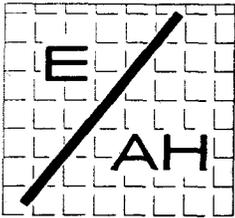


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FINAL BASE REALIGNMENT CLOSURE (BRAC) CLEANUP PLAN CNC CHARLESTON SC
03/28/1995
ENSAFE ALLEN AND HOSHALL



EnSafe / Allen & Hoshall

a joint venture for professional services

5720 Summer Trees Dr. Suite 8 Memphis, TN 38134

(901) 383-9115 Fax (901) 383-1743

March 28, 1995

Ms. Ann Ragan
Bureau of Solid and Hazardous Waste
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RE: BRAC Cleanup Plan

Dear Ms. Ragan:

Enclosed are five copies of the final BRAC Cleanup Plan for Naval Base, Charleston, South Carolina. Please contact the BRAC Environmental Coordinators, Pat Franklin or Bobby Dearhart, if you have any questions or comments.

Sincerely,

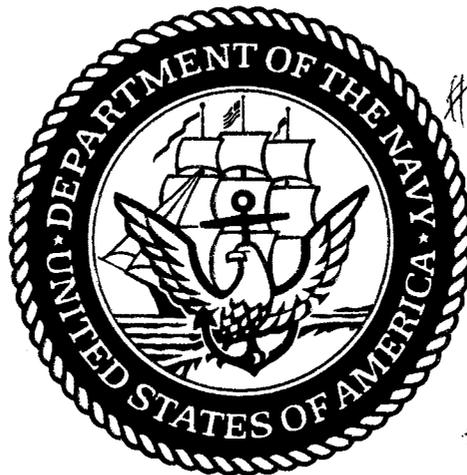
EnSafe/Allen & Hoshall

by: Robert A. Maddux, Jr., P.E.
Task Order Manager

Enclosures

cc: BRAC Environmental Coordinators
Restoration Advisory Board
Environmental Protection Agency, Region IV
Headquarters, Naval Facilities Engineering Command
Commander in Chief, Atlantic Fleet
Naval Base Charleston

Base Realignment and Closure Cleanup Plan (BCP)



#15405
LI ✓
Lo ✓
Rec'd 4/13/95

For
Naval Base, Charleston, SC
-Naval Station
-Naval Shipyard
-Fleet Industrial
Supply Center

**NAVAL BASE CHARLESTON
CHARLESTON, SOUTH CAROLINA**

**BASE REALIGNMENT AND CLOSURE
(BRAC) CLEANUP PLAN**

The BRAC Cleanup Plan is a living document which provides current summary information on the restoration status and strategies pertaining to cleanup of Naval Base Charleston. The BRAC Cleanup Team (Pat Franklin, Bobby Dearhart, Doyle Brittain, and Ann Ragan) with consideration of community and stakeholder advice, has concurrently developed the plan to provide for the safe, effective, timely and cost effective Environmental Restoration of this DOD closing facility.



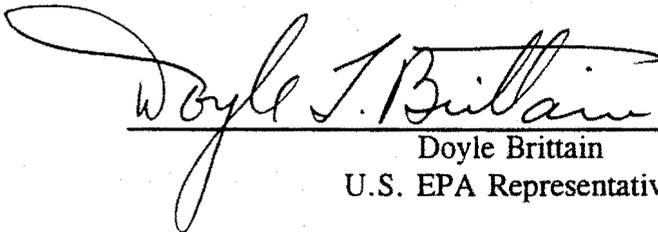
Pat Franklin

BRAC Environmental Coordinator



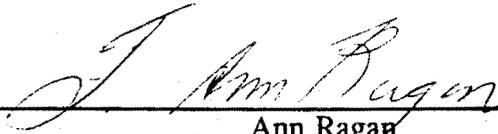
Bobby Dearhart

BRAC Environmental Coordinator



Doyle Brittain

U.S. EPA Representative



Ann Ragan

SCDHEC Representative

**NAVAL BASE CHARLESTON
CHARLESTON, SOUTH CAROLINA**

**BASE REALIGNMENT AND CLOSURE
(BRAC) CLEANUP PLAN**

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OTHER DISTRIBUTION

NONE

Date: March 27, 1995
Revision Number: 1
Last Revision Dated: March 1, 1994

This BRAC Cleanup Plan replaces the previous version dated March 1994. It has been rewritten to include current information associated with the scheduled closure of Naval Base Charleston under the Defense Base Closure and Realignment Act. The March 1994 version, although outdated, is still available for reference at the information repositories.

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EXECUTIVE SUMMARY

INTRODUCTION

This Base Realignment and Closure (BRAC) Cleanup Plan (BCP) contains the status, management and response strategy, and action items related to Naval Base Charleston's ongoing environmental restoration and associated compliance programs. These programs support restoration of the base property to meet the requirements for property disposal and reuse activities associated with the closure of the installation. The scope of the BRAC Cleanup Plan considers the following regulatory mechanisms: the Base Realignment and Closure Act (BRAC); National Environmental Policy Act (NEPA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Community Environmental Response Facilitation Act (CERFA); Resource Conservation and Recovery Act (RCRA); and other applicable laws.

The BRAC Cleanup Plan is a planning document, and the information and assumptions presented may not necessarily have been completely reviewed by the Navy and/or Federal and State regulatory agencies. The BRAC Cleanup Plan is a dynamic document that will be updated regularly to reflect the current status and strategies of remedial actions. This document is the second in a series of updates/modifications and represents conditions and strategies as of January 1995. It was a collaborative effort between BRAC Cleanup Team (BCT) and Navy Comprehensive Long-Term Environmental Action Navy (CLEAN) Contractor, EnSafe/Allen & Hoshall (E/A&H).

Status of Disposal, Reuse, and Interim Lease Process

The disposal of Naval Base Charleston involves four interrelated activities: the NEPA Environmental Impact Statement (EIS) process, the Environmental Baseline Survey (EBS), development of a base disposal plan, and development of a community reuse plan. The first three items are the responsibility of the Navy. The fourth was the responsibility of the Building Economic Solutions Together (BEST) committee. The Draft EIS, the EBS, and the community reuse plan have been completed. The base disposal plan is in a state of change based on tenant activities.

To date, property disposal at Naval Base Charleston has included a federal transfer of approximately 10 acres to the Department of State and 6.5 acres to the National Oceanographic and Atmospheric Association (NOAA). Interim leases have been established for the marina and warehouses with the Naval Command Control and Ocean Surveillance Center In-Service Engineering (NISE) East, the Charleston Naval Complex Redevelopment Authority (CNCRA), and the National Civilian Community Corps (NCCC). As of 1 March 1995, there are no plans for additional transfer actions; however, there are requests for interim leases for a number of buildings and the CNCRA has issued a Request for Proposal to ship repair/ship builder firms.

Future property disposal at Naval Base Charleston could include Federal Transfer, Negotiated Sale, No-Cost Public Benefit Conveyance, Donated Property, or additional Interim Leases.

Status of Environmental Restoration Program

A total of 194 Solid Waste Management Units (SWMUs) and 203 Areas of Concern (AOCs) are being considered under the RCRA Facility Assessment (RFA)/RCRA Facility Investigation (RFI) process. RFAs for SWMUs 1 through 36 were prepared from 1987 through 1991. Four additional volumes of RFAs are pending U.S. Environmental Protection Agency (EPA) and South Carolina Department of Health and Environmental Control (SCDHEC) approval. These volumes discuss SWMUs 37 to 180 and AOCs 500 to 698. A fifth volume, which is currently being generated, discusses SWMUs 181 to 195 and AOCs 699 to 704.

The RCRA Corrective Action Management Plan (CAMP) has been generated and approved for use as the overall management plan for conducting the RFI. To facilitate management of the RFI process, the study area has been divided into 12 study zones, A through L. The Zone H RFI work plan has been approved and the majority of the fieldwork completed. The Zone C work plan has been approved and fieldwork has begun. The Zone I work plan has been approved and fieldwork is scheduled to begin in 1995. Zone E, J, and L work plans are in the process of being generated and are scheduled for completion in 1995. Generation of work plans for Zones A and B began in February 1995. Generation of the remaining work plans for Zones D, F, G, and K are scheduled to begin in August 1995.

The Navy has completed a fence-to-fence draft EBS. The final EBS report will be issued in March 1995.

Summary of Condition of Property

There are no CERFA uncontaminated properties at this time. A summary of the current environmental condition of property (ECP) is shown below. Since the investigation effort commenced in August 1994, no data has been generated which enable properties to be shifted out of classification 7.

Environmental Condition of Property							
ECP Classification	1	2	3	4	5	6	7
Number of Acres*	0	0	0	0	5	345	1291
Percent of Total Land Area*	0.0%	0.0%	0.0%	0.0%	0.30%	21.20%	78.50%

Note:

* Acreage and percentage numbers do not include leased property or non-BRAC properties (Clouter Island and Naval Hospital Charleston).

Summary of Current BRAC Cleanup Plan Action Items

Table ES-1 provides a listing of recommendations and issues associated with environmental restoration, compliance, and technical/management action items that require further evaluation and implementation by the BCT/Project Team.

Table ES-1 BCT/Project Team Action Items

Action Item	Program Review Item ¹	Status	
		In Progress	To Be Performed
COMPLIANCE ACTIVITIES			
Underground Storage Tank (UST) removal/compliance			
Determination if heating oil tanks will be removed.	16	X	
Take steps to ensure compliance with SCDHEC UST regulations.	16, 18	X	
Develop alternative for treating soils where analytical results show solely a petroleum release.	15, 25		X
Perform sufficient number of EBS Phase IIs to project needs of the community where Findings of Suitability to Transfer or Lease (FOSTs/FOSLs) are being obtained.	27, 33		X
Polychlorinated Biphenyl (PCB) issues			
Sample all machinery that may contain PCBs.		X	
Hazardous Waste/Materials Management			
Determine fate of hazardous waste permit.		X	
Wastewater Discharge			
Determine fate of National Pollutant Discharge Elimination System (NPDES) permit.		X	
Determine fate of NPDES storm water discharge permit.		X	
Air Emissions			
Determine fate of air permits.		X	
Asbestos			
Determine where asbestos must be abated.		X	
NEPA			
Prepare required NEPA documentation to support preparation of Decision Documents for remedial actions.	27	X	
CERCLA 120(h)(3) CONSIDERATIONS			
Environmental Condition of Property			
Perform further studies to determine environmental condition for unevaluated properties.	9	X	
Suitability for Property Transfer			
Determine required and acceptable deed restrictions or controls.	28, 32		X
Integrate disposal and reuse priorities into restoration and compliance scheduling.	31, 17, 18	X	
Develop base reuse parcel map based on impact from BEST and the EIS.	28	X	

Table ES-1 BCT/Project Team Action Items

Action Item	Program Review Item ¹	Status	
		In Progress	To Be Performed
COMMUNITY RELATIONS			
Update Community Relations Plan	14	X	
Keep onbase and public Administrative Records current.	14	X	
Ensure that all commentors receive responsiveness summary.	14	X	
MANAGEMENT AND ADMINISTRATIVE SUPPORT ACTIVITIES			
Establish and maintain database for information management.	21	X	
Establish background concentration levels for use in risk assessments.	23		X

NOTE:

¹ These numbers refer to the 33 bottom-up program review items from the Department of Defense (DOD) guidance.

LIST OF ACRONYMS

ACM	Asbestos Containing Material
ACBM	Asbestos Containing Building Material
ADP	Automated Data Processing
AIRFA	American Indian Religious Freedom Act
AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirements
AST	Aboveground Storage Tank
ATSDR	Agency for Toxic Substance and Disease Registry
BCO	Base Closure Officer or Office
BCP	BRAC Cleanup Plan
BCT	BRAC Cleanup Team
BEC	BRAC Environmental Coordinator
BEQ	Bachelor Enlisted Quarters
BEST	Building Economic Solutions Together Committee
BPT	BRAC Project Team
BRAC	Base Realignment and Closure Act of 1988 and Defense Base Closure and Realignment Act of 1990, collectively
BRMO	Bettis Regional Manager's Office
BTC	Base Transition Coordinator
BUMED	Bureau of Medicine
BUPERS	Bureau of Personnel
CAA	Clean Air Act
CAAC	Counseling and Assistance Center
CAMU	Corrective Action Management Unit
CARDEROCK	Carderock, Maryland
CDR	Commander
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFC	Chlorofluorocarbon
CFR	<i>Code of Federal Regulations</i>
CHSN	Charleston
CINCLANTFLT	Commander in Chief Atlantic Fleet
CL	Cruiser (Light)
CLEAN	Comprehensive Long-Term Environmental Action Navy
CM	Corrective Measures
CMC	Commander Marine Corps
CMS	Corrective Measures Study
CNCRA	Charleston Naval Complex Redevelopment Authority
CNET	Chief of Naval Education and Training
CNO	Chief of Naval Operations

List of Acronyms (continued)

CNS	Charleston Naval Station
CNSY	Charleston Naval Shipyard
COE	Corps of Engineers
COMCRUDESGRU	Commander Cruiser Destroyer Group
COMDESGRU	Commander Destroyer Group
COMINWARCOM	Commander Mine Warfare Command
COMINFLANT	Commander Mine Fleet Atlantic
COMNAVBASE	Commander Naval Base
COMNAVRESFOR	Commander Naval Reserve Force
COMOMAG	Commanding Officer Mobile Mine Assembly Group
COMSIX	Commander Sixth Fleet
COMSUBFLOTSIX	Commander Submarine Fleet Six
COMSUBGRU	Commander Submarine Group
CPO	Chief Petty Officer
CRC	Charleston Recreation Center
CRP	Community Relations Plan
CSI	Confirmatory Sampling Investigation
CSTG	Coast Guard
CSTP	Conceptual Site Treatment Plan
CWA	Clean Water Act
DCU	Dockside Chlorination Unit
DD	Decision Document
DECA	Defense Commissary Agency
DEIS	Draft Environmental Impact Statement
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DESRON	Destroyer Squadron
DFAS	Defense Finance and Accounting
DLA	Defense Logistics Agency
DOD	Department of Defense
DOE	Department of Energy
DPDO	Defense Printing Detachment Office
DPM	Defense Priority Model
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing System
DSTP	Draft Site Treatment Plan
EA	Environmental Assessment
E/A&H	EnSafe/Allen & Hoshall
EBS	Environmental Baseline Survey
ECD	Estimated Completion Date
ECCM	Electronic Counter-Counter Measures
ECP	Environmental Condition of Property

List of Acronyms (continued)

EDTA	Ethylenediaminetetraacetic Acid
EE/CA	Engineering Evaluation/Cost Analysis
EIC	Engineer in Charge
EIS	Environmental Impact Statement
EM	Enlisted Men
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
FBM	Fleet Ballistic Missile
FBMSTC	Fleet Ballistic Missile Submarine Training Center
FEIS	Final Environmental Impact Statement
FFA	Federal Facility Agreement
FFCA	Federal Facilities Compliance Act of 1992
FISC	Fleet Industrial Supply Center
FMWTC	Fleet and Mine Warfare Training Center
FOSL	Finding of Suitability to Lease
FOST	Finding of Suitability to Transfer
FS	Feasibility Study
FSO	Fleet Support Office
FTSCLANT	Fleet Technical Support Center, Atlantic
FY	Fiscal Year
GIS	Geographic Information System
GPM	Gallons Per Minute
G-RAM	General Radioactive Materials
GST	Government Service Transportation
GW	Groundwater
HRO	Human Relations Office
HSWA	Hazardous Solid Waste Amendment
HW	Hazardous Waste
IAG	Interagency Agreement
IAS	Initial Assessment Study
ICP	Inductively Coupled Plasma
IDW	Investigation Derived Waste
IM	Interim Measures
IRMs	Interim Remedial Measures
IRP	Installation Restoration Program
IRPIMS	IRP Information Management System
ISA	Internal Screening of Alternatives
ISC	Initial Site Characterization

List of Acronyms (continued)

LBP	Lead Based Paint
LF	Landfill
LF	Linear Feet
LT	Lieutenant
LTM	Long-Term Monitoring
MAPP	Methylacetylene and Propadiene Gas
MCLs	Maximum Contaminant Levels
MCRC	Marine Corp Reserve Center
MEK	Methyl Ethyl Ketone
MINERON	Mine Squadron
MOA	Memorandum of Understanding
MOMAG	Mobile Mine Assembly Group
MSL	Mean Sea Level
MTIS	Material Turn-in Site
MWL	Mean Water Level
MWR	Morale, Welfare, and Recreation
NACIP	Navy Assessment and Control of Installation Pollutants
NADSAP	Navy Alcohol, Drug, and Substance Abuse Program
NAF	Naval Air Facility
NAV	Naval
NAVAIR	Naval Air Systems Command
NAVBASECHAS	Naval Base Charleston
NAVFAC	Naval Facilities Engineering Command
NAVHOSPCHAS	Naval Hospital Charleston
NAVLANT	Naval Atlantic
NAVRAMP	Naval Radon Assessment and Mitigation Program
NAVRESFOR	Naval Reserve Force
NAVSEA	Naval Sea Systems Command
NAVSEACENLANT	Naval Sea Systems Command Center Atlantic
NAVSECGRP	Naval Security Group
NAVSECR	Naval Security
NAVSTA	Naval Station
NAVSTACHAS	Naval Station Charleston
NAVSTACHASINST	Naval Station Charleston Instruction
NAVSUP	Naval Supply
NAVSURFLTREAD	Naval Surface Fleet Readiness Command
NAVSURF SEMMES PMT	Naval Surface, System and Equipment Maintenance for Surface Ships, Performance Monitoring Team
NAVWPNSTACHAS	Naval Weapons Station Charleston
NCCC	National Civilian Community Corps
NCCPSD	North Charleston Consolidated Public Service District

List of Acronyms (continued)

NCP	National Oil and Hazardous Substance Pollution Contingency Plan
NCSO	North Charleston Sewer District
NEPA	National Environmental Policy Act, as amended
NFA	No Further Action
NFI	No Further Investigation
NHPA	National Historic Preservation Act of 1966
NISE-EAST	Naval Command Control and Ocean Surveillance Center In-Service Engineering - East
NLSO	Naval Legal Service Office
NNPP	Naval Nuclear Propulsion Program
NOAA	National Oceanographic and Atmospheric Administration
NOV	Notice of Violation
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NPPSO	Naval Printing and Publications Support Office
NRC	Navy Reserve Center
NREACTRO	Naval Reactors Training Office
NROTC	Naval Reserve Office Training Corps
NRRO	Naval Reactors Representative Office
NSC	Naval Supply Center
NSGA	Naval Security Group Activity
NSYC	Naval Shipyard Command
NSYS	Naval Systems
NTCC	Naval Telecommunications Communication Center
NWS	Naval Weapons Station
O&M	Operation and Maintenance
OBA	Oxygen Breathing Apparatus
OEA	Office of Economic Adjustment
OF	Optional Form
OL	Open Land
OPP	Office of Pesticide Programs
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PA	Preliminary Assessment
PAO	Public Affairs Officer
PCB	Polychlorinated Biphenyl
pCi/l	Picocuries per liter
PMO	Polaris Materials Office
POC	Point of Contact
POI	Points of Interest
POL	Petroleum, Oils, and Lubricants

List of Acronyms (continued)

PP	Proposed Plan
PPE	Personal Protective Equipment
PWA	Public Works Administration
PWD	Public Works Department
PWC	Public Works Center
QA/QC	Quality Assurance/Quality Control
RA	Remedial Action
RAB	Restoration Advisory Board
RAC	Remedial Response Contract
RADCON	Radiological Controls
RAMP	Radon Assessment and Mitigation Program
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act, as amended
RD	Remedial Design
REC	Regional Environmental Coordinator
REDCOM	Readiness Command
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RM	Room
ROD	Record of Decision
ROICC	Resident Officer in Charge of Construction
RPM	Remedial Project Manager
RU	Regulated Unit
SAA	Satellite Accumulation Area
SARA	Superfund Amendments and Reauthorization Act
SCCC	South Carolina Coastal Council
SCE&G	South Carolina Electric and Gas
SCDHEC	South Carolina Department of Health and Environmental Control
SCS	Site Characterization Summary
SDWA	Safe Drinking Water Act
SECNAV	Secretary of the Navy
SECR	Secret
SESEF	Shipboard Electronics Systems Evaluation Facility
SF	Square Feet
SHPO	State Historic Preservation Office
SI	Site Inspection
SIMA	Shore Intermediate Maintenance Activity
SOUTHNAVFACENCOM	Southern Division Naval Facilities Engineering Command
SPAWAR	Space and Naval Warfare Command

List of Acronyms (continued)

SPCC	Spill Prevention, Controls and Countermeasures
SSBN	Subsurface Ballistic Nuclear
STP	Site Treatment Plan
SUBRON	Submarine Squadron
SUBTRAFAC	Submarine Training Facility
SUPSHIP	Supervisor of Shipbuilding, Conversion, and Repair
SWOB	Sewage Ship Waste Offload Barge
SWMU	Solid Waste Management Unit
TRC	Technical Review Committee
TRC	Total Residual Chlorine
TSCA	Toxic Substance Control Act
TSD	Treatment, Storage, or Disposal
USAF	United States Air Force
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
UXO	Unexploded Ordinance
VOC	Volatile Organic Compound

1.0 INTRODUCTION AND SUMMARY

As a result of past waste and resource management practices at Naval Base Charleston, some areas have become contaminated by various hazardous substances, pollutants, contaminants, or wastes. In response, a number of environmental restoration programs have been initiated at Naval Base Charleston. In addition, compliance with applicable laws and regulations ensures that present waste and resource management practices conducted by the Navy and property tenants are carried out in a manner that protects human health and the environment.

The purpose of this BRAC Cleanup Plan (BCP) is to summarize the current status of the Naval Base Charleston environmental restoration and associated environmental compliance programs as they relate to base closure activities. The BCP presents a comprehensive strategy for implementing response actions to protect human health and the environment. This strategy integrates activities being performed under both the Installation Restoration Program (IRP) and associated environmental compliance programs to support restoration of Naval Base Charleston for prompt community reuse. The BCP is a dynamic document that will be updated regularly to incorporate newly obtained information and reflect the completion or change in status of any cleanup actions. This BCP was prepared with information available as of January 1995. It was a collaborative effort between the BRAC Cleanup Team (BCT) and Navy Comprehensive Long-Term Environmental Action Navy (CLEAN) Contractor, EnSafe/Allen & Hoshall (E/A&H).

This BCP is a planning document. Information, schedules, and actions presented in this BCP do not necessarily represent those that have been or will be approved by the Navy or Federal and state environmental agencies. It was necessary to make certain assumptions and interpretations to develop the estimates contained within this plan. As additional data becomes available, implementation programs and cost estimates could be dramatically altered. Such changes would then be reflected in future updates to the BCP.

Chapter 1 describes the objectives of the environmental restoration program, explains the purpose of the BCP, introduces the Project Team formed to review and implement the program, provides a brief history of Naval Base Charleston, and outlines the property acquisition and tenant information.

Chapter 2 summarizes the current status of the Naval Base Charleston property disposal planning process and describes the relationship of the disposal process with other environmental programs.

Chapter 3 summarizes the current status and past history of the Naval Base Charleston Installation Restoration Program (IRP) and associated environmental compliance programs, community relations activities that have occurred to date, and the present environmental condition of Naval Base Charleston property.

Chapter 4 describes the basewide strategy for environmental restoration, including the strategies for dealing with each site on Naval Base Charleston. This chapter also includes plans for

managing underground storage tanks (USTs), and summarizes plans for managing responses under other compliance programs.

Chapter 5 provides master schedules of planned or anticipated activities to be performed throughout the duration of the environmental restoration program, including associated compliance activities.

Chapter 6 describes specific technical and/or administrative issues to be resolved and presents a strategy for resolving these issues.

In addition to the main text, the following appendices are included in this document:

- Appendix A — tables presenting funding requirements, as well as a summary table of past costs for the environmental restoration program.
- Appendix B — technical documents, listings of previous environmental restoration program deliverables by program and by site.
- Appendix C — summaries of decision documents; none have as yet been developed but will be added when they become available.
- Appendix D — summaries of sites that have been approved for No Further Investigation (NFI).
- Appendix E — working conceptual models for sites as they are developed.
- Appendix F — the Environmental Baseline Survey (EBS) File Structure Index, an outline of the information that has been collected on buildings and structures that will be the basis for Findings of Suitability to Lease (FOSL) or Findings of Suitability to Transfer (FOST).

1.1 Environmental Response Objectives

The objectives of the base closure environmental restoration program at Naval Base Charleston are as follows:

- Protect human health and the environment.
- Strive to meet reuse goals established by the community reuse committee.
- Comply with all Federal, state, and local statutes and regulations.
- Update the information from the EBS to support the FOST/FOSL process.

- Continue efforts to identify all potentially contaminated areas.
- Incorporate any new sites into the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan as appropriate.
- Establish priorities for environmental restoration and restoration-related compliance activities (so that property disposal and reuse goals can be met).
- Maintain communications with community and solicit their input throughout the process.
- Initiate selected interim measures to control, eliminate, or reduce risks to manageable levels.
- Complete RFIs and risk assessments as soon as practicable for each site in order of priority which takes into account both environmental concerns and redevelopment plans.
- Develop, screen, and select Corrective Measures (CM) that reduce risks in a manner consistent with statutory requirements.
- Commence CMs for environmental and property disposal and reuse priority areas as soon as practicable.
- Determine and identify property that is deemed suitable for transfer by deed and properties that are not suitable for transfer because they are either not properly evaluated or pose an unacceptable human health or environmental risk.
- Conduct long-term CMs for groundwater and any necessary 5-year reviews for small quantity wastes left onsite.
- Establish interim and Long-Term Monitoring (LTM) plans for CMs as appropriate.
- Meet RCRA Part B Permit schedules as detailed in Chapter 5 of this BCP.

1.2 BCP Purpose, Updates, and Distribution

This BCP presents, in summary fashion, the status of the Naval Base Charleston's environmental restoration and compliance programs and the comprehensive strategy for environmental restoration and restoration-related compliance activities. It lays out the response action approach at the installation in support of base closure. In addition, it defines the status of efforts to resolve technical issues so that continued progress and implementation of scheduled activities can occur. The Naval Base Charleston BCP Strategy and Schedule is designed to streamline and expedite the necessary response actions in order to facilitate the earliest possible disposal and reuse activities.

The BCP will be updated as major actions are initiated and/or completed. The Naval Base Charleston BCP will be reviewed annually and updated to support the budget submission. The BRAC Environmental Coordinator (BEC) will be responsible for the updates.

1.3 BCT/Project Team

The Naval Base Charleston BRAC Cleanup Team (BCT) has been established and is composed of two BRAC Environmental Coordinators (BECs) representing the Department of Defense (DOD), an EPA Region IV representative, and a SCDHEC representative. A copy of the BCT Partnering Charter is shown in Figure 1-1. Formal BCT meetings are held as required and provide the means of conducting periodic program reviews and attainment of consensus on decisions with Federal and state environmental regulators. An ongoing dialogue is accomplished by having a EPA team member located onsite and having access to the SCDHEC local district office. The BRAC Cleanup Project Team includes representatives of EPA Region IV, SCDHEC, Southern Division-Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), Charleston Naval Shipyard (CNSY), Commander Naval Base (COMNAVBASE), and other key participants including the Charleston Naval Complex Redevelopment Authority (CNCRA) and other technical consultants. Table 1-1 lists the team members and specifies their roles and responsibilities.

1.4 Brief History of Installation

Naval Base Charleston is located on the banks of the Cooper River in Charleston County, South Carolina, approximately 5 miles north of the city of Charleston. The installation consists of two major areas; an undeveloped dredged materials disposal area on the east bank of the Cooper River on Clouter Island in Berkeley County, and a developed area on the west bank of the Cooper River. The developed portion of Naval Base Charleston lies on a peninsula, bounded on the west by the Ashley River and on the east by the Cooper River. Naval Base Charleston facilities adjacent to the main developed area include Naval Hospital Charleston and the Chicora Tank Farm, both located within 0.5 mile of the western boundary of the installation. Figure 1-2 shows the site location of Naval Base Charleston.

In addition to the areas listed above, there are three non-contiguous properties that are integral parts of the Naval Base Charleston. These are the degaussing facility in downtown Charleston, the Naval Station Annex facility adjacent to the Charleston Air Force Base, and the Naval Electronics facility on Sullivan's Island. These facilities are described in greater detail in Section 1.5 of this plan. All site locations are shown in Figure 1-2. Plans are being developed to transfer Clouter Island to the U.S. Army Corps of Engineers (COE). Naval Hospital

Figure 1-1 Figure EPA/SCDHEC/DOD BRAC Cleanup Team Partnering Charter

EPA/SCDHEC/DOD
NAVAL BASE CHARLESTON
BRAC CLEANUP TEAM
PARTNERING CHARTER

Goal: To execute appropriate environmental response actions in an expeditious and effective manner in order to facilitate the reuse of the Naval Base Charleston, while protecting human health and the environment.

Mission: To structure an effective program for environmental response actions that will be a model for similar efforts elsewhere.

Vision: The BRAC Cleanup Team (BCT) is empowered and operates cohesively to achieve our environmental goal.

We, the partners, commit to teamwork to achieve these objectives:

- Conduct "bottom-up" review and prepare BRAC Cleanup Plan (BCP)
- Ensure effective communication among BCT and Project Team members
- Ensure innovative management, planning and coordination of multiple activities while embracing a bias for cleanup instead of study
- Determine innovative technologies that can be applied to expedite remedies and opportunities for application of presumptive remedies
- Eliminate barriers to a cost-effective program
- Seek consensus on short and long-term budget and implementation plans
- Foster community participation
- Resolve conflicts through a coordinated work effort to avoid adversarial relations
- Maintain professionalism and enthusiasm, and encourage communication to make the partnership educational and enjoyable
- Reinforce the partnered relationship with honest feedback and continual improvement throughout the life of the program
- Utilize a systematic approach to problem solving
- Utilize technical resources of all organizations

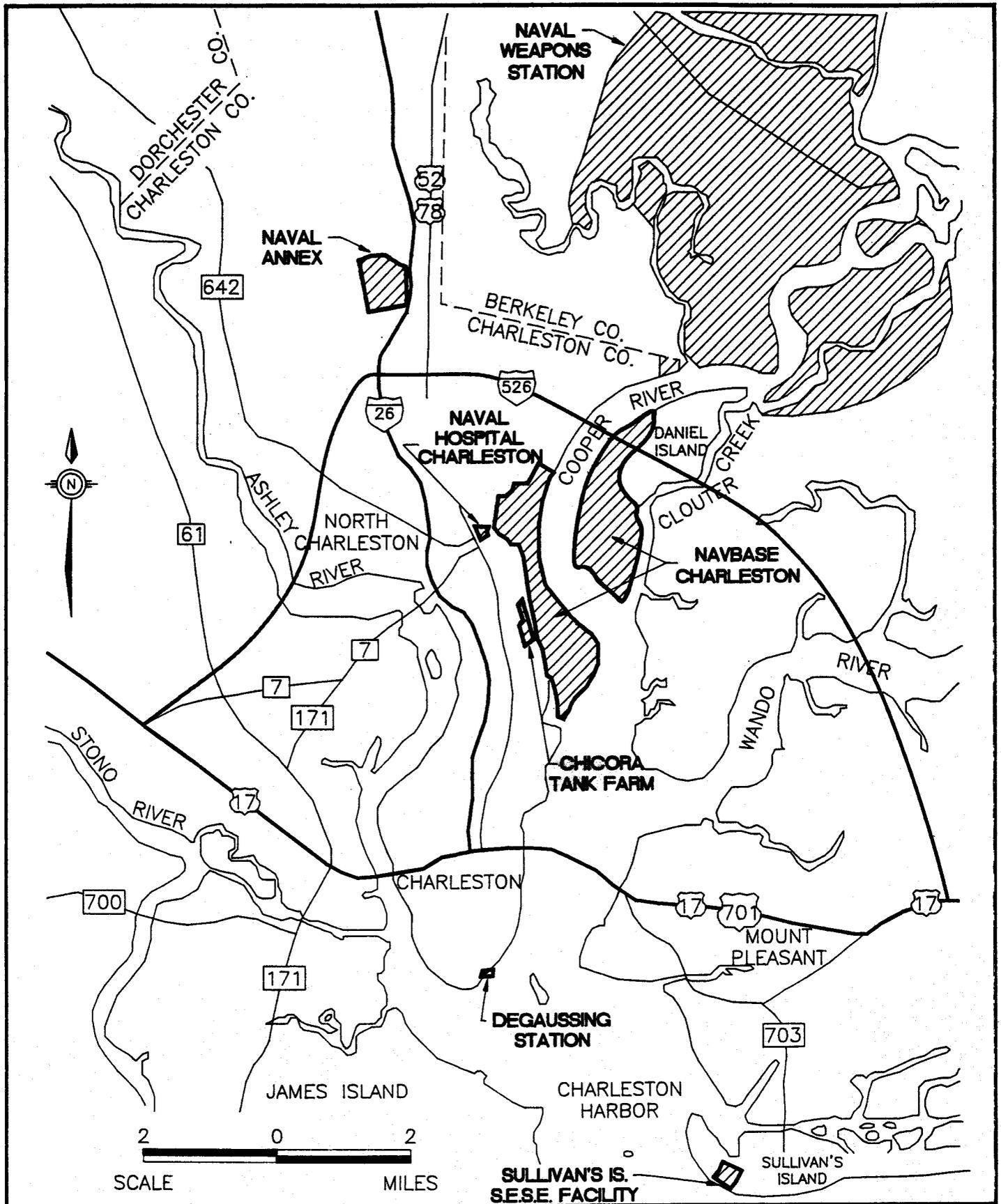
J. Ann Ragan

Patricia V. Franklin

W. Doyle J. Birtcher *R. Denton*

Signed: November 4, 1993

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BRAC CLEANUP PLAN
 NAVAL BASE
 CHARLESTON

FIGURE 1-2
 SITE LOCATION

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Charleston is not closing as part of BRAC 93 and will not be excessed; it is therefore not part of this BCP. The Short Stay facility is leased and the operation will be transferred to another Naval activity. Therefore, it is not part of the BRAC process.

The majority of the land use adjacent to the main base is industrial and low-income residential. Industrial facilities are located to the north and south of the main part of Naval Base Charleston; low-income residential and minor commercial facilities are located along Spruill Avenue, which parallels the western border of Naval Base Charleston.

Naval Base Charleston consists of approximately 3,035 acres. All real property is owned by two Naval Commands: Commander Naval Base and Commanding Officer, CNSY. The breakdown between the two is shown below:

1)	Commanding Officer, CNSY	
a)	Controlled Industrial Area (CIA)	120.84 acres
b)	Dredged Materials Disposal Area (Clouter Island)	1,397 acres
2)	Commander Naval Base	
a)	Naval Base Charleston	1,467.80 acres
b)	Naval Station Annex (Non-contiguous)	42 acres
c)	Sullivans Island Facility (Non-contiguous)	4.08 acres
d)	Downtown Degaussing Station (Non-contiguous)	2.81 acres
	TOTAL	3,034.53 acres

Major commands that occupy areas of Naval Base Charleston include Fleet Ballistic Missile Submarine Training Center (FBMSTC), Fleet and Industrial Supply Center (FISC), Fleet and Mine Warfare Training Center (FMWTC), Naval Hospital Charleston, and Charleston Naval Station (CNS).

The locations of these land holdings and occupants are shown in Figure 1-3. CNSY controls Clouter Island and the majority of the central one-third of the developed area on the west bank of the river. Plans are being developed to transfer Clouter Island to the U.S. Army Corps of Engineers (COE). Naval Hospital Charleston is not closing as part of BRAC 93 and will not be excessed; it is therefore not part of this BCP. The southern third of the main part of Naval Base Charleston is controlled primarily by CNS. FISC and CNS are the major landholders on the northern third of the developed area. FISC also controls the Chicora Tank Farm adjacent to the western boundary of the installation.

On August 31, 1901, the U.S. Navy took possession of 2,250 acres of land, much of it composed of marsh areas, and established the Charleston Navy Yard. The original mission of the new Navy Yard was to make repairs to smaller vessels of the fleet and supply them with stores. This mission has been modified and expanded over the life of the installation in response to American military involvements as well as additional operational requirements. This has

included a significant increase in land holdings and development, as well as a major increase in industrial operations and ship support activities. Table 1-2 provides a compilation of the history of installation operations to the present date.

During its development, many low lying areas of Naval Base Charleston were filled with dredged materials from the Cooper River. Filling operations began about 1918 near Noisette Creek on the northern end of Naval Base Charleston and continued through the 1960s, after which time the dredged material was deposited on the opposite side of the Cooper River. Figure 1-4 shows areas filled by dredged material and solid waste and the approximate dates of filling. Base-related activities, as well as activities both upriver and downriver, may have impacted these dredged materials; however, the degree of impact, if any, is unknown now. Because of the varying nature of fill material, it is expected that background contamination concentrations will fluctuate across Naval Base Charleston. Current investigations being conducted under the RCRA Facility Assessment (RFA)/RFI program will attempt to assess any impact resulting from dredged material usage.

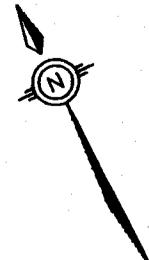
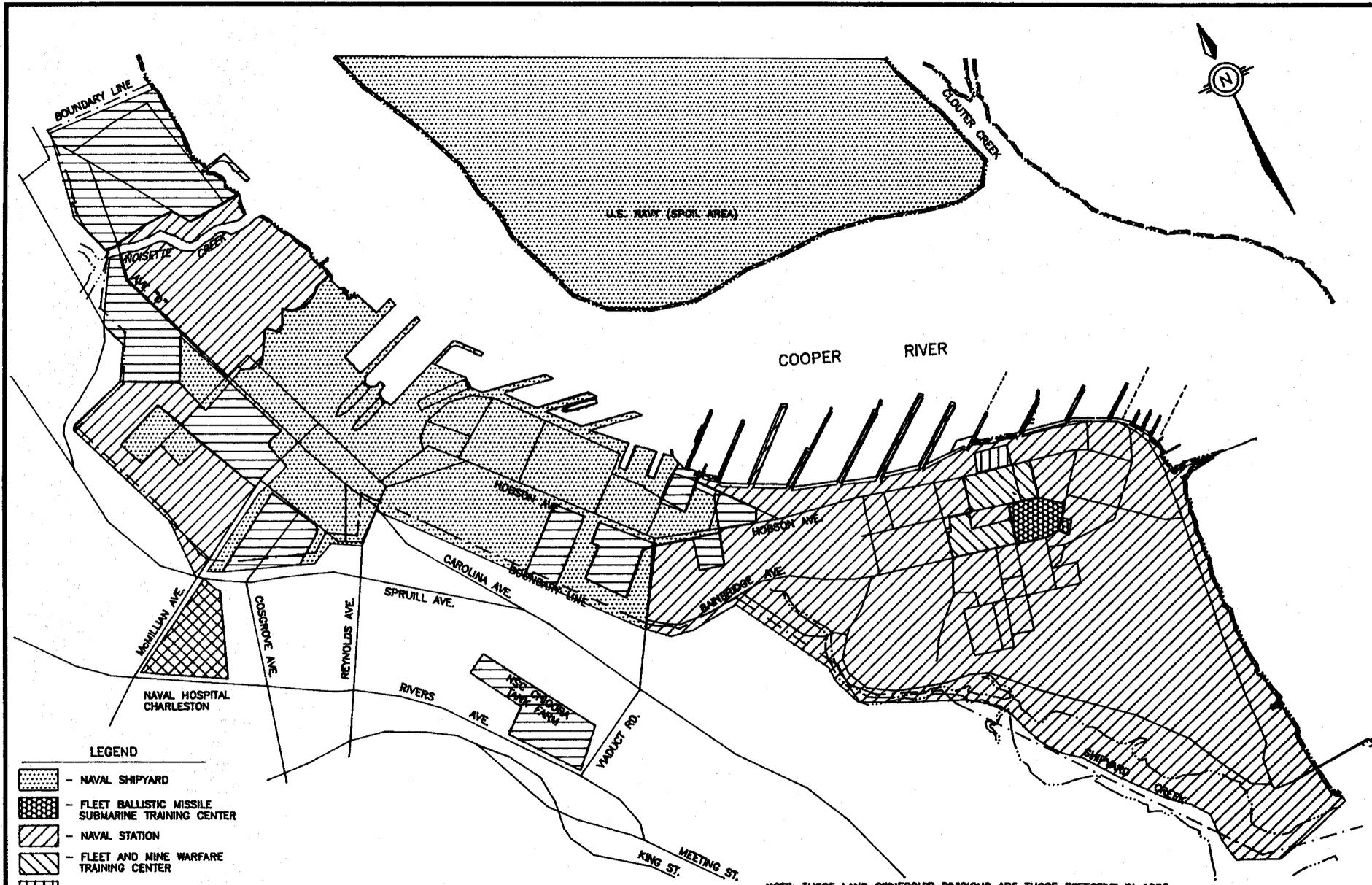
1.4.1 Geology

The geology of the Charleston area is typical of the southern part of the Atlantic Coastal Plain. A seaward-thickening wedge of Cretaceous and younger sediments is underlain by older igneous and metamorphic basement rock (see Figure 1-5). At Naval Base Charleston, Recent and/or Pleistocene sands, silts, and clays of high organic content are exposed at the surface. These materials are underlain by a plastic calcareous clay known as the Cooper Marl. The Cooper Marl is underlain by the Santee Limestone and older rocks.

The surface soils on Naval Base Charleston have been extensively disturbed and re-worked by a history of intensive use and improvement. The natural surface soils were probably fine-grained materials typical of tidal marsh environments. Most of the southern portion of Naval Base Charleston has been covered with dredged materials. These materials are an unsorted mixture of sands, silts, and clays. Most areas of Naval Base Charleston have been either filled or re-worked. No data are available concerning permeability rate or range for the soils at Naval Base Charleston; however, the permeability of the surface soils is rather low, as evidenced by the fine-grained nature of the soils and the amount of standing water following a significant rain event.

Most potable water on the Charleston peninsula is supplied by surface water sources (Edisto River). Although both the Cooper Marl and the Santee Limestone function as aquifers in other areas, neither is significantly developed in the Charleston area. In the vicinity of Naval Base Charleston, the quality of the water from the Santee is not suitable for potable supply.

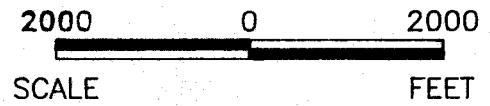
In the Charleston area, the Cooper Marl is rather impermeable and acts as the confining bed for the Santee, which is not as permeable as in other areas and forms a confined aquifer.



NOTE: THESE LAND OWNERSHIP DIVISIONS ARE THOSE EFFECTIVE IN 1978.

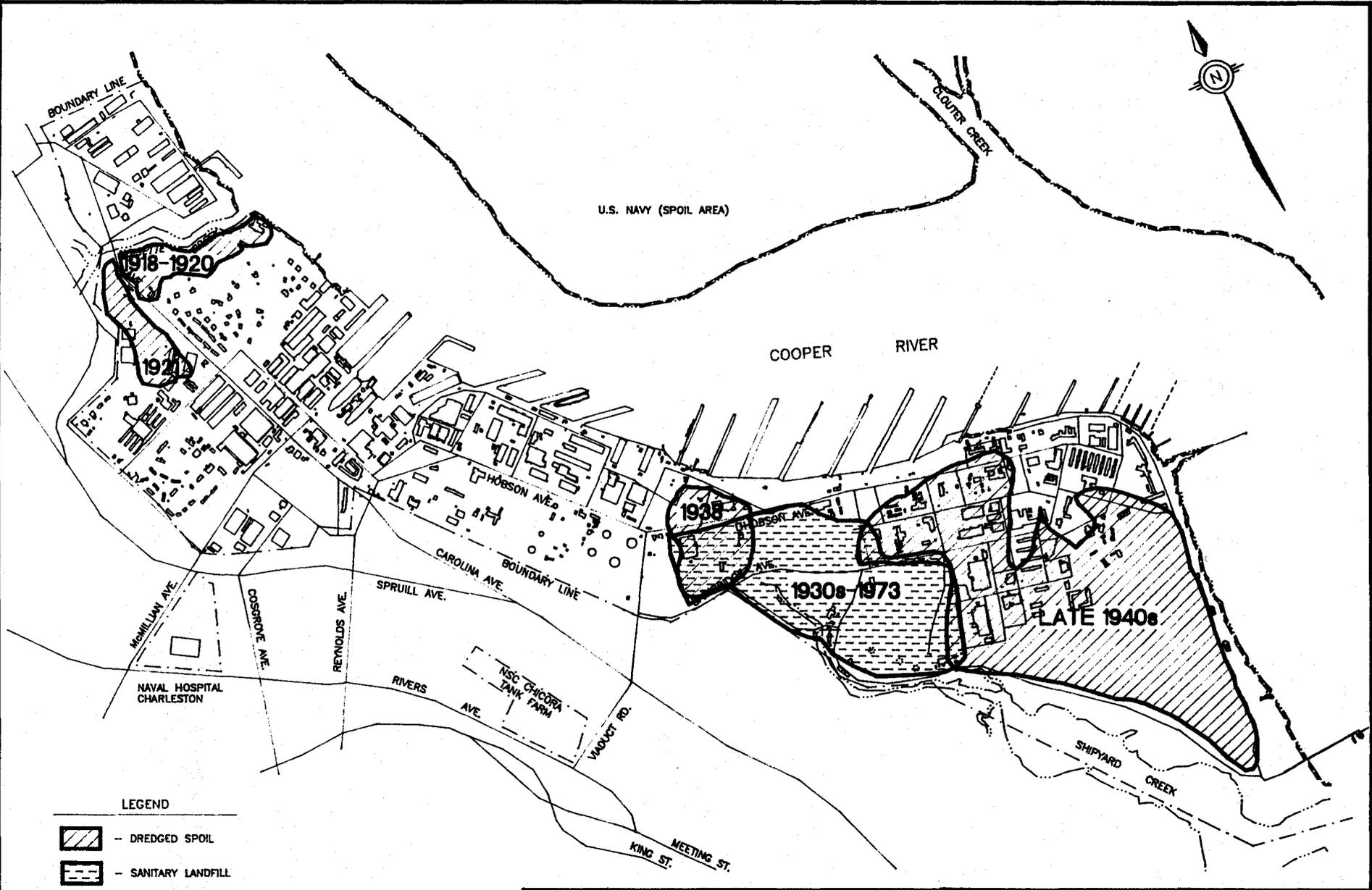
- LEGEND**
- NAVAL SHIPYARD
 - FLEET BALLISTIC MISSILE SUBMARINE TRAINING CENTER
 - NAVAL STATION
 - FLEET AND MINE WARFARE TRAINING CENTER
 - NOAA
 - FLEET AND INDUSTRIAL SUPPLY CENTER
 - NAVAL HOSPITAL CHARLESTON

SOURCES: SOUTH DIV, n.d. ESE, 1981.



**BRAC CLEAN UP PLAN
NAVAL BASE
CHARLESTON**

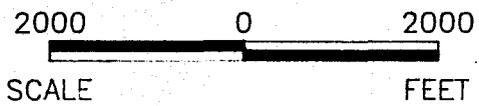
**FIGURE 1-3
LOCATIONS OF
LAND HOLDINGS**



LEGEND

-  - DREDGED SPOIL
-  - SANITARY LANDFILL

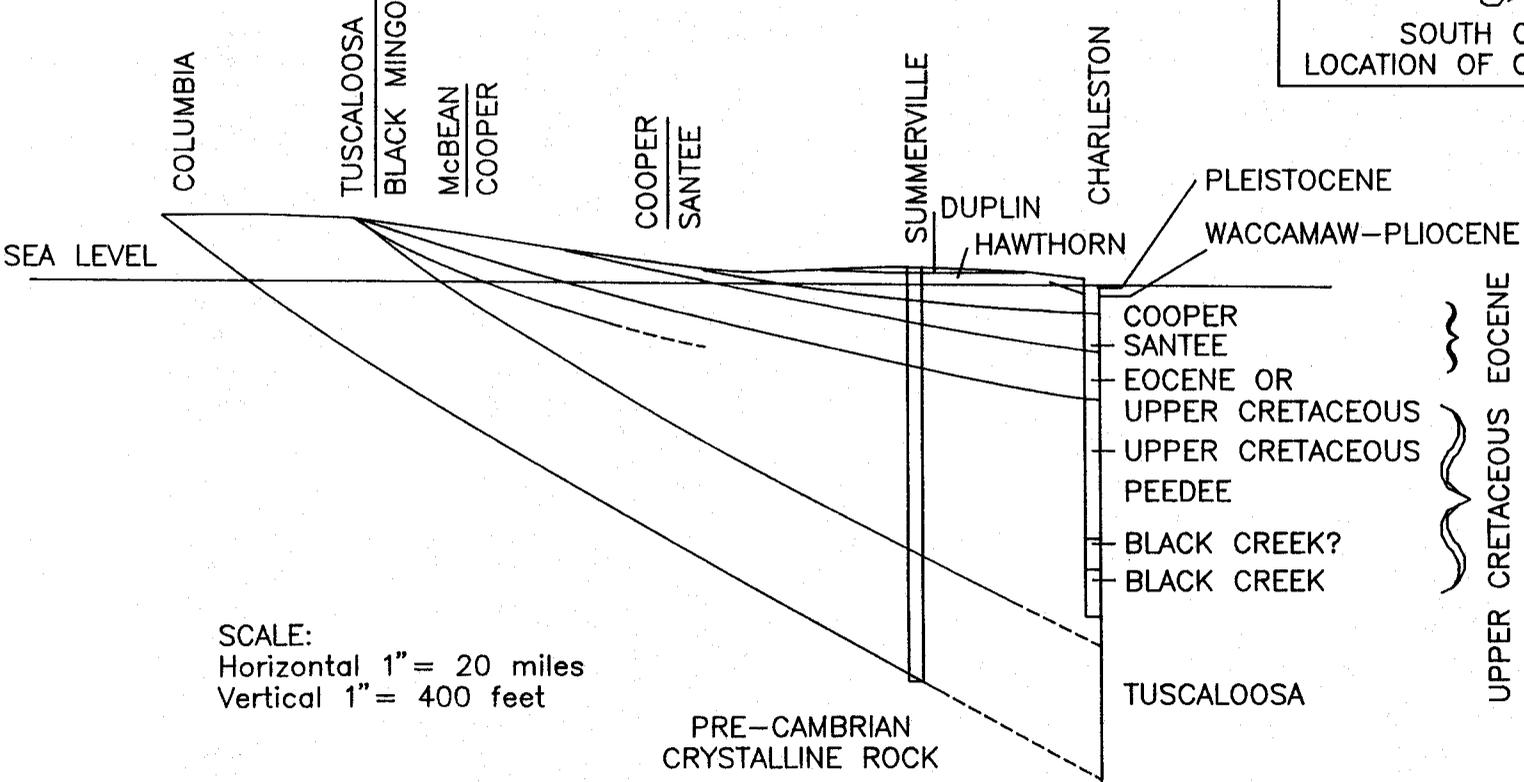
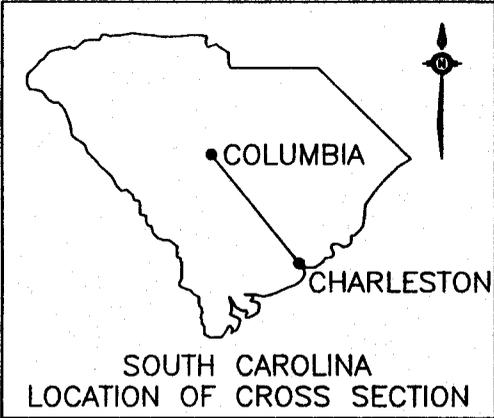
SOURCES: SOUTH DIV, n.d. ESE, 1981.



