Consul Cs:
A/E Prep of As Blt::
I/H Labor and Supp:
Other PCAS :

$0.00

COMMENTS: PREPARE GE AND SOW FOR RAC CTO TO CLEAN INTERIOR OF BLDG 111 TO REMOVE LEAD IN DUST.BLDG WAS PISTOL RANGE CONVERTED TO ARMORY IN 1981, SEE ATTACHED. HEPA VAC, WET WIPE DOWN, HEPA VAC & WIPE SAMPLES.

EBS Review Item 69 - Lead Wipe Sample Results

SAMPLE No.	LOCATION/DESCRIPTION	Pb, ug/ft²	Pb-Free Standard*, ug/ft²	Pb-Safe Standard* in interior dust collected from		
				Floor, ug/ft²	Window sill, ug/ft²	Window Well, ug/ft²
EBS-69-WP-01	10 ft from north wall, 35 ft from west wall, 12 ft above floor on heating pipe.	3970	20	20-200	20-500	20-800
EBS-69-WP-02	45 ft from east wall, 20 ft from north wall on floor.	18.1	20	20-200	20-500	20-800
EBS-69-WP-03	North wall, 5 ft above floor, 20 ft from east wall.	56.1	20	20-200	20-500	20-800
EBS-69-WP-04	Center of Arms Room floor.	10100	20	20-200	20-500	20-800
EBS-69-WP-05	South wall, center of Arms Room, 5 ft above floor.	5.8	20	20-200	20-500	20-800
EBS-69-WP-06	From top of light fixture in Arms Room, above doorway.	25300	20	20-200	20-500	20-800
EBS-69-WP-07	Duplicate of 69-WP-01.	3180	20	20-200	20-500	20-800

NOTE: * - Source: Rules and Regulations for Lead Poisoning Preventing [R 23-24.6-PB], Rhode Island Department of Health, Environmental Lead Program, August 1995 amendment.

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To Phil Otis	From J. Conner
Co. Environmental	Co.
Dept.	Phone #
Fax # Revised draft	Fax #

Draft

Map to follow

late today

Building Identification	*Building Number:*	111
	Designated Subparcel:	Admin. Triangle

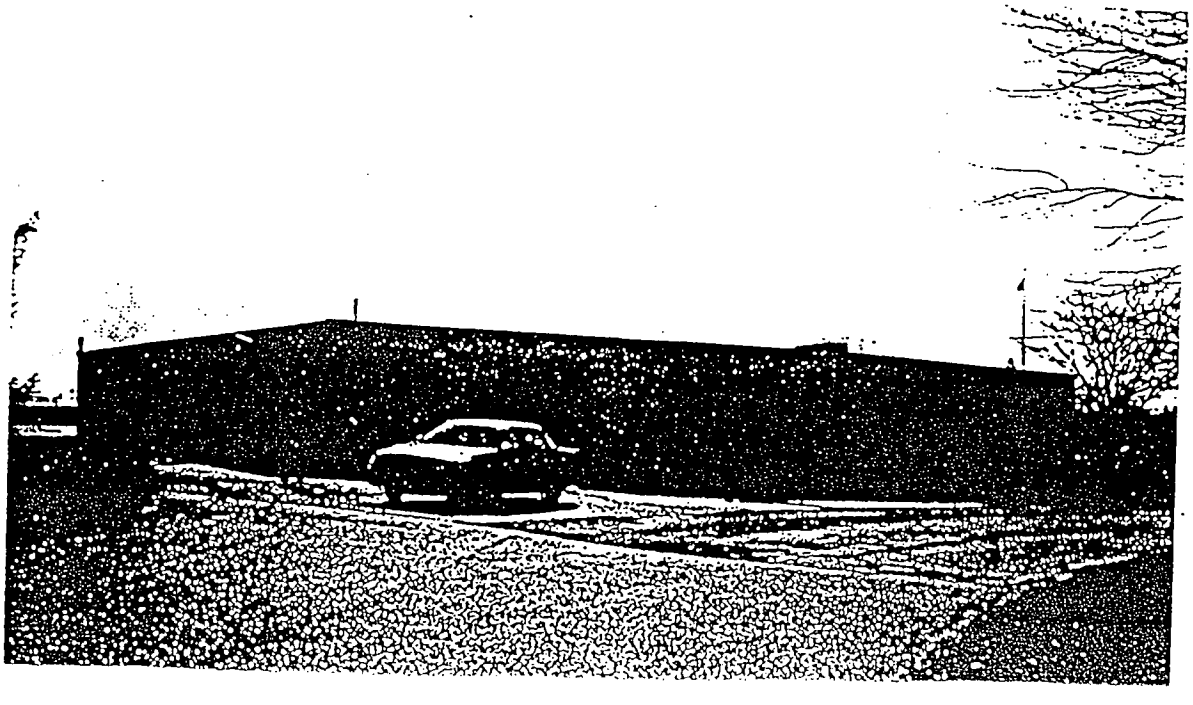
Current Use:	Armory
Building Area (square feet):	8,870
Construction:	Masonry
Year Built:	1944

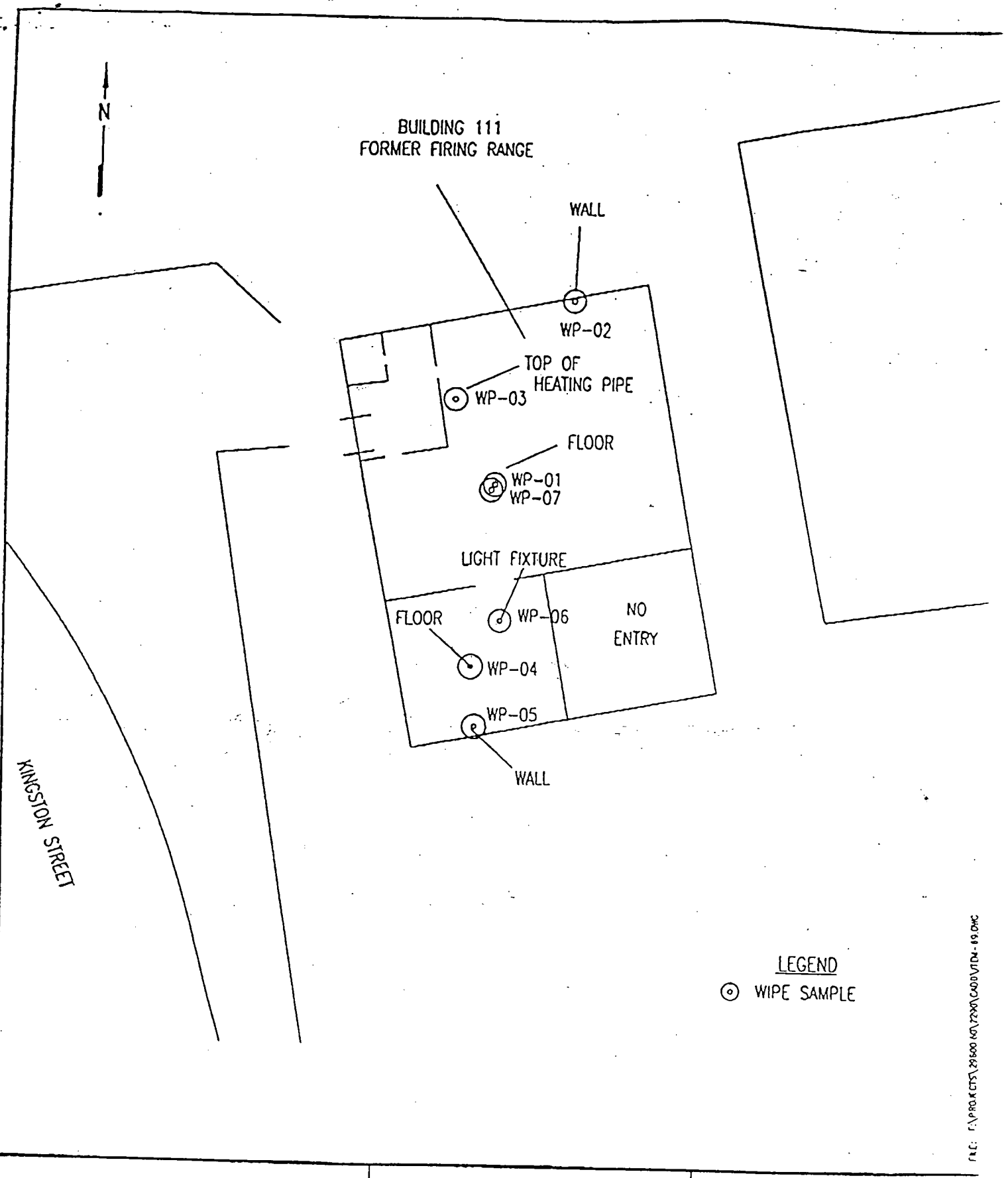
Utilities

Building Heat:	No
Electric Supplied to Building:	No
Water Supplied to Building:	No
Sewer Connected to Building:	No
Loading Docks:	Yes
Drive In Loading:	No

Building to be Retained for Re-use:	Yes
Potential Re-use:	Manufacturing
Designated Historic Structure:	No
Building on or Adjacent to IR Site:	No
Condition:	Average
Repairs Required:	Better quality shell building with manufacturing potential.
Estimated Rent per SF:	$2.00

Comments:





FILE: P:\PROJECTS\29600.60\2290\CADD\FIG4-69.DWG

EA ENGINEERING, SCIENCE, AND TECHNOLOGY			NAVAL CONSTRUCTION BATTALION CENTER DRAFT EBS PHASE II REPORT DAVISVILLE, RHODE ISLAND			REVIEW ITEM 69 BUILDING 111 SAMPLE LOCATION MAP	
PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT NO	FIGURE
JMC	KTS	JFW	JMC	NOT TO SCALE	4-1-96	29600.60.2290	4-20

Date Printed: 04/01/96
Page: 1

PROJECT DATA SHEET/PISES