BRAC CLEAN UP PLAN
NAVAL BASE
CHARLESTON

FIGURE 1-4
AREAS FILLED AND
APPROXIMATE DATES
OF FILLING OPERATIONS

DWG DATE: 02/15/95 DWG NAME: 760FILCH



SCALE:
 Horizontal 1" = 20 miles
 Vertical 1" = 400 feet

SOURCE: NAVFAC, 1976 & ESE, 1981.



BRAC CLEANUP PLAN
 NAVAL BASE
 CHARLESTON

FIGURE 1-5
 GEOLOGIC CROSS SECTION

DWG DATE: 02/15/95 | DWG NAME: 760EWCRS

Groundwater in the Santee, which occurs at about 328 feet below mean sea level (MSL), flows generally to the southeast. Some wells in the vicinity of Naval Base Charleston are pumping from the Santee for industrial purposes. In July 1981, the water level of a well in the Santee under Naval Base Charleston measured 15 feet MSL, indicating that the hydraulic gradient across the confining bed (Cooper Marl) is artesian. That is, water from the Santee moves upward through the Cooper to discharge into the incised river valleys.

In the shallow aquifer on Naval Base Charleston, water flows toward the Cooper River or Shipyard Creek, due to the fine-grained texture of the sediments and the level topography on the naval base. The water table is within 3 to 7 feet of the ground surface. The shallow groundwater continually discharges to the Cooper River and Shipyard Creek.

1.4.2 Industrial Operations and Historical Waste Generation

Naval Base Charleston is an extensive industrial complex containing virtually all shipyard and dockside operations required to manufacture, repair, overhaul, and refuel naval vessels. As a result, a wide variety of types of hazardous wastes have been generated over the life of the facility. Locations of known past hazardous waste activities are shown in Figures 1-6(a) and 1-6(b), located in the map pocket at the end of this document. At the present time, all known hazardous waste generation sites are being evaluated under the RCRA RFA/RFI process. This program is described in Section 3.0 of this plan; a complete list of all Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) are included as Tables 3-1 and 3-2 of this plan. These sites are shown in Figures 3-1(a) through 3-1(h) located in the map pocket at the end of this plan.

1.5 Offbase Property/Tenants

Tenants

Table 1-3 provides a description of all Naval Base Charleston tenant commands, non-component tenants, and related activities. Table 1-4 provides property acquisition information for all tracts located at Naval Base Charleston, which are shown on Figure 1-7. This also includes all easements acquired by the Navy for use in conjunction with the main base property.

Offbase Properties

Only one offbase property is included in the property disposal actions planned. This is the Naval Station Annex. The Clouter Island property will be transferred to the U.S. Army Corps of Engineers. Naval Hospital Charleston is not closing as part of BRAC 93 and will not be excessed; it is therefore not part of this BCP. The Short Stay facility, the Sullivan's Island Shipboard Electronics Systems Evaluation (SESE) facility, and the downtown Degaussing Station

are leased and are therefore not part of the BRAC process. The Naval Station Annex and the leased facilities are described in the following paragraphs.

The Naval Station Annex is comprised of 42 acres of land used by Mobile Mine Assembly Group 11 for housing, small maintenance activities, and a variety of other activities. An unnumbered easement was granted to the Highway Department for the construction of I-26. A Host-Tenant Real Estate Agreement is active with the U.S. Army for the construction and operation of an Army Reserve Center. The Naval Station Annex was transferred from the U.S. Air Force, who may re-acquire the property following the departure of the Navy. However, certain portions of the Naval Station Annex occupied by the Marine Corp Reserve Center (MCRC) might be retained; a request with the CNCRA is currently pending.

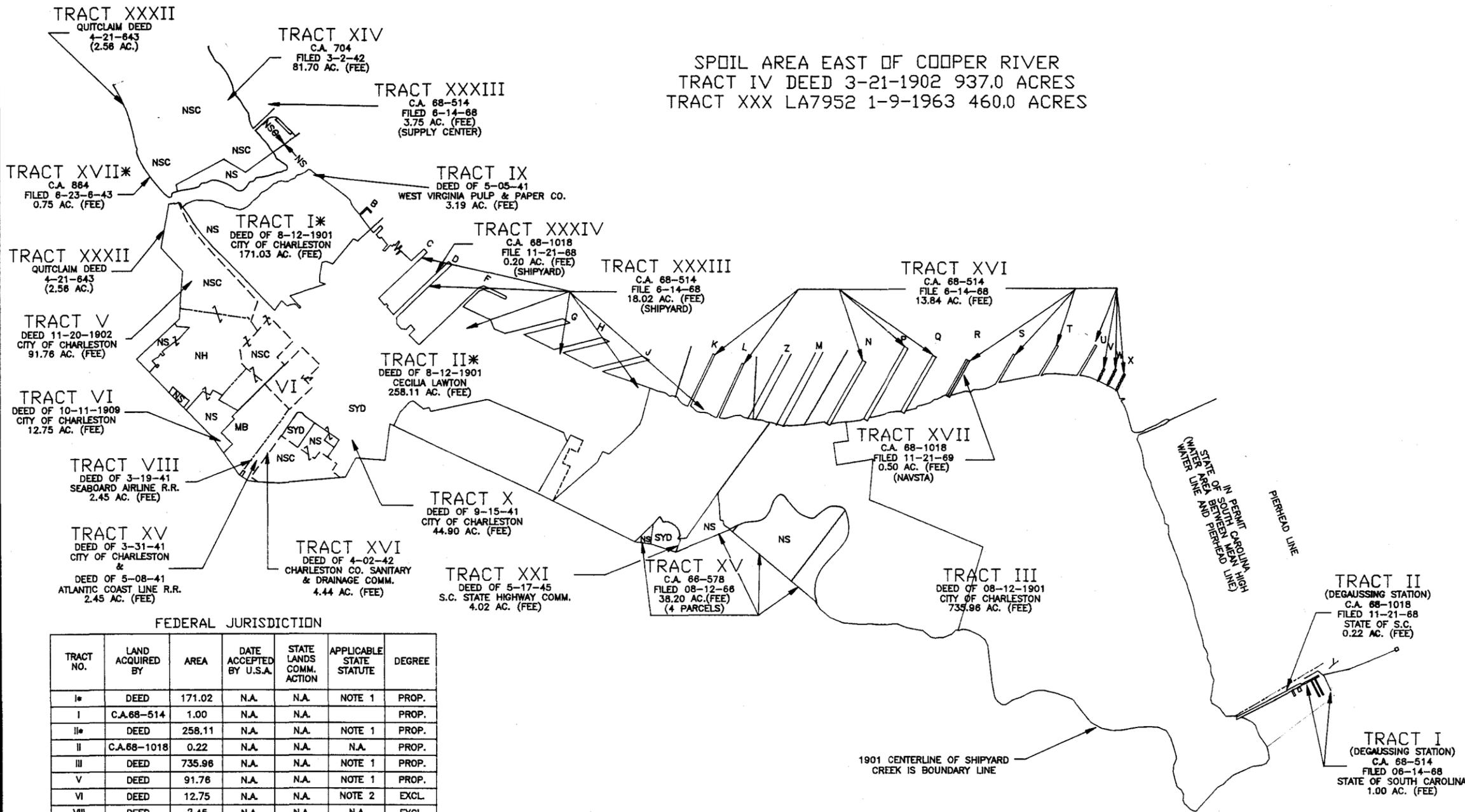
The Sullivan's Island facility is operated by the Navy under in-permit N62467-89-RP-00031 with the National Park Service (Fort Sumter National Monument) for operation of the Naval SESE facility. The total area involved is 4.08 acres divided as follows: 0.73 acres in-easement, 0.88 acre in-permit (exclusive use), and 2.47 acres in-permit (joint use). The facility consists of an antenna and ground anchors. The Sullivan's Island facility is leased and will be returned to its owner.

The Degaussing Station is comprised of a building and degaussing pier located on 2.81 acres in downtown Charleston. The Degaussing Station is leased and will be returned to its owner.

The Short Stay facility is a recreational facility located in Berkeley County, South Carolina for use by Naval Station components and dependents. The facility is comprised of 56.6 acres which is leased from the South Carolina Public Service Authority. There is also a 100 foot right-of-way easement for entrance to the facility. The facility has a number of cabins, playgrounds, camp-sites and associated areas used for recreation. There is also a municipal wastewater treatment plant which discharges to Lake Moultrie under an National Pollutant Discharge Elimination System (NPDES) permit. Plans are being developed for another Navy activity to assume the existing lease.

There are a number of easements and other real estate encumbrances associated with these facilities. The status of these, as well as related real estate encumbrances associated with the Chicora Tank Farm, is shown in Table 1-5. Figure 1-8(a) shows the Chicora Tank Farm, which, although it is not technically an offbase property, was not included in the overall base maps shown in Figures 1-6(a) and 1-6(b), located in the map pocket at the end of this document. Figures 1-8(a) through (e) show all offbase parcels as well as land usage for each. Figure 1-9 shows offbase land use for areas surrounding Naval Base Charleston.

SPOIL AREA EAST OF COOPER RIVER
 TRACT IV DEED 3-21-1902 937.0 ACRES
 TRACT XXX LA7952 1-9-1963 460.0 ACRES



SUMMARY OF ACREAGE	
-----	INTERIOR TRACT LINE
-----	NAVAL SUPPLY CENTER
-----	NAVAL STATION
-----	NAVAL HOSPITAL
-----	MARINE BARRACKS
-----	SAME ACQUISITION



TRACT NO.	LAND ACQUIRED BY	AREA	DATE ACCEPTED BY U.S.A.	STATE LANDS COMM. ACTION	APPLICABLE STATE STATUTE	DEGREE
I*	DEED	171.02	N.A.	N.A.	NOTE 1	PROP.
I	C.A.68-514	1.00	N.A.	N.A.		PROP.
II*	DEED	258.11	N.A.	N.A.	NOTE 1	PROP.
II	C.A.68-1018	0.22	N.A.	N.A.	N.A.	PROP.
III	DEED	735.96	N.A.	N.A.	NOTE 1	PROP.
V	DEED	91.76	N.A.	N.A.	NOTE 1	PROP.
VI	DEED	12.75	N.A.	N.A.	NOTE 2	EXCL.
VIII	DEED	2.45	N.A.	N.A.	N.A.	EXCL.
IX	DEED	3.19	9-08-42	9-08-42	NOTE 2	EXCL.
X	DEED	44.90	7-09-42	7-11-42	NOTE 3	EXCL.
XIV	C.A.704	81.70	7-09-42	7-10-42	NOTE 3	EXCL.
XV (NS)	C.A.66-578	38.20	N.A.	N.A.	N.A.	PROP.
XV (SYD)	DEED	2.45	N.A.	N.A.	N.A.	EXCL.
XVI	DEED	4.44	N.A.	N.A.	N.A.	EXCL.
XVII	C.A.864	0.75	N.A.	N.A.	N.A.	EXCL.
XXI	DEED	4.02	N.A.	N.A.	N.A.	PROP.
XXXII	DEED	2.56	N.A.	N.A.	N.A.	PROP.
XXXIII	C.A.68-514	22.41	N.A.	N.A.	N.A.	PROP.
XXXIV	C.A.68-514	0.20	N.A.	N.A.	N.A.	PROP.
XVI (NS)	C.A.68-514	13.84	N.A.	N.A.	N.A.	PROP.

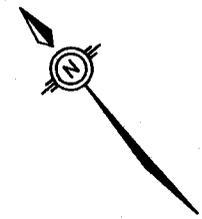
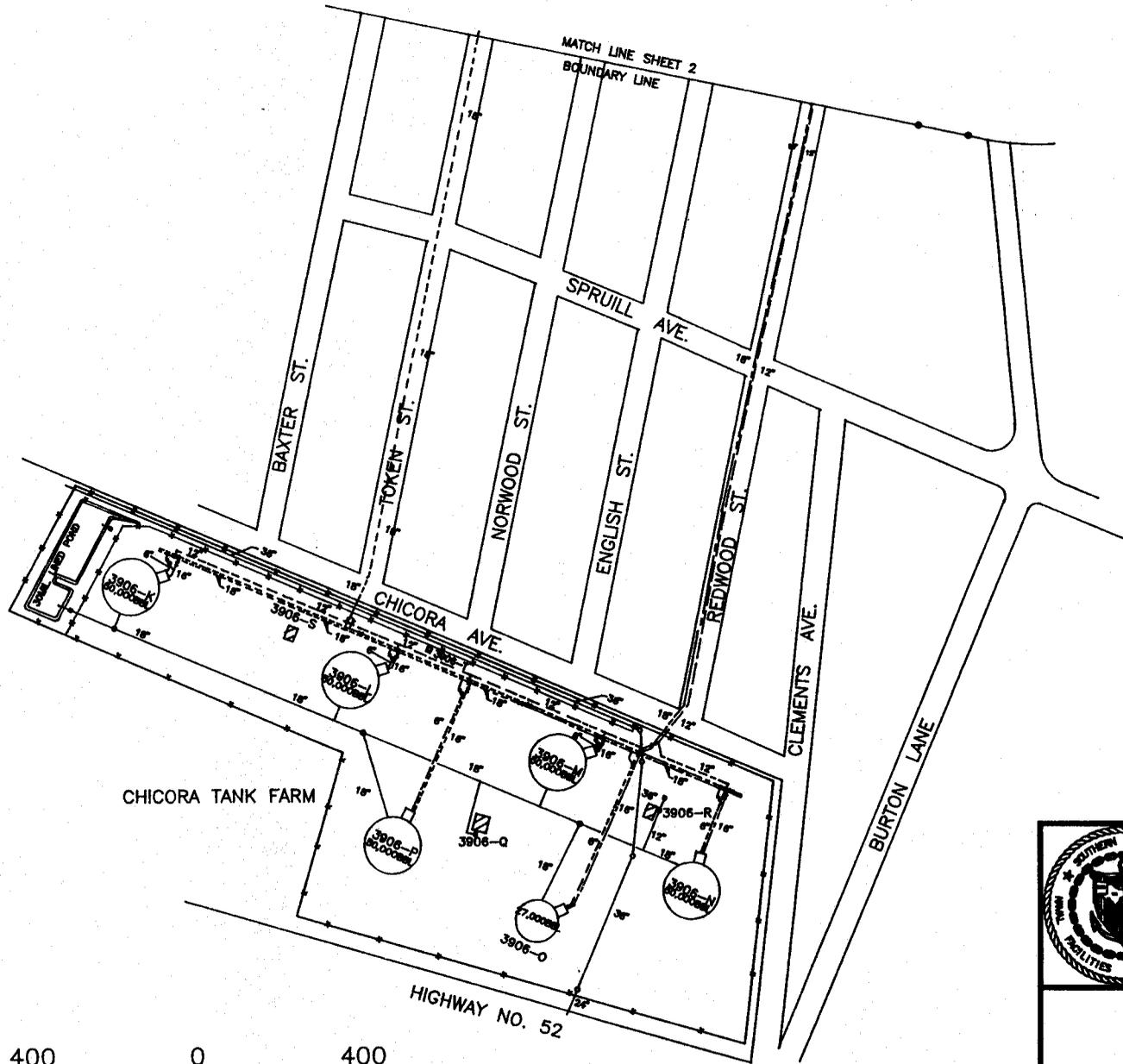
- NOTES: 1. SESSIONS LAWS OF 1871, CHAPT. 14, PG. 535
 2. SESSIONS LAWS OF 1908, XXV, 1127
 3. CODE OF LAW, S.C. SEC. 2042 (52)

ESTATE	HOW ACQUIRED						RIGHT TO USE BY OTHERS		
	PURCHASE	CONDEMN.	DONATION	EXCHANGE	TRANSFER	RESERV.	TOTAL	LEASE	EASEMENT
FEE	776.55	158.82			560.00		1495.37	0.92	
EASEMENT	0.75						0.75	1.80	
LEASE									PUBLIC RIGHTS
OTHER	0.10						0.10	8.15	
TOTAL	777.40	158.82			560.00		1496.22	TOTAL	10.87

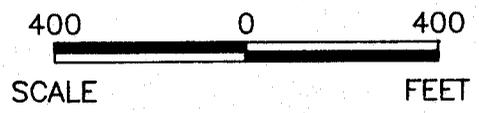


BRAC
 CLEANUP PLAN
 NAVAL BASE
 CHARLESTON

FIGURE 1-7
 PROPERTY ACQUISITION MAP

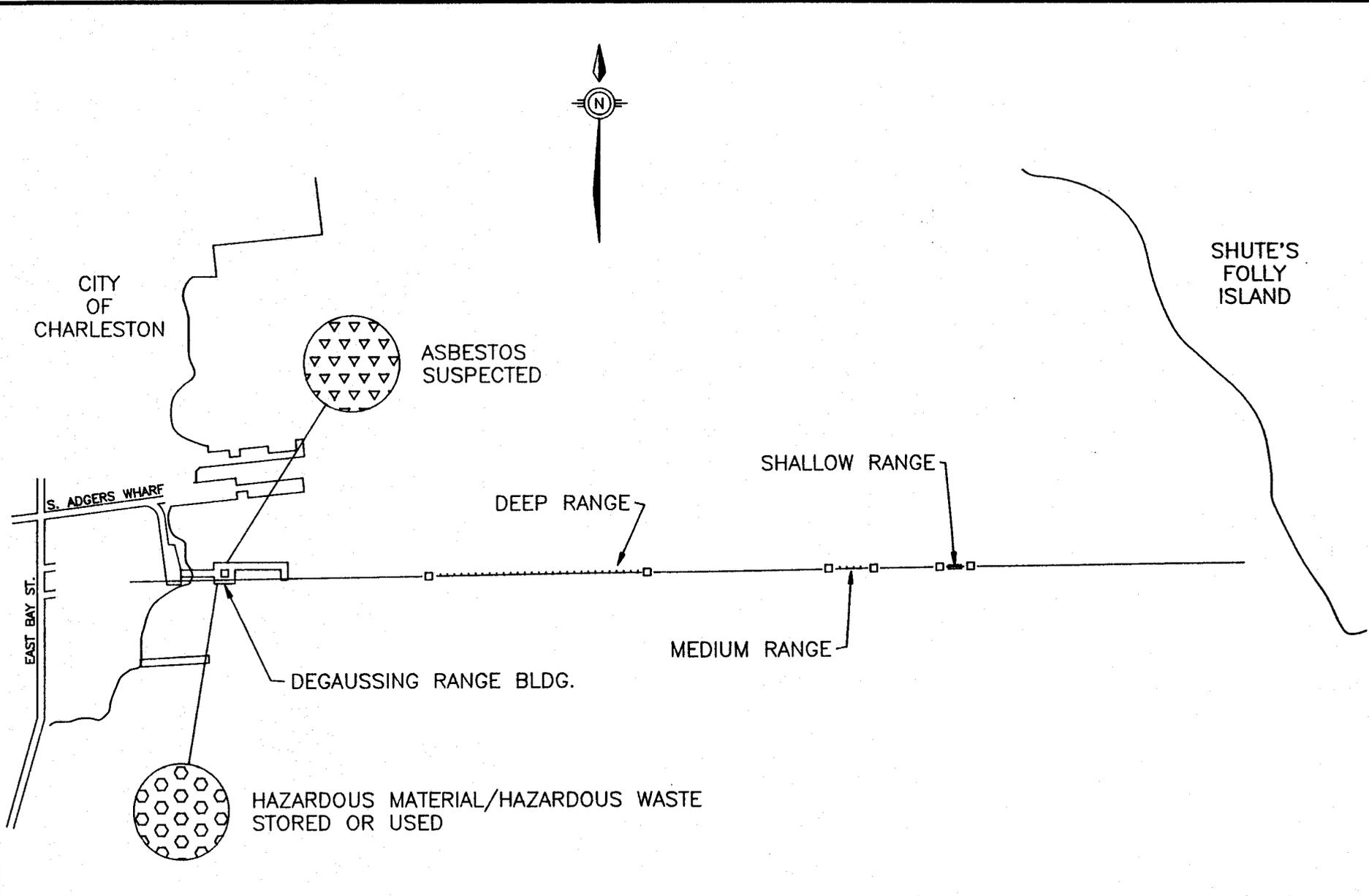


- LEGEND**
- FUEL OIL LINES
 - - - SLUDGE LINES
 - DRAIN LINES
 - - - DIESEL LINES
 - CATCH BASIN
 - VALVE
 - MANHOLE



BRAC CLEANUP
PLAN
NAVAL BASE
CHARLESTON

FIGURE 1-8(a)
CHICORA TANK FARM

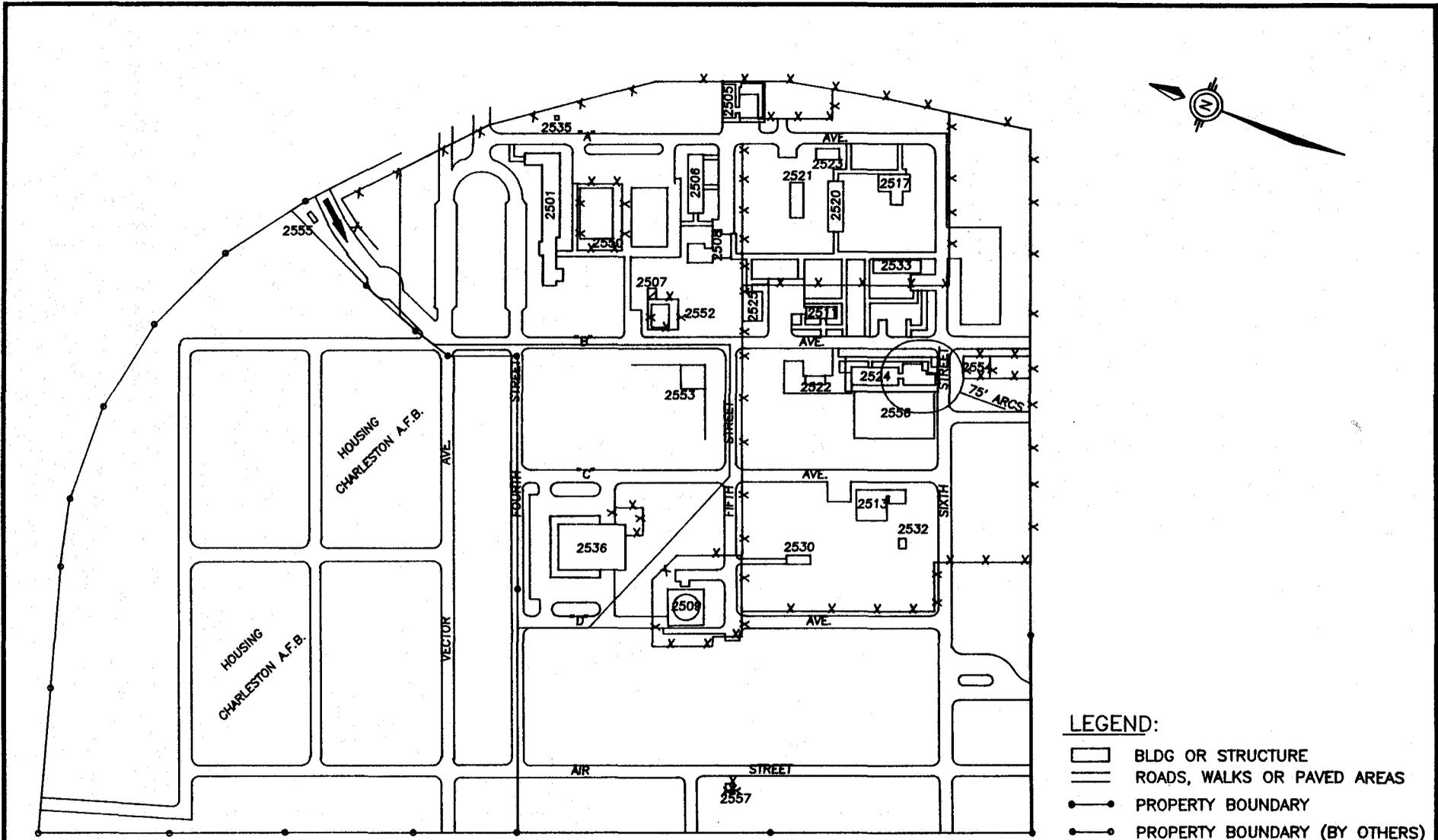


NOT TO SCALE

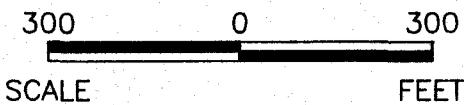


BRAC CLEANUP
 PLAN
 NAVAL BASE
 CHARLESTON

FIGURE 1-8(b)
 OFFBASE PARCEL
 DEGAUSSING FACILITY



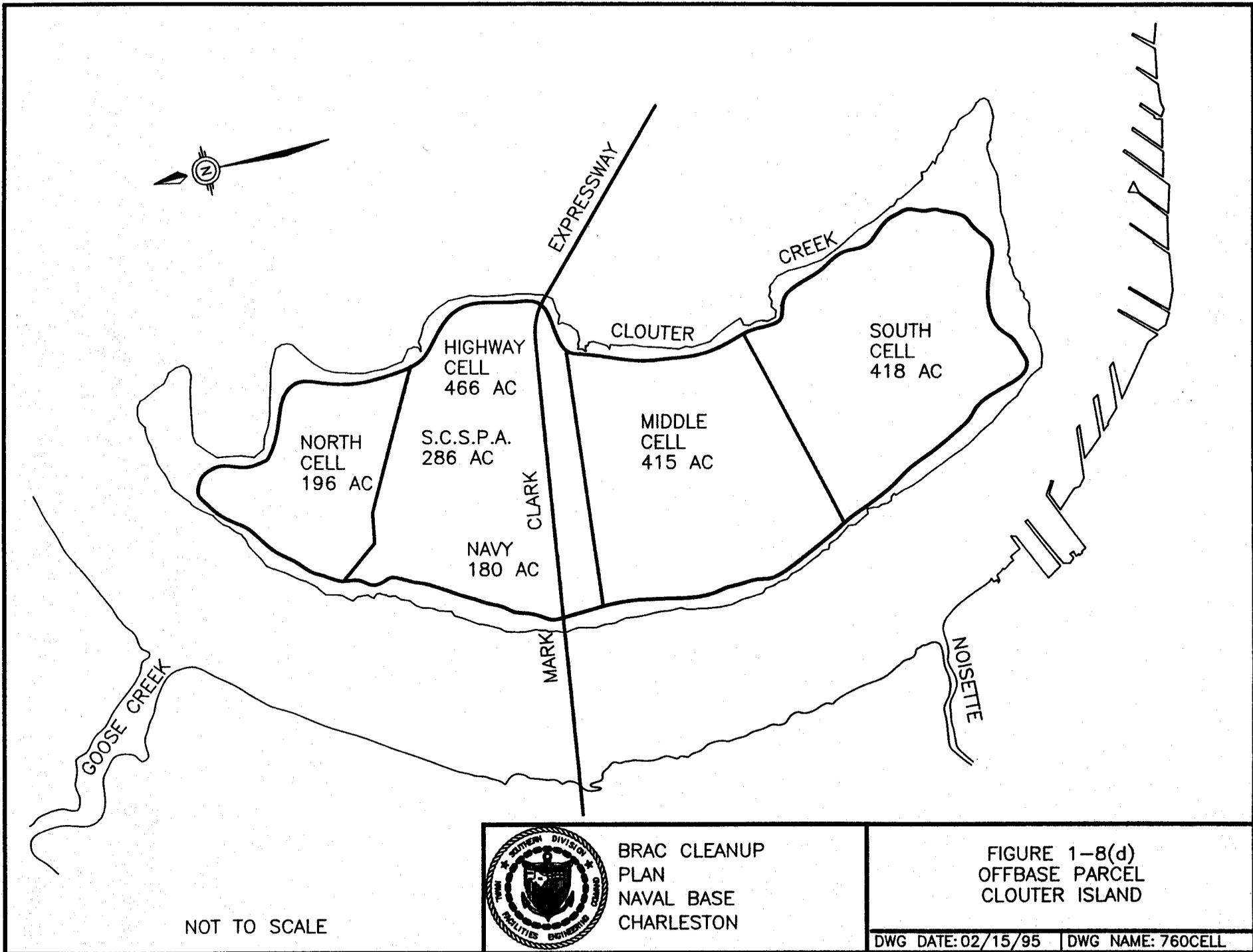
- LEGEND:**
-  BLDG OR STRUCTURE
 -  ROADS, WALKS OR PAVED AREAS
 -  PROPERTY BOUNDARY
 -  PROPERTY BOUNDARY (BY OTHERS)
 -  SECURITY FENCE



BRAC CLEANUP
PLAN
NAVAL BASE
CHARLESTON

FIGURE 1-8(c)
OFFBASE PARCEL
NAVAL STATION ANNEX

DWG DATE: 02/15/95 DWG NAME: 760ANN



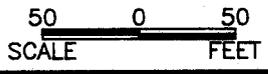
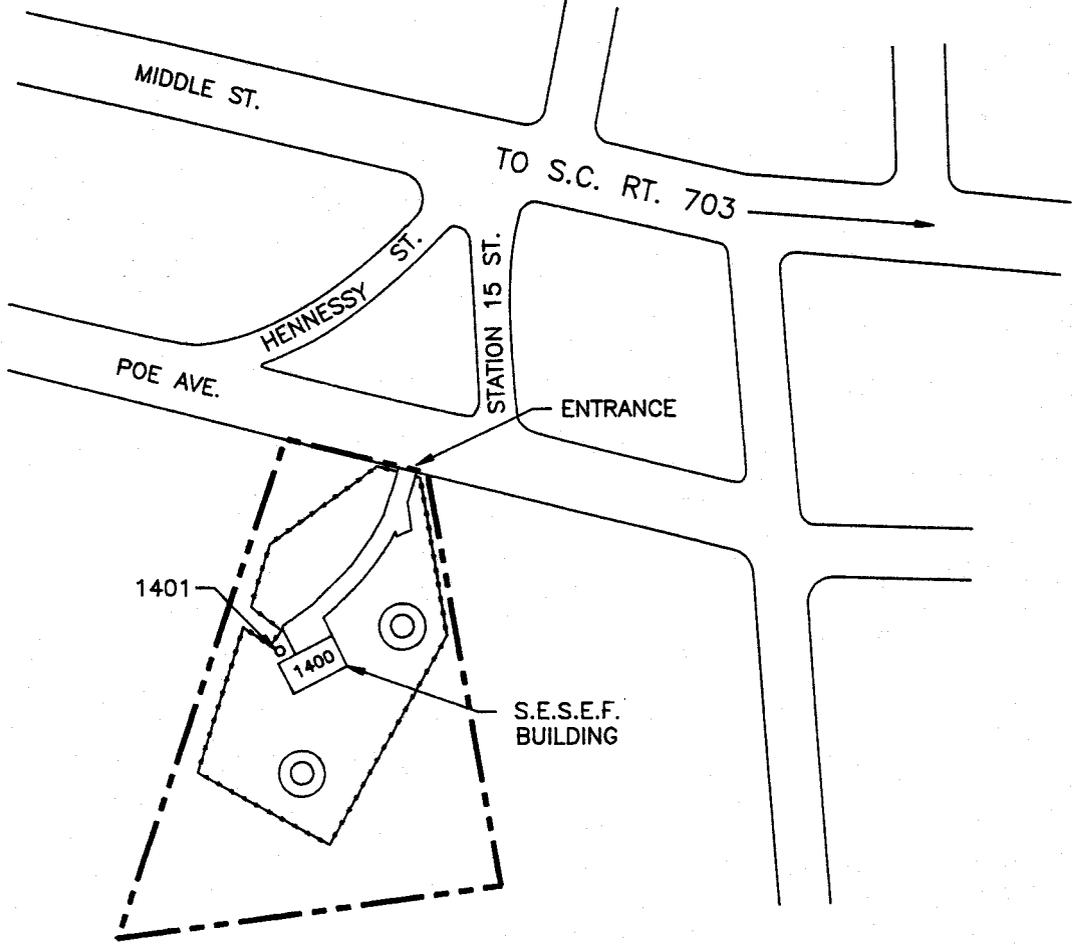
NOT TO SCALE



BRAC CLEANUP
 PLAN
 NAVAL BASE
 CHARLESTON

FIGURE 1-8(d)
 OFFBASE PARCEL
 CLOUTER ISLAND

DWG DATE: 02/15/95 | DWG NAME: 760CELL



BRAC CLEANUP
PLAN
NAVAL BASE
CHARLESTON

FIGURE 1-8(e)
OFFBASE PARCEL
S.E.S.E.F. FACILITY
SULLIVAN'S ISLAND



LEGEND

-  - INDUSTRIAL
-  - COMMERCIAL
-  - RESIDENTIAL
-  - UNDEVELOPED

NOT TO SCALE



BRAC CLEANUP
PLAN
NAVAL BASE
CHARLESTON

FIGURE 1-9
OFFBASE LAND USE

Table 1-1 Current BCT/Project Team Members

BCT Members				
Name	Title	Phone	Organization	Role/Responsibility
Pat Franklin	BRAC Environmental Coordinator (BEC)	(803) 743-0691 (SOUTHDIV) (803) 743-9985 (BRAC Office) (803) 743-9947 (fax)	SOUTHDIV c/1881 NAVBASECHAS c/N4BEC	DOD BCT Member
Bobby Dearhart	BRAC Environmental Coordinator (BEC)	(803) 743-9985 (BRAC Office) (803) 852-1931 (pager) (803) 743-9947 (fax)	CNSY c/2308 NAVBASECHAS c/N4BEC	DOD BCT Member
Doyle Brittain	Senior Remedial Project Manager (RPM)	(404) 347-3555 ext. 2061 (404) 347-1735 (fax) (803) 743-9985 (local)	EPA Region IV Waste Management Division	EPA BCT Member
Ann Ragan	Federal Facility Liaison	(803) 743-4721 (Columbia) (803) 743-5407 (fax) (803) 743-9985 (local)	SCDHEC Environmental Quality Control Division	South Carolina BCT Member

CURRENT BRAC CLEANUP PROJECT TEAM MEMBERS

Name	Title	Phone	Organization	Role/Responsibility
Steve Beverly	Attorney Advisor	(803) 743-0708	SOUTHDIV c/09CB	Legal Counsel
Pat Cline	Natural Resources	(803) 743-0588	SOUTHDIV c/063	Natural Resources
Thuane Fielding	Environmental Engineer	(803) 743-0513	SOUTHDIV c/1876 Environmental Division	RPM
Daryle Fontenot	Environmental Engineer	(803) 743-0607 (803) 743-0465 (fax)	SOUTHDIV c/1841 Petroleum Division	UST
Tony Hunt	Environmental Engineer	(803) 743-0525	SOUTHDIV c/1877 Environmental Division	RPM
Andy Hutto	Environmental Engineer	(803) 743-0542 (803) 743-0465 (fax)	SOUTHDIV c/1844 Petroleum Division	UST
Ron Johnson	Architect	(803) 743-0990	SOUTHDIV c/064RJ Environmental Planning Division	Historical and Cultural Resource Review
Pano Kordonis	Environmental Engineer	(803) 743-0565 (803) 743-0465 (fax)	SOUTHDIV c/1825 Hazardous Waste Division	Hazardous Wastes
Sue Lawley	Public Affairs Officer (PAO)	(803) 743-0771	SOUTHDIV c/OOP Public Affairs Office	Public Media Assistance
Linda Martin	Environmental Engineer	(803) 743-0574 (803) 743-0465 (fax)	SOUTHDIV c/1802 Operations Division	Contracts
Will Sloger	Planner	(803) 743-0797	SOUTHDIV c/064WS Environmental Planning Division	EIS Preparation

Table 1-1 Current BCT/Project Team Members				
Current BRAC Cleanup Project Team Members				
Name	Title	Phone	Organization	Role/Responsibility
Shirley Washington	Realty Specialist	(803) 743-0489	SOUTHDIV c/061 Real Estate Division	Real Estate
CAPT James Augustin	Base Closure Officer (BCO)	(803) 743-9948 (803) 743-9947 (fax)	NAVBASECHAS c/N4 Base Closure Office	Officer in Charge of Base Closure
Jim Beltz	Administrative Director, BCO	(803) 743-9985 (803) 743-9947 (fax)	NAVBASECHAS c/N41 Base Closure Office Facilities/Real Estate	Environmental Closure Planning Subcommittee
David Epps	Computerized Project Manager	(803) 743-9985 (BRAC Office)	NAVBASECHAS c/N42 Base Closure Office	Base Closure Office Computer Services
CDR Jim Moore	Base Transition Coordinator (BTC)	(803) 743-9985 (803) 743-9947 (fax)	NAVBASECHAS c/N4BTC Base Closure Office	Community Liaison Federal Agency Liaison
LT Gil Wolfe	Environmental Control Officer (NAVSTA)	(803) 743-5557 (803) 743-2554 (fax)	NAVSTACHAS	Environmental Closure Planning Subcommittee
CDR S.V. Bisceglia	Operations Closure Officer	(803) 743-4216	CNSY c/300C CNSY Operations Closure Office	CNSY Closure Operations Coordination
Malcolm Hursey	Deputy Director Radiological Controls	(803) 743-3552	CNSY c/105.1 Radiological Control Office	CNSY Nuclear Closure and Radiological Control POC
Ned F. Johnson	Director Radiological Controls	(803) 743-3552	CNSY c/105 Radiological Control Office	CNSY Nuclear Closure and Radiological Control POC
Ralph Laney	Head of OSHA and Environmental Department	(803) 743-4186 (803) 743-4897	CNSY c/106	Environmental Remediation Coordination
Michele McCoy	Legal Officer	(803) 743-3178	CNSY c/1130 CNSY Legal Office	CNSY Legal Council
Bill Powers	Environmental Engineer	(803) 743-5519 (803) 743-1475 (fax)	CNSY c/106.21 Environmental Controls Division	HW Permit
Carlton Shokes	Radiological Controls Engineering	(803) 743-3130	CNSY c/105.2	CNSY Nuclear Closure and Radiological Control POC
Amos Webb	Environmental Division Head	(803) 743-5519 (803) 743-6055 (803) 743-1475 (fax)	CNSY c/106.2 Environmental Division	CNSY Environmental Compliance Program Environmental Closure Planning Subcommittee
Butch Bonner	DRMO, Chief	(803) 743-3008 (803) 743-8040 (fax)	DRMO	Environmental Closure Planning Subcommittee

Table 1-1 Current BCT/Project Team Members				
Current BRAC Cleanup Project Team Members				
Name	Title	Phone	Organization	Role/Responsibility
Bob Veronee	Safety Director	(803) 743-4086 (803) 743-6371 (fax)	FISC c/05	Environmental Closure Planning Subcommittee
John Barnes	Industrial Hygienist	(803) 743-6100 (803) 743-0246 (fax)	NAVHOSPCHAS c/064	Environmental Closure Planning Subcommittee
Barry Lewis	Environmental Engineer	(803) 764-4010 (803) 764-4177 (fax)	NAVWPNSTACHAS c/0442	Environmental Closure Planning Subcommittee
Dr. Elmer Akin	Toxicologist	(404) 347-1586	EPA Region IV	Risk Assessment
Norman Henning	Attorney	(404) 347-2641 ext. 2262 (404) 347-5246 (fax)	EPA Region IV	Legal Affairs
Marion Hopkins	NEPA Specialist	(404) 347-3776	EPA Region IV	NEPA
Dr. Ted Simon	Toxicologist	(404) 374-1586 (404) 347-0076 (fax)	EPA Region IV	Toxicologist
Fred Sloan	Environmental Engineer	(706) 546- 3317 (706) 546-3343	EPA Region IV	Environmental Engineer
Carl Terry	Public Affairs Specialist	(404) 347-3004	EPA Region IV	Public Affairs
Tiki Whitfield	Community Relations Specialist	(404) 347-3555 (404) 347-1735 (fax)	EPA Region IV	Community Relations
Diane Jackson	Chemist	(404) 639-6070	ATSDR DOD Division	Health Assessment
Joe Bowers	Hydrogeologist	Columbia: (803) 896-4024 (803) 896-4002 (fax)	SCDHEC Division of Hydrogeology	Hydrogeology
Wayne Fanning	Assistant Director of Trident District EQC	(803) 740-1590 (803) 740-1595 (fax)	SCDHEC Chasn Division Trident EQC	Contractors Technical Representative
Tim Metten 48	Hydrogeologist	(803) 734-5328	SCDHEC Division of Groundwater Protection	UST Specialist
Rick Richter	Environmental Quality Manager	(803) 740-1590 (803) 740-1595 (fax)	SCDHEC Chasn Division Trident EQC	Hazardous Waste Consultant
David Walton	Environmental Engineer	(803) 896-4178 (803) 896-4002 (fax)	SCDHEC Division of Hazardous and Infectious Waste Management	Naval Base Charleston Project Manager
Bruce Campbell	Water Resources Director	(803) 883-9104	US Geological Survey	Groundwater Resource
Diane Duncan	Fish and Wildlife Representative	(803) 727-4707 (803) 727-4218 (fax)	US Fish and Wildlife Department of Interior	Natural Resource Trustee

Table 1-1 Current BCT/Project Team Members				
Current BRAC Cleanup Project Team Members				
Name	Title	Phone	Organization	Role/Responsibility
Waynon Johnson	Coastal Resources Coordinator	(404) 347-5231	National Oceanic and Atmospheric Administration (NOAA)	Natural Resource Trustee
Dr. Bob Van Dolah	Assistant Director	(803) 762-5048	SC Wildlife and Marine Resources	Sediment Samples
Jane Settle	Environmental Evaluations	(803) 762-5068 (803) 762-5007 (fax)	SC Wildlife and Marine Resources	Natural Resource Trustee
Rob Mikell	Coastal Council Representative	(803) 744-5847 (803) 744-5838 (fax)	South Carolina Coastal Council (SCCC)	Natural Resource Trustee
Madeline McGee	Executive Director	(803) 747-0010 (803) 747-0054 (fax)	Charleston Naval Complex Redevelopment Authority (CNCRA)	CNCRA Policy Committee
Diane Cutler	Community Relations Specialist	(919) 851-1886	EnSafe/Allen & Hoshall	Community Relations
Todd Haverkost	Clean Contractor Hydrogeologist	(803) 884-0029 (803) 856-0107 (fax)	EnSafe/Allen & Hoshall	RCRA Facility Investigation
Bob Maddux	Clean Contractor Project Manager	(803) 884-0029 (803) 856-0107 (fax)	EnSafe/Allen & Hoshall	EBS and BCP Preparations

Table 1-2 History of Installation Operations		
Period	Type of Operation	Hazardous Substance Activities
Pre-1901	Plantation agricultural activities, followed by establishment of City Park	None known
1901 — 1910	New Navy Yard construction activities	Construction/demolition
1911 — 1920	World War I Era Activities included major alterations and overhaul of naval vessels, construction of smaller fleet vessels (destroyers), and manufacture of clothing and machine parts	Activities such as weapons storage, foundry and machine shop operations, paint waste disposal, plating operations, and petroleum, oil, and lubricant (POL) handling
1920 — 1932	Major operational scaleback, with activities consisting primarily of routine maintenance of fleet vessels	Activities such as paint waste disposal, plating shops, and POL handling
1932 — 1941	Major increase in Navy Yard operations, with activities including Work Projects Administration financial aid projects and increased vessel support/overhaul activities.	Activities such as construction/demolition, weapons storage, foundry and machine shop operations, paint waste disposal, plating operations, luminescent dials and markers, POL handling, and waste oil and sludge disposal
1941 — 1945	World War II Era Activities included facilities improvements, logistical support to operating forces, vessel construction, repair, overhaul, alteration, conversion, and homeport docking.	Activities such as construction/demolition, weapons storage, foundry and machine shop operations, paint waste disposal, plating operations, luminescent dials and markers, POL handling, and waste oil and sludge disposal
1945 — 1952	Naval Station established in 1947, with Navy Yard converted to Naval Shipyard. Activities included vessel decommissioning and diminished operations related to repair, overhaul, alteration, conversion, and homeport docking	Activities such as weapons storage, foundry and machine shop operations, paint waste disposal, plating operations, luminescent dials and markers, POL handling, and waste oil and sludge disposal
1952 — 1961	Activities included initiation of firefighting training, fleet and mine warfare training, and routine maintenance and overhaul of Naval fleet vessels, including submarines	Activities such as firefighter training, foundry and machine shop operations, paint waste disposal, plating operations, luminescent dials and markers, POL handling, and waste oil and sludge disposal
1961 — Present	Nuclear-powered vessel design, overhaul, and support; establishment of Nuclear Engineering Department, NSC (one of the largest Naval Supply Centers), and Naval Hospital Charleston	Activities such as firefighter training, foundry and machine shop operations, paint waste disposal, plating operations, POL handling, waste oil and sludge disposal, and handling of radioactive material

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Table 1-3 Onbase Tenant Units

Organization		Facility (Building Numbers)
Major Claimant: CINCLANTFLT		Host Activity: Naval Station Charleston
Naval Station CLF Tenants	Naval Station	See Table 3-8 for Complete List of Naval Station Facilities
	Construction Battalion Unit 412	1776, 1777, 1778, 1877, 1886, 1892, 1894
	Transient Personnel Unit	NS-31, 32
	Naval Station Security	M82
	NAVSURFLTREAD Support Group	23, 681
	NAVSURF SEMMES PMT	NH-1137
	Shore Intermediate Maintenance Activity	NS-21, 23, 26, 681, 684, 687, 680
	Department of State	646, 646A
	Personnel Support Activity Detachment	654
	Mobile Mine Assembly Group 11	2511, 2509, 2513, 2522, 2524, 2525, 2530, 2532, 2556 (NS Annex)
	Commander, Mobile Mine Assembly Group	2536 (NS Annex)
	Commander, Mobile Mine Assembly Group (Seaside)	NS-7
	Inshore Boat Squadron One	27
	COMNAVBASE	NH-45, NH-48
	COMNAVBASE PAO	NH-48
	COMNAVBASE Family Services	NH-62
	COMNAVBASE CAAC/NADSAP	M-1150
	SMMS Performance Monitoring Team	674
	Submarine Squadron 4	X10, 641, 674
	Cruiser Destroyer Group 2	NS-1
	Cruiser Destroyer Group 2 SCAT	NS-1
	Destroyer Squadron 4	NS-16
	Destroyer Squadron 36	678
	Destroyer Squadron 20	678
	Mobile Tech Unit 10	NS-19, 20, 1791
	FTSCLANT Detachment	NS-20, 19, 3, 1791, 1792, 1241, 1193
	Combat Systems Training Group Detachment	672
	CSTG DET Administration	672
	HRO	M17

Table 1-3 Onbase Tenant Units		
Organization		Facility (Building Numbers)
Major Claimant: CINCLANTFLT		Host Activity: Naval Station Charleston
Non-Tenants CLF	Afloat Training Group ETG Detachment	
	202	
	CNET NETPMSA	
National Oceanic & Atmospheric Administration		FBM-61
Navy Marine Relief Society		RTC-1
Naval Station NAF Tenants	MWR	
	810	
	Bachelor Officers Quarters	
	28	
Bachelor Enlisted Quarters		31, 32, 33, 34, 35, 36, 37, 38, 65, 66, 67, 652, 653, 658, 668, 669, 676, 677
Naval Station Private Party Tenants	U.S. Postal Service	
	650	
	American Red Cross	
	NH-61	
	Federal Credit Union	
	666	
	Navy Federal Credit Union	
	651	
North Charleston Police Detachment		
673		
McDonald's		
642		
SC Commission for the Blind		
NH-45		
SATO Travel		
1197, 654		
Naval Station Non-CLF Tenants	Major Claimant: SECNAV	Naval Surface Warfare - CARDEROCK
	681	
	Major Claimant: SECNAV	Naval Criminal RM Investigation Service
	NH-53	
	Major Claimant: CNO	Naval Legal Service
	NH-55, 1813	
	Major Claimant: CNO	Navy Marine Trial Judge
	NH-45	
	Major Claimant: BUMED	Naval Dental Clinic
	675, 1840, 1841	
	Major Claimant: BUMED	Naval Hospital Branch Clinic
NS-79, 80, NH-68		
Major Claimant: NAVAIR	Naval Air Engineering Center	
NS-16, 2511		
Major Claimant: BUPERS	Navy Band DC	
NH-46		
Major Claimant: NAVSEA	NWS Housing	
86 Units, NH-62, M1-3A		
Major Claimant: NAVFAC	SOUTHDIV ROICC	
NH-52		
Major Claimant: CMC	Marine Corps Reserve Training	
2517, 2505, 2520, 2521, 2523, 2533 (NS Annex)		

Table 1-3 Onbase Tenant Units			
Organization		Facility (Building Numbers)	
Major Claimant: CINCLANTFLT		Host Activity: Naval Station Charleston	
Naval Station Non-CLF Tenants	Major Claimant: CNET	Navy Campus Education Center	646
	Major Claimant: CNET	NROTC Area 6	NH-45
	Major Claimant: NTCC	Naval Telecommunications Communications Center	661
	Major Claimant: NAVLANT	NAVLANT METOC Detachment	NS-16
	Major Claimant: NSGA	NAV SECR Group CSS	NS-84, NH-54, NH-47, 49, 53, 4000
	Major Claimant: NSGA	NAV SECR Group East	NS-84, NH-54, NH-47, 49, 53, 4000
	Major Claimant: NSGA	Naval Security Group ECCM	1755, NS-648
	Major Claimant: NAVRESFOR	Reserve Security Group Program Representative	NH-46, 47, 49, 51
	Major Claimant: NAVSEA	NAVSEA PERA Detachment	NS-16
	Navy Exchange		656
	Navy Recruiting Detachment Youth Program		NH-45
	NCTSI Detachment Two		673
	Major Claimant: DECA	Defense Commissary Agency	655
	Major Claimant: NAVSUP	SUPSHIP	161, 161 A-E
	Major Claimant: NAVFAC	SOUTHDIVNAVFACENG	NH-45, NH-21
	Major Claimant: NAVSUP	FISC	NH-62, 83
	Major Claimant: NAVSEA	CNSY Maintenance	X10, X11
	Major Claimant: CLF	NAVSEACENLANT DET FSO	1792
Major Claimant: NAVSEA		Host Activity: Charleston Naval Shipyard	
CNSY NAVSEA Tenant	CNSY		See Table 3-8 for Complete List of CNSY Facilities
CNSY Non-NAVSEA Tenants	Major Claimant: DOE	DOE NREACTRO Charleston	195
	Major Claimant: DFAS	DFAS-CL-XCH	7
	Major Claimant: Auditor General	Naval Audit Service Southeast	8A