Activity: DAVISVILLE RI,CBC UIC: N62578 Last Updated: 04/01/96
Claimant: NAVFAC Priority:
Project: CPPMB - BUNKER LEAD CLEANUP

PROJECT ID's

ACT:
FIS:
Other:
DIV #: 16A
uth #:
nds #:

Const Cont #: 94-D-0398
AE Cont #:
JO Number:
Task : B3AC
Wrk Item :
Wrk Pack :

FY: 96
Funds: B2ENVR
Scope:
Curr Auth:
ECC : [redacted]

Project Planning

RFD in:
RFD out:

Site Apprv Req:
Site Approval:

Step II in:
Step II Appr:

AE ACQUISITION

Auth SSS:
Auth PEP:
th Final:
MOA:
BD to 02:
BD Close:
Slate:
ep App A:
Select:
Gov Est:
egotiate:

Award:

mend Awd:

DESIGN

Schematic in:
out:
Design Dev in:
out:
Progress in:
out:
Finals in:
out:
SBD:

Rel to AM:

CONSTRUCTION

Preinvite:
To 02:
IFB: 05/01/96 E
BOT: 05/15/96 E

Const Awd: 06/01/96 E
Complete: 09/01/96 E

ESR/Step II: E
Date Received:
Due Date:
Approved:
Action/Review:
18:
20:
Other1:
Other2:

AM: A/RK
Planner:
esign Spec:
nstr Spec:
DM: 4023
Other: 1823/PO
AE Firm:
ROICC: RI.NWPT

Type Action: CONST (E)
Status:
Next Action: PREP G/E
Action Date: 04/30/96

imated Design Cost

Contract Cost:
Labor Cost :
Support Cost :
Travel Cost :
o P&S for IFB:

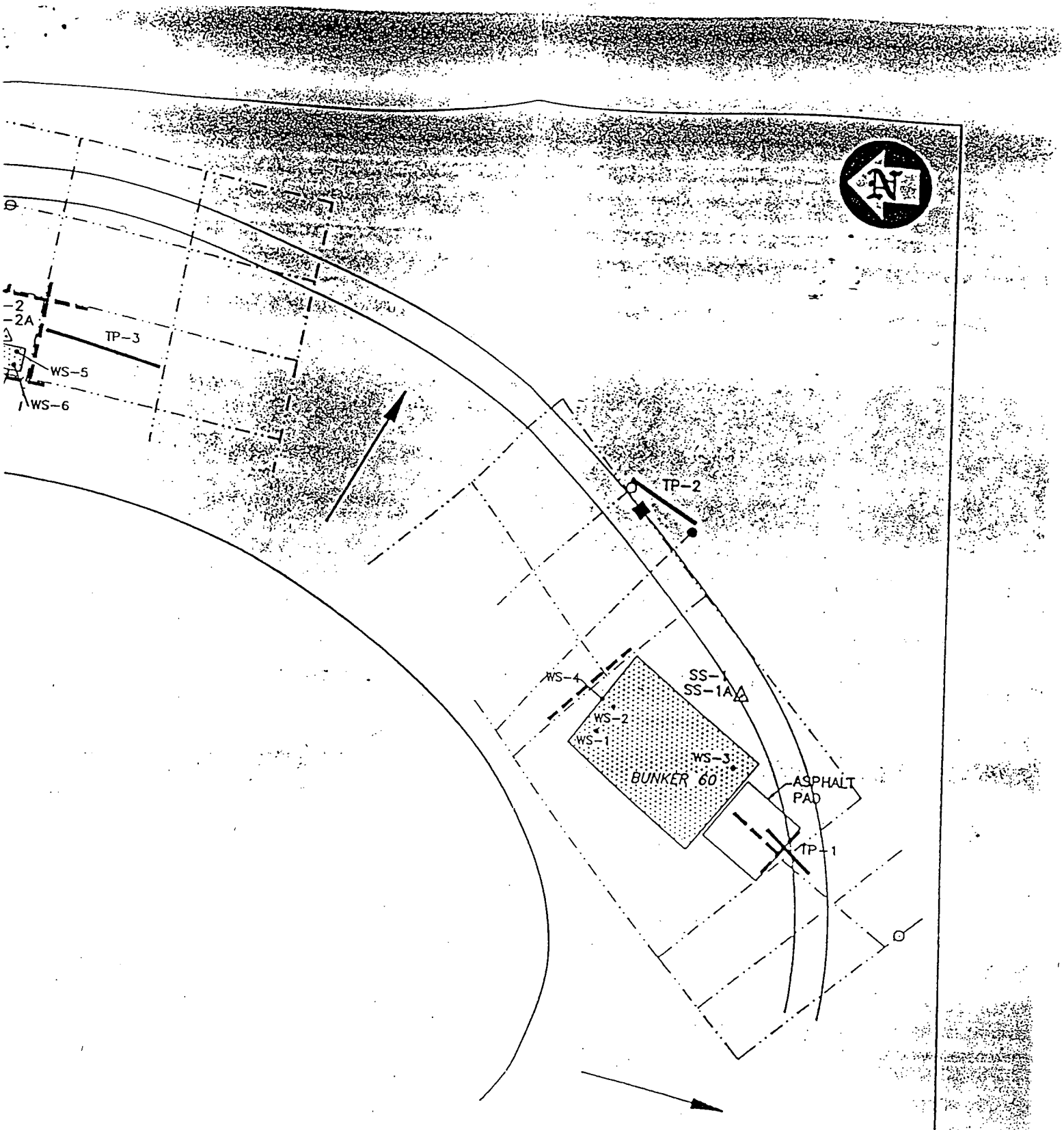
$0.00

PCAS Cost

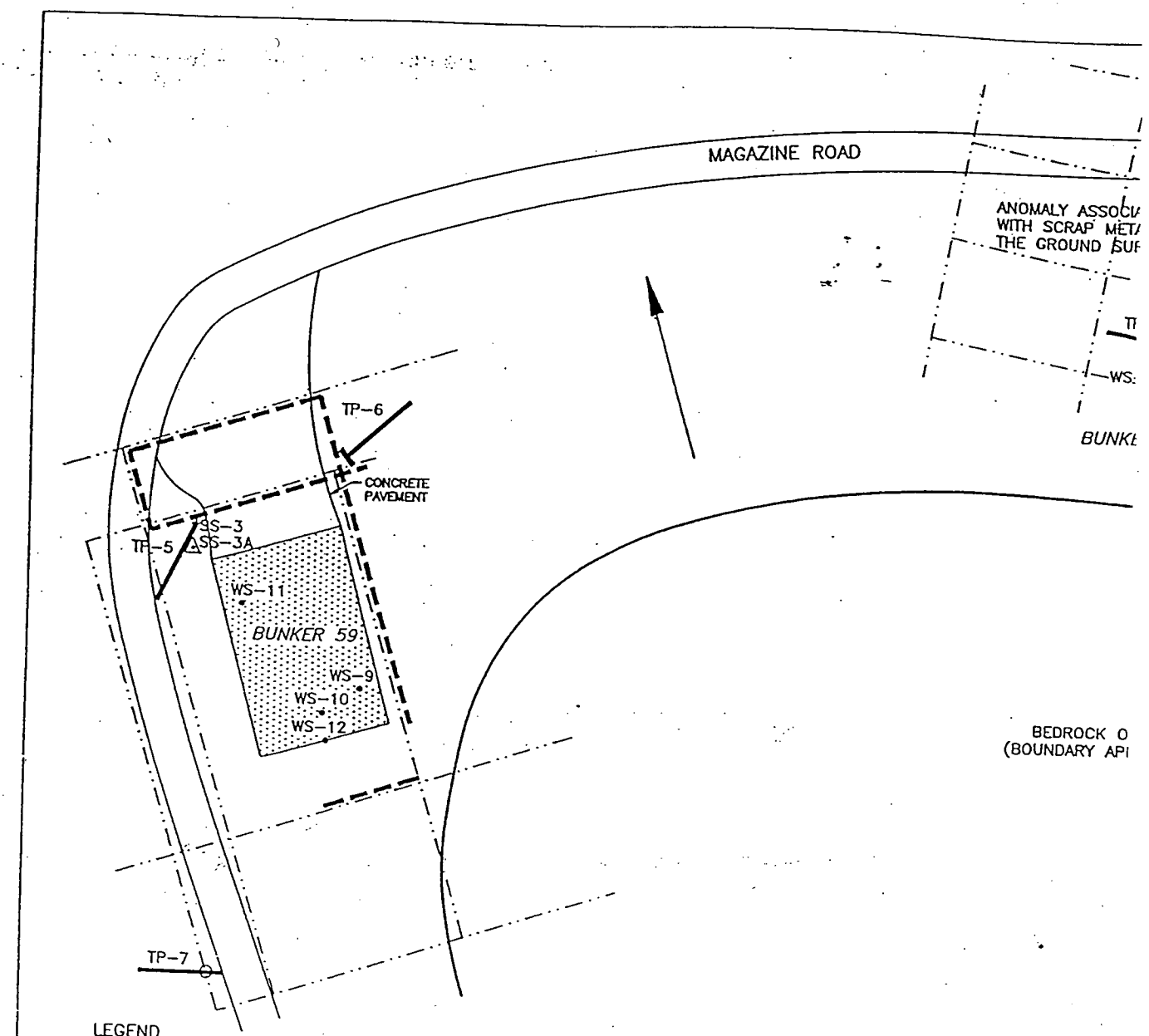
Submit Review Cost:
A/E Spcl Consul Cs:
A/E Prep of As Blt::
I/H Labor and Supp:
Other PCAS :