Table 1-3 Onbase Tenant Units			
Organization		Facility (Building Numbers)	
Major Claimant: NAVSEA Host Activity: Charleston Naval Shipyard			
CNSY Non-NAVSEA Tenants	Major Claimant: BUMED	Naval Hospital Branch Clinic	58
	Major Claimant: CLF	Naval Station — Telephone	8A
	Major Claimant: NAVAIR	Naval Aviation Warfare Training	232
	Major Claimant: CLF	FTSCLANT DET CHSN	1193
	Major Claimant: NAVSUP	FISC	Open Storage
	Major Claimant: NAVSECGRP	NAVSECGRP	4000 (Sullivan's Island)
	SUPSHIP (CLF)		161, 161A-E
	NWS (CLF)		NS-62
	CNSY (CLF)		X10, X11 2508, 2554 (NS Annex)
CNSY NAF/Private Parties	Employee Services Association & Food Service		63, 230, 231, 234, 904, 1855, 3, 855, 231, 940, 53, 234, 8
	CNSY Credit Union		244
	SC Commission for the Blind		76
	Bettis Resident Manager		195
Major Claimant: NAVSUP Host Activity: Fleet Industrial Supply Center			
NAVSUP Tenants	FISC (NAVSEA)		See Table 3-8 for Complete List of FISC Facilities
	FISC (CLF)		NH-62
	FISC Norfolk Detachment, Charleston		198
	Navy Food Management Team		224
	Ship's Store Assistant — Fast Team		224
	Defense Printing Service — Southeast Area		1628
	Defense Printing Service Detachment Office — Charleston		1628
FISC Non-NAVSUP Tenants	Army Veterans Team		193, 1639, 655, 1138, 725
	PROC Development Program Component		198
	Defense Reutilization and Marketing Office		1603, 1605, 1606, 1607, 1627, 1640, 1649
	Defense Distribution Depot, Charleston		198
	Defense Accounting Office		M766, 198, 1136, 45, M17

Table 1-3 Onbase Tenant Units		
Organization		Facility (Building Numbers)
Major Claimant: NAVSUP Host Activity: Fleet Industrial Supply Center		
Non-NAVSUP Navy Tenants	Defense Information Services Organization — Information Processing Center	198
	COMNAVBASE HRO	M17
	CNSY (Modular Maintenance Facility Storage)	191
	NAVSTA (Fire Storage)	1620
FISC NAF Tenants	NEX Cafeteria	198
Major Claimant: COMNAVRESFOR Host Activity: Naval Station		
COMNAVRESFOR	Reserve Cargo Handling Battalion Four	1656, RTC-1
Non-Tenants (Host)	Reserve Security Group Program Rep (CLF)	NH-46, 47, 49, 51
Major Claimant: SPAWARS Host Activity: NISE EAST		
Tenant	NISE East	Naval Weapons Station, South Annex Trailers
CNET	Submarine Training Facility	61, 686, 1815
	Submarine Training Facility GST	61, 686
	Fleet & Mine Warfare Training	202, 203, 204, 208, 643, 645, 647, 649, 1282-1744
Naval Station Non- Tenants Host	Navy Campus Education Center	61, 646
	NROTC Area 6	NH-45
	NETPMSA	61

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Table 1-4 Property Acquisition Summary Table

Tract Number	Previous Land Owner	Acreage		Acquisition Date
		Fee Land	Easement Land	
I	City of Charleston	171.03/Fee		12 August 1901
II	Cecilia Lawton	258.11/Fee		12 August 1901
III	City of Charleston	735.96/Fee		12 August 1901
IV	Maria D. Winthrop	937/Fee		21 March 1902
I Degaussing	State of South Carolina	1.00/Fee		14 June 1968 9 December 1968
II Degaussing	State of South Carolina	0.22/Fee		21 November 1968 16 January 1970
III Degaussing	State of South Carolina (NF(R)-9706)		0.60/In 50 year	29 October 1969 9 February 1970
V	City of Charleston	96.5/Fee		20 November 1902
VI	City of Charleston	28.9/Fee		11 October 1909
VII	Seaboard Air Line Railroad	2.45/Fee		19 March 1941
IX	West Virginia Pulp & Paper Company	3.19/Fee		5 May 1941
XIV	West Virginia Pulp & Paper Company	21.4/Fee		10 August 1942
XIV	E.P. Burton Lumber Company	60.3/Fee		5 August 1942
X	City of Charleston	44.90/Fee		15 September 1941
XV	Seaboard Air Line Railroad Company, Walter H. Solomon -Trustee, Caroline S. Alston, William Mappus Estate	38.2/Fee		12 January 1967
XV	City of Charleston Atlantic Coast Line Railroad	2.45/Fee		31 March 1941 8 May 1941
XVI	Charleston County Sanitary & Drainage Commission	4.44/Fee		2 April 1942
XVI	Acquisition through Declaration of Taking & Court Proceedings	13.84/Fee		14 June 1968
XVII	Southern Railway — Carolina Division	0.75/Fee		25 June 1943
XVII	Acquisition through Declaration of Taking & Court Proceedings	0.50/Fee		21 November 1968
XXI	South Carolina State Highway Commission	4.02/Fee		17 May 1945
XXXVIII Dredge Pier Clouter Island	South Carolina Budget & Control Board (N62467-82-RP-00200; superseded by N62467-86-RP-000020)		0.11/In plus additional 100'	30 September 1985 (Indefinite Duration)
XXXVI River Bed for Dredge Line	South Carolina Budget & Control Board (N62467-82-RP-00198)		5.13/In	13 April 1982 (Indefinite Duration)
XXX	Heirs of Susan B. Hay, deceased Declaration of Taking	460.0/Fee		16 June 1963

Table 1-4 Property Acquisition Summary Table

Tract Number	Previous Land Owner	Acreage		Acquisition Date
		Fee Land	Easement Land	
XXXII	Charleston County	2.56/Fee		21 April 1964
XXXIII	Acquisition through Declaration of Taking & Court Proceedings	22.41/Fee		14 June 1968
XXXVII Dredge Pier	South Carolina Budget & Control Board (N62467-82-RP-00199)		0.04/In	13 April 1982 (Indefinite Duration)
XXXIV	Acquisition through Declaration of Taking & Court Proceedings	0.20/Fee		21 November 1968
XXXVI North Gate Access	Hess Oil Corporation (NF(R)-6221)		0.01/In	24 February 1969
XXXV	Charleston County (Abandoned any Claim to Parcel 3 of North Gate Improvement Project)		0.13/RoW	2 July 1968
XXXVII	North Charleston Public Service District (NF (R) 7258)		0.01/In	26 May 1969 (Indefinite Duration)
XXXIX	Seaboard Coast Line Railroad Company	0.38/Fee		20 August 1976
Adjacent to Tract XVI Addition to Pier N	S.C. State Budget & Control Board (N62467-82-RP-00003)		0.27/In	19 November 1981 (Indefinite Duration)
Adjacent to Tract III, between Piers T & U	S.C. State Budget & Control Board (N62467-84-RP-00350)		0.04/In	4 September 1984 (Indefinite Duration)
Adjacent to Tract VI Catch Basin, Sidewalk	S.C. State Highway Dept (NOy(R)-61374, Encroachment permit #38569)		At Hospital Gate	3 January 1962 (Indefinite Duration)
Adjacent to Tracts III & XXXVIII New Pier M	S.C. State Budget & Control Board (N62467-78-RP-00004)		1.65/In	15 February 1978
Tract I Potable Water Line across Noisette Creek	S.C. State Budget & Control Board (N62467-81-RP-00088)		20' wide	12 February 1981 (Indefinite Duration)
Adjacent to Tract X Pass Office	City of North Charleston (N62467-89-RP-00234)	0.7/Lease		1 September 1989 to 31 August 1994
Tract III	State of South Carolina (NF(R)-13646)	0.28/In-Lease		1 January 1972 to 31 December 2021

Table 1-4 Property Acquisition Summary Table

Tract Number	Previous Land Owner	Acreage		Acquisition Date
		Fee Land	Easement Land	
Potable Water Main Outside Main CNSY Gate to Meeting Street	City of Charleston (NOd-177) Operated by City of Charleston		In License from Inner Third Street Gate to Rivers Avenue	17 January 1929 to 16 January 1928
Outside Property Line adjacent to Building 1507	Seaboard Coast Line Railroad Company (NF(R)-20766)		In-License	19 June 1974 (Indefinite Duration)
Between Chicora Tank Farm & CNSY (Pipelines)	Charleston County (Encroachment Permit 3732)		Encroachment Permit No. 3732	3 February 1943 (Indefinite Duration)
Between Chicora Tank Farm & CNSY (Oil Pipelines)	Leigh R. Powell, Jr. & Henry W. Anderson (LD-85972 of 5 Dec 1942)		Pipeline Easement	25 April 1944
Between Chicora Tank Farm & CNSY (Oil Pipelines)	Sanitary and Drainage Commission for Charleston County		Pipeline Easement	18 February 1943
Along Spruill Avenue South between Reynolds & Cosgrove (Sewer Line)	Charleston County (Encroachment Permit No. 2831)		Encroachment Permit No. 2831	30 December 1940 (Indefinite Duration)
Between Hospital & Base (Sewer Line & Power Line)	Charleston County (NF(R)-7159)		Encroachment Permit #84059	29 July 1969 (Indefinite Duration)
Between Hospital & Base (Sewer Line)	Housing Authority of the City of Charleston (NF(R)-9713)		0.06 Drainage Easement	2 June 1969 (Indefinite Duration)

Table 1-5 Offbase Properties/Chicora Tank Farm Table

Description	Acreage	Date of Acquisition	Environmental Status	Location	Remarks
Lease — Degaussing Station Tract XXVII	2.81	1 August 1960	No Suspected Contamination	Downtown East of Concord Street, South of South Adgers Wharf	1. Bureau of Yards & Docks, Drawing No. 898327 2. Port Authority Maintains Easement for Sewer Line
Designated Restricted Area for Navigation		25 April 1968	RFI In Progress	Cooper River Adjacent to Naval Base	As Delineated in Federal Register Document 68-4979, under Title 33
Sullivan's Island Inter-Agency Agreement (In-Permit Total 4.08 Acres: 0.88 Acres Exclusive Use, 2.47 Acres Joint Use, 0.73 Acres In-Easement)	4.08	16 August 1988 to 15 August 2008	No Suspected Contamination	Sullivan's Island	Inter-Agency Agreement with Fort Sumter National Monument, National Park Service, Department of Interior; Used as Naval Shipboard Electronic Systems Evaluation Facility
Acquisition through Transfer — Fee Land of Naval Station Annex	42.00	21 April 1981	RFI in Progress	Naval Station Annex, North Charleston	Transferred from USAF by DD1354
Acquisition through Transfer — Easement for Right-of-Way	0.54	21 April 1981	RFI in Progress	Naval Station Annex, North Charleston	Transferred from USAF by DD1354
Acquisition through Declaration of Taking and Court Proceedings — Parcel No.1	10.872	20 Dec. 1943	Evaluation Complete; No Further Action	Chicora Tank Farm	Property Presently Held by Naval Supply Center (now FISC) Charleston
Acquisition through Declaration of Taking and Court Proceedings — Parcel No.2	8.840	27 Dec. 1941	Evaluation Complete; No Further Action	Chicora Tank Farm	Property Presently Held by Naval Supply Center (now FISC) Charleston
Acquisition through Declaration of Taking and Court Proceedings — Parcel No.5	1.600	20 Dec. 1943	Evaluation Complete; No Further Action	Chicora Tank Farm	Property Presently Held by Naval Supply Center (now FISC) Charleston
Acquisition through Declaration of Taking and Court Proceedings — Parcel No.6	2.587	21 March 1944	Evaluation Complete; No Further Action	Chicora Tank Farm	1. Property Presently Held by Naval Supply Center (now FISC) 2. Subject to Perpetual Easement of Public Service Authority, Granted by City Council, 13 Nov. 1941

2.0 PROPERTY DISPOSAL AND REUSE PLAN

2.1 Status of Disposal Planning Process

The disposal of Naval Base Charleston involves four interrelated activities: the National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) process, development of a community reuse plan, completion of the Environmental Baseline Survey, and completion of the base disposal plan. The Environmental Baseline Survey has been completed. The community reuse plan was submitted to the Secretary of the Navy in June 1994. The NEPA Draft EIS has been completed and the final EIS will be completed in May 1995. The final EIS has been delayed due to North Charleston City Council disagreements with the Reuse Plan as submitted. An additional alternative was requested to be added. The base disposal plan has been developed; however, it is a living document which is modified based upon ongoing mission requirements.

2.2 Relationship to Environmental Programs

Disposal and reuse activities at Naval Base Charleston are intimately linked to environmental investigations, restoration, and compliance activities for two basic reasons:

- Federal property transfers to nonfederal parties are governed by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §120(h)(3)(B)(i).
- Where remediation to background levels is not achievable, residual contamination may remain on certain properties after remedial actions have been put into place. The future use of those properties may be restricted on a risk based approach.

CERCLA §120(h)(3)(B)(i) requires deeds for federal transfer of previously contaminated property to contain a covenant that all remedial actions necessary to protect human health and the environment have been taken. The 1992 Community Environmental Response Facilitation Act (CERFA) amendment to CERCLA provided clarification of the phrase "has been taken". This clarification states that "all remedial action has been taken if the construction and installation of an approved remedial design has been completed, and the remedy has been demonstrated to the Administrator (EPA or SCDHEC) to be operating properly and successfully". It further states that the "carrying out of long-term operation and maintenance, after the remedy has been demonstrated to the Administrator to be operating properly and successfully does not preclude the transfer of property". This deed requirement applies only to property on which a hazardous substance or petroleum product was stored for 1 year or more, or is known to have been disposed of or released. Thus, any required remedial and/or removal response actions must be selected and implemented for such contaminated properties before transfers to private parties can occur.

The requirements for complying with CERCLA 120(h) and the possibility of residual contamination are factored into the property disposal and reuse process at Naval Base Charleston. Table 2-1 takes these two factors into consideration, presents summary information on parcels, and provides an approximate timetable for transfer by deed of each parcel at Naval Base Charleston.

The Naval Base Charleston strategy and schedule herein is designed to streamline and expedite the necessary response actions associated with parcels in order to facilitate the earliest possible disposal and reuse activities. Because of the need to delineate between areas suitable for transfer and those which are not, the Naval Base Charleston BCT has developed an environmental condition-of-property map for Naval Base Charleston (see text and figures in Chapter 3.4) using, in part, data from a basewide Environmental Baseline Survey (EBS). This environmental condition-of-property map allows the visualization of both contaminated areas and areas of no suspected contamination, and the relationship of these areas to disposal and reuse parcels.

2.3 Property Transfer Methods

2.3.1 Federal Transfer of Property

Congressional passage of H.R.3116 authorized the transfer of approximately 10 acres, composed of Parcel A (Buildings 646, 646A, 647, 643, 645, and 649), to the Secretary of State for support of diplomatic and consular operations. Additionally, approximately 6.5 acres, composed of Parcel B (Buildings RTC-1, RTC-4, 200, 330 (Pier R), and 200), have been transferred to the National Oceanographic and Atmospheric Administration (NOAA). This transfer was authorized per the Marine Mammal Act. The Navy has transferred a total of approximately 16.5 acres to the Secretary of State and NOAA.

2.3.2 No-Cost Public Benefit Conveyance

As of 31 December 1994, there are no plans for any No-Cost Public Benefit Conveyance Transfers.

2.3.3 Negotiated Sale

As of 31 December 1994, there are no plans for any Negotiated Sale Transfers.

2.3.4 Widening of Public Highways

As of 31 December 1994, there are no plans for any Widening of Public Highways.

2.3.5 Donated Property

As of 31 December 1994, there are no Navy plans for any properties to be donated. However, the CNCRA has plans to submit requests for Economic Benefit Conveyance of the entire Naval Base Charleston complex. Applications have been submitted under the McKinney Act by eligible agencies, through the Department of Health and Human Services; however, per the terms of a memorandum of agreement to be signed by the CNCRA and such agencies on 16 February 1995, efforts will be undertaken to satisfy these agencies property requirements through leasing from the CNCRA.

2.3.6 Interim Leases

As of 31 December 1994, the Navy has entered into legal agreements allowing interim uses of certain base lands and facilities. Leases, easements, and permits have been issued to a variety of parties. Table 2-2 identifies the grantee, property/facility, effective date, and termination date of each interim agreement.

Additional interim leases are planned for several buildings.

Table 2-2 Existing Legal Agreements/Interim Leases			
Title of Interim Lease / Legal Agreement	Building Number / Areas	Dates of Agreement	Reuse Parcel
Out-Easement to South Carolina Highway Department	Naval Station Annex 3.73 Acres for I-26 Construction	15 December 1960 (Indefinite Duration)	
Out-Lease to Southern Bell Telephone & Telegraph Company	Naval Station Annex Support Communication Service to US Government. No Land Involved	28 August 1961 to 27 August 2011	
Host-Tenant Real Estate Agreement with U.S. Army (N62467-85-RP-00179)	Naval Station Annex 10 Acres for Operation of U.S. Army Reserve Center	1 June 1985 (Indefinite Duration)	
Out-Easement to North Charleston Consolidated Public Service Authority	Chicora Tank Farm, 2.587 Acres, Parcel #6	13 November 1941 (Indefinite Duration)	
Out-Easement Right-of-Way to South Carolina Highway Department (NOy(R)-95659)	Access road off St. John's Approximately 1.00 acre	22 April 1966 to 22 April 2016	
Out-Easement to North Charleston Consolidated Public Service Authority (NF(R)-7214)	Sewer Line (Chicora Tank Farm) 0.78 acres Along Carner Avenue Adjoining Clement Street	22 May 1969 (Indefinite Duration)	
Out-Easement to North Charleston Consolidated Public Service Authority (NF(R)-7215)	Sewer Line 0.78 acres at Corner of Viaduct Road and Seaboard Coast Line RR, Tract II	29 May 1969 to 28 May 2019	
Out-Easement to South Carolina Highway Department (NF(R)-20568)	Drainage System 0.28 Acres at Chicora Tank Farm	26 March 1974 to 26 March 1999	
Out-Easement to South Carolina Highway Department (NF(R)-36022)	Road Section 0.0116 Acres at Corner by Hospital	Unknown to 3 April 2027	
Out-Easement to South Carolina Electric & Gas Company (NF(R)-7253)	Guy Wires and Anchors (Not Measured in Acres) in Tract X	16 September 1969 to 16 September 2019	
Out-Easement to South Carolina Department of Highway & Public Transportation (N62467-84-RP-00371)	Mark Clark Highway (I-526 Through Spoils Area East of Cooper River) 21.07 Acres Tract IV - 9.27 acres Tract XXX - 11.80 acres	25 June 1985 (Indefinite Duration)	
Out-Easement to North Charleston Consolidated Public Service Authority (NF(R)-7250)	North Gate Entrance 0.05 Acres for Sewer Line Adjacent to Tract XXXII	9 September 1969 (Indefinite Duration)	

3.0 INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS

This section provides a summary of the current status of environmental restoration projects and ongoing compliance activities at Naval Base Charleston. It also summarizes the status of community involvement to date and describes the environmental condition and suitability for transfer of Naval Base Charleston property.

Tables 3-1 and 3-2 lists 194 Solid Waste Management Units (SWMUs) and 203 Areas of Concern (AOCs) as well as their current status. The ongoing RCRA Facility Assessment (RFA) and RCRA Facility Investigation (RFI) process has involved all SWMUs and AOCs. 110 SWMUs and 49 AOCs have been interim classified as no further action required; however, this determination is not final. SWMUs and AOCs are included in Figures 3-1(a) through 3-1(h) in the map pocket accompanying this plan.

A total of 161 USTs have been identified by Naval Base Charleston, including multiple tanks. Storage tanks are not listed on Tables 3-1 or 3-2, but are discussed in Section 3.2. The following sections include a brief history of the IRP and RCRA activities as they pertain to Naval Base Charleston, the current status of restoration projects, and the installation-wide source discovery and assessment process.

3.1 Environmental Program Status

Per the Navy Assessment and Control of Installation Pollutants (NACIP) program, the Naval Base Charleston Initial Assessment Study (IAS) was submitted in May 1983 and the Confirmation Study (CS) was submitted in October 1982. The NACIP program was developed by the Department of the Navy to identify, assess, and control environmental contamination from past use and disposal of chemicals and other materials. The NACIP program is part of the Department of Defense (DOD) Installation Restoration Program (IRP), which satisfies requirements for DOD units under the CERCLA program. The IAS/CS identified eight potentially contaminated sites on the installation. As a result of these investigations, six sites were identified as requiring remedial action. The remedial action which was conducted consisted mainly of superficial cleanup and decontamination.

An initial RFA was completed in August 1987 to meet the requirements of the 1984 HSWA and the RCRA of 1976. The RFA is designed to evaluate releases of hazardous waste or hazardous constituents to the environment and to implement corrective actions, as necessary, under the broad authorities of the 1984 HSWA. The RFA/RFI studies are the primary means of source discovery and assessment presently used at Naval Base Charleston. The RFA provides information about SWMUs and AOCs, evaluates the potential for release to the environment, and determines the need for further investigation.

The initial RFA, conducted by Ebasco Environmental Services, addressed 24 SWMUs (1 to 24), including the eight sites previously identified in the NACIP studies. Building 44 (SWMU 25)

was requested to be investigated by CNSY Environmental personnel on June 8, 1990. EPA and SCDHEC identified 10 additional SWMUs (26 to 35) during an August 1990 site inspection. SWMU 36 was added by addendum in July 1991. Notification of three additional SWMUs (37 to 39) was effected by SOUTHNAVFACENGCOM on August 10, 1993.

As a result of BRAC operations and the RCRA corrective action program being conducted by E/A&H, an additional 155 SWMUs (40 to 195) and 203 AOCs (500 to 704) have been recognized. The total number of SWMUs and AOCs being considered in the RCRA corrective action program is 194 and 205, respectively (Note: some SWMU and AOC numbers were left vacant; consequently, the number of sites mentioned above does not correspond with the associated numbering system). Four volumes of the current RFA are pending EPA and SCDHEC approval. These volumes discuss SWMUs 37 to 180 and AOCs 500 to 698. A fifth volume, which is currently being generated, discusses SWMUs 181 to 195 and AOCs 699 to 704.

The Corrective Action Management Plan (CAMP) has been generated and approved for use as the overall management plan for conducting the RFI. To facilitate management of the RFI process, the study area has been divided into 12 study zones, A through L. Maps of the study zones showing the current SWMUs and AOCs are shown in Figures 3-1(a) through 3-1(h) located in the map pocket accompanying this plan.

3.1.1 Restoration Sites

All existing restoration sites are being addressed under the RCRA Corrective Action process, as previously discussed in Section 3.1. Sites at the noncontiguous properties will be addressed under the South Carolina Underground Storage Tank (UST) program or RCRA corrective action program.

3.1.2 Installation-Wide Source Discovery and Assessment Status

The RCRA RFA/RFI studies, which were discussed in Section 3.1, are the primary means of source discovery and assessment presently utilized at Naval Base Charleston. In addition, an Environmental Baseline Survey (EBS) has been performed to evaluate on base facilities on a facility-by-facility basis. The results of this study are presented in Section 3.4.

3.2 Compliance Program Status

Compliance programs for Naval Base Charleston are coordinated in a variety of ways. The CNSY Occupational Safety, Health, and Environment office has management oversight for all CNSY programs and for a number of programs which apply basewide. Other parties involved in the overall program include the Fleet and Industrial Supply Center (FISC) Occupational Safety

& Health Department, the FISC Fuel Department, CNSY Public Works Department (Utilities, Transportation), Naval Weapons Station Housing, and Naval Hospital Industrial Hygiene. Compliance activities address USTs, hazardous materials management, solid waste management, asbestos, radon, polychlorinated biphenyls (PCBs), water discharges, air emissions, lead paint and remedial investigations of contaminated sites.

The list of environmental compliance projects is shown in Tables 3-3 and 3-4. Actions taken in conjunction with the remediation of previously identified environmental problems are described in Section 3.1. A list of existing environmental permits is shown below:

Environmental Permits		
Item Description (Permit Issuer)	Permit Serial/Approval Number	Expiration Date
Air Construction (SCDHEC)	0560-0002 CC through CJ	Being added to Air Operating Permit
Air Operating Permit (SCDHEC)	0560-0002	Expired - Renewal Requested
Dockside Chlorination Approval (SCDHEC)	"As-Built" Construction Permit - SCDHEC Letter of 4 June 1992	No expiration date
Dredge Permit - NWS (SC Budget & Control Board)	85-40-324	18 January 1997
Dredge Permit - NWS (Dept. of Army)	85-40-324	31 March 1996
Group NPDES Storm Water Permit	Applied for 9 July 1992	Permit not issued
Hazardous Waste Transporter Permit (SCDHEC)	SCO 170 022 560	21 May 1996
Hazardous Waste Permit (EPA)	EPA 170 022 560	4 June 1995
Hazardous Waste Permit (SCDHEC)	SCO 170 022 560	4 June 1995
Potable Water - Naval Base (SCDHEC)	1010502	Expired - Evaluating fee prior to renewal
Potable Water - Short Stay (SCDHEC)	0870803	Expired - Evaluating fee prior to renewal
Solid Waste Approval (SCDHEC)	9211001	Expired - Evaluating fee prior to renewal
Underground Storage Tanks - Naval Base (SCDHEC)	24 Tanks	Life of Tanks
Underground Storage Gasoline Tank - Short Stay (SCDHEC)	P-10-GF-12093	Life of Tank
Wastewater Permit Naval Base (North Charleston Sewer District)	008	Expired - Renewal Requested
Wastewater Permit Short Stay - NPDES (SCDHEC)	SC 0024708	Expired - Renewal Requested
Wastewater Permit Naval Base - NPDES (SCDHEC)	SC 0003816	Expired - Renewal Requested

Handwritten note:
 Fiscal year
 1995

3.2.1 Storage Tanks

SCDHEC has been authorized to administer the petroleum UST program in lieu of the federal program, with EPA maintaining oversight authority for this program. Therefore, UST closure and investigation activities throughout the Naval Base Charleston properties are conducted under the South Carolina UST program.

South Carolina has no aboveground storage tank (AST) regulations. However, if an AST release to the environment contains petroleum products, then this release becomes subject to the South Carolina Pollution Control Act, and must be assessed and remediated accordingly. Further, if an AST contains a substance other than a petroleum product, such as other chemical products or wastes, then these tanks may be regulated under other programs. These programs may include, but not be limited to, the South Carolina Hazardous Waste Management Regulations (R.61-79) or South Carolina Regulation 61-9 for NPDES permits, etc. Additionally, federal Spill Prevention, Control, and Countermeasure (SPCC) regulations (Title 40, Code of Federal Regulations [CFR] 110 and 40 CFR 112) apply to ASTs.

A total of 161 known existing and former underground storage tanks (USTs) are presented in Tables 3-7 and 3-8 of the Environmental Baseline Survey report. There are approximately 490 ASTs. ASTs are listed in Tables 3-9 and 3-10 of the Environmental Baseline Survey. Tables are organized by facility and by study zone, respectively. Information presented in these tables was obtained during the facility surveys, records search, and database search; the actual condition and status of any suspect tanks will be determined under SCDHEC's UST program.

Existing UST remediation projects are identified in Table 3-5 of this document.

3.2.2 Hazardous Materials/Waste Management

Hazardous waste compliance programs at Naval Base Charleston are conducted under COMNAVBASE Charleston Instruction 5090.3A, the federal and state requirements found in 40 CFR 260 through 270, 40 CFR 117, 49 CFR 171 et seq., Department of Transportation regulations, and South Carolina Rules R.61-79.260 to R.61-79.270. COMNAVBASE Charleston Instruction 5090.3A assigns hazardous waste management responsibility for Naval Base Charleston to CNSY. Naval Base Charleston finalized its Hazardous Waste Management Plan in 1991.

CNSY currently operates two hazardous waste storage facilities, Buildings 246 and 1640. These storage facilities operate under a final Part B permit which is in effect from June 4, 1990 to June 4, 1995. A renewal of this permit has been submitted to SCDHEC for continued operation of these facilities. Building 1640, which is operated by CNSY for Naval Base Charleston as a whole, is the storage facility which handles the majority of hazardous waste generated onbase. In accordance with RCRA regulations and an existing consent order from SCDHEC, CNSY can perform RCRA simple treatment and radiological processing of its mixed waste (hazardous waste

which is also radioactive) at the Building 79A less than 90 day accumulation area. If storage of mixed waste is needed in excess of 90 days, CNSY has an approved permit modification to store mixed waste at Building 246 until its disposition in accordance with the Federal Facilities Compliance Act (FFCA).

Hazardous wastes generated at Naval Base Charleston include primarily paint wastes, waste solvents, boiler cleaning solutions, acids, and sludge from the plating shop pretreatment facility. There are currently 59 hazardous waste satellite accumulation points and 10 less-than-90-day storage areas located at Naval Base Charleston. Satellite accumulation areas (SAAs) at Naval Base Charleston consist of 55-gallon drums used to store various associated hazardous wastes. These drums are removed from the SAAs prior to being filled to capacity; they are transported to the Building 1640 permitted storage facility. Storage at the less-than-90-day storage areas is temporary and cannot exceed 90 days from the time the waste begins to accumulate.

Naval Base Charleston has also instituted a hazardous waste minimization program per CNSY Instruction 5090.3, effective 22 June 1990. This instruction meets the requirements of OPNAVNOTE 5090, which establishes a Navy-wide policy for a five-year 50 percent reduction of hazardous waste volume by weight. The primary means of hazardous waste (HW) reduction include avoidance of HW generation, HW recycling, and neutralization. No HW treatment other than simple treatment (solidification) of mixed waste is currently conducted at Naval Base Charleston.

3.2.3 Solid Waste Management

Approximately 50,000 cubic yards of nonhazardous solid waste is generated at Naval Base Charleston each year. The majority of solid waste generated by Naval Base Charleston is currently transported offbase for disposal at the local county landfill. Onbase recycling programs are in place for collection of paper, aluminum, and metals.

In the past, solid wastes were disposed of via an onbase landfill. This landfill is currently closed and is being investigated under the RCRA corrective action program for potential environmental impacts.

3.2.4 Polychlorinated Biphenyls (PCBs)

Control of PCBs and PCB-contaminated materials is legislated by the Toxic Substances Control Act (TSCA), 15 U.S.C. 2601 et seq, originally enacted as Public Law 94-469 in 1978. Implementing regulations are found in 40 CFR 761. The U.S. Navy initiated a program to inventory and replace PCB containing equipment in 1978. This effort originally focused on PCB-containing electrical transformers and capacitors, but has grown to include the disposal of PCB-containing electrical light ballasts and shipboard materials such as power cables and felt septum. A PCB audit/assessment for Naval Base Charleston was completed in January 1985.

Since then, the items identified in the audit have been systematically removed from service and disposed of.

No PCB-containing transformers are known to remain on Naval Base Charleston property. However, several facilities contain equipment which have not been sampled, and could therefore contain PCBs. A survey is presently underway to determine if PCBs are present in any equipment.

Several types of formal guidance exist at Naval Base Charleston to facilitate the identification, handling, and disposal of PCB and PCB-contaminated materials. CNSY Instruction 5090.4, Volume II, Chapter 11 covers the CNSY management of PCBs. NAVSTACHASNINST 5100.13B covers notification and handling requirements for CNS. CNSY Process Instruction Number 8010-905-737 A covers the identification, removal and handling of PCB material during the submarine overhaul process. Defense Reutilization and Marketing Service (DRMS) Manual 6050.1, Chapter XV111 identifies general guidance for both the acceptance for disposal by DRMO of PCB material as well as the actual disposal itself. Non-RCRA PCB material is disposed of through a DRMS contract with S.D. Myers, Inc. of Tallmadge, Ohio.

Electrical light ballasts containing PCBs will continue to be identified over time, since no PCB inventories have been performed to identify these items. Also, information from the EBS may indicate additional PCB or PCB-contaminated transformers or capacitors. As a result, the list of active PCB-containing equipment will be updated throughout the base cleanup and closure process.

A number of SWMUs and Areas of Concern (AOCs) exist which pertain to PCB transformer storage/maintenance areas and therefore have a potential for PCB spills. These are identified in Tables 3-1 and 3-2.

Any known PCB spills have been handled in accordance with EPA requirements and are documented in CNSY Environmental Office.

3.2.5 Asbestos

In the past, a series of asbestos surveys have been conducted to inventory the presence of friable asbestos-containing building materials (ACBMs). These surveys have primarily concentrated on thermal system insulation, sprayed-on/troweled-on fireproofing, and acoustical insulation. A list of such surveys is shown below:

- Naval Shipyard, 1990, Westinghouse Environmental & Geotechnical Services, Inc., Charleston Naval Shipyard Asbestos Inventory Assessment and Survey (Contract Number N62467-88-D-0649, Amendment #4).

- Naval Station, 1989, Westinghouse Environmental & Geotechnical Services, Inc., Charleston Naval Station Asbestos Inventory, Assessment and Survey (Contract Number N62467-88-D-0649).
- Fleet and Mine Warfare Training Center, 1990, Westinghouse Environmental & Geotechnical Services, Inc., Fleet and Mine Warfare Training Asbestos Inventory, Assessment and Survey (Contract Number N62467-88-D-0649).
- Fleet Industrial Supply Center, 1990, Westinghouse Environmental & Geotechnical Services, Inc., Naval Supply Center Asbestos Inventory, Assessment and Survey (Contract Number N62467-88-D-0649, Amendment #8).
- Officer Housing Quarters, Naval Base, Charleston, 1992, Durbin Environmental Consultants, Inc., Asbestos Survey for Officer Housing Quarters, Naval Base, Charleston (Contract Number N62467-92-C-4124).

In addition, a PWC Norfolk contracted Asbestos Survey is underway for housing areas, including those affected by the Base Closure action. The lists of facilities surveyed and the identification of those containing accessible friable asbestos are contained in Table 3-12 of the Environmental Baseline Survey report.

The Environmental Baseline Survey (EBS) included a review of the status of accessible friable asbestos previously identified as well as a preliminary identification of possible asbestos-containing materials (ACMs) during the walkthrough process (the EBS did not include a formal asbestos survey). Facility specific information is included in the EBS File Summary.

The CNSY Public Works Department has completed a number of asbestos abatement actions through a series of contracts. Facilities associated with this effort are listed in Table 3-6. Under a separate award, a contractor is currently removing the asbestos in Building 32. In addition to these efforts, CNSY personnel have completed other asbestos abatement projects throughout Naval Base Charleston. These are also listed in Table 3-6. These projects have not included asbestos-free certifications, but have significantly reduced the amount of friable asbestos in close contact with workers throughout Naval Base Charleston. The effort underway at this time is to abate damaged, friable asbestos which is in close proximity to working personnel, or that has a high potential of causing adverse effects on human health.

Asbestos Abatement projects for remaining onbase damaged, friable, accessible asbestos will be developed based upon the results of the previous surveys. There are no plans to conduct additional surveys.

3.2.6 Radon

Radon gas concentrations became a concern when several federal and state studies concluded that indoor radon could present a health risk. In response to this information, the Secretary of the Navy initiated the Navy Radon Assessment and Mitigation Program (NAVRAMP) in January 1989 to implement facility testing. The initial portion of this effort concentrated on living spaces, training, and hospital buildings where personnel frequently live. Since the U.S. Navy issued this program, federal law (TSCA, Title III) was enacted requiring all federal agencies to test for radon.

Random radon testing has been completed at the housing area (32 units), the brig, two barracks, and the Fleet and Mine Warfare Training Center. Results of the tests completed to date detected radon gas concentrations above the EPA's action level of 4 picocuries per liter (pCi/L) in Buildings 202, 7, and 9. All analytical results are presented on Table 3-20 of the Environmental Baseline Survey report.

Building 202 is used as a training facility by Fleet and Mine Warfare Training Center. Four of 44 radon detectors placed in the building had concentrations above the action level. These results ranged from 4.1 pCi/L to 13.9 pCi/L.

Building 7 is used as an administrative building by CNSY. One of seven radon detectors placed in the building had a reading above the action level: 5.0 pCi/L was detected in the east stairwell.

Building 9 is used as a foundry boiler by CNSY. One of five radon detectors placed in the building had a reading above the action level: 11.9 pCi/L was detected in the foreman office.

As provided in DOD policy (dated 31 October 1994), mitigation has not been initiated due to the impending closure of the facility; however, this information will be disclosed to potential purchasers. Additionally, administrative controls have been implemented to protect personnel within the buildings through ventilation and exposure minimization.

3.2.7 RCRA Facilities (SWMUs)

There are currently 194 Solid Waste Management Units (SWMUs) and 203 Areas of Concern (AOCs). A discussion of the RFA/RFI projects is presented in Section 3.1 of this plan. Tables 3-1 and 3-2 describe each SWMU/AOC associated with Naval Base Charleston. SWMUs and AOCs are shown in Figures 3-1(a) through 3-1(h) in the map pocket accompanying this plan.

3.2.8 NPDES Permits

Naval Base Charleston has a variety of permitted water discharges under the jurisdiction of the Clean Water Act. These include an NPDES permit issued by SCDHEC and a Non-Domestic Wastewater Discharge Permit with the North Charleston Sewer District. The locations of the storm water lines and the outfalls are presented in Figures 3-11A and 3-11B of the Environmental Baseline Survey. In addition to the existing discharge permits, two outstanding permit applications exist for storm water discharges and drydock discharges.

The water discharge program status is as follows:

- **NPDES Permit SC0003816, Naval Base Charleston**
The existing permit expired August 13, 1985. An application for renewal was submitted to SCDHEC on February 20, 1985. SCDHEC acknowledged receipt of the application and authorized the use of the existing permit until the new one is issued. A draft of the new NPDES permit was reviewed and returned to SCDHEC on December 11, 1986. A second draft permit was submitted to CNSY for comments on January 25, 1995.

Two basic outfall types are covered under this permit:

- Outfalls conveying storm water runoff from the petroleum storage areas, specifically tanks 3900E, 3900F, 39A, and 39D, and the Chicora Tank Farm.
- Outfalls conveying wastewater from the compressor house building (1292/46); this outfall is not currently in use and is not expected to return to service.

Several other outfalls discharge storm water collected at various points throughout the Naval Base Charleston area. A large number of industrial discharges were redirected to the municipal sanitary sewer system in 1972; while this effort significantly reduced the quantity of industrial wastewaters being discharged through the Naval Base Charleston storm sewer system, unknown or illicit discharges are still discovered occasionally. When such discharges are discovered, the information is submitted to the CNSY Health, Safety, and Environmental Office and steps are taken to re-route the discharge to the sanitary sewer. One discharge of this type was discovered during the RFA/RFI process; the discharge was terminated immediately upon discovery. There are no outstanding Notices of Violation (NOV) and no known outstanding issues associated with the new permit, which is expected to be reissued within the next two years.

- **North Charleston Sewer District (NCSD) Non-Domestic Wastewater Discharge Permit 008**
This permit expired in January 1994. The renewal application was submitted within prescribed guidelines. The permit includes three discharge points requiring monitoring: the main sewer continuous discharge, the metal plating facility (Building 226) batch discharge, and the FISC oil/water separator continuous discharge. The remainder of

industrial wastewater discharged from Naval Base Charleston is also covered under this permit, including a number of discharges previously routed directly to the Cooper River. The volume also includes wastewater from ships which is collected in the Sewage Ship Waste Offload Barges (SWOBs) and tanks.

No outstanding NOV's against this permit are known to exist. Three NOV's were issued in the last three years for exceeding discharge permit contamination concentrations for oil and grease (May 1991), high pH (March 1992), and silver (September 1992). In addition, there was a violation concerning the requirement to test samples, or certify absence of cyanide and items on the Total Toxic Organics list. No outstanding issues are known to exist regarding the non-domestic wastewater discharge permit; however, the entire sanitary sewer system has been designated as SWMU 37 under the RFA/RFI program.

- **General Storm Water Discharge Permit Application**

The Chief of Naval Operations submitted an NPDES group application that included Naval Base Charleston on July 9, 1992. SEC Donahue, Inc., prepared the Naval Base Charleston storm water permit application and monitoring program in conjunction with this group application. The project was conducted in two phases. Phase 1 involved collecting information on the Naval Base Charleston storm water drainage system, materials management system, and site layout. It also involved the preparation of a written sampling plan.

Phase 2 of the project involved collecting and analyzing samples and preparing the permit application. Both phases of the project have been completed. Phase 1 found indications of potential illicit discharge or sanitary sewer/storm sewer cross-connection, and recommended smoke and dye testing to further evaluate such findings. Dye testing has been conducted; the results of this study are pending. However, projects are being initiated to eliminate any illicit discharges or sanitary sewer/storm sewer cross-connections found.

- **Drydock Discharge Permit Application**

An application for an NPDES discharge permit for the CNSY drydocks was submitted on March 3, 1992. The analytical information for Drydocks 1 through 5 has been submitted to SCDHEC for review. Analytical information for discharges from the floating drydock may be submitted in the near future.

- **Miscellaneous Discharge Information**

Dockside chlorination units (DCUs) were formerly operated at Naval Base Charleston by permission of SCDHEC. Naval Base Charleston submitted an NPDES application on June 29, 1991, but was informed it was not necessary for this discharge. Although the discharge is not controlled by an NPDES permit, guidelines and testing parameters must be followed. SCDHEC provided a limit of 0.5 ppm for total residual chlorine (TRC).

Naval Base Charleston provided a self-imposed limit of 0.2 ppm TRC. TRC was analyzed daily during operations and the limit of 0.2 ppm TRC was never exceeded.

Water discharged from the fuel tank farm and loading facility (Tanks 3911 and 3912, and Building 3913) most likely flows to the Cooper River through outfall 41. This information is not on the present NPDES permit review documentation at the Occupational Safety, Health, and Environment Office (Code 106). However, the water from the tank berms is tested by FISC, as is the water from the listed tank berms.

Both the NPDES and NCS D discharge permits for the Naval Base Charleston include clauses on transfer of property and permit status. Due to the complexity of the effort that will be required when Naval Base Charleston is transferred, efforts will be made to establish provisions with SCDHEC and NCS D to expedite the transfer of permits when possible and simplify the burden on the purchaser/receiver of the property. This will be particularly important for discharges to the Cooper River (process and storm water) due to the age of the NPDES permit and the drastic changes in water quality standards since the permit was issued in 1980.

Despite efforts over the past few years, there are still questions as to the origin of all waters entering the storm water discharge system. The effort just completed in the *Final Report for Storm Water Discharge Studies, Phase I and Phase II*, dated February 1993 and October 1994, respectively, is the most comprehensive effort yet undertaken to identify sources of industrial waste which need to be eliminated from the storm water system. The study recommends further investigation on 30 of the 53 outfalls at Naval Base Charleston. Preliminary dye testing of these outfalls has been performed; the results of this study are pending.

The Environmental Baseline Survey has also identified a number of boilers and cooling towers that discharge blowdown water and condensate to the storm sewer. These low-volume streams may not pose a significant threat by themselves, and are included in the NPDES permit.

Interviews with Naval Base Charleston Public Works personnel indicated that with few exceptions, all facilities on Naval Base Charleston are currently connected directly to the NCS D sanitary sewer system. Any septic systems on Naval Base Charleston are either not in use (abandoned) or are connected directly to the sanitary sewer system.

The sanitary sewer system and the storm sewer system are being investigated under the RFI as SWMU 37 and AOC 699, respectively. Septic tanks are also being investigated as part of the RFI, either as a part of SWMU 37 or as individual units.

3.2.9 Oil/Water Separators

Nineteen oil/water separators are known to presently exist at Naval Base Charleston. Onbase oil/water separators discharge water to either the Cooper River through the storm water system or to the sanitary sewer system under the NCS D permit. Responsibility for water discharge

programs is divided among the Fleet Industrial Supply Center (Fuel Department), CNSY (Shop 99), CNSY Occupational Safety, Health & Environmental Office (Water Programs Branch), CNS Port Services, Public Works Department (Transportation), and Public Works Department (Utilities).

Waste oil removed from the separators is collected by PWD and taken to FISC, where it is offloaded at Truck Offload Stand 3913 and pumped to one of the collection tanks (39A and 39D), which also receive ballast water and other oily water wastes generated from shipboard activities. From there, the water is processed through the Ballast Waste Treatment Plant and discharged to the sanitary sewer under NCSO Permit #008. The waste oil is collected, segregated, tested for Used Oil specifications and shipped to FISC Norfolk as *Fuel Oil Reclaimed* for further sale.

One oil/water separator does not operate through this system. It is located at the Marine Corps Automotive Maintenance Shop (Building 2505 at the Naval Station Annex). Water is discharged to the North Charleston Sewer District, and oil is removed by a contractor. North Charleston Sewer District does not require a permit for this operation. The individual oil/water separators are listed by function in Table 3-11 of the Environmental Baseline Survey.

3.2.10 Air Emissions

Air emissions are regulated through the South Carolina Office of Air Quality Control, Bureau of Air Quality Control. Naval Base Charleston operates under Permit Number 0560-0002, issued March 8, 1989. The permit expired August 31, 1993, but has been extended until a new permit is issued. The application for the new permit was compiled by Environmental Science and Engineering, Inc. and submitted on June 17, 1993 with a follow-on submittal on July 6, 1993.

No Notices of Violation have been issued to CNSY in regard to this permit. Per the conditions of the permit, reports on the operation of the barge boiler are submitted on a quarterly basis. All permitted emission sources are listed in Table 3-15 of the Environmental Baseline Survey.

The *Air Emissions Compliance Audit Report, Charleston Naval Base* was conducted by Environmental Science and Engineering, Inc. under contract N62467-90-D-1118. A required emission source inventory is underway as of the date of this plan.

A Title V Operating Permit application is presently being prepared and will be submitted prior to November 15, 1995. However, approval is not anticipated prior to base closure. Similar to the approach planned for water discharge permits, provisions will be established with SCDHEC to expedite the permitting of air emission sources during the leasing and transfer process.

3.2.11 Radiological Facilities

Radiological environmental monitoring is conducted by the U.S. Navy in shipyards frequented by U.S. Naval nuclear-powered ships. This monitoring consists of analyzing harbor sediment, water and marine life samples for radioactivity associated with naval nuclear propulsion plants, radiation monitoring around the perimeter of support facilities, and effluent and air emissions monitoring. Environmental samples from each of these harbors are also checked at least annually by a U.S. Department of Energy laboratory to ensure analytical procedures are correct and standardized.

Radiological containment, monitoring and surveys have continually been a high priority and have been conducted since the beginning of the Naval Nuclear Propulsion Program (NNPP) in the 1950s. Sites previously used for the storage of radiological materials and sites where radiological work has taken place have had detailed surveys conducted prior to release to ensure all radioactive material associated with the NNPP has been removed. Except for mixed waste, all radioactive waste associated with the NNPP is processed, shipped from the Shipyard in solid form, and buried in either licensed commercial or Federal Low Level Radioactive Waste sites. Mixed waste associated with the NNPP has been approved to be stored at the Shipyard until it can be processed in accordance with the Federal Facilities Compliance Act (FFCA).

Facilities which have been used for performance of radiological work for the Naval Nuclear Propulsion Program (NNPP), which have been used for storage of NNPP radioactive materials, or which have the potential to contain radioactivity associated with the NNPP, have been identified. Each facility so identified will have radioactive material associated with the NNPP removed. Following removal, detailed surveys will be conducted to verify removal of radioactivity and to document the status of the facilities.

Facilities which have been used for the performance of radiological work not associated with the NNPP (general radioactive material (G-RAM) work) have been identified. Facilities which have been used for the storage of G-RAM or which have the potential to contain G-RAM, have been identified. G-RAM examples include radiographic sources used for non-destructive test purposes, sources used for instrument calibration, electrical instrumentation containing vacuum tubes with radioactive elements, radium dials and gauges, and naturally occurring radioactive materials such as potassium-40, thorium, and uranium and thorium daughter products. Identified G-RAM facilities will be surveyed to identify the presence or absence of these radioactive materials and corrective action will be taken as necessary.

The list of facilities is contained in Table 3-21, *Radiological Areas Matrix*, of the Environmental Baseline Survey. The matrix identifies each location where radioactive material was either stored or worked on by a designator in the Radiological Designator column, *NNPP* for radioactive material associated with the Naval Nuclear Propulsion Program and/or *G-RAM* for radioactive material not associated with NNPP.

3.2.12 Mixed Waste

Charleston Naval Shipyard performs systems repair, propulsion plant overhaul and inactivation of nuclear-powered ships. Despite largely successful efforts to minimize the generation of mixed radioactive and hazardous waste, the Shipyard has produced minor quantities of mixed waste. Given the lack of national capacity to treat and dispose of mixed waste, it is necessary to store this small amount of mixed waste at the Shipyard. The permit modification to store mixed wastes in Building 246 has been approved.

Under the Federal Facilities Compliance Act of 1992 (FFCA), the United States Department of Energy (DOE) is required to prepare Site Treatment Plans (STPs) to address treatment of mixed radioactive and hazardous waste for each site under DOE cognizance that generates and stores mixed waste. The STPs will be submitted to the State for approval by October 1995. DOE has established a three step process for developing the STPs, which includes preparation of conceptual, draft, and final proposed versions of these plans to facilitate coordination with the State and the Federal EPA as the plans are developed. Navy or DOE facilities that generate and store mixed waste associated with Naval Nuclear Propulsion Program work are included in the FFCA process and are preparing STPs based on the joint Navy/DOE nature of such work and the legislative history of the FFCA.

3.2.13 Others

Other issues addressed as part of this plan include Lead-Based Paint, Potable Water, and Pesticides Control issues.

Lead-Based Paint

The Consumer Product Safety Act regulates the use of lead in consumer products (including household paints). The definition of lead-based paint (LBP) per this act is paint containing 600 ppm, or 0.06 percent, lead by weight. In and of itself, the presence of LBP does require the removal of the material. However, notification of the presence of such material is required if the property transfers.

At this time, a formal LBP survey has not been conducted at Naval Base Charleston except in the housing areas. The report for the housing areas has not yet been issued. The possibility of the presence of LBP in structures constructed/painted before 1982 is higher than for structures constructed/painted since then. There are no plans to abate LBP prior to the identification of specific facility reuse. DOD policy dated 31 October 1994 will be followed for LBP.

Potable Water

Lead in drinking water has been studied at several facilities at Naval Base Charleston. Information on the results of these studies were found in various sources, indicating that drinking water studies have been performed incrementally. Table 3-10 in the EBS shows the results found during the site survey file search/review and point-of-contact interviews. High lead levels have been found in numerous water coolers, most of which have been replaced or taken out of service.

Pesticides Control

Pesticide use at Naval Base Charleston has been limited to mosquito control and the control of the general pest population. Three sites have been identified as having stored or handled pesticides. These sites, designated as SWMU 3, SWMU 4, and AOC 660, are being investigated under the RFA/RFI process. Other facilities suspected as being associated with the pesticide activities are presented in Table 3-16 of the EBS.