$0.00

COMMENTS: PREPARE GE & SOW FOR RAC CTO TO CLEAN INTERIOR OF MUNITIONS BUNKERS 59, 60 & 359 TO LOWER LEAD LEVEL SEE ATTACHED SASE REPORT & MEET WITH 1823/PO FOR SCOPE. INCLUDE IN CTO WITH BLDG 111.



SITE MAP – SASE		FIGURE 2-3
CALF PASTURE POINT MUNITIONS BUNKERS		
NCBC DAVISVILLE, R.I.		
DRAWN BY: R. SARGENT	REV.: 0	Halliburton NUS CORPORATION
CHECKED BY: C. GLENNON	DATE: 06 APR 94	
SCALE: 1" = 40'	CONTRACT NO.: N62472-90-D-1298	167 [illegible] Washington, MA [illegible]



LEGEND

- MUNITIONS BUNKER & NUMBER
- TP-7 — TEST PIT LOCATION & NUMBER
- SS-3A — SURFACE SOIL SAMPLE LOCATION & NUMBER
- WS-11 — WIPE SAMPLE LOCATION & NUMBER
- WEAK EM ANOMALY
- MODERATE EM ANOMALY
- STRONG EM ANOMALY
- GEOPHYSICAL SURVEY LINE
- ANOMALOUS ZONE
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES

The location of geophysical anomalies and survey lines are from the Northeast Geophysical Services Report presented in Appendix A. The locations are approximate.

Elevations and location data are available in the project file.

0 40

SCALE IN FEET

3.3.4 Wipe Sampling

On June 30, 1993, HNUS collected four wipe samples from each of the three bunkers: one from the back inside wall and three from floor areas in each bunker. The purpose of the wipe sampling was to determine the impact on bunker inside surfaces of materials stored in the bunkers. Refer to Figure 2-3 for wipe sample locations. The wipe samples were analyzed for TCL semi-volatile and pesticide/PCB organic compounds and TAL inorganic analytes. The analytical results for these samples are presented and discussed in Section 6.2.

- taken from Study Area Screening Eval. Report, Halliburton Sept. 1994

TABLE 6-3
SOIL EXPOSURE PATHWAY DATA EVALUATION
INORGANIC ANALYTES IN WIPE SAMPLES
FROM 12 LOCATIONS IN 3 BUNKERS
CALF PASTURE POINT MUNITIONS BUNKERS
DAVISVILLE, RHODE ISLAND

ANALYTE	MAXIMUM DETECTED CONCENTRATION ($\mu g/100\ cm^2$)	NEW JERSEY CLEANUP STANDARD[3] ($\mu g/100\ cm^2$)	MAXIMUM DETECTED CONCENTRATION > NJCS?	FREQUENCY OF DETECTION
Aluminum	10,500	NA	NE	4/12
Arsenic	6.3	2.2	Yes	3/12
Barium	71.8 J	2.54	Yes	1/12
Beryllium	0.66	0.182	Yes	1/12
Cadmium	5.3	280	No	4/12
Calcium	15,600	NE[1]	NE	NE
Chromium	62.6	36.3	Yes	3/12
Cobalt	10.5	0.290	Yes	5/12
Copper	346	1.45	Yes	4/12
Iron	227,000	NE[1]	NE	NE
Lead	380	21.5[2]	Yes	1/12
Magnesium	2,290	NE[1]	NE	NE
Manganese	851 J	0.182	Yes	7/12
Mercury	0.63	240	No	5/12
Nickel	117	0.726	Yes	7/12
Potassium	3,430	NE[1]	NE	NE
Silver	2.4	0.182	Yes	1/12
Vanadium	13.7	0.254	Yes	2/12
Zinc	3,060	10.9	Yes	2/12

J Quantitation is approximate.
NA Not Available.
NE Not Evaluated.

(1) Analyte is an essential human nutrient.

(2) Rhode Island Department of Health standard for lead in dust on interior floors.

(3) New Jersey cleanup standard for accessible surfaces of building interiors, unless otherwise specified.

-taken from study Area Screening Eval. Report, Halliburton Sept. '94

migration pathway is assumed to occur as a result of site compounds leaching from the site soils into the groundwater and being drawn into a hypothetical drinking water well and subsequently consumed by drinking.

The use of the SSL results in a conservative approach to determining acceptable concentrations of site compounds that can remain in the site soils. The presence of a compound above its respective SSL does not automatically designate a site as "dirty" or trigger the need for a response action. It does, however, serve as an indicator that such action may be considered.

2.1 SOIL EXPOSURE PATHWAY

The evaluation of the soil exposure pathway assumes a residential reuse scenario for the site. This pathway addresses a scenario that assumes long-term daily exposure through ingestion of soil (U.S. EPA, 1993).

Surface soil samples were collected from six locations between the three bunkers (#59, 60, 339) and Magazine Road. Refer to Figure 1-3 for sample locations. The maximum concentration (38.7 mg/kg) of total lead detected in the surface soil samples was below the maximum background concentration (53.8 mg/kg) and below the State of Rhode Island Department of Health concentration of 150 ppm (parts per million, approximately equivalent to mg/kg); therefore, no further evaluation is necessary of surface soils as a contaminant pathway.

Wipe samples were collected from the floors of the three site bunkers (which are not designed or used for human habitation) and analyzed for TCL semivolatiles, TCL pesticides, and TAL metals. No TCL semivolatiles or TCL pesticides were detected at levels considered to pose an unacceptable human health risk. The maximum detected concentration of lead was found in a wipe sample collected at Bunker 59 at a concentration of 380 ug/100 sq. cm (sample WS-10). The remaining 11 lead wipe samples exhibited lead concentrations of less than 55 ug/100 sq. cm. No significant human health risk was found in the interiors of the bunkers as a result of wipe sampling. At present, the bunker doors are welded shut to restrict access to the bunkers.

No compounds were detected in subsurface soils at concentrations sufficient to warrant concern regarding potential ingestion or dermal contact pathways.

-taken from Decision Document for CPPMB, Halliburton, Feb '95

APPENDIX E

Laboratory Quality Assurance Plan

(EPA, RIDEM, and FILE COPIES ONLY)

APPENDIX F

Wipe Sampling Procedure

Wipe Sampling Procedure

Wipe samples will be collected from the floors and walls of the Buildings for total lead analysis. Sample locations will be evenly distributed on the floors and walls to ensure a representative sample collection. The wipe samples will be obtained in accordance with the following procedures:

- The sample technician will wear clean disposable gloves for each wipe sample obtained.
- A collection area of 1 ft^2 will be marked at each sample location using a Teflon sheet template and a lead-free paint stick.
- A gauze wipe is moistened with deionized water, placed on the surface to be sampled, and rubbed vertically over the entire sample area.
- The wipe is then folded and rubbed horizontally (or at a 90° angle to the first wipe pattern) over the entire sample area.
- The folded wipe is then placed in a labeled 4-oz. glass jar for laboratory analysis.
- Duplicate wipe samples are to be collected in the same manner directly adjacent to the original sample location and at a frequency of 10%.
- A minimum of one field blank is to be submitted to the laboratory for each sampling event. A field blank is obtained by removing an unused gauze wipe from its packaging, moistening the wipe with deionized water, and then folding the wipe and immediately placing it in a labeled 4-oz. glass jar for laboratory analysis. The field blank was collected prior to leaving the room or building were the wipe samples were taken.