All pesticide-related operations at Naval Base Charleston adhere to the Pesticide Management Plan.

3.3 Status of Natural and Cultural Resources Programs

3.3.1 Historical and Cultural Resources

Procedures have been initiated to identify, evaluate, institute preservation programs and practices for the protection of eligible historic structures, and afford the State Historic Preservation Officers and the Advisory Council on Historic Preservation the opportunity to comment on the Navy's BRAC undertakings, in accordance with Sections 106 and 110 of the National Historic Preservation Act of 1966, as amended. These actions are being conducted in concert with, and to support, the actions being taken in compliance with the National Historic Preservation Act of 1966 as amended.

A programmatic agreement for historic preservation has been drafted and the final copy is due in the first quarter of 1995. In accordance with the programmatic agreement, all lease or transfer documents of record involving historic properties at Naval Base Charleston will include protective covenants as required by the National Historic Preservation Act, as amended. An archeological sensitivity study was recently published in draft form and is under review by the Navy and the South Carolina State Historic Preservation Office.

Table 3-7 of this BCP presents a list of historical structures at Naval Base Charleston. In addition to these sites, three Historic Districts have been proposed at Naval Base Charleston. These include a Naval Shipyard Historic District, Officers' Housing Historic District, and Naval

Hospital Historic District. Additional information on historic districts may be found in the Draft Environmental Impact Statement (DEIS).

3.3.2 Natural Resources Programs

Naval Base Charleston has a Natural Resources Plan that has been approved by the Naval Base Charleston Commander for implementation. It consists of:

Basic Section	—	Approved 20 June 1989
Land Management Section	—	Approved 20 June 1989
Fish & Wildlife Section	—	Approved 21 July 1992

A wetlands map was prepared for Naval Base Charleston and certified for three years by the Charleston District Army Corps of Engineers on 1 January 1987. The map was certified for an additional three years on 31 March 1993. Present certifications are good only for planning purposes and expire 14 August 1995.

An endangered plant survey completed 20 July 1993 by Richard D. Porcher of the Citadel did not discover any endangered species. However, the sea purslane has been identified as a confirmed resident of Naval Base Charleston and species of concern by the South Carolina Wildlife and Marine Resources Department.

The osprey and least tern have been identified as confirmed residents of Naval Base Charleston. The osprey is recognized as a species of concern and the least tern is recognized as a threatened species by the South Carolina Wildlife and Marine Resources Department.

Additional information regarding the status of threatened, endangered, or candidate species may be found in the Draft Environmental Impact Statement (DEIS).

3.4 Environmental Condition of Property

In order to prepare an environmental condition of property map, evidence must be gathered that screens base property at a high level of confidence in seven area types. These seven area types or categories are shown on the following page. Figure 3-2 provides a legend to the various classification colors.

Table 3-8 and Figures 3-3(a) through 3-3(f) summarize the status of information on the environmental condition of base property in terms of the seven categories above. Figures 3-3(a) and 3-3(b) are located in the map pocket accompanying this plan; Figures 3-3(c) through 3-3(f) are located on the following pages. The condition of property was determined during the Environmental Baseline Survey (EBS) process, in which facility walkthroughs, interviews, and document reviews were conducted to determine historical usage of each onbase facility. This

usage includes items such as hazardous material, chemical, and petroleum storage or usage, onsite disposal, or other such potential items of environmental concern.

The distribution of the seven categories is shown on the following page.

NAVAL BASE CHARLESTON BRAC AREA TYPES		
Ranking Number	Map Color	Ranking Criteria
1	White	Areas where no storage, release, or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).
2	Blue	Areas where only storage of hazardous substances or petroleum products has occurred (but where no release or disposal or migration from adjacent areas has occurred).
3	Light Green	Areas where storage, release, disposal and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a removal or remedial action.
4	Dark Green	Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, and all remedial actions necessary to protect human health and the environment have been taken.
5	Yellow	Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, removal and/or remedial actions are underway, but all required remedial actions have not yet been taken.
6	Red	Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but required response actions have not yet been implemented.
7	Gray	Areas that are unevaluated or require additional evaluation.

Property for Transfer Distributed by Category*							
Classification	1	2	3	4	5	6	7
Approximate acreage	0	0	0	0	5	345	1291
Percentage of acres	0.0	0.0	0.0	0.0	0.3	21.2	78.5

Note:

* Does not include Clouter Island and Naval Hospital Charleston, which are non-BRAC, and noncontiguous leased properties.

Facilities in classifications 1 through 4 are considered suitable for lease or transfer, although certain disclosures may be required. Facilities in classifications 5 through 7 are not considered suitable for lease or transfer without further investigation and/or remediation.

3.4.1 Areas Where No Storage, Release, or Disposal Has Occurred (1-White)

This area type is defined as a geographically contiguous and mappable area where the results of investigations show that no hazardous substances or petroleum products were stored, released into the environment or site structures, or disposed of on site property. A determination of this area type can only be made after a minimum level of information gathering and assessment has been completed. In accordance with Section 120(h)(4) of CERCLA as amended by CERFA, all such determinations (i.e., uncontaminated) of this area type are made on the basis of a records search of the area in question and adjacent property; a review of the chain of title documents for the area, a review of aerial photographs of the area, a visual inspection of the area and all adjacent property, and interviews with current and former employees regarding their knowledge of past and current activities on the property. These efforts were accomplished via an EBS of each property or facility in question. When the information gathered from these efforts indicates that hazardous substances or petroleum products have been released, disposed of, or stored in the area, the geographic location becomes one of the other area types.

The areas designated on Figures 3-3(a) through 3-3(f) and in Table 3-8 as *White* (Areas of Suspected No Contamination) were determined using the above criteria and the following information:

- Review of past and current activities; this includes review of historical records and review of historical aerial photographs.
- Interviews with current and past base employees.
- Visual site inspection conducted as part of the Environmental Baseline Survey process.
- Sampling data associated with relevant NACIP, RFA/RFI, UST, and related studies.

Due to the possibility of migration of contaminants across the facility as well as proximity to SWMUs and AOCs, the only facilities at Naval Base Charleston to be classified as *White* are located on offbase noncontiguous parcels. These properties are leased and cannot be considered for transfer.

3.4.2 Areas Where Only Storage Has Occurred (2-Blue)

This area is defined as a geographically contiguous and mappable area where the results of investigations show only that storage of hazardous substances or petroleum products has occurred. A determination of this area type is made in accordance with the same requirements in Section 120(h)(4) of CERCLA, as listed in Section 3.4.1.

Areas noted as *Blue* as delineated in Table 3-8 and Figures 3-3(a) through 3-3(f) are based upon the findings of the EBS as well as NACIP, RFA/RFI, UST, and related studies. Due to the possibility of migration of contaminants across the facility, the only facilities for Naval Base Charleston to be classified as *Blue* are located on offbase noncontiguous parcels which are leased and cannot be considered for transfer.



1) Areas where no storage, release, or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas) [white]



150

2) Areas where only storage of hazardous substances or petroleum products has occurred (but no release, disposal, or migration from adjacent areas has occurred) [blue]



70

3) Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a removal or remedial action [light green]



106

4) Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, and all remedial actions necessary to protect human health and the environment have been taken [dark green]



50

5) Areas where storage, release, disposal and/or migration of hazardous substances or petroleum products has occurred, removal and/or remedial actions are under way, but all required remedial actions have not yet been taken [yellow]



231

6) Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but required response actions have not yet been implemented [red]



253

7) Areas that are unevaluated or require additional evaluation [gray]

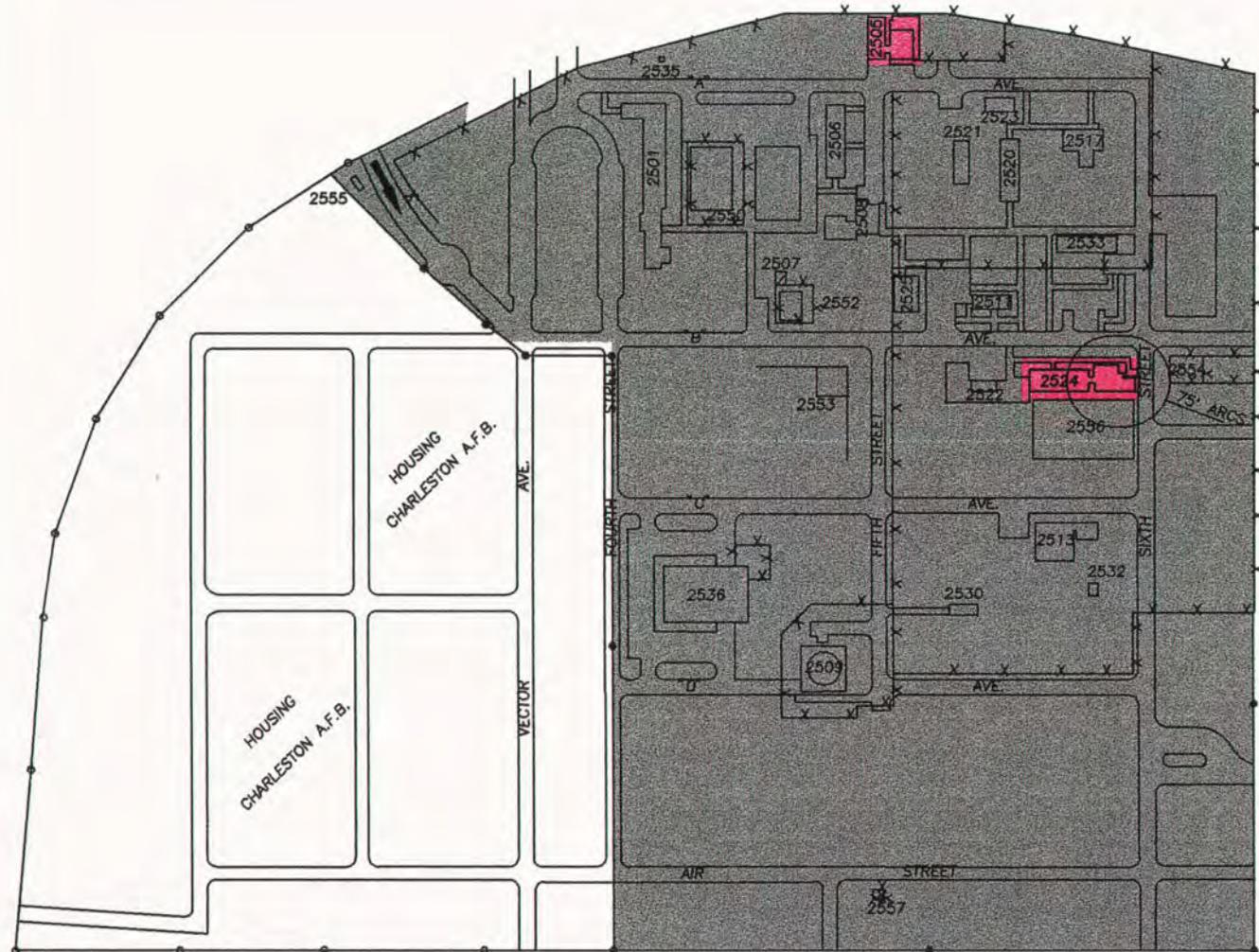
NOTE: THESE ARE COLORS/COLOR NUMBERS IN USE FOR BRAC ENVIRONMENTAL CONDITION OF PROPERTY MAPS



BRAC CLEANUP PLAN
NAVAL BASE
CHARLESTON

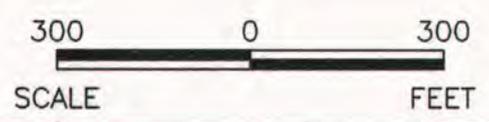
FIGURE 3-2
LEGEND FOR
ENVIRONMENTAL CONDITION
OF PROPERTY MAPS

DWG DATE: 02/15/95 | DWG NAME: 76HATCH4



LEGEND:

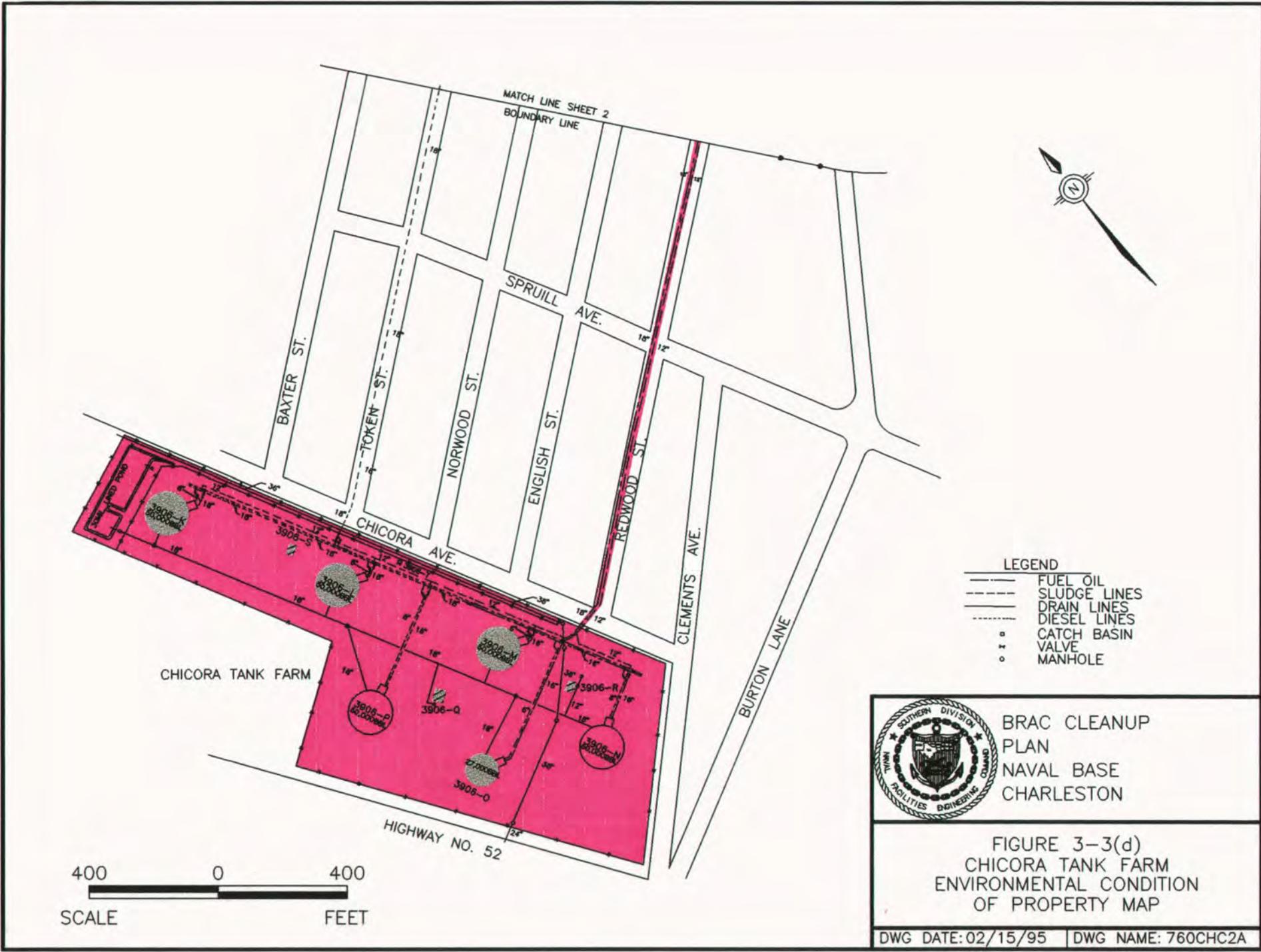
- BLDG OR STRUCTURE
- ROADS, WALKS OR PAVED AREAS
- PROPERTY BOUNDARY
- PROPERTY BOUNDARY (BY OTHERS)
- SECURITY FENCE



BRAC CLEANUP
PLAN
NAVAL BASE
CHARLESTON

FIGURE 3-3(c)
NAVAL STATION ANNEX
ENVIRONMENTAL CONDITION OF
PROPERTY MAP

DWG DATE: 03/03/95 | DWG NAME: 760ANN1B

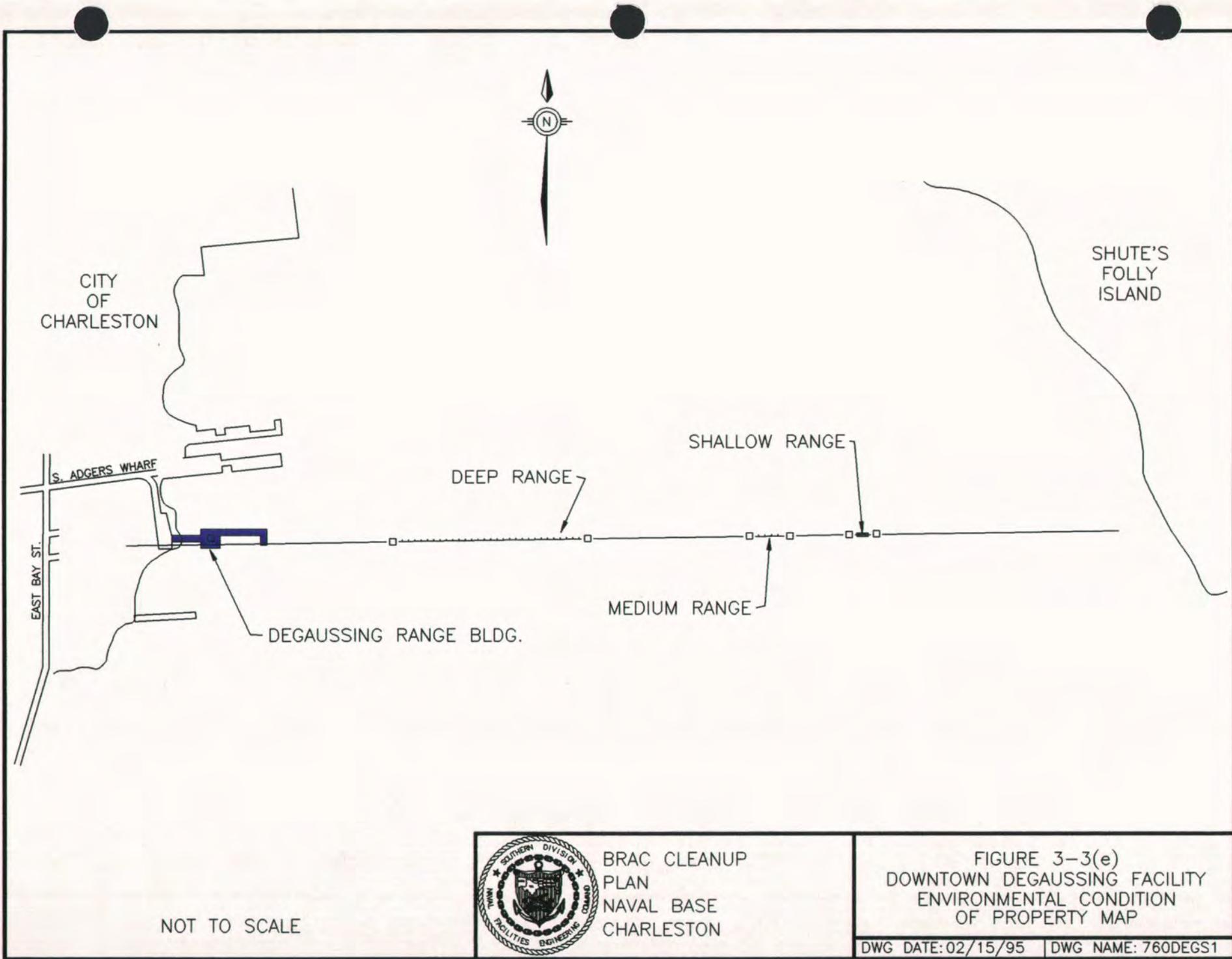


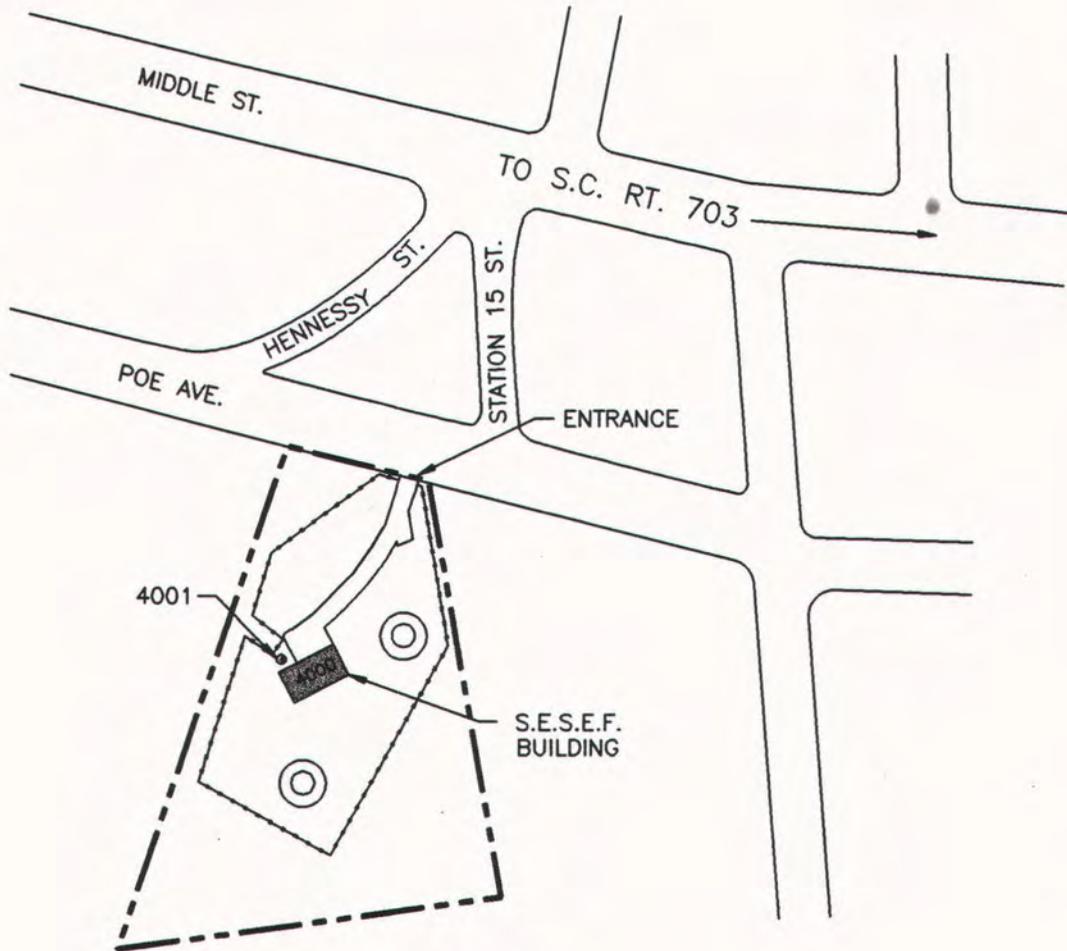
- LEGEND**
- FUEL OIL
 - SLUDGE LINES
 - DRAIN LINES
 - DIESEL LINES
 - CATCH BASIN
 - ⊕ VALVE
 - MANHOLE



BRAC CLEANUP
 PLAN
 NAVAL BASE
 CHARLESTON

FIGURE 3-3(d)
 CHICORA TANK FARM
 ENVIRONMENTAL CONDITION
 OF PROPERTY MAP





4001

S.E.S.E.F.
BUILDING

ENTRANCE

SEAWARD

50 0 50
SCALE FEET



BRAC CLEANUP
PLAN
NAVAL BASE
CHARLESTON

FIGURE 3-3(f)
SULLIVAN'S ISLAND FACILITY
ENVIRONMENTAL CONDITION OF
PROPERTY MAP

3.4.3 Areas Where Storage, Release, Disposal, and/or Migration Has Occurred, but Require No Remedial Action (3-Light Green)

This area type is defined as a geographically contiguous and mappable area where environmental evidence demonstrates that hazardous substances or petroleum products have been stored, released, or disposed of, but are present in quantities that require no response action to protect human health and the environment. Such quantities of hazardous substances or petroleum products can be below defensible detection limits, or can be above detection limits but below action levels. *Below action levels* means, in the absence of installation-specific risk-based or standards-based criteria, that the concentration of any hazardous substance or petroleum constituent in any medium *does not exceed* chemical-specific ARARs. Designation of this area type also means that risk estimates completed for contamination do not meet any of the following criteria:

- Exceed 10^{-6} for any carcinogenic hazardous substance or petroleum constituent detected in any medium.
- Result in a hazard quotient above 1 for any noncarcinogenic hazardous substance or petroleum constituent detected in any medium.
- Exceed 10^{-6} for all carcinogenic hazardous substances and petroleum constituents, taken together, in any exposure pathway.
- Result in a hazard index above 1 for all noncarcinogenic hazardous substances and petroleum constituents, taken together, in any exposure pathway.
- Exceed 10^{-4} for all carcinogenic hazardous substances and petroleum constituents accumulated across all pathways.
- Result in a hazard index above 1 for all noncarcinogenic hazardous substances and petroleum constituents across all pathways.

A designation of a Type 3 area cannot be made with confidence unless a minimum level of information gathering and assessment has been completed. As such, all such determinations are made on the basis of an RFI or equivalent level of effort, which includes biased field sampling and laboratory analysis to support a conceptual understanding of the area.

Areas noted as *Light Green* as delineated in Table 3-8 and Figures 3-3(a) through 3-3(f) are based upon the findings of the EBS, the RFA/RFI, and UST findings to date.

3.4.4 Areas Where Storage, Release, Disposal, and/or Migration Has Occurred, and All Remedial Actions Have Been Taken (4-Dark Green)

This area type is defined as a geographically contiguous and mappable area where all remedial actions necessary to protect human health and the environment have been taken. Type 4 areas include those areas in which an EBS documents evidence that hazardous substances are known to have been released or disposed of on the property, but all remedial actions necessary to protect human health and the environment with respect to any hazardous substances remaining on the property have already been taken to meet the provisions of CERCLA § 120 (h)(3). *All remedial action has been taken* means that the construction and installation of an approved remedial design has been completed, and the remedy has been demonstrated to EPA to be operating properly and successfully (in practice, usually a year).

Areas noted as *Dark Green* as delineated in Table 3-8 and Figures 3-3(a) through 3-3(f) are based upon the findings of the EBS, the RFA/RFI, UST findings, and related studies to date.

3.4.5 Areas Where Storage, Release, Disposal, and/or Migration Has Occurred and Action is Underway, but Not Final (5-Yellow)

This area type is defined as a geographically contiguous and mappable area where the presence of sources or releases of hazardous substances or petroleum products (including derivatives) is confirmed based on the results of sampling and analysis in electronic databases and/or environmental restoration and compliance reports. By definition, this area type contains contaminant concentrations *above action levels*. Such concentration do not meet the criteria that would allow a determination of a Type 3 area. Remedial systems for Type 5 areas are partially or entirely in place, but have not been fully demonstrated.

Areas noted as *Yellow* as delineated in Table 3-8 and Figures 3-3(a) through 3-3(f) are based upon the findings of the EBS, the RFA/RFI, UST studies, and related inquiries to date.

3.4.6 Areas Where Storage, Release, Disposal and/or Migration Has Occurred, but Required Response Actions Have Not Been Taken (6-Red)

This area type is defined as a geographically contiguous and mappable area where the presence of sources or releases of hazardous substances or petroleum products (including derivatives) is confirmed based on the results of sampling and analysis as contained in electronic databases and/or environmental restoration and compliance reports. This area type contains concentrations of contaminants *above action levels*. Such concentrations do not meet the criteria that would allow a determination of a Type 3 area. Additionally, required remedial systems have not been selected or implemented.

Areas noted as *Red* as delineated in Table 3-8 and Figures 3-3(a) through 3-3(f) are based upon the findings of the EBS, the RFA/RFI, UST studies, and related inquiries to date.

3.4.7 Unevaluated Areas or Areas Requiring Additional Evaluation (7-Grey)

This area type is defined as a geographically contiguous and mappable area where the presence of sources or releases of hazardous substances or petroleum products (including derivatives) is suspected, but not well characterized, based on the results of a properly scoped records search, chain of title review, aerial photography review, visual inspection, set of employee interviews, and possibly sampling and analysis. They do not, with certainty, fit any of the previous area types because evaluation efforts have not occurred, are ongoing, or are inconclusive.

The areas noted as *Gray* as designated on Figures 3-3(a) through 3-3(f) and in Table 3-8 were determined based upon results of the EBS. Since minimal investigation and sampling has been done, the majority of Naval Base Charleston is classified as gray. Hazardous materials and petroleum products were used throughout much of Naval Base Charleston; therefore, releases could have occurred. With the high water table, there is a possibility of groundwater contamination.

3.5 Status of Community Involvement

Community relations activities that have taken place at Naval Base Charleston to date include the following:

- **Information repositories.** A public repository for information has been established in Building 76 onbase and in the Charleston County Dorchester Road Regional Branch Library, 6325 Dorchester Road, North Charleston, South Carolina. It contains information relative to environmental activities at Naval Base Charleston.
- **Community Relations Plan.** The contractor prepared a Community Relations Plan (CRP), which was approved in the winter of 1993. The CRP is currently being revised and is scheduled for completion in April 1995.
- **Technical Review Committee (TRC).** The TRC has been formed and has met regularly since March 1992. In addition to the Navy, EPA, SCDHEC, and the Department of Interior (DOI), the TRC includes representatives from the City of North Charleston, Charleston and Berkeley county representatives, and a U.S. Fish and Wildlife Service (USFWS) representative. After Naval Base Charleston was slated for closure, the TRC was transformed into the Restoration Advisory Board.

- **Restoration Advisory Board.** The RAB has been established and meets monthly. The RAB includes the TRC members with additional diverse community representatives. Monthly RAB meetings are open to the public.
- **Mailing list.** A mailing list of all interested parties in the community is maintained by Naval Base Charleston and updated regularly.
- **Fact sheet.** The following fact sheets describing status of the IRP and UST activities at Naval Base Charleston have been distributed to the mailing list:

June 1993 — The RCRA Facility Investigation.

August 1993 — Installation Restoration Program

January 1994 — Information Update, BRAC Property Transfer.

December 1994 — Restoration Advisory Board

January 1995 — Most Commonly Asked Questions About Base Cleanups

- **Open House.** An informational meeting on the status of IRP efforts at Naval Base Charleston was held in September 1993 for the media.
- Held informal community meetings for the American Society of Civil Engineers, North Charleston Businessmens Association, and the NAVFAC Eagles Toastmasters Club.
- Met with the North Charleston Citizens Advisory Council.
- Provide monthly status reports on the RFI progress to the community at RAB meetings.

Table 3-1 Solid Waste Management Unit Summary

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
1	DRMO Storage Area	Coating and Insulating Compounds, Acids and Bases	RFI	DRMO	A
2	Lead-Contaminated Area	Batteries	RFI	DRMO	A
3	Pesticide Mixing Area	Pesticides	RFI	Building 249	G
4	Pesticide Storage Building	Pesticides	RFI	Building 381	F
5	Battery Electrolyte Treatment Area	Batteries, Paint, Solvents	RFI	Building 1797 Area	E
6	Public Works Storage Yard (Old Corral)	Solvents, Waste Oil	RFI	Old Corral SW of Building 380	G
7	PCB Transformer Storage Yard	PCBs	RFI	Old Corral SW of Building 380	G
8	Oil Sludge Pit	Oil Sludge	RFI	Parking Area SW of Building 161	G
9	Closed Landfill	Solid Waste, Products of Incomplete Combustion, Asbestos, Petroleum Products, Mercury, Acids and Bases, Metals, PCBs, Paint Wastes	RFI	Open Area Between Bainbridge and West Road	H
10	Hazardous Waste Storage Facility, Building 246	Flammable Liquids, Acids and Bases, Chlorinated Hydrocarbons, Oxidizers and Reactives, PCBs	RU	Building 246	G
11	Caustic Pond	Calcium Hydroxide	RFI	SE of Building 190	G
12	Old Firefighter Training Area	Petroleum RCRA	RFI	Southern Tip of Base	I
13	Current Firefighter Training Area	Petroleum RCRA	RFI	Building 1303 Area	H
14	Chemical Disposal Area	Decontaminating Agent	RFI	South of Building 1897	H
15	Incinerator	Products of Incomplete Combustion, Paper	RFI	South of Building 1843	H
16	Paint Storage Bunker	Paint, Thinner	RFI	West of Building X55	I
17	Oil Spill Area	Oil RCRA	RFI	North Side of Building 61	H
18	PCB Spill Area	PCBs	RFI	Building 1278	E
19	Solid Waste Transfer Station	Solid Wastes	RFI	West of Least Tern Lane	H
20	Waste Disposal Area	Solid Wastes	RFI	NE of Building 903	H

Table 3-1 Solid Waste Management Unit Summary

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
21	Old Paint Storage Center (Waste Paint Storage Pad)	Sandblast Media, Paint, Thinner	RFI	Building 1275 Area	E
22	Old Plating Shop Wastewater Treatment System	Cyanide, Metals	RFI	Alley Between Buildings 5 and 44	E
23	New Plating Shop Wastewater Treatment System	Metals, Solvents	RFI	Building 226	E
24	Waste Oil Reclamation Facility	Waste Oil	RFI	Fuel Farm Area	G
25	Building 44, Old Plating Operation	Cyanide, Metals	RFI	Building 44	E
26	Waste Storage Area, Bldg 64-40, Pier C	Paint, Thinner	NFI	Pier C Building 64-40	E
27	Waste Storage Area East End, Pier C	Paint, Thinner	NFI	East End Pier C	E
28	Waste Storage Area West End, Pier C	Paint, Thinner	NFI	West End Pier C	E
29	Building X10	Waste Paint, Solvent, Corrosives	NFI	Building X10	G
30	Building 13 SAA 39	Waste Oil	NFI	Building 13	E
31	Waste Paint Storage Area, Drydock 5	Paint, Thinner	NFI	Drydock 5	E
32	Waste Paint Storage Area Building 195	Paint, Thinner	NFI	Building 195	E
33	Waste Paint Storage Area West End, Drydock 2	Paint, Thinner	NFI	Drydock 2	E
34	MWR, Southeast of Building X-10	Refrigerant, Waste Oil	NFI	SE of Building X10	G
35	Building X12	Waste Paint	NFI	Building X12	G
36	Building 68 Battery Shop	Lead, Sulfuric Acid	RFI	Building 68	F
37	Sanitary Sewer System	Metals, POL, Chlorinated Solvents, Surfactants, Acids, Caustics	RFI	Basewide	L
38	Miscellaneous Storage North of Building 1605	Paints, Acids, Thinner, Plating Solutions, Transformers, Solvents, Cleaning Compounds, POL, Adhesives, Preservatives and Batteries	CSI	North of Building 1605	A
39	Former POL Drum Storage	Petroleum Products	RFI	North of Building 1604	A
40	Building 1640 DRMO	Paints, Acids, Thinner, Plating Solutions, Transformers, Solvents, Cleaning Compounds, POL, Adhesives, Preservatives, and Batteries	RU	Building 1640	A

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Table 3-1 Solid Waste Management Unit Summary

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
41	Building 1624 Battery Charging Station	Lead, Sulfuric Acid	NFI	Building 1624	A
42	Former Asphalt Plant/Tanks Boiler Plant	Asphalt Products, Solvents, Degreasers	CSI	NW of Building 1803	A
43	Building 1628 Publications and Printing Plant	Photographic and Lithographic Developing Solutions, Silver, Lead, Chromium	CSI	Building 1628	A
44	Coal Storage, South Side of Noisette Creek	Coal and Coal By-products	RFI	South Side of Noisette Creek	C
45	Building NH-51 SAA 54	Photograph Fixer/Developer	NFI	Building NH-51	C
46	NH-21 SAA T02	Lead-Paint Removal Debris	NFI	Building NH-21	C
47	Building NSC-66 Area Burning Dump	Products of Incomplete Combustion	CSI	Bldg. NSC-64, 66, 67	C
48	Building 234 SAA 55	Photo Chemicals, Ammonia, EDTA Containers	NFI	Building 234	C
49	Building 219 Forklift Battery Charging Station	Lead, Sulfuric Acid	NFI	Building 219	C
50	Building NH-1 SAA 63	Xylene, Toluene, Coating Resin	NFI	Building NH-1	D
51	Building NH-1 SAA 64	Chemical Medical Wastes	NFI	Building NH-1	D
52	Building NH-1 SAA 67	Amalag	NFI	Building NH-1	D
53	Building 212 SAA 29	Metals, Acids, Caustics, Paint, Silver-cyanide, and Solvents	RFI Investigate w/ AOC 526	Building 212	E
54	Abrasive Blast Area at SWMU 21	Blast Residue	RFI Investigate w/ SWMU 21	Building 1275 Area	E
55	Building 59A SAA 05 (Former Boiler Shop)	Paint, Adhesives, POL, Pesticides	NFI	Building 59A	E
56	Building 2A SAA 25	Paint, Adhesives, POL	NFI	Building 2A	E
57	Building 35 SAA 02	Paint, Acids, POL	NFI	Building 35	E
58	Building 35 SAA 49	Acids and Bases	NFI	Building 35	E
59	Building 35 SAA 56	Aerosol Cans and Oily Rags	NFI	Building 35	E
60	Building 2 <90-Day Accumulation Area 04	Paint, Adhesives, POL, Solvents	NFI	Building 2	E
61	Building 228 <90-Day Accumulation Area 22	Adhesives	NFI	Building 228	E
62	Building 226 SAA 08	Plating Solution, Metal Hydroxide, Misc. Plating Supplies/Debris	NFI	Building 226	E

Table 3-1 Solid Waste Management Unit Summary					
SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
63	Former Building 73 Battery Charging Station	Lead, Acids	CSI	Building 226 Area	E
64	Building 56 SAA 07	Paint Cans, and Paint-Contaminated Debris	NFI	Building 56	E
65	Building 221 Lead Storage	Lead and Pickling Waste	RFI	Building 221	E
66	Pier C SAA 30 (Refer to SWMU 80)	None	NFI	Pier C	E
67	Building 3 Mercury Gauge Room	Mercury	CSI	Building 3	E
68	Building 5 SAA 21	Adhesives, Paints	NFI	Building 5	E
69	Building 5 SAA 24	Paint, Adhesives	NFI	Building 5	E
70	Building 5 Dip Tank Area	Fire Retardant Materials	RFI	Building 5	E
71	Building 44 SAA 70	Petroleum Products, Metal Shavings	NFI	Building 44	E
72	Building 44 <90-Day Accumulation Area	Metal Debris/Plating Chemical Wastes	NFI	Building 44	E
73	Building 43 SAA 01	Petroleum Products, Used Coolants, Solvents	NFI	Building 43	E
74	Building 57 SAA 34	Zinc, Grease, Tetrachloroethylene	NFI	Building 57	E
75	Drydock 1 SAA 78	Hydraulic Oil	NFI	Drydock 1	E
76	Building 32 SAA 73	Paint, Caustics, Oil	NFI	Building 32	E
77	Drydock 2 SAA 31	Paint, Thinner	NFI	Drydock 2	E
78	Drydock 2 SAA 61	Paint	NFI	Drydock 2	E
79	Building 250 SAA 53	Acetone, Adhesives, Paint, Solvents, Petroleum Products	NFI	Building 250	E
80	Building 194 Paint Shop Storage	Lead, Paint, Solvents, Sandblasting Grit	CSI	Building 194	E
81	Building 1245 <90-Day Accumulation Area 23	Paint, Trichloroethane	CSI	Building 1245	E
82	Building 177 SAA 69	Solvents, Xylene, Petroleum Products, Adhesives, Preservatives, Acetone, MEK, Toluene	NFI	Building 177	E
83	Building 9 Foundry	Metals, Solvents, PCBs, Asbestos, Petroleum Products, and Paint	RFI	Building 9	E
84	Building 9 Lead Storage	Lead	RFI	Building 9	E
85	Building 9 SAA 03 (Boiler Shop)	Paint Debris, Petroleum Products	NFI	Building 9	E

Table 3-1 Solid Waste Management Unit Summary

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
86	Building 9 <90-Day Accumulation Area 36	Paint, Thinner, Petroleum Products	NFI	Building 9	E
87	Building 80 <90-Day Accumulation Area 11	Paint, Petroleum Products, Mercury, Chelating Agents	CSI	Building 80	E
88	Building 25 SAA 72	Paint, Solvents	NFI	Building 25	E
89	Building 13 SAA 10	Acids/Metals, Lab Samples, Freon 133	NFI	Building 13	E
90	Building 13 SAA	Petroleum Products, Solvents	NFI	Building 13	E
91	Building 13 SAA	Hexane, Waste Oil	NFI	Building 13	E
92	Building 13 SAA 15	Acids/Metals (ICP Waste)	NFI	Building 13	E
93	Building 13 SAA 43	Photographic Developer Chemicals	NFI	Building 13	E
94	Building 13 SAA 45	Acids/Metals, Alcohol	NFI	Building 13	E
95	Building 13 SAA 46	Scintillation Cocktail, Mercuric Nitrate, Spent Analytical Reagents	NFI	Building 13	E
96	Building 236 <90-Day Accumulation Area 14	Petroleum Products, Paint, Corrosives	NFI	Building 236	E
97	Building 236 <90-Day Accumulation Area 20	Petroleum Products, Solvents	CSI	Building 236	E
98	Pier G SAA 28	Paint, Thinner	NFI	Pier G	E
99	Pier G SAA 74	Paint, Diesel Fuel	NFI	Pier G	E
100	Building 218 SAA 26	Petroleum Products, Paint, Adhesives, Solvents, Sandblast Grit	RFI	Building 218	E
101	Building 1173 <90-Day Accumulation Area 62	Paint, Penetrant, Solvents	NFI	Building 1173	E
102	Building 79 Mercury Spill	Mercury	CSI	Building 79	E
103	Pier H SAA 77	Paint, Solvent, Oils	NFI	Pier H	E
104	No Longer Used	—	—	—	—
105	Building 1518 SAA 33 (Diver's Locker)	Petroleum Products, Paint	NFI	Building 1518	E
106	Blast Area Drydock 3	Blast Residue	RFI	Drydock 3	E
107	Chapel CBU-412 SAA T03	Lead-Paint Removal, Construction Debris	NFI	Chapel CBU-412	F
108	Building 187 SAA 27	Paint	NFI	Building 187	F
109	Abrasive Blast Media Storage Area	Blast Media	CSI	Structures 1364, 1365, 1393	F

Table 3-1 Solid Waste Management Unit Summary

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
110	Building 1346 SAA 57	Paint, Petroleum Products	NFI	Building 1346	F
111	Building 241 SAA 37	Paint	NFI	Building 241	F
112	Building 241 SAA 38	Paint	NFI	Building 241	F
113	Building 241 SAA 47	Paint, Antifreeze, Petroleum Products	NFI	Building 241	F
114	Building 241 SAA 48	Petroleum Products	NFI	Building 241	F
115	Building 242 SAA 44	Petroleum Products	NFI	Building 242	F
116	Building 1175 SAA 65	Petroleum Products	NFI	Building 1175	F
117	Building 249 SAA 52	Paint	NFI	Building 249	G
118	Pier Z SAA	Paint	NFI	Pier Z	G
119	Facility 1271 Garbage Handling	Nonhazardous Solid Wastes	NFI	End of Building 336	G
120	Pier M Laydown	Paint, Lead, Petroleum Products	RFI	Pier M	G
121	Building 801 SAA 76	Paint, Petroleum Products	RFI Investigate w/ SWMU 9	Building 801	H
122	Building 636 SAA 58	Paint, Grease	NFI	Building 636	H
123	Building 636 SAA 59	Paint, Grease	NFI	Building 636	H
124	Building 1508 SAA 60	Paper, Petroleum Products	NFI	Building 1508	H
125	Building 202 SAA 16	Mercuric Nitrate Waste	NFI	Building 202	H
126	Building 202 SAA 17	Mercuric Nitrate Waste	NFI	Building 202	H
127	Building 202 SAA 18	Mercuric Nitrate Waste	NFI	Building 202	H
128	Building 202 SAA 40	Mercuric Nitrate Waste	NFI	Building 202	H
129	Building 202 SAA 41	Spent Oxygen Canisters	NFI	Building 202	H
130	Building 202 SAA 42	Petroleum Products	NFI	Building 202	H
131	Building NS-67 SAA 66	Dry Paint Waste	NFI	Building NS-67	H
132	Building FBM 61 SAA 06	Mercuric Nitrate	NFI	Building 61	H
133	Building FBM-61 SAA 09	Borate Cupric Sulfate Solution, Petroleum Products	NFI	Building 61	H
134	Building FBM-61 SAA 68	Petroleum Products	NFI	Building 61	H
135	Building FBM-61 SAA 71	Refrigerant, Petroleum Products	NFI	Building 61	H
136	Building NS-53 SAA 19	Paint, Petroleum Products	CSI	Building NS-53	H
137	Building 675 SAA 35	Photograph Fixer	NFI	Building 657	H

Table 2-1 Solid Waste Management Unit Summary

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
138	Building 1776 SAA 51	Petroleum Products, Antifreeze	CSI	Building 1776	H
139	Pier P Temporary SAA	Paint, Thinner	NFI	Pier P	I
140	Pier P Temporary SAA	Paint, Thinner	NFI	Pier P	I
141	Pier Q Temporary SAA T01	Paint	NFI	Pier Q	I
142	Building 681 <90-Day Accumulation Area 50	Paint, Petroleum Products	NFI	Building 681	I
143	Building 222	Mercuric Nitrate, Silver Nitrate, Chromium, Lead, Flammable Wastes, Chromium/Lead Paint	NFI	Building 222	E
144	Building 222 SAA, CNSY Permit 88	Flammable Wastes, Lead, Cadmium, Brass, Bronze	NFI	Building 222	E
145	Building 13A	Mercury	CSI	Under Building 13A	E
146	Building 13A SAA, CNSY Permit 85	Potentially Radioactive Lead Bar Stock	NFI	Building 13A	E
147	Pier C SAA, CNSY Permit 79	Waste Oil, Aerosol Cans	NFI	Pier C	E
148	Building 194 Storage Area, SAA CNSY Permit 81	Paint, Alcohol, Thinner, Solvents	NFI	Building 194	E
149	Metal Trades SAA at Drydock 5, CNSY Permit T06	Paint, Solvent	NFI	Drydock 5 Area	E
150	Braswell Shipyard SAA at Pier Z, CNSY Permit 93	Paint Wastes, Solvent	NFI	Pier Z	G
151	Building 79A	Mercuric Nitrate, Silver Nitrate, Chromium, Lead, Flammable Wastes, Chromium/Lead Paint	NFI	Building 79A	E
152	Building 79A SAA, CNSY Permit 92	Flammable Wastes, Lead, Brass, Bronze	NFI	Building 79A	E
153	Pier H SAA, CNSY Permit 91	Paint, Solvent	NFI	Pier H	E
154	Pier H SAA, CNSY Permit 80	Waste Oil, Aerosol Cans	NFI	Pier H	E
155	Building 101	Chromium, Lead, Flammable Wastes, Chromium/Lead Paint	NFI	Building 101	E
156	Drydock 4, Pierside SAA, CNSY Permit 86	Lead-Paint and Lead-Paint Contaminated PPE	NFI	Drydock 4 Area	E
157	Building 1278 <90-Day Accumulation Area, CNSY Permit 83	Investigation-Derived Waste (IDW)	NFI	Building 1278	E
158	Pier M Quaywall SAA, CNSY Permit 82	Paint Wastes, Petroleum Products	NFI	Pier M Quaywall	G

Table 3-1 Solid Waste Management Unit Summary					
SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
159	Building 665 SAA, CNSY Permit 90	Aerosol Cans, Batteries, Paint Waste	RFI	Building 665	H
160	Port Services, SAA, CNSY Permit 95	Oily Rags	NFI	Pier S Quaywall	I
161	Vehicle Maintenance Shop, Marine Reserve Center	Petroleum Products	CSI	Building 2505, NS Annex	K
162	Sludge-Drying Field, MOMAG 11	Heavy Metals	CSI	South of Building 2509, NS Annex	K
163	Concrete Pit Area 10' x 10' x 2' at MOMAG 11	Paint, Spent Solvents	CSI	North of Building 2513 NS Annex	K
164	Blasting Operation, MOMAG 11	Paint Waste, Sandblast Media	CSI	Building 2556, NS Annex	K
165	Paint Operation, MOMAG 11	Paint, Lead Paint	NFI	Building 2556, NS Annex	K
166	Sewer System, NS Annex	Heavy Metals, Petroleum Products, Waste Paint, Solvents	CSI	Basewide, NS Annex	K
167	MOMAG < 180-Day Accumulation Area, CNSY Permit 94	Waste Paints, Petroleum Products, Spent Solvents, Batteries, Heavy Metals, Aerosol Cans	NFI	South of Building 2522, NS Annex	K
168	Building 2A, Temporary Metal Storage Area	Zinc, Metals (Nonhazardous)	NFI	Building 2A, Between Buildings 2 and 59	E
169	Building 57, Touch-up Painting Operations	Waste Paint, Thinner	NFI	Building 57	E
170	Drydock 1 Area, PCB Removal Operations	PCBs	CSI	Drydock 1 Area	E
171	Drydock 2 Area, PCB Removal Operations	PCBs	CSI	Drydock 2 Area	E
172	Building 80 Steam-Cleaning Operations	Petroleum Products	CSI	Building 80	E
173	Building 1297 Storage Area	Lead, Metal Slag, Zinc, Misc. Chemicals, Unlabeled Drums	CSI	Building 1297	E
174	Air Compressor Oil Blowdown, Building 97	Petroleum Lubricating Oils	NFI	Building 97	F
175	Crane Painting Area Near Building 1277	Paint, Sandblast Media	CSI	South of Building 1277	F
176	Transformer Oil Leak Near Building 657	PCBs	CSI	Building 657	H
177	RTC-4 Oil Spill	Petroleum Products	RFI	Building RTC-4	I

Table 3-1 Solid Waste Management Unit Summary

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
178	Site of Apparent Transformer Fire Outside of Building NS-53	PCBs, Wood Preservatives	RFI	Building NS-53	H
179	Building 222 SAA, Shipping and Receiving, Permit 90	Flammable Wastes, Lead, Cadmium, Brass, Bronze	NFI	Building 222	E
180	Building 222 SAA, New Fuel Enclosure, Permit 102	Flammable Wastes, Lead, Cadmium, Brass, Bronze	NFI	Building 222	E
181	Metal Trades SAA, Permit 99	Lead, Petroleum Products	RFA in Progress	Pier C	E
182	Ships Forces SAA, Permit 102	Lead, Solvents, Petroleum Products	RFA in Progress	Pier C	E
183	Building 79A <90 Day Accumulation Area, Permit 89	Lead, Petroleum Products, Brass, Bronze, Chrome, Cadmium	RFA in Progress	Bldg 79A, North Bay	E
184	Building 79A SAA, Permit 106	Brass, Bronze	RFA in Progress	Bldg 79A, High Bay	E
185	UST Waste Sludge Collection, <90-Day Accumulation Area, Permit 107	Oils	RFA in Progress	Outside of Bldg 1024	E
186	Paint Chip Sample Collection, SAA Permit 105	Lead, Chrome	RFA in Progress	Behind Bldg 58	E
187	Paint Waste SAA 101	Lead, Solvents, Oils, Petroleum Products	RFA in Progress	Head of Drydock 5, North side	E
188	Paint Waste SAA 103	Lead, Solvents, Oils, Petroleum Products	RFA in Progress	South side of Drydock 5, about midpoint	E
189	Bldg 222 Fenced in Area, SAA 108	Brass, Bronze, Cadmium	RFA in Progress	Outside of West end of Bldg 222	E
190	Pier J SAA 110	Brass, Bronze, Cadmium, Lead	RFA in Progress	Pier J	E
191	Pier G SAA 98	Paint and Oil Wastes	RFA in Progress	Pier G	E
192	Building 122 SAA 111	Brass, Cadmium, Lead, Bronze, Chromium	RFA in Progress	Building 222	E
193	Building 79A Fenced Area, SAA 107	Brass, Bronze	RFA in Progress	Building 79A, Fenced in Area	E
194	Building 197, Paint Storage	Paint Waste	RFA in Progress	Naval Short Stay	K
195	Building 207, Flammable Storage	Petroleum Products, Solvents	RFA in Progress	Naval Short Stay	K

Table 3-2 Area of Concern Summary					
AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
500	UXO Site Between Piers S and T	2 Mark 47 TORPEX Loaded Depth Bombs	CSI Investigate w/EOD Team	Between Piers S and T	J
501	UXO Site in Cooper River East of Buildings X54 & X55	2 Mark 47 TORPEX Loaded Depth Bombs	CSI Investigate w/EOD Team	Cooper River	J
502	UXO Site Between Piers G and H	Three 5-inch Unexploded Shells at About 40 Feet Below MWL	CSI Investigate w/EOD Team	Between Piers G and H	J
503	UXO Site South of Building 665	2 Mark 17 Depth Bombs	CSI Investigate w/EOD Team	South of Building 665	H
504	Railroad System	Petroleum Products, Batteries, Lead Acids, Coal	RFI	Basewide	L
505	Creosote Cross-Tie/Ballast Storage Area	Creosote, Pesticides, Asphalt, and Asphalt Degradation Products	RFI	Area of Building 1803	A
506	Building 1629 Flammable Storage Shelter	Solvents, Paints, Fuels	CSI	Building 1629	A
507	Former Building 1010 Oil Storehouse	Petroleum Products	CSI	Golf Course Area (1410)	B
508	Former Incinerator 19	Solid Waste, Petroleum Products, Products of Incomplete Combustion	CSI	Between St. Johns and Avenue H	C
509	Building 1079 Hazardous/Flammable Storage	Petroleum Products, Oxidizers, Infectious Material, Peroxides, Poisonous Gas, Solid Explosives	NFI	Building 1079	C
510	Building NH-21 General Purpose Laboratory	Methyl Ethyl Ketone, Acetone, Methylene Chloride, Solvents	CSI	Building NH-21	C
511	Former Building 16 Oil House	Petroleum Products	CSI	North of Building 762	C
512	Former Incinerator 67	Solid Waste, Petroleum Products, Combustion Products	CSI	Building 1079	C
513	Former Morgue	Formaldehyde, Methanol	CSI	SE of Building 45	C
514	Building 1813 Flammable Storage	Paint, Adhesive, Petroleum Products	NFI	Building 1813	C
515	Building 233 Area Incinerator and Paint Shop 51	Paints, Solvents	CSI	Building 233	C
516	Building 233 Wash Area	Lead, Acid, Petroleum Products	RFI	Building 233	C
517	Building M192 Indoor Firing Range	Lead	CSI	Building M192	C
518	Coal Storage Bins	Coal and Coal By-products	CSI	Adjacent to Building M1257	C

Table 3-2 Area of Concern Summary					
AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
519	Former Boilerhouse 1081	Petroleum Products, Products of Incomplete Combustion	CSI	East of Building NH-55	C
520	Former Building M1051 Garbage House	Solid Wastes, Paint, Solvent, Petroleum Products	CSI	Adjacent to Building M17	C
521	Oil Storehouse 1052 Facility M1262	Petroleum Products	NFI	Building M1262	C
522	Grease and Wash Building, former Bldg. 1252	Petroleum Products, Lead, Solvents, Paint, Thinner, Acids	CSI	SW of Building 198	C
523	Former Building M1234 Gas Station Storage	Petroleum Products, Solvents	CSI	Building 198	C
524	Building 451A Substation	PCBs, Petroleum Products	NFI	Building 451A	D
525	Building 223 Paint Shop	Paint, Thinner, Antifoulant, Solvents	RFI—Booth 35 NFI—Booths 36, 37, 38, 63	Building 223	E
526	Building 212 Paint Area	Paint, Solvents	RFI	Building 212	E
527	Building 24 Transformer House	PCBs, Petroleum Products	NFI	Near Building 3	E
528	Steam-Cleaning Shop	Grease, Waste Oil	CSI Investigate w/Sewer System	Building 59	E
529	Building 2A Coating and Spray Systems	Paint, Solvents	NFI	Building 2A	E
530	Building 35 Paint and Oil Storage Facility	Paints, Solvents, Petroleum Products	CSI	Building 35	E
531	Building 459 Substation and Storage	PCBs, Petroleum Products, Batteries	CSI	Building 459	E
532	Building 2 Sump Collection Vats	Shaping Fluids, Solvent, Metals	NFI	Building 2	E
533	Building 460 Substation	PCBs, Petroleum Products, Lead, Acids	NFI	Building 460	E
534	Building 27 Latrine	Organic Wastes, Heavy Metals	NFI	Near Building 59	E
535	Building 28 Latrine	Organic Wastes, Heavy Metals	NFI	East of Building 2	E
536	Building 460 Substation	PCBs, Petroleum Products, Lead, Acids	NFI	Building 460	E
537	Building 342 Substation	PCBs, Petroleum Products	CSI	Building 342	E
538	Building 6 Forge Shop	Petroleum Products, Paint, Lead, Acids, Zinc, Coke, Coal	RFI	Building 6	E

Table 3-2 Area of Concern Summary					
AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
558	Building 177 Electrical Substation	PCBs, Petroleum Products	CSI	Building 77	E
559	Building 32 Central Power Station	Solvents, Mercury, Petroleum Products	RFI	Building 32	E
560	Building 34 Disinfector	Chlorine, Rust Inhibitor	CSI	South of Building 32	E
561	Building 451B Substation	PCBs, Petroleum Products	RFI	Along Carolina Avenue	E
562	Building 84 Substation	PCBs, Petroleum Products	CSI	Building 84	E
563	Former Building 37 Locomotive House	Solvents, Degreasers	CSI	Building 177	E
564	Oil/Water Separator	Petroleum Products	CSI	North of Building 80	E
565	Building 1006 Former Temporary Coal Bin	Coal and Coal By-products	NFI	North of Drydock 5	E
566	Building 194 Paint Shop Storage	Paint Wastes, Metals, Thinner, Blast Media	CSI	Building 194	E
567	Building 75 Substation	PCBs, Petroleum Products, Lead, Acids	CSI	East of Building 195	E
568	Building 26 Latrine	Organic Wastes, Heavy Metals	NFI	Building 26	E
569	Former Building 1279 Gas Station and Oil Storage	Petroleum Products	RFI	Attached to SW Corner of Building 30	E
570	Former Coal Storage Area	Coal and Coal By-products	RFI Investigate w/AOC 578	Building 1199 Area	E
571	Building 177 Paint Shop	Paint, Thinner	RFI-Booth 33 NFI-Booths 31, 32, 34	Building 177	E
572	Building 177 Motor Area	Petroleum Products	RFI	Building 177	E
573	Building 177 Anodizing Process	Heavy Metals, Irridite, Acids, Degreasers	CSI	Building 177	E
574	Building 9 Fuel Tank	Petroleum	RFI	Building 9	E
575	Building 454 Substation	PCBs, Petroleum Products, Lead, Acids	CSI	Building 454	E
576	Former Building 1012 Oil and Paint Storehouse/ Print Office	Oil, Heavy Metals	CSI	Building 80	E
577	Building 25 Paint Booth	Paint, Thinner	NFI	Building 25	E
578	Building 25 Transportation Shop and Garage	Petroleum Products, CFCs, Paint, Battery Acid, Solvents, Thinner	RFI	Building 25	E
579	Building 1035 Former Paint Shop	Paints, Solvents	CSI	Building 1035	E

Table 3-2 Area of Concern Summary

AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
539	Building 6 Propeller Shop	Zygly	RFI Investigate w/AOC 538	Building 6	E
540	Building 226 Plating Plant (Formerly Building 73 Battery Charging)	Heavy Metals, Nitric Acid, Waste Oil	CSI	Building 226	E
541	Former Building 38 Oil Storage Shops	Petroleum Products	CSI	Between Buildings 6 and 226	E
542	Building 22 Old Oxy-Acetylene Plant and Paint Shop	Acetylene Gas, Paints, Possible Solvents	CSI	Building 226 Area	E
543	Building 226 Plating Plant (Formerly Building 1026)	Plating Wastes, Petroleum Products	CSI	Building 226	E
544	Building 221 Former Pickling Plant	Acids, Strippers, Solvents, Metals, Petroleum Products	RFI	Building 221	E
545	Building 3 Surface Coating Operations	Paint, Adhesives, Thinner	NFI	Building 3	E
546	Building 1025 Galvanizing/Pickling Shop	Zinc, Inorganic Acids	CSI	Between South end of Buildings 56 and 74	E
547	Building 5 Fiberglass Shop	Fiberglass Process Resins	NFI	Building 5	E
548	Building 5 Hydraulic Elevator	Hydraulic Oil	CSI	Building 5	E
549	Building 5 Scrap Yard 1054	Scrap Metals, Construction Waste	RFI	Building 5 Area	E
550	Former Building 1111 Boilerhouse for Marine Corps	Petroleum Products, Products of Incomplete Combustion	CSI	SW of Building 62	E
551	Building 1119 Boilerhouse	Coal By-products	CSI	Pier 314	E
552	Former Building 1030 Galvanizing Shop	Zinc, Inorganic Acids	CSI	NE corner of Drydock 1	E
553	No Longer Used	—	—	—	—
554	Former Building 1003 Paint Shop	Paint, Thinner, Solvents	CSI	Between Buildings 5 and 44	E
555	Former Building 20 Latrine and Substation	Organic Wastes, Heavy Metals, PCBs	CSI	SE side of Building 1119	E
556	Drydock Discharges	Paint Wastes, Petroleum Products, Sewage, Mercury, Acids, Blast Residue, Caustics, PCBs, Metals, Cleaning Solutions	RFI	Drydocks	E
557	Former Building 1020 Latrine	Organic Wastes, Heavy Metals	CSI	South of Drydock 1	E

Table 3-2 Area of Concern Summary					
AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
580	Building 10 Former Pattern and Electric Shop	Solvents, Degreasers	CSI	Building 10	E
581	Building 20 Substation and Radio Lab	PCBs, Petroleum Products	NFI	NE of Building 236	E
582	Building 455 Substation	PCBs, Petroleum Products	NFI	Building 455	E
583	NE Corner Building 236	Freon, Paint Waste, Petroleum Products	RFI	NE of Building 236	E
584	Building 451H Substation	PCBs, Petroleum Products, Batteries	NFI	Building 451H	E
585	Former Building 36 Latrine and Officers Club Storage	Organic Wastes, Heavy Metals	NFI	East of Drydock 5	E
586	Building 1014 Temporary Powerhouse	PCBs, Petroleum Products, Coal, Acids, Solvents	CSI	Adjacent to Building 11	E
587	Building 21 Former Aviation Gas Storage	Petroleum Products, Paint Waste	NFI	Building 21	E
588	Building 218 Paint Booth	Paint, Solvent	NFI	Building 218	E
589	Building 85 Substation	PCBs, Paint, Solvents, Petroleum Products	NFI	Building 85	E
590	Alley Between Buildings 79 and 1760	Acetone, Petroleum Products	CSI	Between Buildings 79 and 1760	E
591	No Longer Used	—	—	—	—
592	Former Building 1225 Asbestos Shredding Shelter	Asbestos	CSI	South of Building 1760	E
593	No Longer Used	—	—	—	—
594	Building 190 RADCON Training & Offices	PCBs, Paint, Petroleum Products	NFI	Building 190	E
595	Building 1018 Oil & Paint Storehouse	Petroleum Products, Paints, Solvents	NFI	SW of Building 101	E
596	Building 101 Torpedo Storage	Explosives, Petroleum Products, Propellants, Solvents/Degreasers	CSI	Building 101	E
597	Building 91 Substation	PCBs, Petroleum Products, Batteries	CSI	Building 91	E
598	Sonar Dome Area, Pier J	Blast Residue, Solvents, Adhesives, Paint, Thinner	RFI	End of Pier J	E
599	Pier J Pump House	Diesel Fuel	CSI	Pier J	E
600	Coal and Oil Pier Former 318L Pier	Petroleum Products, Coal By-products	NFI	North of Drydock 3	E
601	Oil Pier Former 319 Pier	Petroleum Products	NFI	South of Pier 317F	E

Table 3-2 Area of Concern Summary					
AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
602	Building 95 Substation and Storage	PCBs, Petroleum Products	CSI	Building 95	E
603	Drydock 3 Area Burning Dump	Solid Wastes, Products of Incomplete Combustion, Paint, Solvents, Petroleum Products	CSI	Drydock 3	E
604	Building 96 Substation and Storage	PCBs, Petroleum Products,	CSI	Building 96	E
605	Waste Paint Storage Area Pad 1278	Paint, Solvents, Petroleum Products, Lead, Acids	RFI investigate w/SWMU 5	Drydock 4	E
606	Building 187 Paint Booth	Paint	NFI	Building 187	F
607	Building 1189 Dry Cleaning	Perchloroethylene	RFI	Building 1189	F
608	Building 1263 Naval Exchange Storage Shed	Petroleum Products	NFI	Building 1263	F
609	Building 1346 Service Station	Ethylene Glycol, Solvents, Petroleum Products	RFI	Building 1346	F
610	Building 241 Paint Booth	Paint, Thinner	NFI	Building 241	F
611	Building 1264 Grease Rack and Hobby Shop	Petroleum Products, Solvents, Paint, Degreasers, Lead, Acids	CSI	Ninth Street and Enterprise Avenue	F
612	Building 94 Substation	PCBs, Petroleum Products	NFI	Building 94	F
613	Building 1169 Old Locomotive Shop	Petroleum Products, Solvents	RFI	Building 242	F
614	Building 242 Paint Booth	Paint, Solvents	NFI	Building 242	F
615	Former Building 1391 Old Chain Locker	Epoxies, Resins	CSI	Building 255	F
616	Former Building 1201 Paint Shop	Paints, Thinners, Solvents	CSI	Building 69 Parking Lot	F
617	Former Building 1176 Galvanizing Plant	Zinc Solutions, Inorganic Acids	CSI	Building 69A	F
618	Building 466 Switching Substation	PCBs, Petroleum Products, Batteries	NFI	Building 466	F
619	Former Oil Storage Yard	Petroleum Products	CSI	Area of Buildings 1824, 1836, 316, 381	F
620	Building 68, Battery Shop	Paint, Lead Acids, Solvents, Petroleum Products	RFI Investigate w/SWMU 36	Building 68	F
621	Building 68 Battery Cracking Area	Lead, Acids	RFI investigate w/SWMU 5	Building 68	F
622	Ballast Water Treatment Facility, 3926	Petroleum Oils, Metals	CSI Investigate w/AOC 626	NSC Fuel Farm	G

Table 3-2 Area of Concern Summary					
AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
623	Building 98 Concrete Tank	Petroleum Products	CSI Investigate w/AOC 626	Building 96	G
624	Building 98 Fuel Oil Booster Pumphouse	Petroleum Products	RFI	Building 98	G
625	Building 3901B Sludge Pumphouse	Petroleum Products	CSI	Building 3901B	G
626	NSC Fuel Farm	Petroleum Products, Solvents	RFI	Fuel Farm Area	G
627	Oil Spill Area at Hobson Avenue and Viaduct Road	Petroleum Products	RFI	Hobson and Viaduct Roads	G
628	Southeast Area of Building 68 Sandblasting Area	Paint, Solvents, Metals, Blast Residue	CSI	SE of Building 68	G
629	Tank Truck/Car Loading/Unloading, Facility 3913	Petroleum Products	CSI Investigate w/AOC 626	Building 3913	G
630	Building 3913 POL Sampling/Test Building	None	NFI	Building 3913	G
631	Fueling Pier Kilo (K)	Petroleum Products	RFI	Pier Kilo	G
632	Building 124 Substation	PCBs, Petroleum Products	NFI	Building 124	G
633	Building 451C Substation	PCBs, Petroleum Products	CSI	Building 451C	G
634	Building 1814 Flammable Material Storage	Paint, Thinner	CSI	SW of Building 224	G
635	Building 3902 Paint and Oil Storehouse	PCBs, Corrosives, Poisons, Paints, Oxidizers, Petroleum Products, Solvents, Degreasers, Metals, Plating Wastes	RFI Investigate w/SWMU 6 and 7	Building 3902	G
636	Building 161 Area Torpedo Magazine	Explosives, Propellants	CSI	Building 161	G
637	Building 161 Area, Area Dump	Solid Waste, Products of Incomplete Combustion, Paint, Petroleum Products, Solvents	CSI	Building 161 Area	G
638	Building 132 Torpedo Workshop	Explosives, Propellants	CSI	Building 132	G
639	Alcohol Storage	Alcohol	NFI	South of Building 132	G
640	Former Pier 322 Fuel Oil Pier	Petroleum Products	NFI	Pier 336	G
641	Former Building 39K Stripper Pumphouse	Acetone, Methylene Chloride	CSI	Base of Building 336	G
642	Building X10 Parking Lot Former Pistol Range	Lead	RFI Investigate w/SWMU 29 and 34	Parking Lot Building X10	G

Table 3-2 Area of Concern Summary					
AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
643	Building 125 Substation	PCBs, Petroleum Products	CSI	Building 125	G
644	Building 1793 Substation	PCBs, Petroleum Products, Lead, Acids	NFI	Building 1793	G
645	Building 3906S Transformer Vault	PCBs, Petroleum Products	NFI	Chicora Tank Farm	G
646	Building 3906Q Operational Storage	Petroleum Products, Paint	CSI	Chicora Tank Farm	G
647	Building 3906R Transformer Vault	PCBs, Petroleum Products	NFI	Chicora Tank Farm	G
648	West of Building 672 Transformer Vault	PCBs, Petroleum Products	NFI	West of Building 672	H
649	Braswell Shipyards, Inc., Storage Area	Blast Media, Paint Solvents, Adhesives, Welding Supplies, Metals	CSI	East of Building 672	H
650	Metal Trades, Inc., Storage Area	Paint, Strippers, Adhesives, Solvents	CSI	East of Building 672	H
651	Sandblasters, Inc., Storage Area	Blast Media	CSI	East of Building 672	H
652	Building 636 Paint Booth	Paint, Thinner, Reducers	NFI	Building 636	H
653	Building 1508 MWR Hobby Shop	Petroleum Products, Paint, Thinner, Cleaning Compounds	RFI	Building 1508	H
654	Building 661 Septic Tank and Drain Field 1718	Solvents, Organic Wastes, Heavy Metals	CSI Investigate w/SWMU 9	Building 661 Area	H
655	Building 656 Oil Spill Area	Petroleum Products	RFI	Building 656	H
656	Petroleum Spill Between Buildings 602 and NS-71	Petroleum Products	RFI	Btwn Buildings 602 and NS-71	H
657	Building 645 Engine Overhaul Facility	Solvents, Degreasers, Petroleum Products, Chlorofluorocarbons	NFI	Building 645	H
658	Building 203 Gas Storage	Flammable Gases	NFI	East of Building 1303	H
659	Building 14 Diesel Storage	Petroleum Products	CSI	Building 14	H
660	Former Building 31 Mosquito Control	Pesticides	CSI	NW of Building NS-6 Area	H
661	Former Explosives Storage	Propellants, Explosives, Pyrotechnics	CSI	South of Building 601	H
662	Building NS-54 Former Gas Station	Petroleum Products	CSI	Building NS-54	H
663	Building 851 Gas/Diesel Pumping Station	Petroleum Products, Solvents, Paint	CSI	Building 851	H

Table 3-2 Area of Concern Summary					
AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
664	Building X33A Transformer Vault	PCBs, Petroleum Products	NFI	Building X33A	H
665	Building 159 Pyrotechnic Storage	Pyrotechnic	CSI	Building 1889 and NS-46	H
666	Fuel Storage (NS-45)	Petroleum Products	CSI	By Osprey Street	H
667	CBU-412 Vehicle Maintenance Area	Petroleum Products	RFI	CBU-412	H
668	Building 1899 Hazardous Material Storage	Oxygen, Acetylene, Welding Supplies, Scrap Metal	NFI	Building 1899	H
669	Building 1888 Indoor Pistol Range	Lead	NFI	Building 1888	H
670	Former Skeet Range South of Building 1897	Lead, Clay Targets	RFI Investigate w/SWMU 14	Field South of Building 1897	H
671	Former Building 3905G Metering House	Petroleum Products	CSI	North of Hobson	I
672	Building 126 Substation	PCBs, Petroleum Products	RFI	Building 126	I
673	Building 169 Paint and Oil Storehouse	Paints, Petroleum Products, Solvents, Thinners	CSI	Building 169	I
674	Building RTC-4 Paint Storage	Paint, Petroleum Products, Solvents, Thinners	NFI	Building RTC-4	I
675	Fuel Oil Storage (NS-4)	Petroleum Products	CSI	Along Thompson Avenue	I
676	Incinerator	Solid Waste, Products of Incomplete Combustion, Paint Solvents, Petroleum Products	CSI Investigate w/AOC 677	Area of Building NS-2	I
677	Building NS-2 Grounds	Petroleum Products, Solvents	RFI	Building NS-2	I
678	Former Building 2V Firefighting School	Petroleum Products	CSI	Building NS-1 Area	I
679	Former Wash Rack	Paint, Solvents, Petroleum Products	CSI	Building NS-1 Area	I
680	NE Side of Building NS-26 Brake Repair and Welding Area	Asbestos	CSI	Building NS-26	I
681	Blast Booth Building 681	Blast Residue, Metals, Paints, Petroleum Products	RFI	Building 681	I
682	Building 681 Spray Booth	Paint Wastes, Epoxy, Thinner	NFI	Building 681	I
683	Transformer Vault	PCBs, Petroleum Products	NFI	Building 678 Area	I
684	Building 1888 Former Pistol Range	Lead	RFI Investigate w/SWMU 14	Building 1888	I

Table 3-2 Area of Concern Summary

AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
685	Former Smoke Drum	Solid Waste, Products of Incomplete Combustion, Paint, Solvent, Petroleum Products	CSI	West of Juneau Avenue	I
686	Building X54 High Explosive Storage	Explosives	NFI	Building X54	I
687	Building X55 Ammunition Storage	Explosives	CSI	Building X55	I
688	Building X56 Ammunition Storage	Explosives	CSI	Building X56	I
689	Southern Tip of Base	Dioxins	RFI	Southern Tip of Base	I
690	Dredged Materials Area Road	Construction Debris, Petroleum Products, Hazardous Materials	CSI	South End of Base	I
691	Waterfront	Paints, Acids, Thinner, Plating Solutions, Transformers, Solvents, Cleaning Compounds, POL, Adhesives, Preservatives and Batteries	RFI	Waterfront	J
692	Free Product Along Cooper River	Petroleum Products	RFI	Waterfront	J
693	Former Building 117 Fuse and Primer House	Petroleum Products, Propellants, Explosives, Pyrotechnics	CSI	Clouter Creek Dredge Area	K
694	Former Naval Ammunition Depot	Propellants, Explosives, Pyrotechnics	CSI Investigate w/EOD Team	Clouter Creek Dredge Area	K
695	Former Building 119 Electric Locomotive Shed	Solvents, Degreasers	CSI	SW of Building 117	K
696	Transformer Area Near Building 2509, MOMAG 11	PCBs, Petroleum Products	CSI	Building 2509, MOMAG 11	K
697	Transformer Area Near Building 2554, MOMAG 11	PCBs, Petroleum Products	NFI	Building 2554, MOMAG 11	K
698	Building 2508, Boiler House, Marine Reserve Training Center, NS Annex	Lead	RFI	Building 2508, NS Annex	K
699	Storm Sewer System	Petroleum Products, Paint, Solvent, Metals	RFA in Progress	Basewide	L
700	Building 1646, Golf Maintenance Building	Pesticides, Grease, Oil	RFA in Progress	Building 1646	C
701	Building 1141, Former McMillan Ave. Gas Station	Petroleum Products	RFA in Progress	Building 1141	E
702	Pier D Paint Accumulation Area	Paint Wastes	RFA in Progress	Pier D	E

Table 3-2 Area of Concern Summary					
AOC Number	AOC Name	Materials Released, Stored, or Disposed	Investigative Approach	Location	Study Zone
703	Pier F Paint Accumulation	Paint Wastes	RFA in Progress	Pier F	E
704	Building 301B Paint Accumulation	Paint Wastes	RFA in Progress	West of Building 301B	E

Table 3-3 Mission/Operational-Related Compliance Projects		
Project	Status	Regulatory Program
A1211 — VOC Emission Inventories, Phase I/II	Complete Information Submitted to SCDHEC for Review	Clean Air Act
PW# 1-0208 - H410A Sleeving or Preclude Tidal Flow into Sanitary Sewer Manhole	Cancelled	Clean Water Act
PW# 1-0271 - H410A Repairs to Sanitary Sewer, Storm Drain Infiltration	Cancelled	Clean Water Act
PW# 1-0336 - H410A Provide M & R Project to Correct Deficiencies in the Sanitary Sewer	Cancelled	Clean Water Act
PW# 2-0133 - H410A Repairs to Sanitary Sewer at Piers E and F	Completed Final Inspection 9/14/93	Clean Water Act
PW# 2-3443 - CT1 Construct Berm Around Gas Tank at Boating Area, Short Stay	Cancelled	Clean Water Act
PW#-2-7015 - H436A Replace Asbestos Pipe Insulation in Drydock #1 Tunnels	Completed Closed Out 3/8/94	Clean Air Act
PW# 9J0906 H410A Repair Sewage System under Piers N, P & Q	Cancelled	Clean Water Act
PW# CNSY3-0039 - H410A Drydock #1, Repair 8" Sanitary Sewer Line in Concrete Floor of Drydock	Completed	Clean Water Act
PW# 2-3045 - Buildings 214, 215 & 1448, Pools, Replace 3 Chlorinators	Cancelled	Clean Water Act
W305T — Modification of Waste Oil Drum	Cancelled	Clean Water Act
W305N — NS-680 Oil/Water Separator Installation	Cancelled	Waste Minimization
W305O — NS-681 Oil/Water Separator Installation	Cancelled	Waste Minimization

Table 3-4 Closure-Related Compliance Projects		
Project	Status	Regulatory Program
C017F/Continuation of Support for Base Responsibilities for Upcoming Environmental Tasks & Technical Review Committee	Funded for 1993 (\$83,000) Funded for 1995 (\$78,000) (Not funded for 1994)	RCRA, TSCA, CWA, CAA
S003F/RCRA Corrective Action Study for PW Storage Yard and DRMO Staging Area	Funded Through 91 (\$780,000) RCRA Risk-Based Closure Completed 1994 Groundwater and Soil (PCB) to be Investigated Under HSWA Program	RCRA
S478D/RCRA Corrective Action for Building 44	Closure of Building Ongoing RCRA Closure of Process Tanks completed in 1994	RCRA
PCB Testing of All Hydraulic and Heat Transfer Material Systems	Ongoing	TSCA
C017D/Remedial Investigation/ Feasibility Study for COMNAVBASE	Funded for 1992 (\$1,500,000) Unfunded for 1993 (\$750,000)	RCRA
C017E/Remedial Design/Remedial Action for COMNAVBASE	Planned for 1994-98 (\$24,500,000)	RCRA
S358A/RCRA Facility Investigation for 36 SWMUs Already Identified	Funded for 1993 (\$80,000)	RCRA
PW# 0-0828/H410A Replace Sections of Deteriorated 4" Sewer Lines	Completed 5/24/94	CWA
PW# 0-0360/Building 28 Cost Estimate for Removal of Asbestos Insulation	Not Funded, 2/95 CNS	CAA
PW# 0-3631/Building NS32 Estimate of Removal of all Asbestos Insulation	Not Funded, 2/95 CNS	CAA
PW# 0-3635 & 0-3642/Building NS53 Cost Estimate for Removal of Asbestos Insulation	Cancelled	CAA
PW# 0-3636/Building 401 Cost Estimate for Removal of Asbestos Insulation	Not Funded, 2/95 CNS	CAA
PW# 0-3645/Building NS59 Cost Estimate for Removal of all Asbestos Insulation	Not Funded, 2/95 CNS	CAA
PW# 2-0121/H410A, Replace Sewer Flow Monitors at Viaduct Road	Completed	CWA
PW# 2-0532/Building 13, Connect A/C Cooling Tower Drains to Sanitary Sewer	Pending, 2/95 CNSY	CWA
PW# 2-0533/Building 76, Connect A/C Cooling Tower to Sanitary Sewer	Pending, 2/95	CWA
PW# 2-0534/Building 7, Contract Estimate for Drain from A/C Cooling Tower	Cancelled	CWA
PW# 2-0535/Building 63, Connect A/C Cooling Tower Drains to Sanitary Sewer	Pending, 2/95	CWA
PW# 2-0536/Building 177, Connect A/C Cooling Tower Drains to Sanitary Sewer	PW Engineering, 2/94	CWA

Table 3-5 UST Remediation Projects	
Project	Status
S003R/Removal of Ten Underground Storage Tanks (PW Project)	Completed
UST Removal for Building 1346 (PW Project) ✓	614067 Completed
S068C/UST Removal for Eight Tanks (PW Project)	Completed
S068D/UST Remedial Action for Leaking Tanks at Naval Station (PW Project)	Cancelled
S084B/UST Remedial Investigation for Chicora Tank Farm ✓	13350 Completed
S084C/UST Remedial Action for Chicora Tank Farm ✓	13350 Completed Monitoring Only
S282C Follow-on/Remove UST 643B/UST Retrofit	01848 [Not Required if Removed by 1998]
S282D/UST Remedial Action for Tank at Building 647	Monitoring Only Monitoring in Progress <i>Dykes</i>
S282E/UST Remedial Action for Soil Around Closed Tank at Building 647 (UST RI)	Completed
S324E/UST Remedial Action for Soil Around Tank RTC 2	No Remediation Required. No Further Action Required
S324F/UST Remedial Investigation for Soil Around Tank RTC 2	Completed
PW# 1-0319/Building 4000, Remove 500 Gallon Diesel UST	Completed
PW# NSTA4-3038/Building X54, Removal and Disposal of AST	Cancelled

Have we seen a CR

*- where did they get a NEA from?
 - what does completed mean?
 - what does cancelled mean?*

✓ means - Burd has info on CR knows about.

- HI 9/11/95 The GUPP is unaware of anything.

Table 3-5 Asbestos Abatement Projects		
Contract/Order Number	Location	Actions Completed
N62467-92-D-1746, Order 001	Building NH-49, Rooms 3,4,5	Removed 125 LF from 1" and Smaller Pipe
N62467-92-D-1746, Order 002	Building 10	Removed 70 LF from 2" and Smaller Pipe & 200 SF Spilled Material from Ground
N62467-92-D-1746, Order 003	Shop 40, Between Boiler #10 and Boiler #11	Removed from Spill
N62467-92-D-1746, Order 004	Building FBM-61, Pipe Chase, Building 656	Removed from Spill, Removed from Duct Work
N62467-92-D-1746, Order 005	Building 4, Building NH-52	Removed 66 LF from 3" Pipe and Smaller, Removed 50 LF from 1.5" Pipe and Smaller and Spilled Material
N62467-92-D-1746, Order 006	Building FBM-61	Removed 200 SF of Spilled Material
N62467-92-D-1746, Order 007	Building 191	Removed 66 LF from 3" and 6" Pipe
N62467-92-D-1746, Order 008	Building 1138	Removed 300 SF of Tile
N62467-92-D-1746, Order 009	Building 2517	Removed 160 SF from A/C Duct Joints and Floor
N62467-92-D-1746, Order 010	Pier P	Removed 100 LF from 12" Pipe and 480 SF from Pipe Tunnel
N62467-92-D-1746, Order 011	Pier F	Removed 46 SF from Spill, and 15 LF from 6" Pipe
N62467-92-D-1746, Order 012	Building 1385	Removed 128 SF of Floor Tile
N62467-92-D-1746, Order 013	Pier F Quaywall	Removed Spilled Material to a Depth of 3"
N62467-92-D-1746, Order 014	Building 81	Removed 340 LF from 5" Pipe and Smaller
N62467-92-D-1746, Order 015	Building FBM-61	Removed 198 LF from up to 3" & 12" Pipe, a LP Tank and an Adapter Line
N62467-92-D-1622, Order 001	Building 202	Removed from Various Pipe and Equipment
N62467-92-D-1622, Order 002	Building NS-2, Building 66, Building 665, Building 89, Building 200	Various
N62467-92-D-1622, Order 003	Building NH-49	Removed 100 LF from 3" Pipe and Smaller
N62467-92-D-1622, Order 004	Building 2506	Removed 500 SF from A/C Ducting
N62467-92-D-1622, Order 005	Building 656	Removed 95 SF from Duct in Janitor's Closet
N62467-92-D-1622, Order 006	Drydock #2	Canceled — CNSY Shop 63 Completed Work

Table 3-6 Asbestos Abatement Projects		
Contract/Order Number	Location	Actions Completed
N62467-92-D-1622, Order 007	Drydock #1	Canceled — CNSY Shop 63 Completed Work
N62467-92-D-1622, Order 008	Building FBM-61	Removed 84 SF from Cooling Tower
N62467-92-D-1622, Order 009	Building NS200	Removed 2,600 SF of Floor Tile and Mastic
N62467-92-D-1622, Order 010	Building 221	Removed 143 SF from Sliding Door
N62467-92-D-1622, Order 011	NH-1	Various
N62467-92-D-1622, Order 012	Building NS43, Building 1179	Removed 10 LF from 5 Elbows in Galley Removed 500 LF from 3" Pipe
N62467-92-D-1622, Order 013	Building 9, Building 646, Steam Pipe near Building 1027, Steam Pipe to the East of Building 4, Steam Pipe to the East of Building 45	Removed 244 SF from Furnace #1 and 30 SF from Furnace #2, Removed 300 LF from Pipe Elbows, Removed from 12" Elbow, Removed from a 45° Bend and an Elbow, Removed 4 LF from 8" Pipe
N62467-92-D-1622, Order 014	Building 1226, Building 32	Removed 50 LF from 2" and Smaller Pipe, Removed 126 LF from 8" and 10" Pipe
N62467-93-D-3887 — New Contract	None As Yet	None as Yet

Table 3-7 Historic Structures		
Building Number	Year Built	Current Use
2A	1937	Shipfitter Shop and Sail Loft
2	1906	Shipfitter Shop, Structural & Piping Group Offices
3	1905	Inside Machine Shop (Including Ramp Cell)
4	1918	Administrative Offices, Engineering, Nuclear Engineering
5	1905	Woodworking Shop
6	1906	Forge Shop and Propeller Repair Shop
7	1908	Comptroller Department and IRM
8	1906	Administrative Offices, NS Telephone Office
9	1906	Temporary Services
10	1918	Nuclear Engineering Department
13	1906	Quality Assurance Office & Supply Administration
32	1909	Central Power Plant
35	1913	Welding School and Welding Engineers
43	1941	Central Tool Shop & Service Group Offices
44	1941	Supply & Shop Stores
NSC-45	1941	FISC Warehouse (In Proposed Office Park)
46	1941	Compressor and Saltwater Pumphouse
56	1937	Outside Machine Shop
57	1940	Rigger Shop
58A	1942	Shipyards Quality Field Office
59	1940	Sheetmetal Shop and Boiler Shop
62	1942	Operations Project Offices & Engineering
63	1942	Yard Cafeteria 1
64	1942	FISC Warehouse (In Proposed Office Park)
NSC-66	1942	FISC Warehouse (In Proposed Office Park)
NSC-67	1943	FISC Warehouse (In Proposed Office Park)
74	1942	Storehouse
77	1942	Substation, Restroom, Ship Superintendent Office
80	1943	Refueling Facility
84	1942	Substation Drydock 2
95	1943	Substation and Storage
96	1943	Substation and Storage

Table 3-7 Historic Structures		
Building Number	Year Built	Current Use
99	1943	Saltwater Pumphouse
147	1949	Storage (Shop 06)
221	1970	Pipe Shop Cleaning Plant
222	1971	Drydock Support Repair Facility
226	1976	Plating Plant and Pump, Valve & Hydraulics
250	N/A	Waterfront Service Support Building
301	1907	Drydock 1
301B	N/A	Pumphouse and Pumpwell
302B	1941	Pumpwell (Underground)
302	1942	Drydock 2
303	1943	Drydock 3
303B	1943	Pumpwell
304	1943	Drydock 4
314	1942	Industrial Pier (D)
317B	1943	Repair Wharf (F)
317C	1916	Industrial Pier (F)
317D	1943	Industrial Pier (G)
317E	1942	Industrial Pier(H)
317A	1942	Marginal Wharf
317F	1967	Industrial Pier (J)
333	1942	Industrial Pier (C) (End of 352)
342	1932	Substation
351	1936	Quaywall (E)
352	1942	Repair Wharf (C)
354	1943	Bulkhead, Drydock 4
356	1943	Bulkhead, Drydocks 3 to 4
414	1966	Fire Protection Pumping Station
445A	N/A	Gas Bottle Shed
445D	N/A	Gas Bottle Shed
457	1969	Switchgear, Substations & Production Offices
458	N/A	Switchgear and Substation
459	N/A	Switching Substation

Table 3-7 Historic Structures		
Building Number	Year Built	Current Use
460	1974	Switching Substation
809	1988	Ship Work Support Building
1119	1942	Operations Support Offices (Waterfront)
1127	1934	Preservation Shop and Bulk Storage
1138	1940	FISC Warehouse (In Proposed Office Park)
1190	1943	Compressor House
1292	1942	Time Clock Station 1
1298	1944	Brick Storage (Shop 41)
1299	1942	Shop Stores (Shop 41)
1314	1940	Material Storage (Shop 81)
1374	N/A	Cooling Tower for Building 46
1655	N/A	General Warehouse
1712	1968	Storage
1717	N/A	Flushing Equipment Storage
1745	1970	Time Clock Station 9
1775	N/A	Sentry House
1783	1972	Sewage Pumping Station
1801	1974	Piermaster Building
1826	N/A	Time Clock Station
1827	N/A	Time Clock Station
1828	N/A	Time Clock Station

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
3 (NS)	Downtown Charleston	CNS	Medium Range Sensors(533)	1
4 (NS)	Downtown Charleston	CNS	Shallow Range Sensors	1
5 (NS)	Downtown Charleston	CNS	Stray Magnetic Field Garden Sensors	1
2 (NS)	Downtown Charleston	CNS	Degaussing Facility and Boat Pier (533)	2
NH-53	F48	CNS	Administrative Office (Naval Investigative Service)	5
1346	E35	CNS	Service Station/Minimart	5
458	L39	CNSY	Switchgear and Substation	5
OL-6	G29	CNS	Parking Area	6
NH-61	F47	CNS	Family Service Center	6
NH-62	F47	CNS	Household Goods and Housing Storage	6
NS-71	G16	CNS	NEX Cafeteria, Restaurant-Snack Bar	6
335	K21	CNS	Bulkhead	6
601	H15	CNS	12,000-gallon Fuel Oil Tank	6
636	H21	CNS	Auto Hobby Shop	6
641	F26	CNS	Warehouse/Administrative (SUBRON 4)	6
652	G15	CNS	EM Quarters	6
672	F21	CNS	Fleet Training Facility	6
M1257	E46	CNS	General Warehouse	6
1508	H20	CNS	Car Wash and Hobby Shop	6
1845	D19	CNS	Ball Field	6
1846	D20	CNS	Ball Field	6
1847	E19/20	CNS	Running Track	6
2505	NS Annex	CNS	Vehicle Maintenance for MCRC	6
2524	NS Annex	CNS	Administration (MU11)	6
NS-2	M16	CNSY	Utility Building	6
5	H42	CNSY	Woodworking Shop	6
6	H43	CNSY	Forge Shop and Propeller Repair Shop	6
13	G38	CNSY	Quality Assurance Office & Supply Administration	6
32	F41	CNSY	Central Power Plant	6

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
NS-44	L14	CNSY	Heating Plant	6
46	J41	CNSY	Compressor and Saltwater Pumphouse	6
59	J43	CNSY	Sheetmetal Shop and Boiler Shop (Shop 17)	6
68	G30	CNSY	Battery Shop (Electric Shop)	6
79	J35	CNSY	Repair Shop and Quality Assurance Office	6
91	J33	CNSY	Substation	6
97	G37	CNSY	Air Compressor House	6
123	J23	CNSY	Boiler House	6
234	H44	CNSY	Engineering Management Building	6
242	G33	CNSY	Automobile Maintenance Building	6
246	E26	CNSY	Hazardous Waste Storage and Transfer Facility (new PW Corral)	6
304	H30	CNSY	Drydock No. 4	6
381	F30	CNSY	Storage/Administration Facility (Pest Control)	6
451B	F41	CNSY	Substation	6
451C	E29	CNSY	Substation	6
451D	F41	CNSY	Switching Station	6
466	G30	CNSY	Switching Substation	6
560	J49	CNSY	Coal Storage Yard	6
590A	H34	CNSY	Radiological Control Office	6
903	D24	CNSY	Storage Building	6
1275	L42	CNSY	Abrasive Blast Slab	6
1426	H34	CNSY	Contaminated Waste Storage	6
1433	Basewide	CNSY	Portable Field Office	6
1435	Basewide	CNSY	Portable Field Office	6
1723	K44	CNSY	Boiler Tube and Firebrick Storage Shed	6
1784	H42	CNSY	Industrial Waste Treatment Facility	6
1838	C22	CNSY	General Storage	6
3902	G27	CNSY	Paint and Oil Storehouse (PW Storage Yard, Old Corral, PCB Transfer Station)	6
OL-9	N52	FISC	Open Land	6
NSC-66	G45	FISC	Warehouse	6

Table 3-B Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
83	A45	FISC	Business Opportunity Center	6
98	F31	FISC	Fuel Oil Booster Pumphouse	6
191	M50	FISC	Controlled Humidity Warehouse	6
3906N	Chicora	FISC	Ship Fuel Oil Tank (2,126,000-gallons)	6
3906P	Chicora	FISC	Diesel Fuel Oil Tank (2,128,000-gallons)	6
3912	G29	FISC	Lubricant Storage Tank (50,000-gallon)	6
3913	H29	FISC	Tank Truck/Car Loading/Unloading Facility, Weather Shelter	6
3915	D33	FISC	Lubricant Storage Tank (1,008,000-gallons)	6
3916	E30	FISC	Diesel Oil Tank (4,200,000-gallons)	6
3917	D30	FISC	Diesel Oil Tank (4,200,000-gallons)	6
208	K17	FMWTC	5000-gallon Underground Fuel Oil Tank	6
1306	K18	FMWTC	5000-gallon Fuel Oil Tank	6
1308	K18	FMWTC	Water/Oil Separator	6
NH-68	G47	NAVHOSPCAS	Medical Storehouse	6
B	L46	NWS	Quarters, COMINFLANT (Flag)	6
FBM-61	J16	SUBTRAFAC	FBM Submarine Training Center	6
600	J16	SUBTRAFAC	30,000-Gallon Fuel Oil Tank	6
NS-1	M15	CNS	Administration Building (COMINEWARCOM/COMCRUDESGRU Two)	7
OL-1	E11	CNS	Open Land	7
OL-2	Clouter Island	CNS	Open Land	7
X2N	E38	CNS	General Warehouse	7
OL-3	H2	CNS	Open Land	7
OL-4	D15	CNS	Open Land	7
OL-5	J21	CNS	Parking Area	7
NS-7	N13	CNS	Administrative Building (Mine Division 125)	7
OL-7	D31	CNS	Recreation Area	7
NS-8	N17	CNS	Berthing Pier (S)	7
NS-9	P16	CNS	Berthing Pier (T)	7
NS-10	P14	CNS	Berthing Pier (U)	7
X10	H23	CNS	General Warehouse	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
NS-11	P13	CNS	Floating Pier (V)	7
X11	H23	CNS	Public Works Maintenance Shops	7
NS-12	P13	CNS	Floating Pier (W)	7
X12	H23	CNS	Maintenance Shop	7
NS-13	P13	CNS	Floating Pier (X)	7
NS-16	L17	CNS	Administrative Office (DESRON 4/6)	7
17	N15	CNS	Quaywall	7
NS-19	M17	CNS	Covered Storage (MOTU 10)	7
20	M17	CNS	Administration/Training Building (MOTU 10)	7
NH-21	D49	CNS	General Purpose Laboratory	7
NS-21	M17	CNS	Cable Reel Building (SIMA)	7
23	M14	CNS	Machine Shop (SIMA)	7
X25	J20	CNS	Fleet Laundromat (Temporary)	7
NS-26	N14	CNS	Administrative Office (SIMA Carpentry Shop)	7
27	N14	CNS	Administrative Office (COOP 22)	7
28	N13	CNS	Bachelor Officer Quarters	7
NS-31	M13	CNS	Disciplinary & Transit Personnel Barracks	7
NS-32	M14	CNS	Transit Personnel Barracks	7
33	M14	CNS	Enlisted Men's Barracks	7
34	M14	CNS	Enlisted Men's Barracks	7
NS-35	M14	CNS	Enlisted Men's Barracks	7
36	M14	CNS	Enlisted Men's Barracks	7
37	M15	CNS	Enlisted Men's Barracks	7
NS-38	M15	CNS	Enlisted Men's Barracks	7
NS-43	L14	CNS	Enlisted Dining Hall	7
NH-45	E47	CNS	Administrative Office (COMNAVBASE Headquarters)	7
NH-46	E48	CNS	Administrative Office (DESRON 20/36)	7
NS-46	L15	CNS	CNS Headquarters, Library, Laundry, and Armory	7
NH-47	E47	CNS	Administrative Office/Maintenance Shop	7
NH-48	D48	CNS	Administrative Office	7
NS-48	K14	CNS	Tennis Court	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/ Coordinates	Activity	Facility Use	Classification
NH-49	E47	CNS	Administrative Office	7
NH-50	D48	CNS	Administrative Office	7
NH-51	F47	CNS	Administrative Office	7
NH-52	E48	CNS	Resident Officer In Charge Of Construction	7
NS-53	L16	CNS	Barber Shop/Maintenance Shop	7
NH-54	E48	CNS	Administration Office (Operations/Communications)	7
NS-54	K15	CNS	Billeting Office	7
X54	J10	CNS	Correctional Custody Unit (Indoctrination Division)	7
NH-55	E47	CNS	Legal Service Office	7
NS-55	M15	CNS	Flagpole	7
X55	G9	CNS	Ammunition Storage	7
X56	F8	CNS	Ammunition Storage	7
NS-59	L15	CNS	Outdoor Swimming Pool	7
65	H16	CNS	EM Barracks (A)	7
NS-66	H16	CNS	EM Barracks (B)	7
NS-67	H15	CNS	EM Barracks (C)	7
NS-79	H19	CNS	Dispensary	7
NS-80	H20	CNS	Dispensary Supply Storage	7
81	H46	CNS	Fire Station No. 2	7
M82	E46	CNS	CNS Security	7
NS-84	J19	CNS	Naval Security Group Activity	7
86	N45	CNS	Cooper River Center	7
89	E37	CNS	Exchange Maintenance Shop	7
NS-91	F9	CNS	Antenna System (Abandoned)	7
92	F38	CNS	Indoor Swimming Pool	7
132	G26	CNS	Storage	7
141	E39	CNS	Union Office and Police Department Storage	7
161	F25	CNS	Inert Storage, SUPSHIPS	7
169	K20	CNS	Flammable Storehouse	7
180	E38	CNS	Recreation Building	7
183	K15	CNS	Flagpole	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
184	N45	CNS	Outdoor Swimming Pool	7
186	E39	CNS	Fire Station No. 1	7
M192	E46	CNS	Security Training Building	7
200	L18	CNS	Port Services With Tower	7
214	N45	CNS	Filter House for Structure No. 184	7
220	M46	CNS	Golf Pro Shop/Snack Bar	7
225	D36	CNS	Navy Lodge	7
229	N45	CNS	Bathhouse CRC Pool	7
243	D40	CNS	Pass Office	7
245	E39	CNS	Fire Station Support Building	7
326	K27	CNS	Berthing Pier (L)	7
327	L23	CNS	Berthing Pier (N)	7
328	L21	CNS	Berthing Pier (P)	7
329	M20	CNS	Berthing Pier (Q)	7
330	L19	CNS	Berthing Pier (R)	7
331	E2	CNS	Bulkhead	7
332	D3	CNS	Wharf, Catwalk & Finger Piers (Y), Degaussing Station	7
334	G9	CNS	Concrete Ramp	7
336	K24	CNS	Berthing Pier (M)	7
337	K26	CNS	Berthing Pier (Z)	7
338	M43	CNS	Pier (B)	7
373	E39	CNS	Radio Tower	7
382	F29	CNS	Weapons Display	7
401	H15	CNS	Cooling Tower	7
419	E33	CNS	Recreational Storage	7
425	C29	CNS	Vehicular Bridge - Viaduct Road	7
520B	E47	CNS	Flagpole	7
602	F16	CNS	8,000-gallon Fuel Oil Tank	7
604	J17	CNS	Flagpole	7
623	G17	CNS	Garden Shop (Visual Merchandise Department)	7
635	D3	CNS	Degaussing Generator Building	7

Table 3-8 Environmental Condition of Property

Facility Number	Location/Coordinates	Activity	Facility Use	Classification
637	J23	CNS	Storage Building	7
638	J20	CNS	Bath House	7
639	J20	CNS	Swimming Pool	7
640	J20	CNS	Steamers	7
642	G19	CNS	McDonalds	7
644	J18	CNS	Bowling Center	7
646	J17	CNS	Administrative and Training Building (COMSUBGRU 6)	7
648	G20	CNS	Vacant	7
650	G21	CNS	Post Office	7
653	G15	CNS	Enlisted Men's Barracks	7
654	K15	CNS	Personnel Support Detachment	7
655	E17	CNS	Commissary	7
656	G17	CNS	Navy Exchange, Retail and Warehouse and Service Outlets	7
657	F16	CNS	Americas Original Sports Bar/James E. Williams Complex	7
658	E36	CNS	EM Barracks, Marine Security Detachment	7
659	D3	CNS	Boat House	7
660	D3	CNS	Instrument Building (Degaussing)	7
661	C18	CNS	Communications Center	7
662	C19	CNS	Antenna Field (Abandoned)	7
663	C17	CNS	Antenna Field (Abandoned)	7
664	G14	CNS	SUBGRU 6 Storage	7
665	E16	CNS	Consolidated Package Store	7
666	G17	CNS	Federal Credit Union	7
668	F15	CNS	BEQ (CPO)	7
669	F15	CNS	BEQ (CPO)	7
670	J14	CNS	Racquet & Fitness Center	7
671	D17	CNS	Dog Kennel	7
673	F21	CNS	NCTSI Facility	7
674	F26	CNS	Performance Monitoring Facility	7
675	H14	CNS	Dental Clinic	7
676	G13	CNS	Enlisted Men's Barracks	7

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Table 3-8 Environmental Condition of Property				
Facility Number	Location/ Coordinates	Activity	Facility Use	Classification
677	G13	CNS	Enlisted Men's Barracks	7
678	N13	CNS	Administrative Building (MINERON 2)	7
680	M14	CNS	Fleet Maintenance Building (SIMA)	7
681	M14	CNS	Shop and Administration Building (SIMA)	7
682	M12	CNS	Sailing Center (Office)	7
683	N12	CNS	Floating Pier for NS Marina	7
684	N14	CNS	Shop Building (SIMA)	7
685	L18	CNS	Ship Radar Calibration Facility with Tower	7
687	N14	CNS	Antenna Repair Shop (SIMA)	7
688	H3	CNS	Floating Pier for NS Marina	7
807	F48	CNS	Child Development Center	7
810	C21	CNS	MWR Recycle Center	7
823	F47	CNS	Radio Repeater Shelter	7
850	E46	CNS	Volleyball/Basketball Court	7
851	L16	CNS	Gas/Diesel Pumping Station	7
M1067	E45	CNS	Storehouse	7
M1116	E45	CNS	General Warehouse	7
M1123	E46	CNS	Storehouse and Boiler Room	7
NH-1137	G46	CNS	Administrative Office	7
1143	E38	CNS	Special Services Center	7
M1150	E46	CNS	Counseling and Assistance Center	7
1167	E35	CNS	Exchange Warehouse	7
1177	E29	CNS	Fire Station No. 3	7
1179	F37	CNS	Chapel	7
1189	E36	CNS	Fire Prevention & Inspection Division and MWR Laundry	7
1197	E29	CNS	CNS Quarterdeck	7
1221	N46	CNS	Recreational Building	7
1254	K21	CNS	Bus Shelter	7
M1262	E45	CNS	Tennis Court	7
1263	E35	CNS	NEX Storage	7
M1264	E45	CNS	Racquetball Court	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
1265	E35	CNS	Security Detective Office	7
1268	E2	CNS	Associated with Stray Magnetic Field Garden	7
1296	H24	CNS	Open Storage (Motorcycle Shed)	7
1345	F36	CNS	Restrooms (Cochrane Field)	7
1347	H21	CNS	Auto Hobby Shop	7
1401	E34	CNS	Three Football Fields	7
1403	F33	CNS	Softball Field (Winkel Field)	7
1410	L48	CNS	Golf Course	7
1412	F36	CNS	Softball Field (Cochrane Field)	7
1447	L16	CNS	Bath House for NS59	7
1448	L15	CNS	Filter House for NS59	7
1455	M47	CNS	Foot Bridge	7
1489	D33	CNS	Picnic Shelter	7
1490	D32	CNS	Restroom	7
1493	H21	CNS	Automotive Hobby Shop (Garage)	7
1494	G20	CNS	Tool Storage (Brig)	7
1494A	G20	CNS	Tool Storage (Brig)	7
1509	C42	CNS	Storage	7
1512	H19	CNS	Flagpole	7
1630	R53	CNS	Bus Shelter	7
1642	H47	CNS	Automobile Storage	7
1643	H47	CNS	Automobile Storage	7
1646	K49	CNS	Golf Course Warehouse	7
1706	N12	CNS	Small Boat Ramp	7
1708	H10	CNS	Generator Building	7
1718	C18	CNS	Septic Tank and Drain Field (Abandoned)	7
1719	D38	CNS	Special Service Equipment Storage Building	7
1720	E39	CNS	Police Locker Room (Fire Department Gym)	7
1721	L14	CNS	Refrigeration Equipment Building	7
1724	D32	CNS	Picnic Shelter	7
1725	D32	CNS	Picnic Shelter	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
1738	E40	CNS	Bus Shelter	7
1740	H24	CNS	Bus Shelter	7
1741	H23	CNS	Bus Shelter	7
1743	M17	CNS	Bus Shelter	7
1749	H22	CNS	Maintenance Equipment Storage Shed	7
1756	E1	CNS	SSBN Deep Range	7
1757	E1	CNS	SSBN Medium Range	7
1758	D2	CNS	Stray Magnetic Field Garden	7
1776	J13	CNS	Shop (CBU 412)	7
1777	K13	CNS	Administration (CBU 412)	7
1778	K13	CNS	Tool and Shop Storage (CBU 412)	7
1779	D36	CNS	Playground	7
1785	G20	CNS	Basketball Court	7
1786	L14	CNS	Air Conditioner Equipment Building	7
1790	K13	CNS	Tennis Courts	7
1791	M17	CNS	Storage Shed (MOTU 10)	7
1792	M17	CNS	Collimation Equipment Building	7
1794	D33	CNS	Picnic Shelter	7
1795	L12	CNS	General Storage	7
1799	M13	CNS	Playing Court	7
1813	E47	CNS	Flammable Storage for NLSO	7
1816	L16	CNS	Storage	7
1817	L16	CNS	Storage	7
1820	J22	CNS	Bus Shelter	7
1823	G16	CNS	Bus Shelter	7
1830	K15	CNS	Picnic Shelter	7
1837	F26	CNS	Ball Field	7
1839	H20	CNS	Sentry House (Brig)	7
1840	G20	CNS	Butler Building (Naval Dental Clinic Storage)	7
1841	G20	CNS	Butler Building (Naval Dental Clinic Storage)	7
1843	H13	CNS	Incinerator	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/ Coordinates	Activity	Facility Use	Classification
1848	F26	CNS	Public Toilet and Pressbox	7
1869	H10	CNS	Obstacle Course	7
1873	L15	CNS	Flagpole	7
1874	L18	CNS	Port Services Storage	7
1875	L12	CNS	BEQ Storage	7
1876	G14	CNS	Flagpole	7
1877	K14	CNS	Wash Rack (CBU 412)	7
1878	K13	CNS	Flagpole (CBU 412)	7
1879	J13	CNS	Equipment Building (CBU 412)	7
1880	J13	CNS	Paint Locker (CBU 412)	7
1881	J13	CNS	Storage (CBU 412)	7
1882	J13	CNS	Storage (CBU 412)	7
1883	J13	CNS	Storage (CBU 412)	7
1885	K13	CNS	Administration Office (CBU 412)	7
1886	K14	CNS	General Storage (CBU 412)	7
1887	H13	CNS	General Storage (BEQ)	7
1888	J12	CNS	Indoor Pistol Range	7
1889	M16	CNS	Supply Storage (CNS)	7
1891	L16	CNS	BEQ Maintenance	7
1892	J13	CNS	Supply Storage (CBU 412)	7
1893	J13	CNS	BEQ Warehouse	7
1894	K13	CNS	Collateral Storage (CBU 412)	7
1895	B6	CNS	Cable Reel Storage	7
1896	H13	CNS	BEQ Storage	7
1897	H13	CNS	BEQ Storage	7
1898	J13	CNS	BEQ Storage	7
1899	J13	CNS	Hazardous Material Storage (CBU 412)	7
1901	D29	CNS	Sentry House (Gate 1)	7
1902	E39	CNS	Sentry House (Gate 2)	7
1903	F43	CNS	Sentry House (Gate 3)	7
1904	C48	CNS	Sentry House (Gate 4)	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
1905	P53	CNS	Sentry House (Gate 5)	7
1906	C28	CNS	Sentry House - Truck Inspection	7
1980	D39	CNS	Former Visitor Information Sign (Reynolds Gate)	7
1981	F34	CNS	Service Station Sign	7
1982	F38	CNS	Information Sign (Sterett Hall)	7
1983	E29	CNS	Entrance Sign Viaduct Gate	7
1984	H13	CNS	Pistol Range Classroom	7
2501	NS Annex	CNS	Radar Club	7
2506	NS Annex	CNS	Former Barracks	7
2507	NS Annex	CNS	Bathhouse	7
2508	NS Annex	CNS	Maintenance Shop	7
2509	NS Annex	CNS	Storage for MU11	7
2511	NS Annex	CNS	Administration for MU11	7
2513	NS Annex	CNS	Storage for MU11	7
2517	NS Annex	CNS	Administration for MCRC	7
2520	NS Annex	CNS	Classrooms for MCRC	7
2521	NS Annex	CNS	Armory/Supply (MCRC)	7
2522	NS Annex	CNS	Storage for MU11	7
2523	NS Annex	CNS	Administration, MCRC	7
2525	NS Annex	CNS	Supply Office, MU11	7
2530	NS Annex	CNS	Storage, MU11	7
2532	NS Annex	CNS	Storage, MU11	7
2533	NS Annex	CNS	Storage, MCRC	7
2535	NS Annex	CNS	Water Treatment	7
2536	NS Annex	CNS	Administration, COMOMAG	7
2550	NS Annex	CNS	Tennis Courts	7
2552	NS Annex	CNS	Swimming Pool (Unused)	7
2553	NS Annex	CNS	Softball Field	7
2554	NS Annex	CNS	Transformer Vault	7
2555	NS Annex	CNS	Entrance Sign	7
2556	NS Annex	CNS	Mine Training Center MU11	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
2557	NS Annex	CNS	Sewage Pumping Station	7
NCCPSD	C30	CNSY	Sewer Pumping Station	7
Santee 1	E22	CNSY	Transformer Station	7
Santee 2	E41	CNSY	Transformer Station	7
2	J43	CNSY	Shipfitter Shop, Structural and Piping Group Offices	7
2A	K43	CNSY	Shipfitter Shop and Sail Loft	7
3	J42	CNSY	Inside Machine Shop (Shop 31)	7
ARDM-3	J33	CNSY	5500 Ton Floating Drydock	7
NS-3	M17	CNSY	Pump House (Aircraft Truck Fueling Facility)	7
4	G43	CNSY	Administration Offices (Engineering, Nuclear Engineering, IRM)	7
NS-4	M16	CNSY	Fuel Oil Storage	7
NS-5	L17	CNSY	500,000-gallon Freshwater Storage	7
NS-6	L17	CNSY	Pumphouse (Freshwater)	7
7	H44	CNSY	Comptroller Department and IRM	7
8A	G43	CNSY	Administrative Offices (NS Telephone, Engineering, Navy Audit)	7
9	G39	CNSY	Temporary Service Shop	7
10	G39	CNSY	Engineering Department	7
11	J37	CNSY	Miscellaneous Shops & Test Equipment Storage	7
12A	D34	CNSY	Public Works Trailer Site	7
12B	D34	CNSY	Public Works Trailer Site	7
21	H36	CNSY	Storage (Shop 99)	7
25	E40	CNSY	Transportation Shop and Garage (Shop 02)	7
26	K38	CNSY	Field Office	7
30	F41	CNSY	PW Building Trades and Administrative Offices	7
X30A	L19	CNSY	Transformer Vault	7
31	F41	CNSY	Storage for Power Plant	7
X33A	L16	CNSY	Transformer Vault	7
35	H43	CNSY	Welding School and Welding Engineering	7
NSC-39	J32	CNSY	Diesel Oil Pumphouse (Abandoned)	7
42	E32	CNSY	Fleet Motor Pool	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
43	H41	CNSY	Central Tool Shop & Service Group Offices	7
44	G42	CNSY	Supply & Shop Stores (Old Plating Shop)	7
NS-45	L13	CNSY	Fuel Storage	7
53	F43	CNSY	Freshwater Storage Underground	7
54	F43	CNSY	Freshwater Pumphouse	7
55	M42	CNSY	Collimation Facility	7
56	J42	CNSY	Electrical/Mechanical Group Shops (Shop 29)	7
57	G42	CNSY	Rigger Shop	7
58	F43	CNSY	Dispensary, Industrial Medicine and Radiation Health	7
58A	J42	CNSY	Shipyards Quality Field Office	7
62	L41	CNSY	Operations Project Offices & Engineering	7
63	H42	CNSY	Yard Cafeteria No. 1	7
69	G31	CNSY	Storehouse, Receiving and Shipping	7
NS-69	H15	CNSY	Boiler House	7
NH-72	E48	CNSY	Heating Plant Building	7
74	K42	CNSY	Storehouse	7
75	K38	CNSY	Substation	7
76	D40	CNSY	Human Resource & Safety/Environmental Offices	7
77	H41	CNSY	Substation, Restroom, Ship Superintendent Office	7
78	F47	CNSY	Water Tank (Elevated)	7
80	H39	CNSY	Outside Machine Shop	7
84	H40	CNSY	Substation, Drydock No. 2	7
85	J35	CNSY	Substation, Piers 317D To 317E	7
88	J39	CNSY	Saltwater Pumphouse No. 2	7
93	J39	CNSY	Restroom	7
94	G33	CNSY	Substation	7
95	H31	CNSY	Substation & Storage	7
96	H30	CNSY	Substation & Storage	7
99	J41	CNSY	Saltwater Pumphouse	7
101	H34	CNSY	Material and Tool Storehouse	7
122	F32	CNSY	Transportation Motor Pool (Dispatcher)	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
124	H28	CNSY	Substation	7
125	H23	CNSY	Substation	7
126	K20	CNSY	Substation	7
127	J28	CNSY	Saltwater Pumphouse	7
136	G42	CNSY	Condensate Storage and Pumphouse	7
137	K44	CNSY	Oxygen Charging Station	7
143	L37	CNSY	Automatic Tide Gauge House (Abandoned)	7
145	G37	CNSY	Test Stand (Rigger Shop)	7
147	H42	CNSY	Storage (Shop 06)	7
168	J33	CNSY	Storehouse	7
174	F36	CNSY	Switch House (Electrical)	7
177	F40	CNSY	Electric and Electronics Shops	7
178	E39	CNSY	Steam Flow Meter House	7
185	H29	CNSY	Dredge Booster Pumphouse	7
187	G37	CNSY	Module Maintenance Facility	7
188	G37	CNSY	Mechanical Equipment Building for Building 187	7
189	G37	CNSY	Mechanical & Electrical Equipment Building for Building 187	7
190	J34	CNSY	Radiological Controls Training & Offices	7
194	J39	CNSY	Paint Shop Storage (Shop 71)	7
195	J38	CNSY	Rigger Shop Service Building; NRRO & BRMO Field Office	7
196	K19	CNSY	250,000-gallon Freshwater Elevated Tank	7
197	J37	CNSY	Pumpwell, Drydock No. 5	7
199	F36	CNSY	Training Building (Cochrane Hall)	7
209	E42	CNSY	Employee Outplacement Center	7
210	A45	CNSY	Chlorinator Building, Freshwater	7
211	E50	CNSY	Chlorinator Building, Freshwater	7
212	K43	CNSY	Abrasive Blasting Facility	7
216	G37	CNSY	Electrical Shop Cable Warehouse	7
217	G38	CNSY	Laboratory G-RAM Storage House	7
218	H35	CNSY	Missile Ordnance Systems Shop (Shop 67)	7
221	K42	CNSY	Pipe Shop Cleaning Plant (Pickling)	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
222	G41	CNSY	Drydock Support Repair Facility	7
223	L43	CNSY	Paint Shop	7
226	J42	CNSY	Plating Plant; Pump, Valve & Hydraulics	7
227	E42	CNSY	Employee Services Association	7
228	L42	CNSY	Pipe Insulation Facility	7
230	H39	CNSY	Canteen No. 2	7
231	J36	CNSY	Canteen No. 3	7
232	F32	CNSY	Training Aids Storage & Administration	7
235	G35	CNSY	MAPP Gas (CO ₂ Facility)	7
236	H37	CNSY	Operations Center & Pipefitting Shop (Shop 56)	7
237	G37	CNSY	Ships Storage & Engineering Test Facility	7
238	H36	CNSY	Repair Equipment Building	7
239	L42	CNSY	Respirator Care Facility	7
240	G32	CNSY	Carwash Facility	7
241	G34	CNSY	Crane Maintenance Building	7
244	D42	CNSY	Federal Credit Union	7
247	J38	CNSY	Waterfront Service Support Building	7
248	G35	CNSY	Supply Administrative Building	7
249	E33	CNSY	Public Works Maintenance	7
250	H40	CNSY	Waterfront Service Support Building	7
252	H34	CNSY	Training Facility	7
254	H35	CNSY	Component Inspection Facility	7
255	G32	CNSY	Industrial Logistics Facility	7
256	H36	CNSY	Shipwork Staging/Storage Building	7
301	H41	CNSY	Drydock No. 1	7
301B	H40	CNSY	Pumphouse and Pumpwell	7
302	G40	CNSY	Drydock No. 2	7
302B	H40	CNSY	Pumpwell (Underground)	7
303	H31	CNSY	Drydock No. 3	7
303B	H30	CNSY	Pumpwell	7
305	J37	CNSY	Drydock No. 5	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
314	K40	CNSY	Industrial Pier (D)	7
317A	K38	CNSY	Marginal Wharf	7
317B	J39	CNSY	Repair Wharf (F)	7
317C	L38	CNSY	Industrial Pier (F)	7
317D	K36	CNSY	Industrial Pier (G)	7
317E	K34	CNSY	Industrial Pier (H)	7
317F	J32	CNSY	Industrial Pier (J)	7
333	L40	CNSY	Industrial Pier (C)	7
342	L42	CNSY	Substation	7
343	L43	CNSY	Concrete Ship Buildingways (Abandoned)	7
351	H40	CNSY	Quaywall (E)	7
352	K41	CNSY	Repair Wharf	7
353	L41	CNSY	Bulkhead, Buildingways	7
354	J30	CNSY	Bulkhead, Drydock No. 4	7
355	J41	CNSY	Bulkhead, Piers 352 To 314	7
356	J31	CNSY	Bulkhead, Drydocks 3 To 4	7
374	H29	CNSY	Dredge Boat House	7
375	J29	CNSY	Dredge Mooring Pier	7
376	R36	CNSY	Pier at Clouter Creek Disposal Area	7
377	S36	CNSY	Booster Pumphouse at Clouter Creek	7
378	J29	CNSY	Tide Gauge House	7
380	H28	CNSY	Hose House for Ship-To-Shore Sewage	7
384	E43	CNSY	Storm Water Pumping Station	7
391	F42	CNSY	Storage Building	7
400	G43	CNSY	Public Works Facility	7
414	J41	CNSY	Fire Protection Pumping Station	7
417	N15	CNSY	Saltwater Pumphouse	7
420	F41	CNSY	Maintenance Shed	7
445A	H41	CNSY	Gas Bottle Shed	7
445B	H39	CNSY	Gas Bottle Shed	7
445C	G35	CNSY	Gas Bottle Shed	7

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Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
445D	K42	CNSY	Gas Bottle Shed	7
451A	E42	CNSY	SCE&G Substation	7
451H	J37	CNSY	Substation	7
451K	J22	CNSY	Switching Station	7
451L	F36	CNSY	Switching Station	7
451M	G45	CNSY	Switching Station	7
451X	H19	CNSY	Switching Station	7
454	H38	CNSY	Substation	7
455	H38	CNSY	Substation	7
456	J38	CNSY	Substation	7
457	J41	CNSY	Switchgear, Substations & Production Offices	7
459	H43	CNSY	Switching Substation	7
460	K42	CNSY	Switching Substation	7
482	L50	CNSY	Railroad Bridge Trestle	7
513	E43	CNSY	Railroad Track Scales	7
520C	E39	CNSY	Flagpole	7
622	L50	CNSY	Highway Bridge	7
715	F33	CNSY	Deep Well Pumphouse	7
716	F33	CNSY	Deep Well	7
808	K43	CNSY	Storage Building	7
809	H31	CNSY	Shipwork Support Building	7
824	J20	CNSY	Storage Shed	7
904	E41	CNSY	Canteen No. 6 (Trailer)	7
910	B45	CNSY	Detention Pond	7
1024	H37	CNSY	Pipe Shop Staging/Storage	7
1035	F39	CNSY	Paint Shop	7
1119	J41	CNSY	Operations Support Offices (Waterfront)	7
1141	F42	CNSY	CNSY Security Office	7
1171	G35	CNSY	Material & Equipment Storage	7
1173	G35	CNSY	Storage and Office	7
1174	H32	CNSY	Training and Administration Offices	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
1175	F32	CNSY	Shop Stores & Grounds Maintenance Building	7
1178	F39	CNSY	Storage	7
1190	H30	CNSY	Compressor House	7
1193	F32	CNSY	Office	7
1229C	J36	CNSY	Lunch Shelter	7
1241	F32	CNSY	Storage	7
1245	J37	CNSY	Woodworking Shop (Field)	7
1248	F41	CNSY	Storage (Shop 07)	7
1267	G31	CNSY	Receiving and Shipping Transit Shed	7
1269	F41	CNSY	Storage (Shop 03)	7
1271	H25	CNSY	Garbage Handling (Container Cleaning)	7
1277	H33	CNSY	Storehouse	7
1278	H30	CNSY	Battery Processing Slab	7
1292	J42	CNSY	Time Clock Station No. 1	7
1295	G42	CNSY	Steam Condensate Storage Tank	7
1297	G39	CNSY	Storage Sand Bins (Shop 81)	7
1298	G40	CNSY	Brick Storage (Shop 41)	7
1299	G40	CNSY	Shop Stores (Shop 41)	7
1314	G39	CNSY	Material Storage (Shop 81)	7
1316	F30-33	CNSY	Tool Storage (Shop 07)	7
1317	H39	CNSY	Crane Operations Building	7
1358	F40	CNSY	Cooling Tower for Building 177	7
1363	F42	CNSY	Cooling Tower for Building 32	7
1364	G36	CNSY	Sand Hopper	7
1365	G36	CNSY	Sand Hopper	7
1374	J41	CNSY	Cooling Tower for Building 46	7
1378	G42	CNSY	Pure Water Tank Storage Slab	7
1382	G43	CNSY	Freshwater Valve House	7
1388	H29	CNSY	Office, Dredge Operations	7
1393	G36	CNSY	Sand Hopper	7
1394	F42	CNSY	Pure Water Facility (2 Tanks)	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
1400	F35	CNSY	Restroom and Press Box	7
1405	F35	CNSY	Baseball Field (Fletcher Field)	7
1421	G36	CNSY	Cooling Tower for Building 97	7
1423	Basewide	CNSY	Portable Service Sound Hut	7
1431	H23	CNSY	Small Equipment Storage Shed	7
1434	Basewide	CNSY	Portable Field Office	7
1436	Basewide	CNSY	Portable Field Office	7
1443	E41	CNSY	Time Clock Station No. 8	7
1453	J44	CNSY	Cleaning and Preservative Plant	7
1454	G39	CNSY	Equipment Storage	7
1700	J43	CNSY	Sentry House	7
1711	H35	CNSY	Incinerator	7
1712	H40	CNSY	Storage	7
1713	Basewide	CNSY	Abandoned Portable Field Office (Pier H-North Side, East End)	7
1717	G41	CNSY	Flushing Equipment Storage	7
1734	C23	CNSY	Vacant (Shop 07 Rigger Storage, New Public Works Corral)	7
1736	H37	CNSY	Restroom	7
1737	J34	CNSY	Restroom	7
1745	F41	CNSY	Time Clock Station No. 9	7
1746	H38	CNSY	Storage Shed	7
1747	Basewide	CNSY	Portable Service Sound Hut	7
1760	H35	CNSY	Contaminated Storage	7
1761	J19	CNSY	Sewer Pumping Station No. 1	7
1762	M18	CNSY	Sewer Pumping Station No. 2	7
1763	H20	CNSY	Sewer Pumping Station No. 3	7
1764	F34	CNSY	Sewer Pumping Station No. 4	7
1765	E38	CNSY	Sewer Pumping Station No. 5	7
1766	F39	CNSY	Sewer Pumping Station No. 6	7
1767	F41	CNSY	Sewer Pumping Station No. 7	7
1768	N46	CNSY	Sewer Pumping Station No. 8	7
1769	R49	CNSY	Sewer Pumping Station No. 9	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
1770	D18	CNSY	Sewer Pumping Station (Building 661)	7
1771	F32	CNSY	Sentry House	7
1772	H34	CNSY	Sentry House	7
1773	F39	CNSY	Sentry House	7
1774	H33	CNSY	Sentry House	7
1775	G38	CNSY	Sentry House	7
1782	H39	CNSY	Lunch Shelter	7
1783	J41	CNSY	Sewage Pumping Station	7
1787	F17	CNSY	Sewage Pumping Station	7
1793	J23	CNSY	Substation Building	7
1797	H29	CNSY	Acid Waste Treatment Facility	7
1798	H45	CNSY	Flagpole at Building No. 234	7
1801	J42	CNSY	Piermaster Building	7
1802	J39	CNSY	Piermaster Building	7
1803	M51	CNSY	Chlorination Station	7
1804	E29	CNSY	Chlorination Station	7
1805	R49	CNSY	Analyzer Station	7
1806	H29	CNSY	Sewage Pumping Station	7
1807	M17	CNSY	Sewage Pumping Station	7
1808	J22	CNSY	Sewage Pumping Station	7
1809	H39	CNSY	Sewage Pumping Station	7
1811	H29	CNSY	Sewage Surge Tank	7
1812	F35	CNSY	Sewage Pumping Station	7
1824	F30	CNSY	Hazardous/Flammable Storage Facility	7
1826	G42	CNSY	Time Clock Station	7
1827	G42	CNSY	Time Clock Station	7
1828	H39	CNSY	Time Clock Station	7
1829	G31	CNSY	Storage Shelter	7
1836	F31	CNSY	Storage (Shop 07)	7
1855	G38	CNSY	Canteen No. 4	7
1950	G42	CNSY	Sentry House	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
3900J	H32	CNSY	Storage	7
3909	J22	CNSY	200,000-gallon Fuel Oil Tank	7
4000	Sullivans Island	CNSY	Shipboard Electronics Systems Evaluation Facility	7
4001	Sullivans Island	CNSY	Flagpole	7
OL-8	K50	FISC	Open Land	7
14	K17	FISC	Small Craft Ready Fuel Storage (Not In Use)	7
M17	D45	FISC	Administration Building	7
39A	E33	FISC	Ballast/Sludge Storage Tank (741,000-gallon)	7
39D	F33	FISC	Ballast/Sludge Storage Tank (741,000-gallon)	7
39L	E32	FISC	Diesel Tank (6,500-gallon)	7
39M	E32	FISC	Diesel Pumphouse	7
39N	E32	FISC	Motor Gas Tank (825 Gallon Underground) (Abandoned)	7
NSC-45	G43	FISC	Warehouse	7
64	G46	FISC	Warehouse	7
NSC-67	F45	FISC	Warehouse	7
133	E32	FISC	Operational Storage	7
135	P50	FISC	Operational Storage	7
148	F31	FISC	Stripper Concrete Tank	7
172	E31	FISC	Operational Storage	7
173	J49	FISC	Operational Storage	7
193	G26	FISC	Cold Storage Warehouse/Laboratory	7
198	E44	FISC	Supply Receiving, Shipping & Administration, and ADP Building	7
219	E44	FISC	Battery Charging Station	7
224	E27	FISC	Ships Outfitting, Clothing Storage, and Fleet Purchasing	7
233	F46	FISC	Battery Charging Facility	7
290	F44	FISC	Uninterruptable Power Source Building	7
321	R47	FISC	Supply Pier (Alpha)	7
325	K28	FISC	Fueling Pier (K)	7
536	H4	FISC	Weighting Facility	7
547	H48	FISC	Open Storage (Steel Plate)	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
547	H48	FISC	Open Storage (Steel Plate)	7
M766	D44	FISC	Administration Building	7
1001	H49	FISC	Cylinder/POL Storage Shed	7
1079	G49	FISC	Hazardous Flammable Storage	7
1127	H44	FISC	Preservation Shop and Bulk Storage	7
M1136	D44	FISC	Administrative Building	7
1138	F44	FISC	Bin Issue Warehouse	7
1172	G34	FISC	Servmart	7
1226	K49	FISC	Shop Repair Storage	7
M1263	E45	FISC	Picnic Area	7
1385	H48	FISC	Field Office	7
1419	F44	FISC	Missile Display	7
1420	E45	FISC	Flagpole	7
1449	R52	FISC	Portable Field Office	7
1501	A44	FISC	Warehouse	7
1502	B44	FISC	Warehouse	7
1503	B43	FISC	Warehouse	7
1504	B43	FISC	Warehouse	7
1505	A44	FISC	Warehouse (NWS Housing Storage)	7
1507	B42	FISC	Warehouse	7
1513	B43	FISC	Storage Building (Rubber-Lined)	7
1514	C43	FISC	1500 GPM Pumping Station	7
1571	D44	FISC	Flammable Storage Shelter	7
1601B	P48	FISC	Warehouse	7
1602C	P49	FISC	Warehouse	7
1603	R50	FISC	MTIS (Material Turn In Site) Warehouse	7
1604	R53	FISC	Warehouse	7
1605	R52	FISC	Warehouse (Repairables Processing)	7
1606	S51	FISC	Warehouse (DRMO)	7
1607	P52	FISC	Warehouse (DRMO)	7
1612	R51	FISC	Open Storage (DRMO)	7

Table 3-9 Environmental Condition of Property				
Facility Number	Location/ Coordinates	Activity	Facility Use	Classification
1613	S51	FISC	Open Storage (DRMO)	7
1614	N52	FISC	Open Storage	7
1620	P50	FISC	Warehouse, Operational Storage	7
1621	P50	FISC	Warehouse	7
1622	N50	FISC	Warehouse (PMO)	7
1623	N50	FISC	Warehouse (PMO)	7
1624	P49	FISC	Battery Charging Facility	7
1627	S52	FISC	Sales Facility (DRMO)	7
1628	M51	FISC	Publications and Printing Plant (NPPSO)	7
1629	R50	FISC	Flammable Storage Shelter	7
1631	F46	FISC	Vehicle Storage Shed	7
1632	P48	FISC	General Storage Shed	7
1633	R48	FISC	Valve House	7
1634	K49	FISC	Shelter for Band Saw	7
1635	K49	FISC	Field Office	7
1636	P49	FISC	Storage Building (Rubber-Lined)	7
1637	R49	FISC	Storage Building (Rubber-Lined)	7
1638	R49	FISC	Storage Building (Rubber-Lined)	7
1639	N51	FISC	Controlled Humidity Warehouse	7
1640	S50	FISC	Conforming Storage Facility (DRMO)	7
1647	N51	FISC	Pump House	7
1648	P51	FISC	General Storage Building	7
1649	S51	FISC	Storage Shed (DRMO)	7
1650	F44	FISC	Security House	7
1651	G49	FISC	2500 GPM Pumping Station	7
1652	R48	FISC	Sentry House	7
1653	E31	FISC	Fuel Testing Lab	7
1654	E31	FISC	Accounting Building	7
1655	F45	FISC	General Warehouse	7
1800	H29	FISC	Warming/Administration Building	7
1810	H29	FISC	Air Compressor Building	7

Table 3-B Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
1814	E27	FISC	Flammable Storage Shelter	7
3900E	E31	FISC	Diesel Oil Tank (2,350,000-gallon)	7
3900F	D31	FISC	Diesel Oil Tank (2,350,000-gallon)	7
3900I	E31	FISC	Diesel Oil Pumphouse/Laboratory	7
3901A	E31	FISC	Ballast/Sludge Storage Tank (103,194 Gallon)	7
3901B	E31	FISC	Sludge Pumphouse	7
3906K	Chicora	FISC	Diesel Fuel Oil Tank (2,130,000-gallons)	7
3906L	Chicora	FISC	Diesel Fuel Oil Tank (2,128,000-gallons)	7
3906M	Chicora	FISC	Ship Fuel Oil Tank (2,132,000-gallons)	7
3906O	Chicora	FISC	Ballast/Sludge Storage Tank (1,153,000-gallons)	7
3906Q	Chicora	FISC	Operational Storage	7
3906R	Chicora	FISC	Transformer Vault	7
3906S	Chicora	FISC	Transformer Vault	7
3911	H29	FISC	Lubricant Storage Tank (50,000-gallon)	7
3914	H29	FISC	POL Operation/Sampling/Test Building	7
3920	Chicora	FISC	Runoff Oil/Water Separator	7
3926	E32	FISC	Ballast Water Treatment Facility	7
202	L18	FMWTC	Instruction Building	7
203	K18	FMWTC	Gas Storage	7
204	K18	FMWTC	Freshwater Booster Pumphouse	7
643	H18	FMWTC	Training Building	7
645	J17	FMWTC	Engine Overhaul Facility	7
647	J17	FMWTC	Training Building	7
649	J17	FMWTC	Warehouse	7
1281	K18	FMWTC	Cooling Tower	7
1282	K18	FMWTC	Antenna Poles and Wire	7
1302	K18	FMWTC	Helicopter Mock-Up Pad	7
1303	K18	FMWTC	Damage Control Mock-Up	7
1309	K18	FMWTC	Engine Room Mock-Up	7
1310	K18	FMWTC	Carrier Compartment Mock-Up	7
1313	K18	FMWTC	Hose Storage	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
1351	L17	FMWTC	Storage Shed (Paint Locker)	7
1352	K17	FMWTC	Air Compressor Shed	7
1424	K18	FMWTC	10,200-gallon Freshwater Storage Tank	7
1715	L17	FMWTC	Maintenance Shop	7
1722	J17	FMWTC	Training Mock-Up	7
1744	K18	FMWTC	Field Medical Locker	7
1819	L17	FMWTC	Mechanical Equipment Storage	7
1834	K18	FMWTC	OBA Storage and Laundry Room	7
A	L45	NWS	Quarters, COMSIX/COMNAVBASE (Flag)	7
AA	D47	NWS	Officer Quarters	7
BB	D47	NWS	Officer Quarters	7
C	K46	NWS	Quarters, COMSUBFLOTSIX (Flag)	7
CC	D46	NWS	Officer Quarters	7
D	K48	NWS	Officer Quarters	7
DD	C46	NWS	Officer Quarters	7
EE	C46	NWS	Officer Quarters	7
F	K45	NWS	Quarters, CO, NSC	7
FF	C46	NWS	Officer Quarters	7
G	K47	NWS	Quarters, COMDESGRU 2 (Flag)	7
GG	C46	NWS	Officer Quarters	7
H	L44	NWS	Officer Quarters	7
HH	C47	NWS	Officer Quarters	7
I	L44	NWS	Officer Quarters	7
II	C47	NWS	Officer Quarters	7
J	K45	NWS	Officer Quarters	7
JJ	C47	NWS	Officer Quarters	7
K	M44	NWS	Quarters, CO, NS	7
KK	C47	NWS	Officer Quarters	7
L	M44	NWS	Officer Quarters, CNSY	7
LL	D47	NWS	Officer Quarters	7
M	M43	NWS	Officer Quarters	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
N	L43	NWS	Officer Quarters	7
O	K48	NWS	Officer Quarters	7
P	J47	NWS	Officer Quarters	7
Q	J46	NWS	Officer Quarters	7
R	J46	NWS	Officer Quarters	7
S	J47	NWS	Officer Quarters	7
T	K47	NWS	Officer Quarters	7
W	J46	NWS	Officer Quarters	7
X	J46	NWS	Officer Quarters	7
Y	K46	NWS	Officer Quarters	7
Z	K46	NWS	Officer Quarters	7
M1A	C46	NWS	Garage	7
M2A	C46	NWS	Garage	7
M3A	D46	NWS	Marine Maintenance Shop	7
M5	C45	NWS	NCO Quarters	7
M6	D45	NWS	Officer Quarters	7
M7	C45	NWS	Officer Quarters	7
M8	C45	NWS	Officer Quarters	7
M9	C45	NWS	Officer Quarters	7
M10	C45	NWS	Officer Quarters	7
M11	C45	NWS	Officer Quarters	7
520A	L45	NWS	Flagpole, Quarters "A"	7
700	J45	NWS	Officer Quarters	7
701	J45	NWS	Officer Quarters	7
705	K44	NWS	Officer Quarters	7
706	K46	NWS	Officer Quarters	7
708	J46	NWS	Officer Quarters	7
712	J45	NWS	Officer Quarters	7
717	L44	NWS	Officer Quarters	7
718	L43	NWS	Officer Quarters	7
719	M44	NWS	Officer Quarters	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/ Coordinates	Activity	Facility Use	Classification
743	H46	NWS	Officer Quarters	7
744	J46	NWS	Officer Quarters	7
745	J46	NWS	Officer Quarters	7
746	J46	NWS	Officer Quarters	7
747	J46	NWS	Officer Quarters	7
748	J46	NWS	Officer Quarters	7
749	J47	NWS	Officer Quarters	7
750	J47	NWS	Officer Quarters	7
751	J47	NWS	Officer Quarters	7
758-NHA	F49	NWS	Officer Quarters	7
759-NHB	E49	NWS	Quarters, CO, NH	7
760-NHD	E49	NWS	Officer Quarters	7
761-NHC	E50	NWS	Officer Quarters	7
762-NHI	D48	NWS	Officer Quarters	7
763-NHH	D48	NWS	Officer Quarters	7
765	D45	NWS	Marine NCO Quarters	7
769	C47	NWS	Officer Quarters	7
777	D47	NWS	Officer Quarters	7
780	C46	NWS	Officer Quarters	7
781	B46	NWS	Officer Quarters	7
782	B46	NWS	Officer Quarters	7
1101	M45	NWS	Garage for Quarters "A"	7
1284	L46	NWS	Garage for Quarters "B"	7
1285	K46	NWS	Garage for Quarters "C"	7
1287	L47	NWS	Garage for Quarters "C"	7
1289	K45	NWS	Garage, Quarters "J" and Storage	7
1411	L44	NWS	Tennis Courts (Quarters Area)	7
1413	E49	NWS	Heating Plant (Quarters 760)	7
1414	E49	NWS	Garage for Quarters 761	7
1418	E49	NWS	Detached Garage for Quarters 760	7
1427	K44	NWS	Garage, Quarters "F"	7

Table 3-8 Environmental Condition of Property				
Facility Number	Location/Coordinates	Activity	Facility Use	Classification
1428	L44	NWS	Garage, Quarters "H" and "I"	7
RTC-1	L18	RRC	Academic General Instruction Building	7
RTC-4	L19	RRC	Paint Storage	7
1656	P48	RRC	Transit Cargo Handling Warehouse	7
686	J15	SUBTRAFAC	Operational Trainer Facility	7
1815	J16	SUBTRAFAC	Storage Building	7

4.0 INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL RESTORATION

This chapter describes and summarizes the installation-wide environmental restoration and compliance strategy for Naval Base Charleston. Prior to the announcement of the Base Realignment and Closure Commission, Installation Restoration efforts were in the early stages of investigation (RFI) to identify and characterize environmental contamination. With the closure announcement, the strategy shifted to expediting the investigation and moving more to remediation to facilitate property disposal. Figure 4-1 provides a timeline illustrating the steps necessary to accomplish the Naval Base Charleston environmental restoration and transfer of property to the community.

The strategy for determining the most effective response mechanism for contaminant sources and contaminated areas is being performed on a case-by-case basis by the BRAC Cleanup Team. The BCT has developed a comprehensive strategy to identify the appropriate regulatory programs applicable to the areas of contamination discovered during the closure process.

4.1 Zone Designation and Strategy

4.1.1 Zone Designations

In response to base closure environmental restoration goals, the BCT Project Team has divided the base into twelve investigative zones. These zones encompass the entire area of the base, as well as the non-contiguous properties. The zones were established based on the following criteria:

- Areas which pose the greatest environmental concern.
- Areas for which similar contaminants are expected or similar types of activity have occurred.
- Areas small enough to be manageable.
- Areas based upon existing geographical features.
- Areas that can be investigated quickly.
- Areas of significant community interest.

Zones A through I contain all of the original SWMU sites on the base as well as additional SWMU and AOC sites covered under the RFA/RFI process at this time. Zone J comprises all water bodies and Zone K consists of noncontiguous properties. Zone L consists of the Naval Base Charleston sanitary and storm sewer systems and rail system. An additional 154 SWMUs (40 to 195) and 203 AOCs (500 to 704) have been recognized as of the issuance of this

report. The total number of SWMUs and AOCs being considered in the RFA/RFI process is 194 and 203, respectively (Note: some SWMU and AOC numbers were left vacant; consequently, the number of sites mentioned above does not correspond with the associated numbering system). Four volumes of the current RFA are pending EPA and SCDHEC approval. These volumes discuss SWMUs 37 to 180 and AOCs 500 to 698. A fifth volume, which is currently being generated, discusses SWMUs 181 to 195 and AOCs 699 to 704. The zone boundaries, which are described below, are shown in Figure 4-2. Tables 3-1 and 3-2 in Chapter 3.0 of this plan list all SWMUs and AOCs in each zone.

- Zone A** This zone is located at the extreme northern portion of the main base, and includes all base areas north of Noisette Creek. This zone contains 8 SWMUs and 2 AOCs.
- Zone B** This zone comprises the base golf course and senior officers housing areas. One AOC is located within this zone; no SWMUs are located in this zone.
- Zone C** This zone is comprised of administrative areas, additional housing areas, warehouses, and the base coal pile. This zone contains 7 SWMUs and 16 AOCs.
- Zone D** This zone consists of property and facilities between Reynolds Avenue and McMillan Avenue. It contains primarily parking areas and warehouses. This zone contains 3 SWMUs and 1 AOC.
- Zone E** This zone is located on the waterfront and includes the shipyard industrial areas and dry docks. This zone contains 101 SWMUs and 84 AOCs.
- Zone F** This zone is located in the central portion of the base, and includes the area between Hobson Street, Carolina Street, the eastern base boundary, Wood Street and 11th Street. Facilities within this zone include both the existing and former public works areas. This zone contains 15 SWMUs and 26 AOCs.
- Zone G** This zone, also located in the central portion of the base, includes the FISC petroleum facilities as well as the Chicora Tank Farm. The Chicora Tank Farm is not located on the base itself, but is located approximately 0.5 miles east of the base. However, since Chicora is connected to the base via pipeline easements, it is included in Zone G. This zone contains 16 SWMUs and 26 AOCs.
- Zone H** This zone is located at the southern end of the base. It contains properties identified for the State Department transfer as well as Naval support activities, training areas, and administrative areas. This zone contains 28 SWMUs and 24 AOCs.

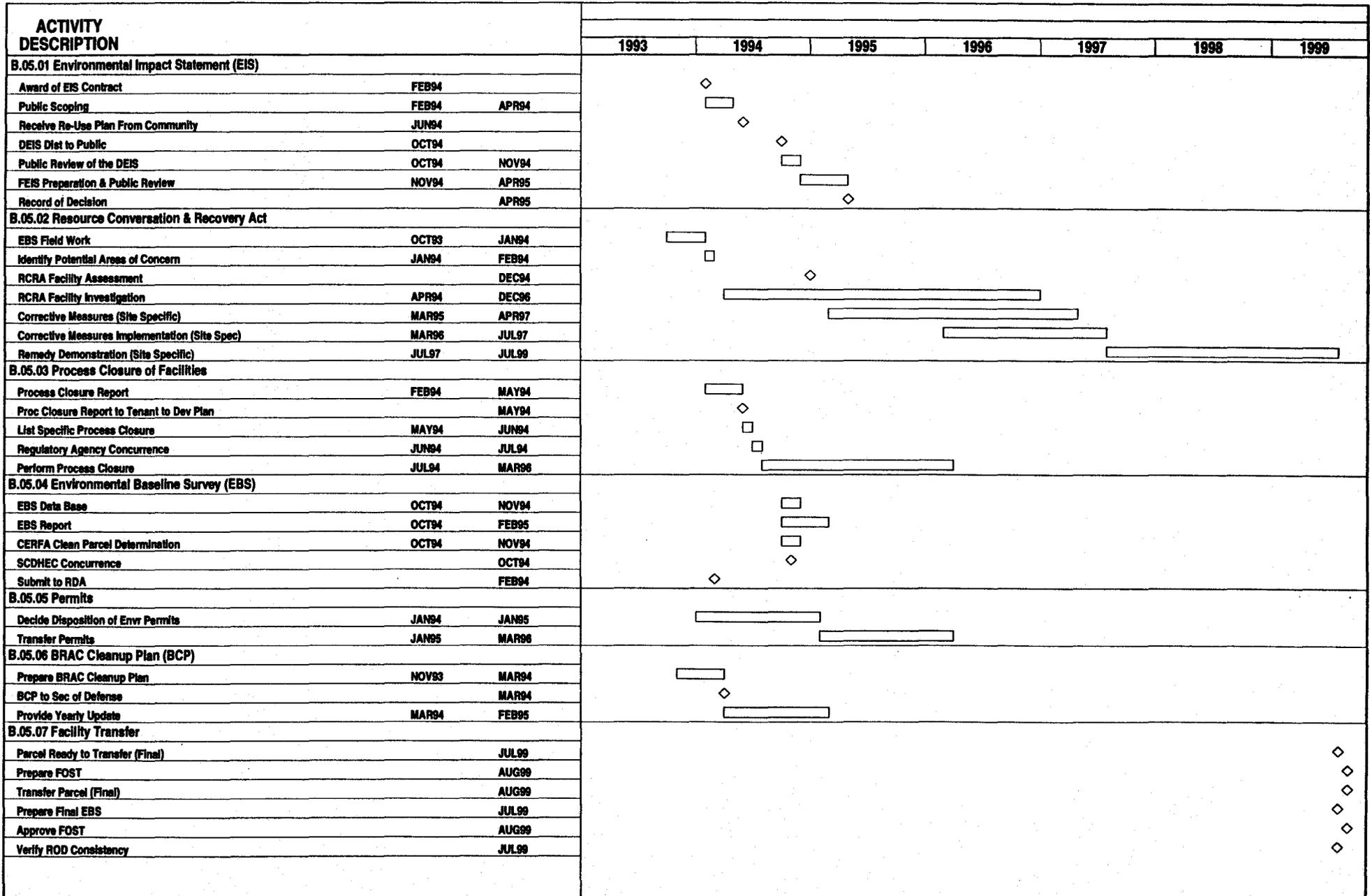


Figure 4-1
Restoration Process Timeline
Naval Base Charleston

Plot Date 17FEB95
Data Date 1JAN93
Project Start 1JAN93
Project Finish 31AUG99

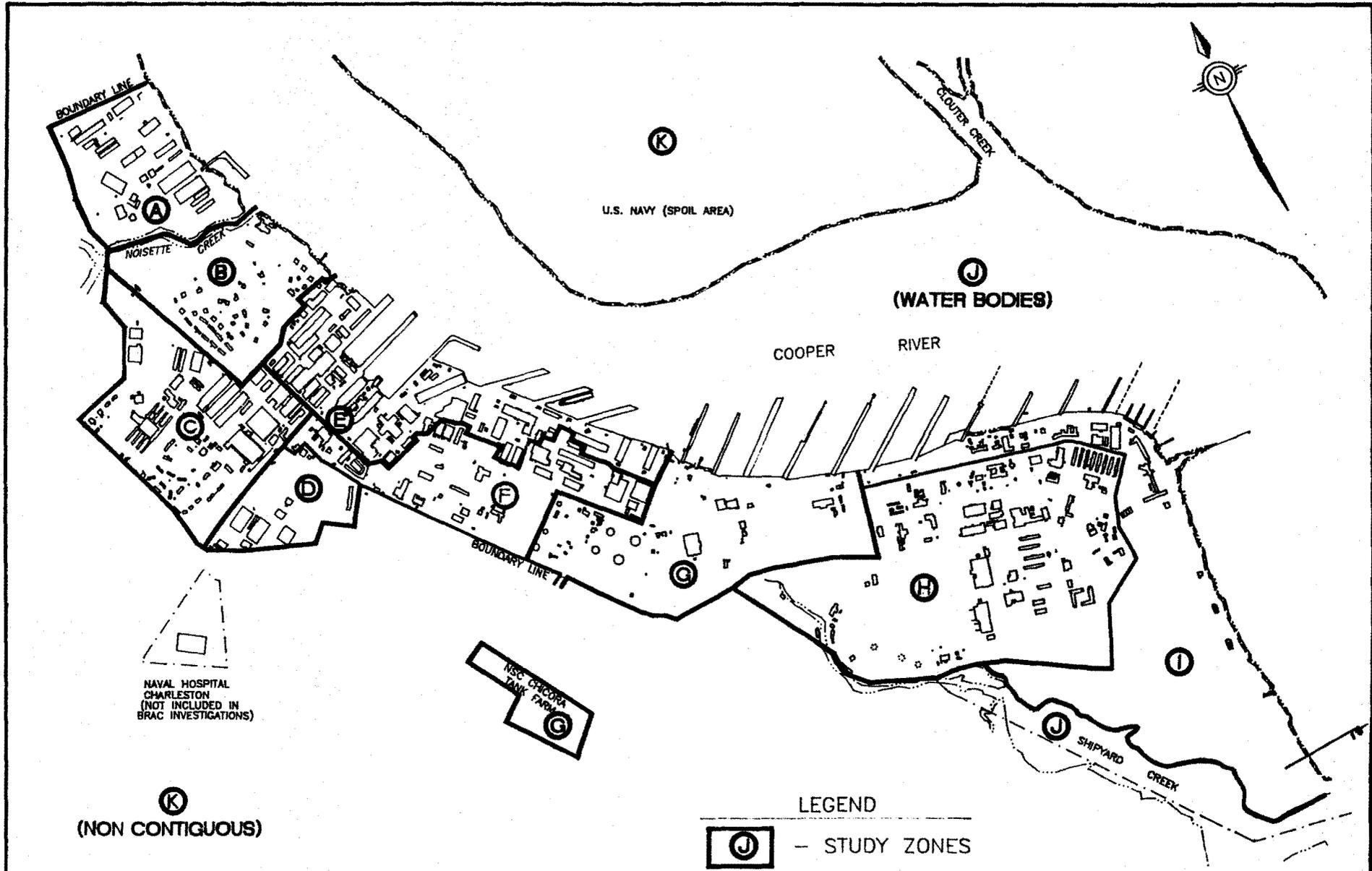
Activity Bar/Early Dates
Critical Activity
Progress Bar
Milestone/Flag Activity

ENR9

Sheet 1 of 1

NAVY CLEAN 982487-98-D-0018

Date	Revision	Checked	Approved



NAVAL HOSPITAL
CHARLESTON
(NOT INCLUDED IN
BRAC INVESTIGATIONS)

NSC CECILIA
JAMES FARM
K

K
(NON CONTIGUOUS)

LEGEND
J - STUDY ZONES

2000 0 2000
SCALE FEET



BRAC CLEAN UP PLAN
NAVAL BASE
CHARLESTON

FIGURE 4-2
ZONE MAP

SOURCES: SOUTHDM, n.d. ESE, 1981.

- Zone I** This zone comprises the remainder of the southern end of the base. It includes the waterfront property from Halsey Street to the southern tip of the base. This zone contains 8 SWMUs and 20 AOCs.
- Zone J** This zone includes the water bodies such as the creeks, wetlands, and the Cooper River. Five AOCs are located within this zone; no SWMUs are associated with this zone.
- Zone K** This zone is comprised of additional noncontiguous properties (the SESEF site on Sullivan's Island, the Naval Station Annex, Clouter Island, and the downtown degaussing facility). This zone contains 9 SWMUs and 6 AOCs. Naval Hospital Charleston and Clouter Island are not being excessed, and are therefore not included in the BRAC process. Several SWMUs/AOCs are located on Clouter Island, and will be addressed in the RFI. The Naval Short Stay facility, downtown degaussing facility, and Sullivans Island are leased and are therefore not included in the BRAC process.
- Zone L** This zone is comprised of basewide units which cross zone boundaries, and consists of the sanitary sewer system (SWMU 37), the storm sewer system (AOC 699), and the railroad system (AOC 504).

4.1.2 OU Designations

All Naval Base Charleston investigations and subsequent remedial activities are being conducted under the RCRA process. Operable Units (OU), which are CERCLA designators, will not be utilized at this base. However, the base has been subdivided into Investigative Zones, which are described in Section 4.1.1 of this BCP. Since these zones are for investigative purposes only, it is possible they will be further subdivided or integrated as the investigative work proceeds. Any subdivision will be given a number designation with a corresponding zone letter designation (i.e., A-1, A-2, A-3, etc.). If the information collected from the groundwater sampling indicates a wide-spread problem overlapping established zones, the groundwater itself may be designated as an additional zone.

Sites within the various zones will be investigated both individually and collectively, a method consistent with the Operable Unit concept. To the extent possible, each site will be investigated individually. However, to the extent that each site may be impacting or been impacted by other sites, the sites within an area will be considered jointly. Conceivably, multiple individual sites in close proximity to each other, where groundwater is tidally influenced, could have mixed contaminant plumes. Sampling locations will be selected to determine the contaminants within each site, the horizontal and vertical extent of contamination, the environmental pathways and rates of migration of the contaminants, and the impact of contaminants on human health and the environment. Sampling locations will be selected to determine interactions of contaminant plumes from multiple sites. Finally, sampling locations will be selected based on a grid pattern

to identify unknown sites to both supplement information on plume migration pathways and supplement information on the extent of contamination.

4.1.3 Sequence of Zones

A comprehensive strategy for sequencing these investigative zones has been developed by the BRAC Cleanup Project Team. This strategy involves prioritizing the zones based on actual or potential reuse.

The framework for this strategy is given in Figure 4-3. Through the use of multiple investigative teams, several zones will be investigated simultaneously.

The first zone to be investigated was Zone H. This zone includes the property transferred to the State Department in 1994. The zone was established to include all areas that might be impacted by the two large landfills in the area (SWMUs 9 and 14). It was given first priority at the request of the Redevelopment Authority because of the planned container port.

It is planned for the Zone C and I investigations to be conducted next. Zone I contains the property transferred to NOAA. The investigation of Zone E, which will be commenced following Zones C and I, is anticipated to be the most difficult to remediate because of the highly industrial activities. It is also the area which offers the greatest potential for reuse and job creation. This investigation is therefore being commenced early in the process.

Zone J and L investigations will start next due to the length of field investigation time required. Zones A and B will be investigated next. It is anticipated that these zones should be relatively easy to investigate and can be turned over to the community quickly. However, several historical activities in Zone A have been noted which may extend activities within this area.

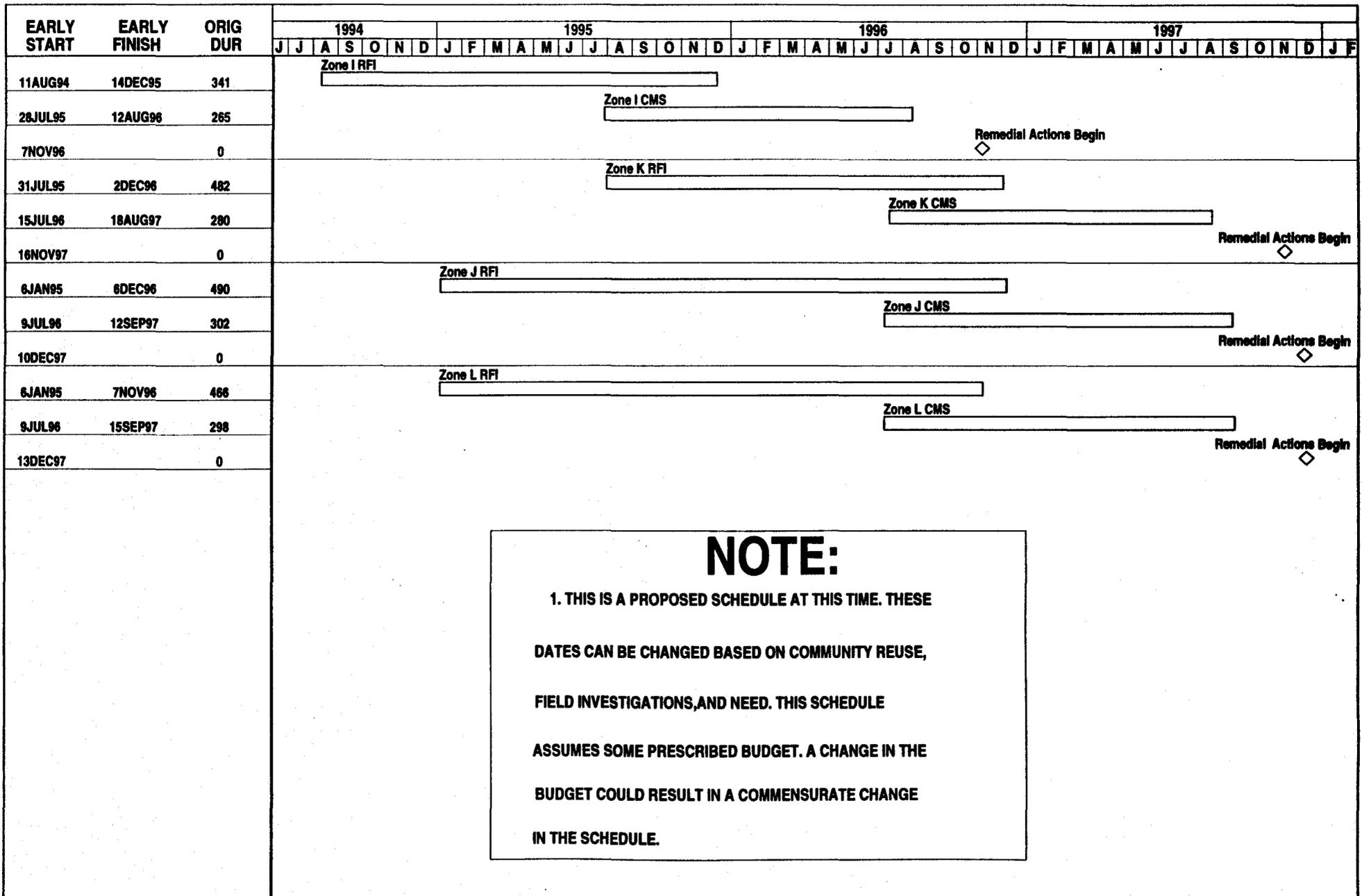
The remaining zones will be Zones D, F, G, and K. Priorities in zone sequencing for these zones may be changed based upon reuse potential.

The current strategy is to use multiple contractor teams to perform the investigation. One (or possibly two) teams will conduct investigation activities in conjunction with the priorities from Figure 4-3. A quick-response team will also be utilized to handle areas that are targeted for rapid turnover.

4.1.4 Early Actions Strategy

Several sites have been identified for early actions. These include:

- Multiple unexploded ordnance (UXO) sites (AOCs 500, 501, 502, 503).



NOTE:

1. THIS IS A PROPOSED SCHEDULE AT THIS TIME. THESE DATES CAN BE CHANGED BASED ON COMMUNITY REUSE, FIELD INVESTIGATIONS, AND NEED. THIS SCHEDULE ASSUMES SOME PRESCRIBED BUDGET. A CHANGE IN THE BUDGET COULD RESULT IN A COMMENSURATE CHANGE IN THE SCHEDULE.

Plot Date 1MAR95
 Data Date 13JUN94
 Project Start 13JUN94
 Project Finish 13JAN96

Activity Bar: Early Dates
 Critical Activity
 Program Bar
 Milestone/Flag Activity

BRAC Clean-Up Plan
 Investigative Strategy
 Figure 4-3

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Date	Revision	Checked	Approval

- Multiple UST sites, as described in Section 4.2.1.
- Coal pile (SWMU 44).
- Illicit industrial discharges.
- DRMO lead contamination.
- Old Public Works Department storage area.

The UXO sites and SWMU 44 are being addressed under the RFI. UST sites are being addressed through the procedures described in Section 4.2.1. Occasionally, unknown or illicit discharges into the storm sewer systems are identified. When such discharges are discovered, the information is submitted to the CNSY Health, Safety, and Environmental Office and steps are taken to re-route the discharge to the sanitary sewer. Additionally, in conjunction with the Naval Base Charleston NPDES storm water permitting efforts, a study has been conducted on the storm water drainage system, materials management system, and site layout. The study found indications of potential illicit discharge or sanitary sewer/storm sewer cross-connection, and recommended smoke and dye testing to further evaluate such findings. Dye testing has been conducted; the results of this study are pending. However, projects are being initiated to eliminate any illicit discharges or sanitary sewer/storm sewer cross-connections found.

4.1.5 Remedy Selection Approach

Remedies will be selected in accordance with statutory and RCRA Corrective Measures Study criteria. The BCT will involve all parties who have an impact on the remedies selected. An important source of input will be the Restoration Advisory Board. Particular attention will be given the following during the evaluation of alternatives:

- Land use/risk assessment. Risk assessment will be in accordance with EPA's Risk Assessment Guidance which will consider various land use scenarios.
- The potential usage of onsite basewide treatment facilities.
- Applicable remedies. The presumptive remedy approach advocated in a 1991 EPA 30-day study will be applied in selected cases. The EPA study explored efforts and options to accelerate the overall remedial process.
- Corrective Action Management Units (CAMU) regulation. These will be used as the process enters the remedy implementation stage. The process of identifying CAMUs will be similar to that described in Section 4.1.2.

- POL remedies. Source-specific actions for petroleum, oils, and lubricants (POLs) will be addressed under South Carolina's UST program as POL releases have occurred mostly as a result of leaking USTs. Any groundwater contamination that can be determined to be originating from a specific leaking UST will be remediated under existing State UST regulations; otherwise the appropriate groundwater remediation will be included in the IRP.
- Future land use. Cleanup goals will be factored into the future land use or deed restrictions. However, future land use will not drive cleanup levels. All cleanup levels will strive to achieve background. If background is not achievable, the a risk assessment will be performed to assess the risks to health and the environment.

BCT Project Team meetings have been held to discuss remedies in the RFI process to ensure that the RFI focuses on the appropriate types of remedies for data gathering. Potential cleanup alternatives for each site are included in the zone-specific RFI work plans.

4.2 Compliance Strategy

The IRP will ensure that the conditions and requirements of the RCRA Facility Investigation (RFI), which is required by the HSWA portion of the RCRA permit issued to the facility by the State of South Carolina and EPA Region IV, are accomplished.

Additional compliance programs are coordinated in a variety of ways. The CNSY Occupational Safety, Health, and Environment office has management oversight for all CNSY programs and for a number of programs which apply basewide. Other parties involved in the overall system include the Fleet and Industrial Supply Center (FISC) Occupational Safety and Health Department, the FISC Fuel Department, CNSY Public Works Department (Utilities, Transportation), Naval Weapons Station Housing, Naval Base Environmental, and Navy Hospital Industrial Hygiene. Compliance activities address USTs, hazardous materials management, solid waste management, asbestos, radon, polychlorinated biphenyls (PCBs), water discharges, air emissions, lead paint and remedial investigations of contaminated sites. Environmental compliance in these areas is accomplished through a system of procedures and inspections implemented by the Occupational Safety, Health, and Environment office. Such procedures will remain in place throughout the process closure process to ensure compliance with all pertinent programs.

After closure, a caretaker organization under Southern Division will be responsible for compliance.

4.2.1 Storage Tanks

The underground storage tank compliance program will be continuing at the base. These activities include tank closures, initial site characterizations, site investigations, remedial action plan preparation, and remedial action plan implementation. Programmed activities for execution in fiscal year (FY) 1994 and 1995 include the following:

- Continued monitoring of Tank 647 at State Department property.
- UST removals planned for 1995:
 - (1) CNSY: Tanks 590A, 590A1, 236 (1-9), and 1174.
 - (2) CNS: Eight to ten heating oil tanks.

A basewide strategy will be used to coordinate remedial action alternatives between the IRP and the UST program. The overall groundwater plumes issue will be addressed by the IRP. Any UST sites where the contamination is not intermingled with IRP contamination will be handled strictly within the UST program. Tank removal and process closure will continue into 1996.

In an effort to coordinate UST program activities with the state regulators, UST program meetings will be held as needed with the Naval Base Charleston representatives, SCDHEC, and the contractor or Navy personnel performing the removals.

The EBS has discovered numerous unregistered USTs which have been reported by Naval Base Charleston environmental personnel. In addition, several fuel oil USTs associated with housing areas exist which do not require registration. These tanks will also be addressed under the above criteria.

All USTs will be either removed or closed in place. USTs used for heating purposes may be replaced with ASTs. USTs that meet the 1998 criterion will be left in place for reuse. These actions will be coordinated with the Redevelopment Authority.

4.2.2 Hazardous Materials/Waste Management

As areas of the base shut down, Satellite Accumulation Areas will be closed. These have been listed in Tables 3.1 and 3.2 as SWMUs or AOCs. It is planned to close these areas as soon as they are not required; early removal actions or activities to reach a finding of *No Further Investigation* will be conducted immediately following closure.

In addition, some areas of hazardous waste management were listed in Section 4.1.4 for early action.

Shutting down some processes will require RCRA closure. An inventory of these areas remains to be identified, and a strategy for closure, including closure plans as appropriate, remains to be developed with SCDHEC. Other processes not included under RCRA will be closed using "Process Closure Guidelines" reference.

4.2.3 Solid Waste Management

There are no actions required for this program area at this time.

4.2.4 Polychlorinated Biphenyls (PCB's)

No PCB-containing transformers are known to remain on Naval Base Charleston property. The EBS has identified several transformers or additional types of equipment suspected of containing PCBs. In addition, it is possible that PCBs exist in hydraulic fluids or other equipment. Surveys are currently underway to further quantify these units. These items will be addressed by individual commands as part of their operational closure plan.

4.2.5 Asbestos

Numerous buildings exist onbase which contain friable asbestos. These areas have been identified through the EBS so that plans to abate or remove can be developed as necessary so that each building can be transferred. Asbestos abatement will be an early action to be completed before operational closure. DOD has issued guidance on the removal and abatement of asbestos prior to transfer. Per this guidance, only damaged, friable, and accessible asbestos will be abated. Disclosure of asbestos-containing material will be made during the leasing or transfer process.

Any areas that have not been evaluated for asbestos could be evaluated if necessary using an existing indefinite delivery contract managed by SOUTHNAVFACENCOM. However, there are no plans to perform additional surveys.

4.2.6 Radon

There are no actions planned for this program area at this time.

4.2.7 RCRA Facilities (SWMUs)

Four SWMUs (1, 6, 21, 25) have undergone closure because of their interim status under the previous Part A application. Groundwater and soil investigations as well as studies regarding building contamination at these locations are being included in the existing RFI investigations.

All additional SWMUs and AOCs are being addressed within the RFA/RFI process.

4.2.8 NPDES Permits

There are no actions planned for this program area at this time.

4.2.9 Oil/Water Separators

There are no actions planned for this program area at this time. These will be closed using "Process Closure Guidelines".

4.2.10 Radiological Surveys

Detailed survey plans for the radiological decommissioning of the Shipyard have been prepared by the Shipyard's Radiological Control Office. Facilities used by the Naval Nuclear Propulsion Program (NNPP) have been identified and included in radiological decommissioning plans. The decommissioning plans will define for the NNPP the procedures that will be used for removal and verification of the removal of radioactivity. The extent of surveys and sampling will be commensurate with the radioactivity potential.

Facilities are being categorized according to their radioactivity potential. This categorization is based on the past and present use of the facilities, review of past radiological surveys, operating records, and interviews with senior Shipyard employees. Each facility identified will have all radioactive material associated with the NNPP removed. Following removal, detailed surveys will be conducted to verify the removal of radioactivity.

In addition to the NNPP radioactivity, the Shipyard has used and stored other general radioactive materials (G-RAM) such as radiographic sources used for non-destructive test purposes, sources used for instrument calibration, electrical instrumentation containing vacuum tubes with radioactive elements, radium dials and gauges, and naturally occurring radioactive materials such as potassium-40, thorium, and uranium and thorium daughter products. Facilities which have a potential for contamination from these sources of radioactivity will be surveyed to identify the presence or document the absence of these sources of radioactive materials and corrective action will be taken as necessary.

CNSY Radiological Control Office has also determined there are a number of facilities on Naval Base Charleston that have a potential for G-RAM radioactivity. CNSY will perform the same actions for the presence or absence of G-RAM as described above for the Shipyard.

4.2.11 Mixed Waste

Charleston Naval Shipyard is part of the DOE Site Treatment Plan process developed to comply with the Federal Facility Compliance Act of 1992 (FFCA) for mixed waste associated with Naval Nuclear Propulsion Program work. The DOE Site Treatment Plan process consists of the Conceptual Site Treatment Plan (CSTP), which identifies the potential treatment options for each mixed waste stream; the Draft Site Treatment Plan (DSTP), which identifies the preferred treatment option for each mixed waste stream; and, based on regulator review of the CSTP and the DSTP, the final version of the plan, the Site Treatment Plan (STP). Charleston Naval Shipyard will endeavor to ensure that the final STP, to be issued to the State by October 1995, contains provisions to ensure that all mixed waste is shipped offsite by the operational closure date. Additionally, any mixed waste resulting from the decommissioning of Naval Nuclear Propulsion Program radiological work facilities will be included in the STP for Charleston Naval Shipyard.

There is no radioactive and hazardous G-RAM mixed waste (from work not associated with the NNPP) identified to date.

4.3 Natural and Cultural Resources Strategy

The strategy employed for compliance with the requirements of the National Historic Preservation Act of 1966 (NHPA), as amended, is the process set forth by the Advisory Council on Historic Preservation's regulations (36 CFR Part 800). This strategy meets the requirements from Section 110 of the Act for conduct of an inventory and evaluation of all properties by professionals meeting the qualifications standards set forth in the Secretary of the Interior's *Standards and Guidelines for Professional Qualifications* as mandated by the NHPA, the SOUTHNAVFACENGCOM Historic Structure Preservation Manual (MO-913), and the CNSY Structure Layaway Plan as amended through Change #6.

In coordination with the BRAC schedule, SOUTHNAVFACENGCOM has confirmed the State Historical Preservation Office (SHPO) approved list of eligible historic structures for Naval Base Charleston. In accordance with Section 106 of the NHPA, a meeting between the Navy, SHPO officials, the Advisory Council on Historic Preservation, and the National Trust for Historic Preservation was held to Draft a Programmatic Agreement (P.A.) to provide protection of all historic properties during and after base closure. The final copy of the P.A. is due out for signature during the first quarter of 1995. In accordance with the P.A., all lease or transfer documents of record involving historic properties on Naval Base Charleston will include protective covenants as required by the NHPA, as amended.

An archaeological sensitivity survey was recently published in draft form and is under review by Navy and SHPO staff. A conditions assessment survey of historic structures commenced in January 1995. A cold war legacy study of Naval Base Charleston is currently underway by the University of South Carolina, with the field work to be completed in February 1995. The results of the cold war survey will not affect the base closing schedule, programmatic agreement, or the list of historic structures.

4.4 Community Involvement/Strategy

A Community Relations Plan (CRP) has been implemented to encourage open communication among Naval Base Charleston; Federal, State, or local regulatory agencies; interested community groups; and, individual community residents regarding environmental activities initiated at Naval Base Charleston in connection with closure of the base. The CRP will ensure that all interested individuals, groups or offices are provided accurate, consistent information throughout the base closure process. All information will be timely and will relate to cleanup activities, contaminants identified, possible effects of any contamination identified and remedial actions proposed to remediate any contamination found on the base. The CRP provides several ways for all parties to provide input into the decision-making process of the IRP.

The Charleston BRAC Cleanup Team has adopted the following strategy to encourage and support a proactive community relations program that will meet or exceed requirements of current environmental legislation (e.g., CERCLA, RCRA, HSWA, etc.):

- Publish points of contact on the base for information on the BRAC cleanup actions.
- Develop a list of speakers for making presentations to community groups regarding BRAC cleanup initiatives.
- Update CRP as needed (add activities that will ensure continuous and timely information is made available, add individuals, groups, and offices to the mailing list, etc.).
- Publish information frequently to keep the community up-to-date on the progress of environmental restoration and disposal programs (e.g., fact sheets, media releases, paid ads, etc.). This activity is currently underway.
- Hold 30-day public comment periods on proposed actions and respond to all comments in a responsiveness summary. Proposed actions could include permit modifications, finalization of the Draft Environmental Impact Statement, etc.
- Hold informal and formal public meetings when needed or required during the BRAC cleanup process (e.g., to explain the Navy's approach to the BRAC cleanup, proposed actions to clean up the base or specific sites, required meetings during the response process, etc.). Several informal meetings have been held.

- Provide an opportunity for public comment on removal actions selected for the base.
- Establish and maintain an information repository to make documents available to the public.
- Establish a Restoration Advisory Board (RAB) from the TRC to provide a forum for public involvement. The RAB has been established.

5.0 ENVIRONMENTAL PROGRAM MASTER SCHEDULES

This chapter presents the Naval Base Charleston Master Schedule of anticipated activities in the installation's environmental programs. These schedules are simplified from the more detailed operational schedules developed to support site/zone-specific work plans. IRP activities are graphically summarized in Figure 5-1. Compliance activities associated with mission/operational and closure are summarized in Figure 5-2 and historical/cultural resource activities are presented in Figure 5-3.

5.1 Environmental Restoration Program

5.1.1 Response Schedules

The schedule is based upon the use of 30-day periods for regulatory reviews. This is possible because of the partnering effort as well as the involvement of the environmental agencies in the preparation of plans.

Additionally, the BCT has agreed that the Corrective Measures Study and the Risk Assessment will be prepared as much as possible in conjunction with the RFI rather than in sequence.

5.1.2 Requirements by Fiscal Year

The detailed requirements information by fiscal year is contained in Appendix A of this BCP.

5.2 Compliance Programs

5.2.1 Master Compliance Schedules

The compliance schedule for mission/operational and closure compliance is given in Figure 5-2. Process closure procedures are currently being developed for use in mission/operational closures.

5.2.2 Requirements by Fiscal Year

The detailed requirements information by fiscal year is contained in Appendix A of this BCP.

5.3 Natural and Cultural Resources

5.3.1 Natural and Cultural Resources Schedules

The schedule for the Historical and Cultural Resources is given in Figure 5-3.

5.3.2 Requirements by Fiscal Year

The detailed requirements information by fiscal year for Cultural Resources is contained in Appendix A of this BCP.

5.4 Meeting Schedule

Meetings are scheduled as required by the applicable program. Meetings are typically held as follows:

- Restoration Advisory Board: Monthly, the second Tuesday of each month.
- BRAC Cleanup Team: As needed. Meeting agendas are flexible to allow current issues to be addressed and resolved.
- Environmental Subcommittee: Monthly to share information between major onbase tenants.

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR	1994					1995					1996					1997					1998																										
				J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N
RFA and Comprehensive Work Plan				<p>Focus Field Investigation and Technical Memo.</p> <p>RFA Volume I</p> <p>Regulatory Review</p> <p>RFI Volume I Final</p> <p>Comprehensive RFI WP</p> <p>Regulatory Review</p> <p>Notification of Additional Sites</p> <p>RFA Volume II</p> <p>Regulatory Review</p> <p>RFA Volume II Final</p> <p>Notification of Additional Sites</p> <p>RFA Volume III</p> <p>Regulatory Review</p> <p>RFA Volume III Final</p> <p>Notification of Additional Sites</p> <p>RFA Volume IV</p> <p>RFA Volume IV Extension</p> <p>Regulatory Review</p> <p>RFA Volume IV Final</p> <p>Notification of Additional Sites</p> <p>RFA Volume V</p> <p>RFA Volume V Extension</p> <p>Regulatory Review</p>																																														
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2	28JAN94	18FEB94	22																																															
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4	11JAN95	9FEB95	30																																															
5	18FEB94	18MAY94	90																																															
6	30JUL94	28AUG94	30																																															
7	2MAR94	16MAR94	15																																															
8	16MAR94	13JUN94	89																																															
9	21SEP94	8JAN95	106																																															
10	11JAN95	9FEB95	30																																															
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022	27FEB95	28MAR95	30																																															

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 Data Date 1JAN94
 Project Start 1JAN94
 Project Finish 1FEB98

Activity Bar/Early Dates
 Critical Activity
 Progress Bar
 Milestone/Flag Activity

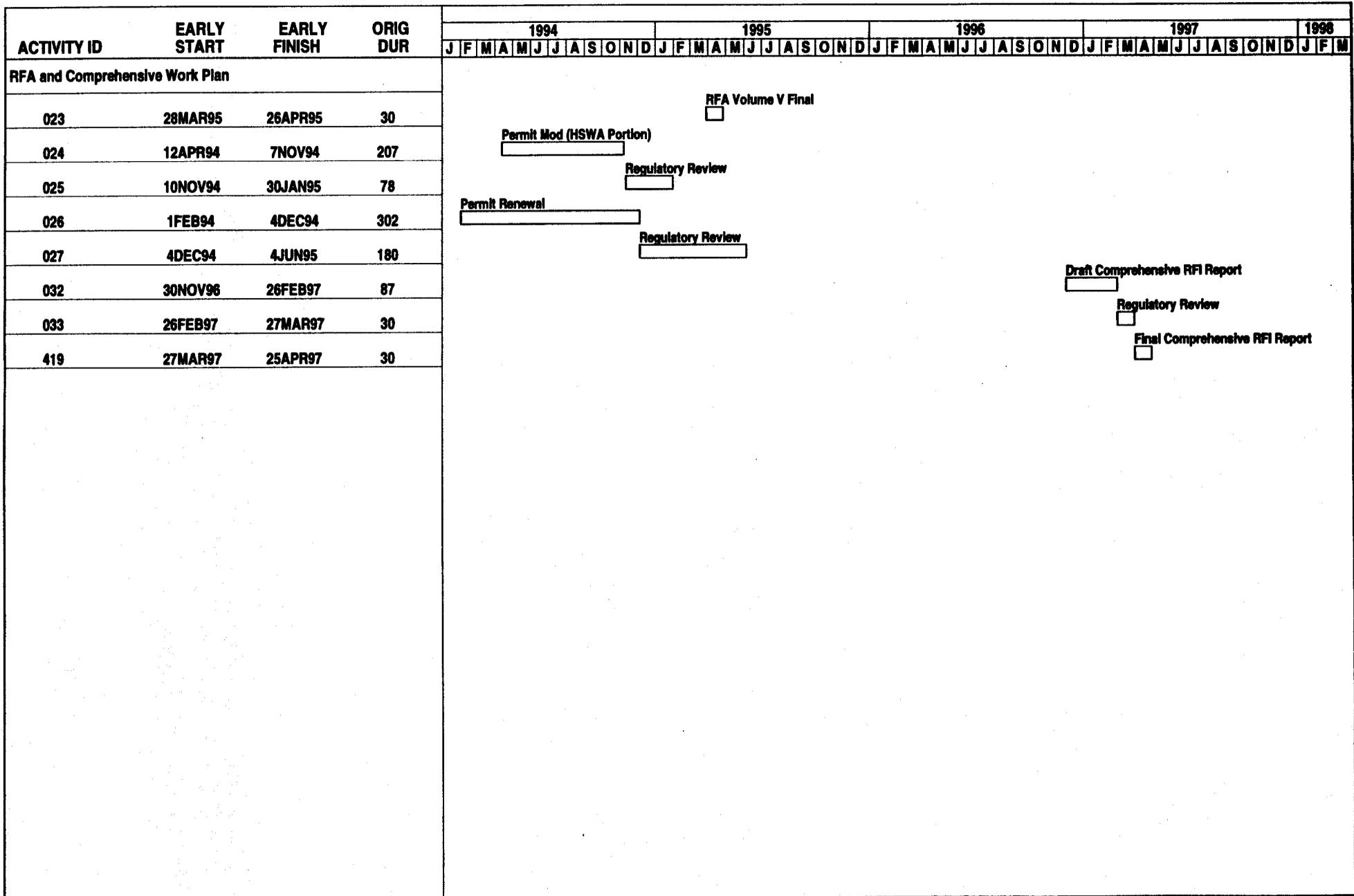
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BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure
 Figure 5-1

Sheet 1 of 14

NAVY CLEAN HQ-007-00-D-0310

Date	Revision	Checked	Approved



Plot Date 1MAR95
 Data Date 1JAN94
 Project Start 1JAN94
 Project Finish 1FEB98

Activity Bar: Early Dates
 Critical Activity
 Program Bar
 Milestone/Flag Activity

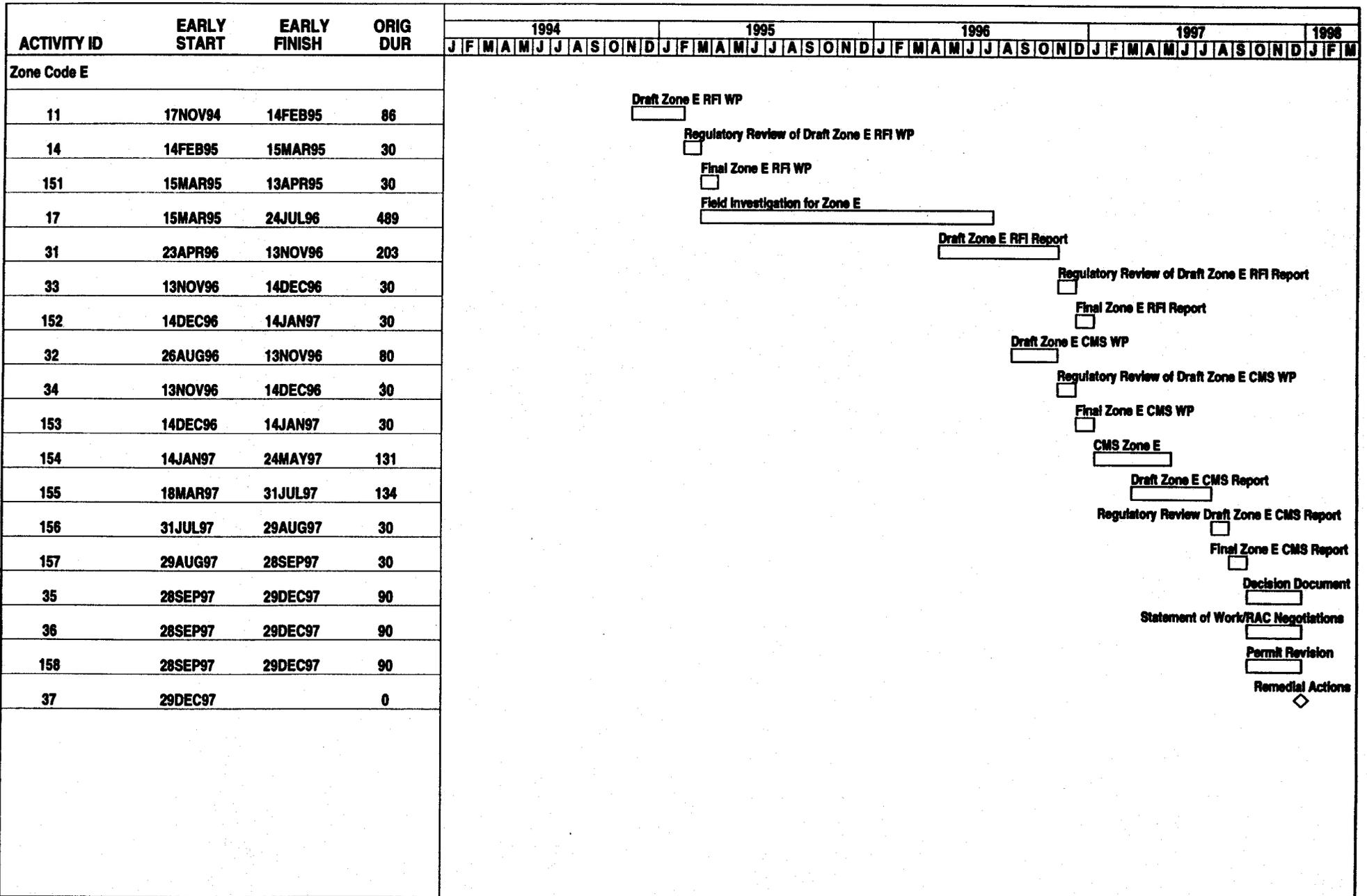
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**BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure
 Figure**

Sheet 2 of 14

NAVY CLEAN 002-007-00-D-0010

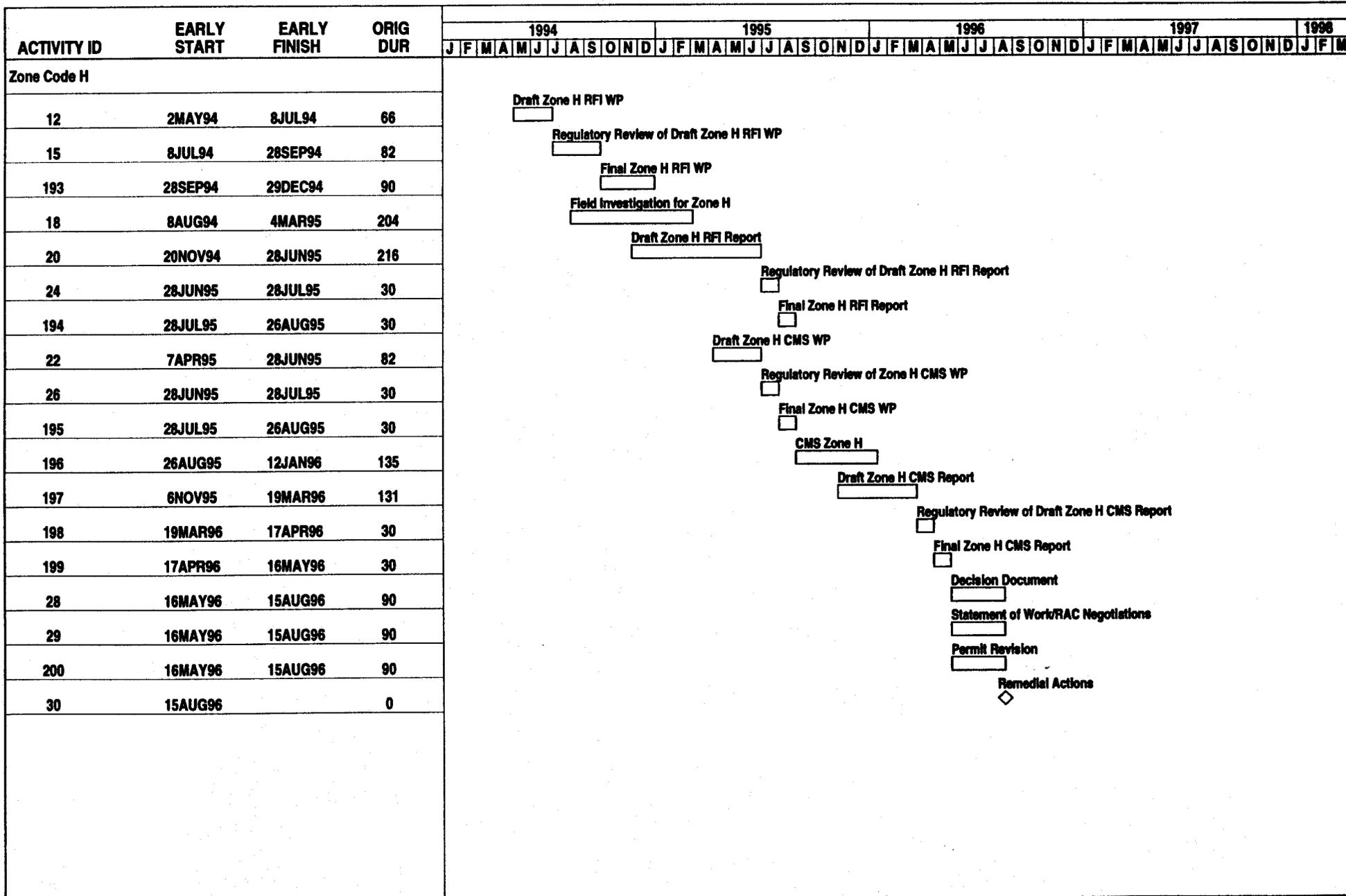
Date	Revision	Checked	Approved



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Data Date	1JAN94	Critical Activity	
Project Start	1JAN94	Program Bar	
Project Finish	1FEB96	Milestone/Flag Activity	

BRAC Cleanup Plan
Compliance Activities Associated
With Mission Operation and Closure
 Figure 5-1

NAVY CLEAN 02467-00-D-0510			
Date	Revision	Checked	Approved



Plot Date 1MAY95
 Date Date 1JAN94
 Project Start 1JAN94
 Project Finish 1FEB98

Activity Start/Early Dates
 Critical Activity
 Program Bar
 Milestone/Flag Activity

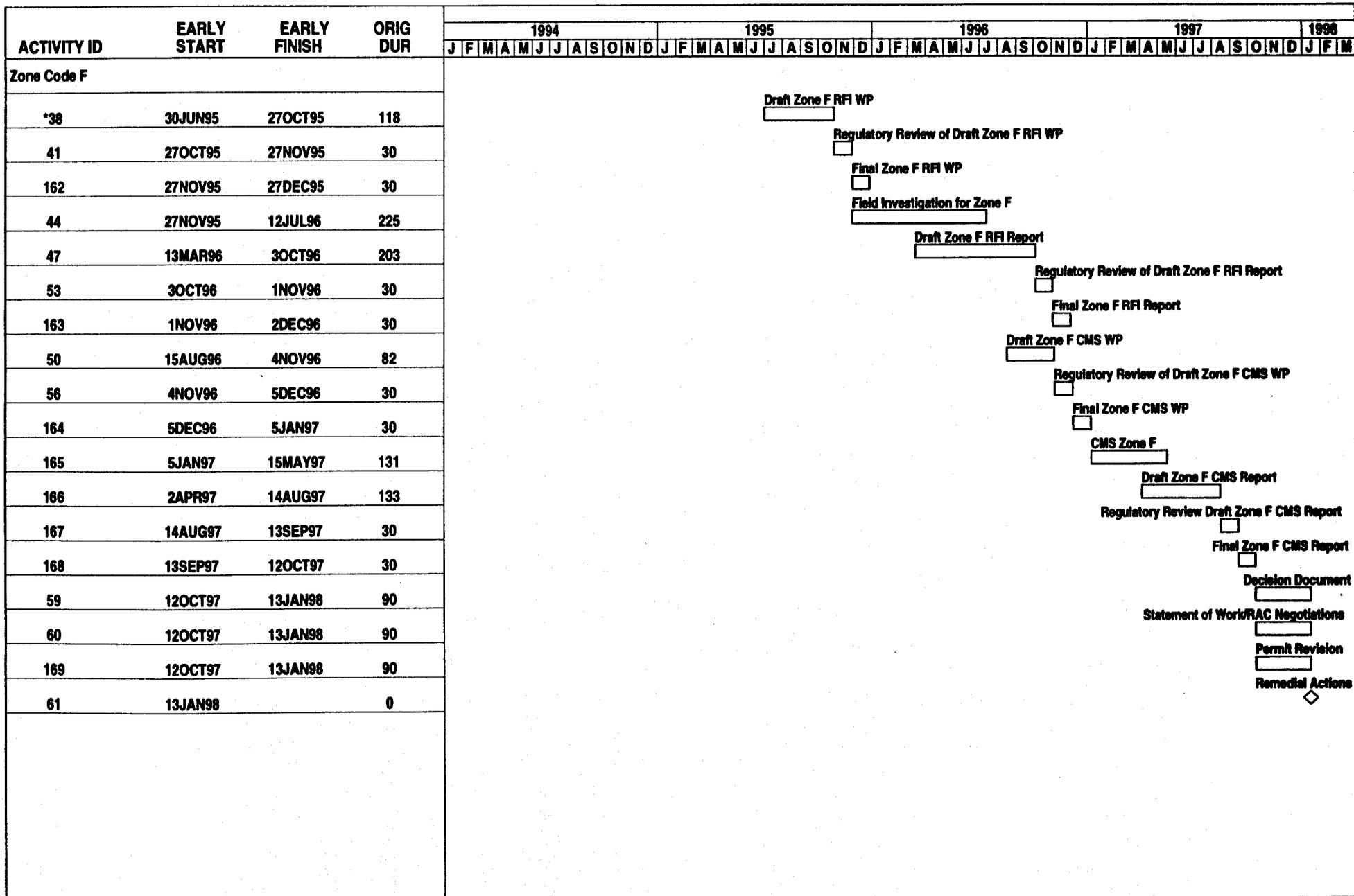
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BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure
 FIGURE 5-1

Sheet 4 of 14

NAVY CLEAN 062407-00-0-0510

Date	Revision	Checked	Approved



Plot Date 1MAR95
 Data Date 1JAN94
 Project Start 1JAN94
 Project Finish 1FEB96



Activity Start/Early Dates
 Critical Activity
 Program Bar
 Mission/Flag Activity

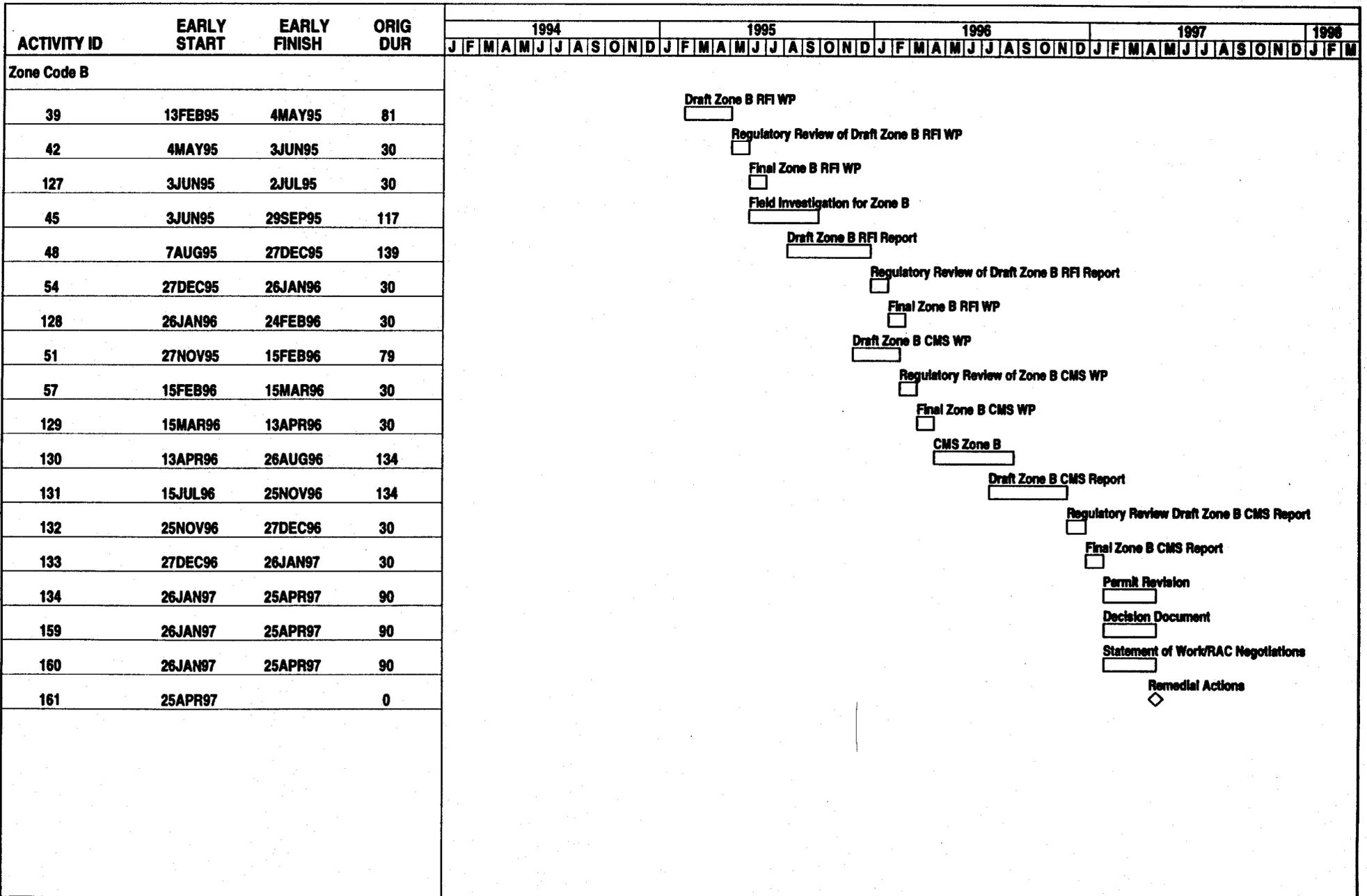
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**BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure**

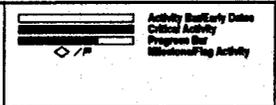
Sheet 6 of 14

NAVY CLEAN HQ2467-00-D-0010

Date	Revision	Checked	Approved



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 Project Start 1JAN94
 Project Finish 1FEB96

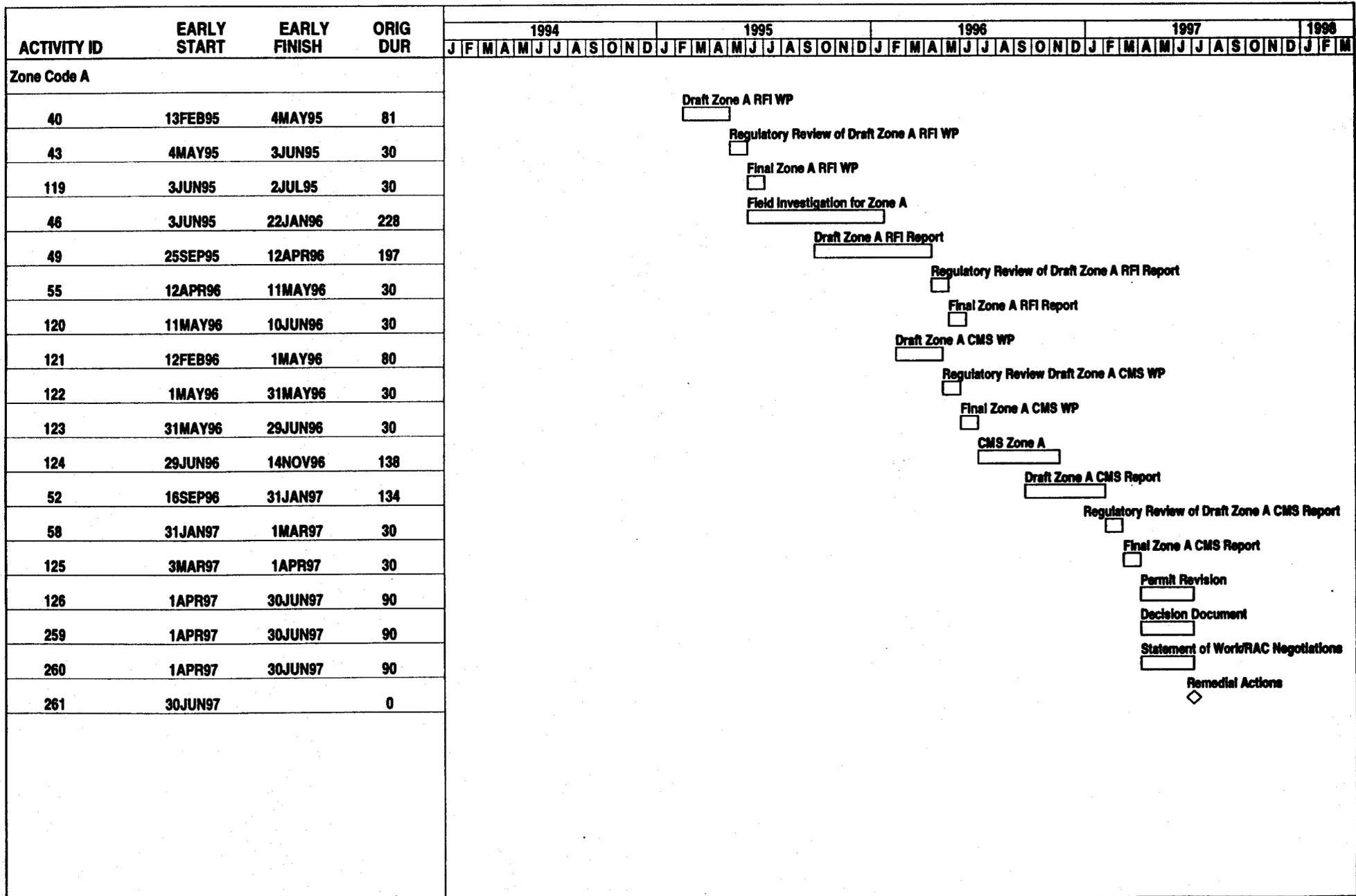


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BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure
 Figure 5-1

Sheet 7 of 14

NAVY CLEAN 002487-00-D-0010			
Date	Revision	Checked	Approved



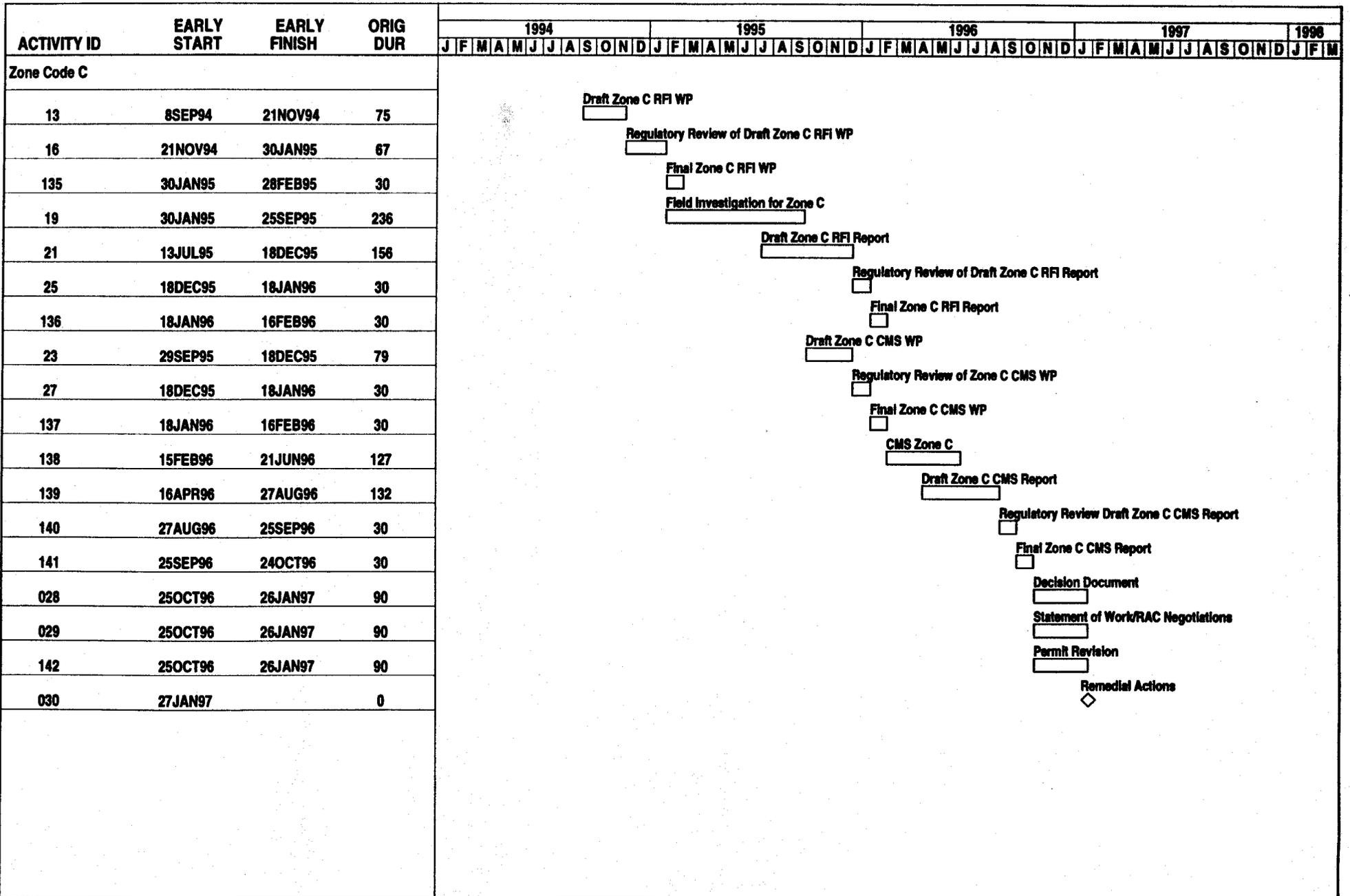
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 Project Finish 1FEB96

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 Milestone/Flag Activity

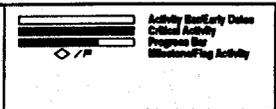
BRAC Cleanup Plan
Compliance Activities Associated
With Mission Operation and Closure

NAVY CLEAN H2467-88-D-0510

Date	Revision	Checked	Approved



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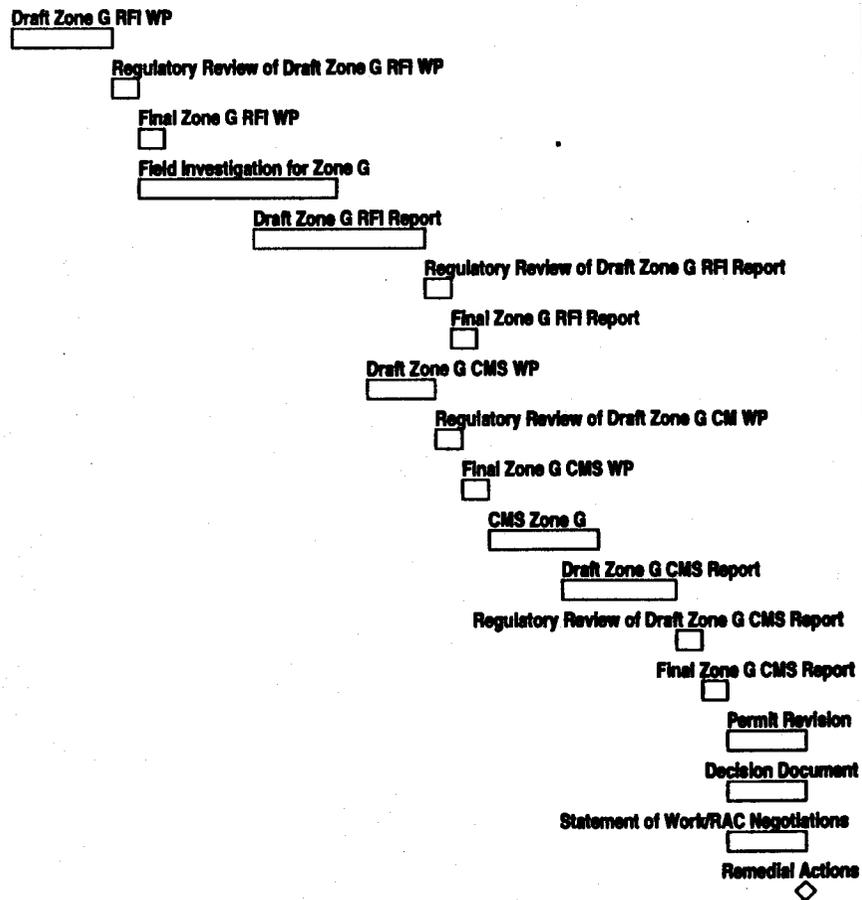


BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure
 Figure 5-1

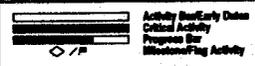
NAVY CLEAN 002467-00-D-0010

Date	Revision	Checked	Approved

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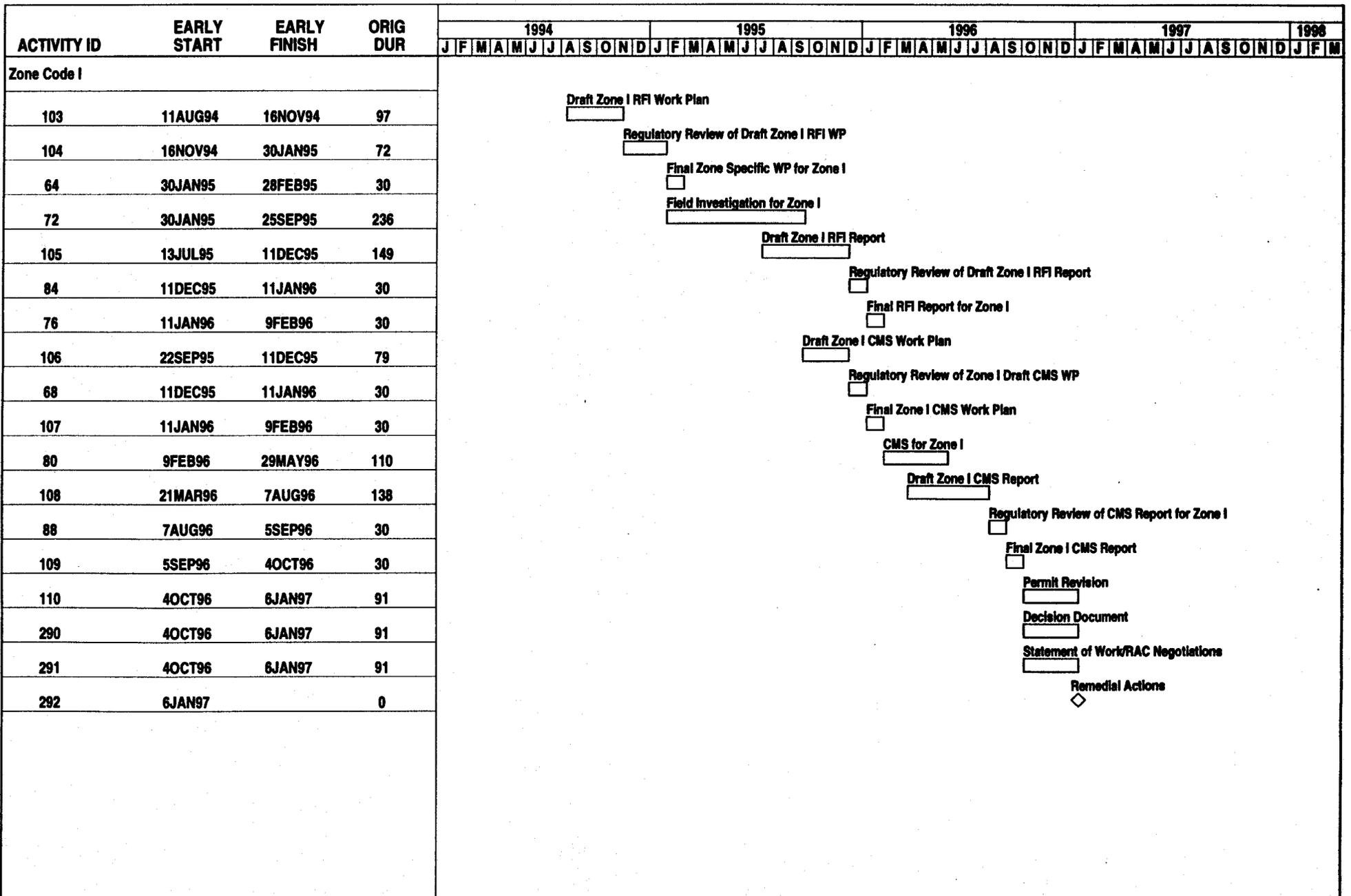


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 Project Start 1JAN94
 Project Finish 1FEB96



**BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure**
 File 5-1

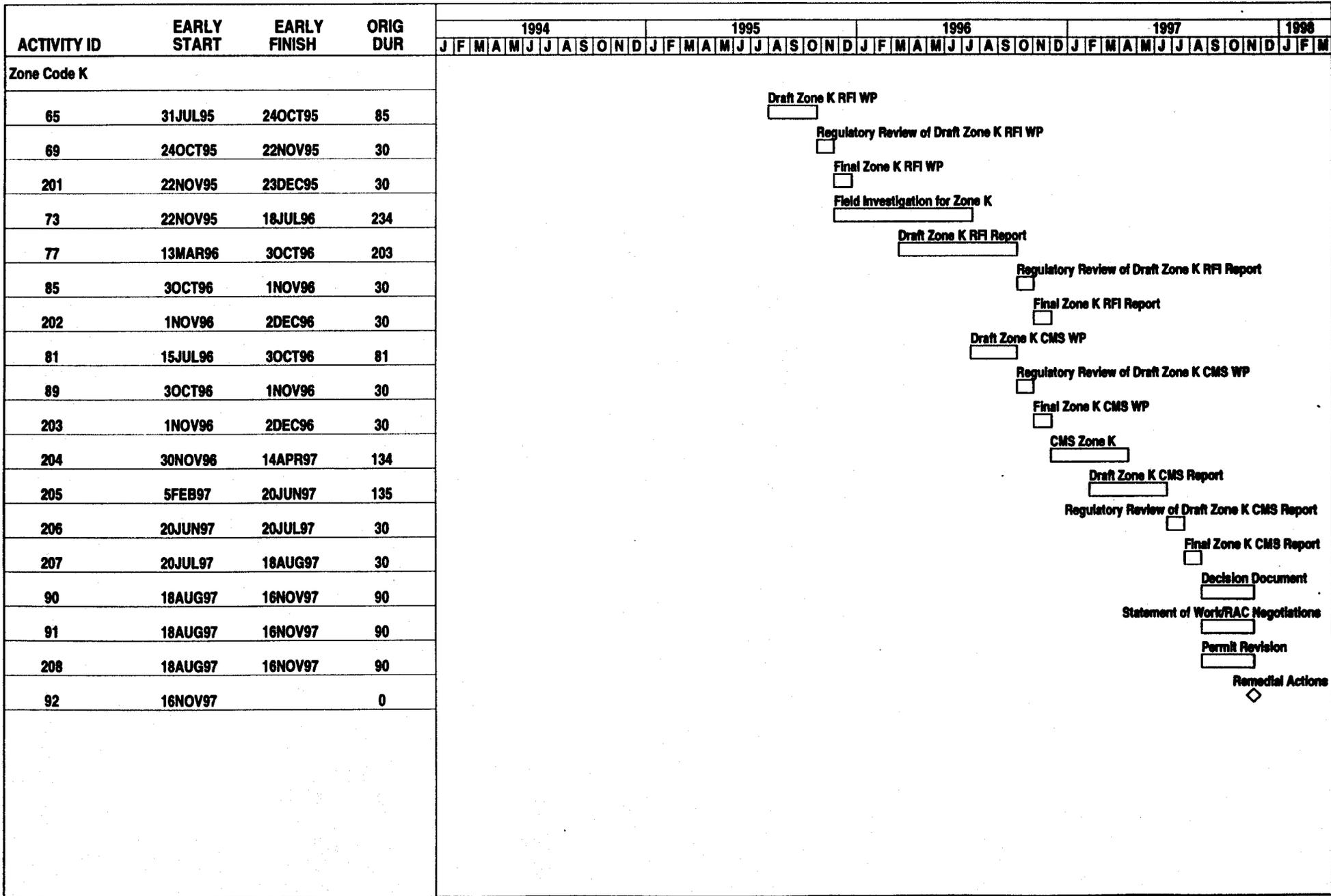
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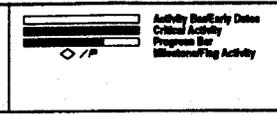
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BRAC Cleanup Plan
Compliance Activities Associated
With Mission Operation and Closure
 Figure 5-1

NAVY CLEAN 082467-00-D-0310			
Date	Revision	Checked	Approved



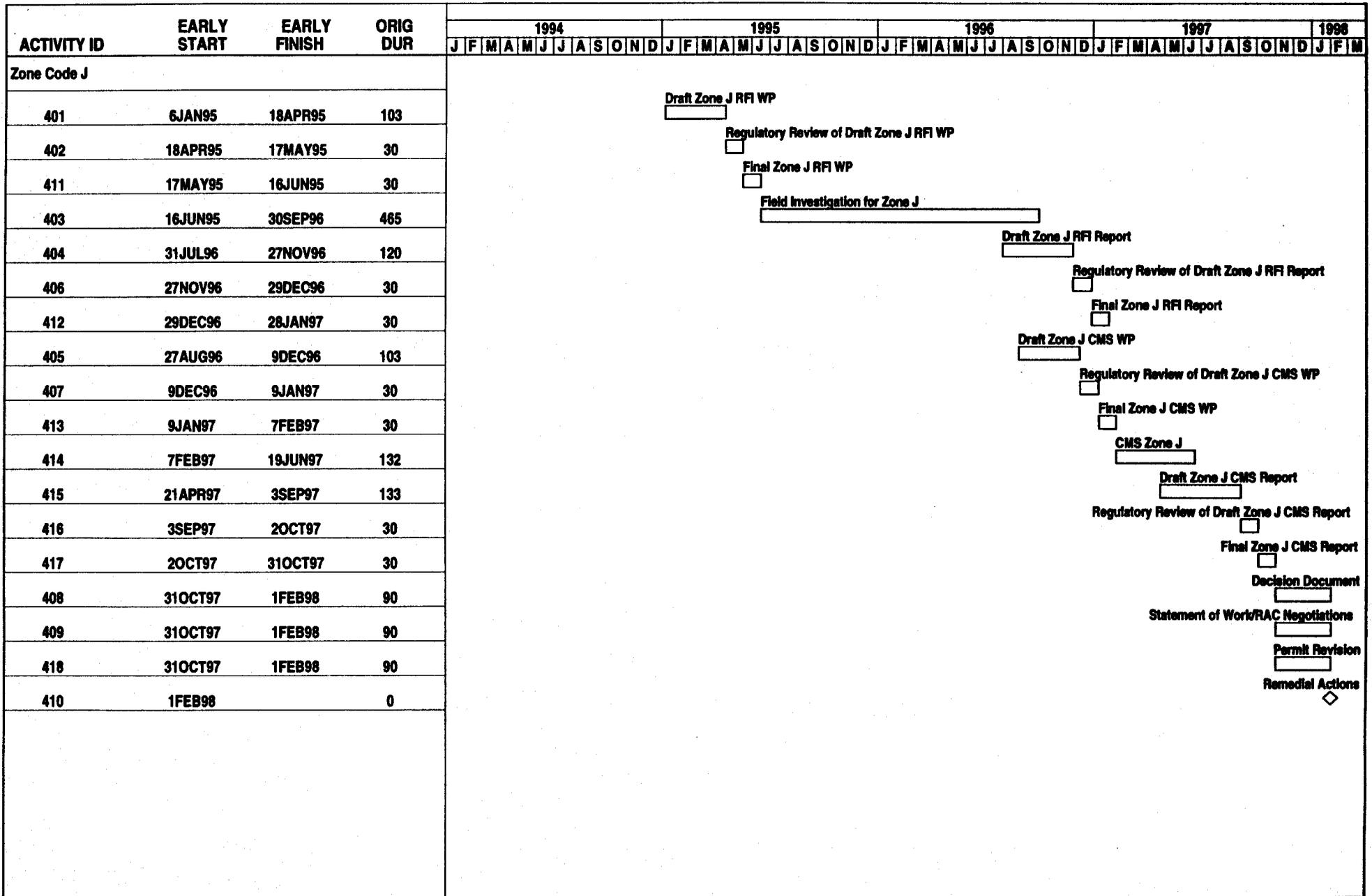
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 Project Start 1JAN94
 Project Finish 1FEB98



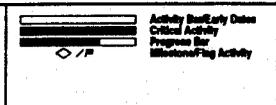
**BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure**

NAVY CLEAN M2467-98-D-0318

Date	Revision	Checked	Approval

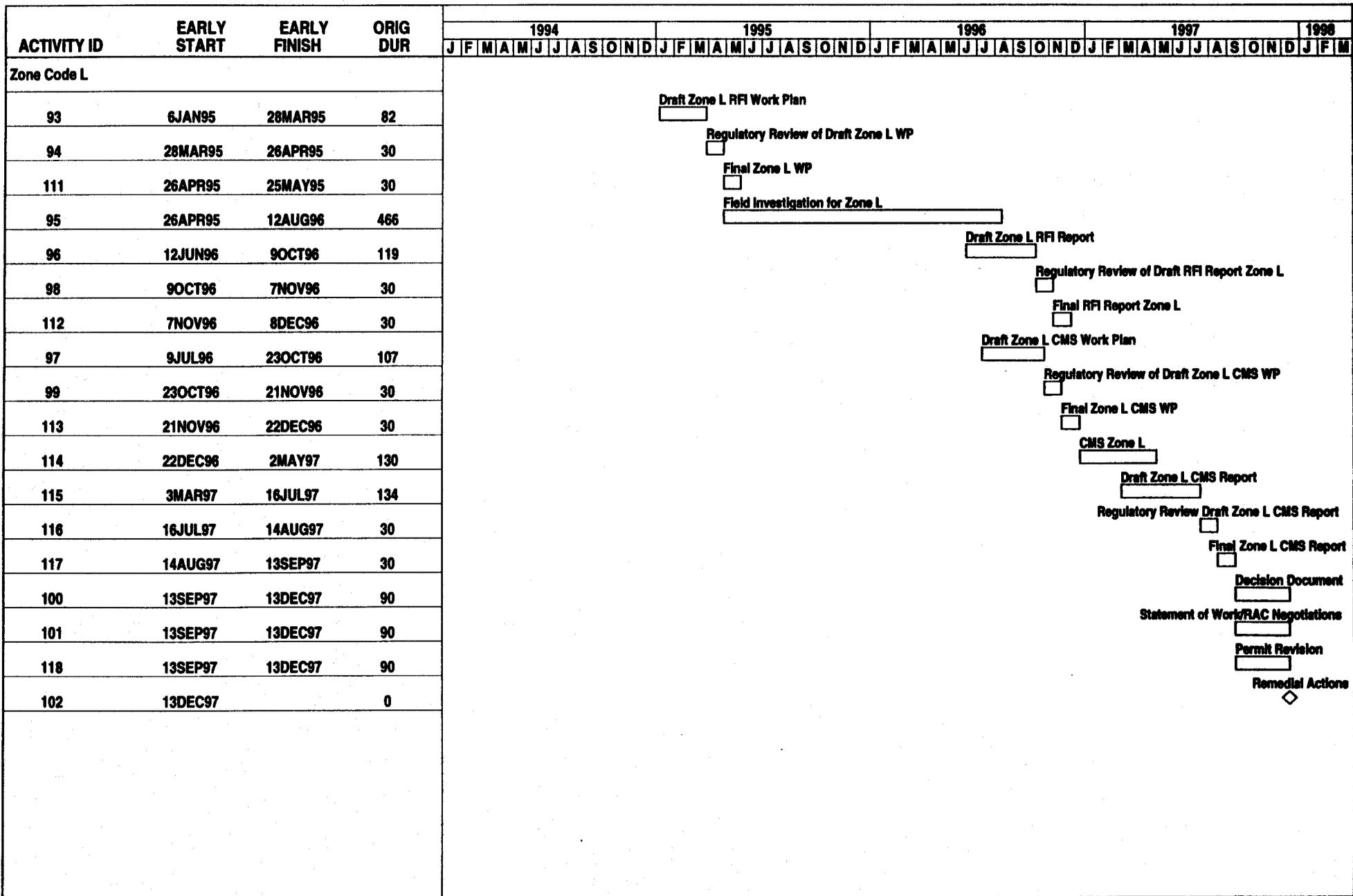


Plot Date 18MAR95
 Data Date 1JAN96
 Project Start 1JAN94
 Project Finish 1FEB98



ZSEP
 BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure
 Figure 5-1

Date	Revision	Checked	Approved



Plot Date 1MAR95
 Data Date 1JAN94
 Project Start 1JAN94
 Project Finish 1FEB98



Activity Bar/Early Dates
 Critical Activity
 Progress Bar
 Milestone/Flag Activity

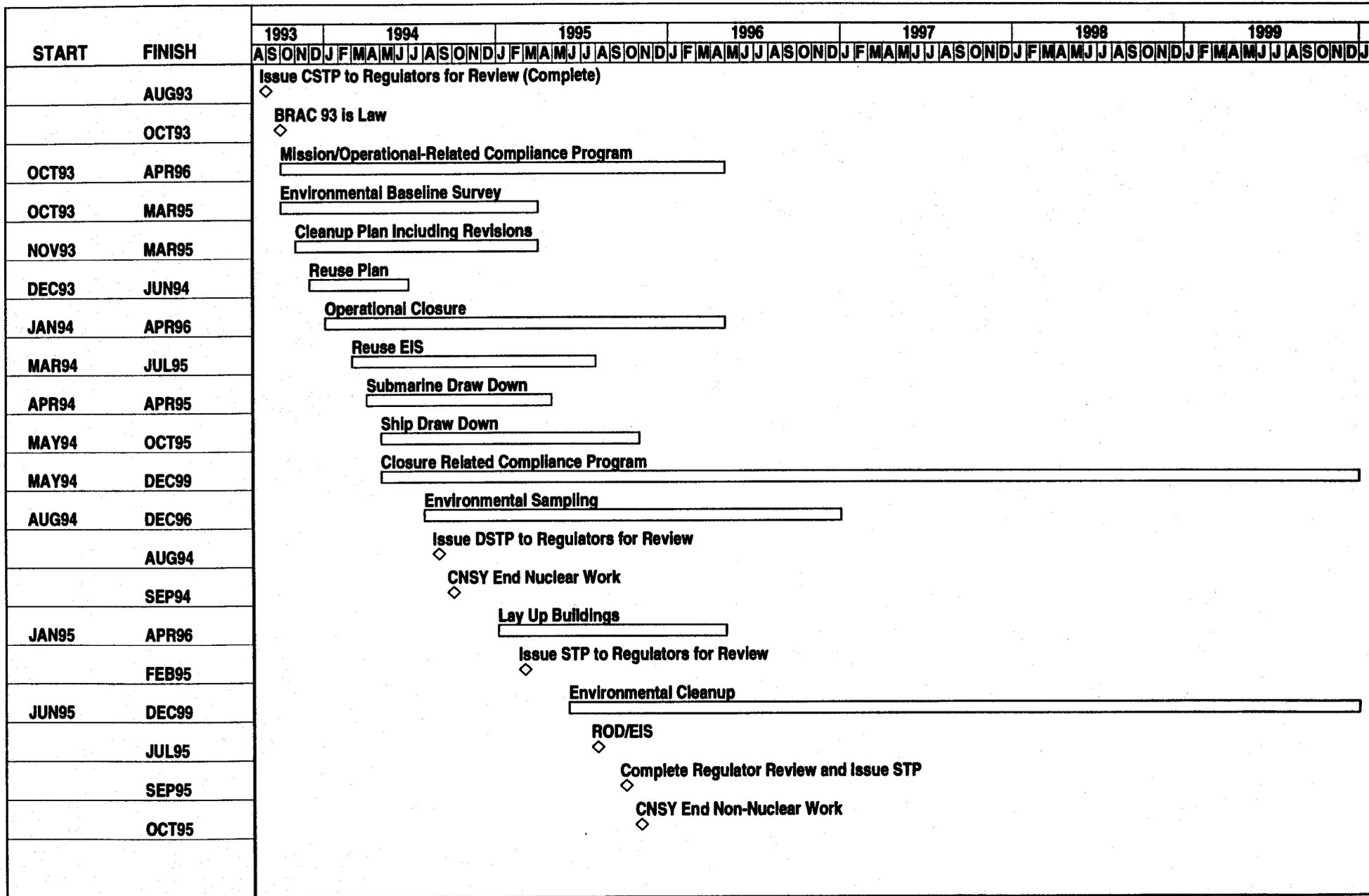
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**BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure
 Figure**

Sheet 14 of 14

NAVY CLEAN 022-07-99-D-0016

Date	Revision	Checked	Approved



Plot Date 18FEB95
 Data Date 2AUG93
 Project Start 2AUG93
 Project Finish 30DEC99

Activity Bar: Early Dates
 Critical Activity
 Program Bar
 Milestone/Flag Activity

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BRAC Cleanup Plan
 Compliance Activities Associated
 With Mission Operation and Closure
 Figure 5-2

NAVY CLEAN N62467-89-D-0310 (BC-01)

Date	Revision	Checked	Approved

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EARLY START	EARLY FINISH	ORIG DUR	1994										1995									
			MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
	1MAR94	0	Intensive Historical Survey																			
	1MAR94	31MAY94	Review Intensive Historical Survey																			
	31AUG94	18JAN95	Programmatic Agreement Review																			
	19JAN95	1MAY95	AA Staffing/Signature																			
	2MAY95	31OCT95	Programmatic Agreement in Effect																			

Plot Date 17FEB95
 Data Date 21FEB94
 Project Start 21FEB94
 Project Finish 31OCT95

Activity Bar/Early Date
 Critical Activity
 Program Bar
 Milestone/Flag Activity

BRAC Cleanup Plan
 Historical & Cultural Resource Tasks
 Figure 5-3

NAVY CLEAN N62467-00-D-0318 (BC-01)

Date	Revision	Checked	Approved

6.0 TECHNICAL AND OTHER ISSUES TO BE RESOLVED

This chapter summarizes technical and other issues that are yet to be resolved. These issues include background determination, risk protocols, cleanup standards, and uses of historical data. It also addresses the ten areas in the DOD guidance for fast-track cleanup.

6.1 Data Usability

This section summarizes issues that need to be resolved with regard to managing information gathered and used in the environmental restoration and compliance programs.

- Improve coordination of, access to, and management of environmental restoration and real estate-type data generated for Naval Base Charleston.
- Validate historical data.
- Ensure all historical data has been loaded into the Geographic Information System (GIS) database format.
- Require all contractors to submit data in electronic format.
- Establish method/procedure to be able to distribute data to applicable parties.
- Establish procedures for real-time analysis of data to determine effects on adjacent zones.
- Participate in the EPA QA/QC program including system and performance audits.

6.1.1 Rationale

As the number of agencies and contractors associated with the Naval Base Charleston disposal and environmental restoration program grows, it is important that all parties be able to share data for decision making. The establishment and maintenance of an electronic database for sampling and analysis data are the most efficient method of sharing data among parties.

6.1.2 Progress

- Contractors are submitting data in electronic format.
- Historical data have been incorporated into the database.

- Meeting held with EPA, SCDHEC, Navy and contractors to discuss data management and best method to distribute data.

6.1.3 Action Items

- Development of a plan to continually update the database as processes and surveys are completed.
- Providing training on use of EPA databases.

6.2 Information Management

This section summarizes unresolved issues pertaining to the use of historical data sets in the base environmental restoration program and the use of a database of general EBS information to be used by potential buyers and to support FOST/FOSLs.

6.2.1 Rationale

Historical analytical data can contribute to the completion of site characterization by filling data gaps. Current and future data from each data collection system are critical to the completion of all site characterization efforts, comprehensive conceptual model development, risk assessments, and ultimately the selection of remedial actions to protect human health and the environment.

Timely access to historical building and facility information can assist with prompt transfer of properties.

6.2.2 Progress

- Comprehensive Sampling and Analysis Plan was completed and approved.
- All information generated from the fence-to-fence surveys has been organized by facility number. For example, everything about Building 199 is collated in one file—blueprints of floor plans, asbestos sampling results, SWMUs, photographs, permits, sampling results, etc. An index of the building file structure is provided in Appendix F. This information has been scanned into a CD-ROM database so that anyone interested in property can review the file and determine if there are environmental concerns with that particular building.

The CD-ROM database will be used to support FOST/FOSLs determinations in a timely manner. All the information is available without time-consuming research.

6.2.3 Action Items

- The CD-ROM database needs to be maintained.

6.3 Data Gaps

This section summarizes unresolved issues pertaining to the determination and collection of data needed to complete the environmental restoration program.

6.3.1 Rationale

Effective identification and filling of data gaps will permit the development of sampling strategies for the various investigative zones. Effective analysis of data gaps will also facilitate the completion of RFI efforts and selection of appropriate remedies in a timely manner. This information will also facilitate the identification of clean parcels.

6.3.2 Progress

- The sampling strategy has been developed based upon filling data gaps.

6.4 Background Levels

6.4.1 Rationale

Background concentration values of elements in the soil, groundwater, surface water, and sediments need to be determined before risk assessments can be conducted. The values should be representative of what is naturally occurring and what is occurring due to anthropogenic sources. EPA, SCDHEC, and the natural resource trustees must concur with these values.

The current standard for cleanup is to clean up to background, therefore these levels must be established. However, due to the amount of dredge material disposal areas and filled areas, establishing background levels will be very difficult. Risk-based criteria may be used.

6.4.2 Progress

- A workshop has been held providing training in risk assessment.
- The Comprehensive RFI Work Plan includes the strategy to establish background.
- A grid-based sampling approach has been incorporated to assist in addressing background.

6.4.3 Action Items

- A meeting of the BCT/project team to finalize a definition of background.

6.5 Risk Assessments

6.5.1 Rationale

If cleanup to background is not possible, then a risk-based cleanup standard will be used. The assumptions used in exposure assessment will be consistent with EPA's Risk Assessment Guidance including, among other land use scenarios, anticipated future land uses.

6.5.2 Progress

- Naval Base Charleston has agreed to attempt cleanup to background. However, if background is not achievable, EPA Risk Assessment Guidance will be followed.

6.6 Interim Monitoring of Groundwater and Surface Water

6.6.1 Rationale

Interim monitoring of groundwater and surface water can be effective in filling data gaps and determining clean parcels. However, much of the initial sampling for the RFI remains to be conducted; as such, no data exists to facilitate such interim monitoring. NPDES storm water monitoring has been conducted.

6.6.2 Progress

- Surface water monitoring for NPDES storm water permit has been completed and a report issued.

- Monitoring of existing wells under the RFI process is continuing.
- Continue discovery and elimination of illicit discharges.

6.7 Excavation of Contaminated Materials

6.7.1 Rationale

Areas at Naval Base Charleston exist that can be addressed with removal actions without going through the regular RFI process; such areas would include suspected unexploded ordnance areas.

6.7.2 Progress

- Explosives Ordnance Disposal (EOD) has been contacted and requested to provide a proposal for discovery and removal of unexploded ordnance.
- Early actions for AOCs 653, 656 and 657 have been identified.
- The process for voluntary interim measures has been developed.

6.7.3 Action Items

- Implement the identified early actions.
- Finalize voluntary interim measures provided and obtain EPA and State approval for methodology.
- Present methodology to Restoration Advisory Board.

6.8 Protocols for Remedial Design Reviews

6.8.1 Rationale

Remedial designs need to have a prompt review in order for implementation to be accomplished sooner.

6.8.2 Progress

- Meetings have been held with the CLEAN contractor and RAC contractors to begin developing procedures for performance specifications and using observational approach.
- A minimum of formal designs will be used.

6.9 Basewide Remedial Action Strategy

6.9.1 BRAC Cleanup Team Action Items

There are no identified Project Team action items for basewide remedial action strategy at this time.

6.9.2 Rationale

Basewide issues should be considered when developing strategies to provide the most cost-effective and timely approach to environmental restoration.

6.9.3 Status/Strategy

- Basewide plan has been developed for investigation.
- Possible remedial actions are being discussed on a basewide level in addition to site specific.

6.10 Conceptual Models

6.10.1 BRAC Cleanup Team Action Items

There are no identified Project Team action items for developing conceptual models at this time.

6.10.2 Rationale

Models can be useful in developing a basewide strategy and selecting site-specific remedial actions.

6.10.3 Status/Strategy

- No conceptual models have been developed to date for Naval Base Charleston.
- As RFI work progresses information will be generated that can be used to develop conceptual models.

6.11 Cleanup Standards

In the absence of federal or state-mandated cleanup standards for hazardous wastes or constituents in soil, the approach for providing remediation criteria for contaminated soils will be through the use of risk assessment and through discussions with EPA and SCDHEC. The issue of "How Clean is Clean?" still needs to be resolved. Cleanup standard issues will be conducted on a case-by-case basis.

6.12 Remedial Actions

6.12.1 Status/Strategy

Remedial actions are to be in place within one year of completion of the Corrective Measures Study.

6.13 Review of Selected Technologies for Application of Expedited Solutions

6.13.1 Status/Strategy

The BCT has agreed to be open to innovative technologies, and is sharing resources that describe alternative solutions and examples of technology that are already proven.

Additional effort will be required as information becomes available from the RFI to select appropriate technologies to expedite remediation.

6.13.2 Progress

- Rotasonic drilling is being utilized.
- Demonstrations of innovative technologies have been presented to the BCT.

6.14 Implementation of Immediate Actions to Eliminate *Hot Spot* while Investigation Continues

6.14.1 Status/Strategy

No *hot spots* have been identified to date. The BCT will develop a strategy to expedite these areas when required.

6.15 Identification of Clean Properties

6.15.1 Status/Strategy

The current environmental condition of property map does not show any *clean* contiguous parcels. This is because of uncertainty in migration of contaminants from other sources. The base has been operating for almost 100 years and the past practices (prior to environmental regulations) have contributed to the contamination.

As information is received from the RFI process, additional properties may be classified as "*clean*", i.e., without contamination, if there has been no migration.

The BCT has chosen to take a conservative approach to this so that it would not be necessary to change an area to *contaminated* that had been proposed to the community as *clean* after test results are received.

6.15.2 Progress

- The BRAC condition of property map has been completed.
- The Environmental Baseline Survey (EBS) has been completed.
- The CD-ROM database for baseline survey information is in place.
- Individual building files are available for all Naval Base Charleston facilities.
- State has been notified of no clean parcels, meeting requirements of CERFA.

6.16 Identification of Overlapping Phases of the Cleanup Process

6.16.1 Status/Strategy

The BCT has proposed to do the RFI, CMS, and risk assessment concurrently rather than sequentially. The normal process is to complete the RFI then perform the CMS. These will be done overlapping as information is received.

6.16.2 Progress

- The RFI is to be conducted concurrently with CMS.
- Field investigations are being initiated during resolution of regulatory comments or Final RFI Work Plan.
- Environmental Impact Statement was prepared while RFI continues.
- Issues involving shutdown or turnover of compliance programs are being explored.
- The historical review has been conducted.
- A multi-media approach is being utilized.

6.17 Use of Improved Contracting Procedures

6.17.1 Status/Strategy

The investigation effort is being accomplished under the existing CLEAN contract. There are concerns that the capacity may not be enough to complete the BRAC work. SOUTHNAVFACENGCOM is pursuing having the limit changed and also developing a plan for new contracts.

Contracting strategy for remediation will be done under Remedial Response Contract (RAC). This process is in the final stages of source selection and plans to be awarded by April 1994. The other avenue for remediation is utilizing qualified shipyard personnel to design and implement the remediation projects. A group has been formed and is developing a plan to conduct this work.

6.17.2 Progress

- BRAC and RFI activities are being conducted under the existing CLEAN Contract.
- CNSY employees are being used for remediation as part of Memorandum of Agreement (MOA) between NAVFAC and NAVSEA.
- RAC contract is in place for remediation.

6.18 Interfacing with the Community Reuse Plan and Schedule

6.18.1 Status/Strategy

The community reuse plan was issued in June 1994. A member of the Redevelopment Authority is on the Restoration Advisory Board. The Base Transition Coordinator is the liaison between the BCT and the Redevelopment Authority.

6.18.2 Progress

- Interaction with the Restoration Advisory Board is ongoing.
- A dialogue was maintained with the Building Economic Solutions Together (BEST) committee prior to its dissolution.
- Periodic interfacing with environmental affinity groups took place.
- Interaction with the Charleston Naval Complex Redevelopment Authority is occurring.
- Priorities for zone investigation based upon reuse opportunities are being utilized.
- Interim leases and FOSL requirements are being used to facilitate reuse.

6.19 Embracing a Bias for Cleanup Instead of Studies

6.19.1 Status/Strategy

Since an overall plan was developed to have remediation in place by the time of operational closure, the focus is on cleanup. By partnering with EPA and SCDHEC the study efforts and data gathering can focus on cleanup. In this manner, EPA and SCDHEC are more proactively and jointly involved in the preparation and implementation of plans, and less reactively involved in responding to plans independently developed by Naval Base Charleston. Additionally, Naval

Base Charleston reviews all draft reports to ensure that a quality product is delivered to the regulators, thus minimizing the number of drafts.

Treatment alternatives were identified in the RFI work plan. All sampling and analysis will be targeted toward collecting sufficient data to characterize the source contamination and narrowing the remedies down to those most likely to be appropriate for the source. As soon as sufficient data are available to identify appropriate corrective measures, the investigation will cease and corrective measures will be implemented.

6.19.2 Progress

- Early actions have been identified.
- Pilot projects using CNSY employees for removals have been identified.
- A process for voluntary interim measures is being developed.
- The sampling approach is to sample only enough to determine a remedy.

6.20 Technical Input from Experts on the Contamination and Potential Remedial Plans

6.20.1 Status/Strategy

EPA and SCDHEC have offered their expert resources to be part of the project team. The BCT has also included other experts in the community as part of the project team.

6.20.2 Progress

- Members of the BCT are training together on innovative technologies.
- A team effort is used for plan development and implementation.
- Experts in each agency are utilized.

6.21 Identification of Opportunities for Application of Presumptive Remedies

6.21.1 Status/Strategy

The BCT has decided to make maximum use of presumptive remedies.

6.21.2 Progress

- Treatment alternatives are identified in the RFI Work Plan.
- The investigation is driven by probable treatment alternatives.

6.22 Using Innovative Management, Coordination, and Communication Techniques

6.22.1 Status/Strategy

A partnering agreement has been signed by the BCT. A copy is given in Figure 1-1. Many BCT meetings have been held in Charleston as well as in Columbia (SCDHEC Headquarters) and conference calls are used. EPA has a BCT member that is onbase every week. SCDHEC attends the meetings and has asked that the district office be utilized for short notice problems. The key to partnering is that all partners have a common objective. The partnering objective was stated in the partnering agreement.

Partnering was also used with the CLEAN contractors that SOUTHNAVFACENGCOCOM uses. Sessions began with them during the summer 1993. Their expertise from the private sector was utilized to develop a strategy for performing the baseline surveys and developing the BCP's. Additional communication has been needed with the CLEAN contractors. A conference has been set up utilizing the Base Transition Officer's Bulletin Board Service for better communication between the SOUTHNAVFACENGCOCOM BEC's and the contractors.

6.22.2 Progress

Innovative management, coordination, and communication techniques in use at Naval Base Charleston include:

- Partnering (teaming) with EPA and SCDHEC.
- Having the EPA representative onsite.
- Utilizing a multi-media approach to investigation and cleanup.

- Using two BRAC Environmental Coordinators (BEC).
- Interacting in a working group with two CLEAN contractors to develop a strategy for SOUTHNAVFACENGCOM to complete EBS.
- Maintaining an onsite Base Closure Office.
- Developing process closure guidance.
- Establishing an Environmental Subcommittee.
- Interviewing long-term employees, former employees, and retirees early in process.
- Interacting in a working group of CLEAN/RAC/CNSY personnel to expedite remediation.
- Holding scoping meetings involving all parties (contractor, base, EPA, SCDHEC, Natural Resources Trustees, etc.).
- Ensuring environmental compliance is maintained through the hiring of military by CNSY to effect the loss of trained personnel.
- Obtaining cooperation from all Naval Base Charleston activities.
- Utilization of a standard facility environmental closure checklist for all Naval Base Charleston activities.

6.23 Updating the EBS and Natural/Cultural Resources Documentation

6.23.1 Status/Strategy

A strategy regarding updates to the EBS has been developed. The basewide EBS document will not be updated. Individual building files will be updated during closure to support preparation of FOSTs and FOSLs.

The Historical and Cultural Resources plan will not be updated once it is approved.

6.24 Implementing the Policy for Onsite Decision-Making

6.24.1 Status/Strategy

EPA has a representative onsite with decision-making authority. The same is true for the Navy BECs. SCDHEC has stated that it cannot give decision-making authority to one person in the field because there is no single person with knowledge of all programs. The strategy is to enhance the teaming effort and fast-track any decisions that have to be elevated.

APPENDIX A

FISCAL YEAR FUNDING REQUIREMENTS/COSTS

Table A-1 Planned IP Costs (\$ in 1000's)								
	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	Totals
RFI/CMS	12000	24000	16000					52000
Design		2000	1500	500				4000
Remediation		4000	15000	5000	500	500	500	25500
Total	12000	30000	32500	5500	500	500	500	81500

Note: Costs are being developed by investigative zones. This information will be available for the next BCP update. Costs presented in this table were developed based on the strategy for prioritizing the investigative zones and are preliminary.

Table A-2 Closure Compliance Costs (\$ in 1000's)								
	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	Totals
UST Remediations	0	775	2275	1275	0	0	0	4325
UST Removals	2000	1700	2000	0	0	0	0	5700
TSDs								
90 Day Storage	1425	150	0	0	0	0	0	1575
246 & 1640	0	400	0	0	0	0	0	400
Asbestos	620	1400	1390	0	0	0	0	3410
PCBs	300	450	0	0	0	0	0	750
Lead Paint	28	950	848	0	0	0	0	1826
EBS-Phase II	500	500	500	150	50	0	0	1700
CNSY Closure	11959	32115	16088					60162
(NAVSEA FUNDED)								
Total	16832	38440	23101	1425	50	0	0	79848

Note: These costs were based on information available prior to the EBS. Once the EBS report is completed these costs will be revised.

Table A-3 Mission/Operational Closure Costs (\$ in 1000's)								
	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	Totals
Operational Closure (NAVSEA FUNDED)	2041	2650	1325					6016

Table A-4 Historical Expenditures for IR Programs (\$ in 1000's)															
	FY 1982	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	Total
PA/SI	82	0	0	0	0	0	0	0	0	0	0	0	0	0	82
RFI	0	0	0	0	0	0	0	9	74	0	47	1095	8	7576	8809
Totals By FY	82	0	0	0	0	0	0	9	74	0	47	1095	8	7576	8891

Note: Historical costs were not accumulated by site. For the new investigations, costs will be kept by Zone and by land owner, i.e. Naval Station, CNSY, and FISC.

APPENDIX B

**INSTALLATION ENVIRONMENTAL RESTORATION DOCUMENTS
SUMMARY TABLES**

Table B-1 Installation Environmental Restoration Documents Summary Table

Year	Project Title	Sites Examined	Contractor
1982	The Industrial Process and The Waste Treatment Investigation	Various Industrial Processes	More, Gardner, and Associates
1982	Assessment of Potential Oil and Hazardous Waste Contamination of Soil and Groundwater	SWMUs 3,7,8,9,11,14	Geraghty & Miller, Inc.
1982	Confirmation Study for the Charleston Naval Base	SWMU 3,7,8,9,11,14 IR Site 4,5	Environmental Science and Engineering, Inc.
1983	Initial Assessment Study for the Charleston Naval Base	SWMU 3,7,8,9,11,14 IR Site 4,5	Environmental Science and Engineering, Inc.
1986	Contamination and Exposure Assessment of the Lead Contamination within the DRMO	SWMU 2	Environmental Science and Engineering, Inc.
1986	Evaluation of Soil Contamination of the Interim Status Storage Facility "Old Corral"	SWMU 6	EnSafe, Inc.
1987	Closure Plans for Interim Status Facilities	SWMU 1,5,6,21,22	EnSafe, Inc.
1987	Interim RFA of USN Charleston Naval Shipyard	SWMUs 1-24	Ebasco Services, Inc.
1987	DRMO Focused Field Study	SWMU 2	Environmental Science and Engineering, Inc.
1988	Report on Field Activities, Closure of Interim Status HW Facilities	SWMU 1,5,6,21,22	EnSafe, Inc.
1988	RFI Workplan for the Investigation of Ground Water Contamination at the DRMO, North Yard Site	SWMU 2	Environmental Science and Engineering, Inc.
1990	RFA Addendum	SWMUs 25-36	Southern Division, Naval Facilities Engineering Command
1991	Environmental Study of Building No. 44	SWMU 25	Davis and Floyd, Inc.
1991	Environmental Investigation — Fire Fighting Training Facility	SWMU 13	Westinghouse Environmental and Geotechnical Services
1991	Risk Assessment and Development of Health-Based Soil Clean-up	SWMUs 1,2,6,7	Gradient Corporation
1991	Draft RFI Workplan	SWMUs 1-36	Kemron
1992	Draft-Final RFI Workplan	SWMUs 1-36	EnSafe, Inc.
1993	Draft-Final, Preliminary RFI Field Activity (Soil Gas, Geophysics)	SWMUs 9 & 14	EnSafe, Inc.
1993	Interim-Final RFI Workplan	SWMUs 1-36	EnSafe, Inc.
1993	Focused Field Investigation	Zone H	EnSafe, Inc.
1993	RFA Addendum	SWMUs 37,38,39 and PAOCs 1-118	Ensafe, Inc.
1994	Certification of Clean Closure, Public Works Storage Yard (Old Corral)	SWMU 6	EnSafe, Inc.
1994	Certification of Clean Closure, DRMO Storage Shed	SWMU 1	EnSafe, Inc.
1994	Draft Environmental Baseline Survey	Basewide	EnSafe/Allen & Hoshall

Table B-1 Installation Environmental Restoration Documents Summary Table

Year	Project Title	Sites Examined	Contractor
1994	Draft-Final RFA, Volumes I, II, III	SWMUs 37 to 160 AOCs 500 to 694	EnSafe/Allen & Hoshall
1994	Draft RFA, Volumes IV, V	SWMUs 161 to 193 AOCs 696 to 698	EnSafe/Allen & Hoshall
1994	Focused Field Investigation	Zone H	EnSafe/Allen & Hoshall
1994	Process Closure Guidelines	Basewide	EnSafe/Allen & Hoshall

APPENDIX C

DECISION DOCUMENT SUMMARIES

None as Yet

APPENDIX D

NO FURTHER RESPONSE ACTION PLANNED (NFRAP) SUMMARIES

Table D-1 Solid Waste Management Units Classified for No Further Investigation

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Location	Reason for NFI Classification	Study Zone
26	Waste Storage Area, Bldg 6440, Pier C	Paint, Thinner	Pier C Building 6440	Lack of evidence of release.	E
27	Waste Storage Area East End, Pier C	Paint, Thinner	East End Pier C	Lack of evidence of release.	E
28	Waste Storage Area West End, Pier C	Paint, Thinner	West End Pier C	Lack of evidence of release.	E
29	Building X10	Waste Paint, Solvent, Corrosives	Building X10	Lack of evidence of release.	G
30	Building 13 SAA 39	Waste Oil	Building 13	Lack of evidence of release. Containment provided for unit.	E
31	Waste Paint Storage Area, Drydock 5	Paint, Thinner	Drydock 5	Lack of evidence of release. Containment provided for unit.	E
32	Waste Paint Storage Area Building 195	Paint, Thinner	Building 195	Lack of evidence of release.	E
33	Waste Paint Storage Area West End, Drydock 2	Paint, Thinner	Drydock 2	Lack of evidence of release.	E
34	MWR, Southeast of Building X-10	Refrigerant, Waste Oil	SE of Building X10	Lack of evidence of release.	G
35	Building X12	Waste Paint	Building X12	Lack of evidence of release.	G
41	Building 1624 Battery Charging Station	Lead, Sulfuric Acid	Building 1624	Lack of evidence of release.	A
45	Building NH-51 SAA 54	Photograph Fixer/Developer	Building NH-51	Interior accumulation of containerized wastes. Lack of evidence of release.	C
46	NH-21 SAA T02	Lead-Paint Removal Debris	Building NH-21	Lack of evidence of release.	C
48	Building 234 SAA 55	Photo Chemicals, Ammonia, EDTA Containers	Building 234	Interior accumulation of containerized wastes. Lack of evidence of release.	C
49	Building 219 Forklift Battery Charging Station	Lead, Sulfuric Acid	Building 219	Lack of evidence of release.	C
50	Building NH-1 SAA 63	Xylene, Toluene, Coating Resin	Building NH-1	Interior accumulation of containerized wastes. Lack of evidence of release.	D
51	Building NH-1 SAA 64	Chemical Medical Wastes	Building NH-1	Interior accumulation of containerized wastes. Lack of evidence of release.	D
52	Building NH-1 SAA 67	Amalag	Building NH-1	Interior accumulation of containerized wastes. Lack of evidence of release.	D
55	Building 59A SAA 05 (Former Boiler Shop)	Paint, Adhesives, POL, Pesticides	Building 59A	Interior accumulation of containerized wastes. Lack of evidence of release.	E
56	Building 2A SAA 25	Paint, Adhesives, POL	Building 2A	Interior accumulation of containerized wastes. Lack of evidence of release.	E

Table D-1 Solid Waste Management Units Classified for No Further Investigation

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Location	Reason for NFI Classification	Study Zone
57	Building 35 SAA 02	Paint, Acids, POL	Building 35	Interior accumulation of containerized wastes. Lack of evidence of release.	E
58	Building 35 SAA 49	Acids and Bases	Building 35	Interior accumulation of containerized wastes. Lack of evidence of release.	E
59	Building 35 SAA 56	Aerosol Cans and Oily Rags	Building 35	Interior accumulation of containerized wastes. Lack of evidence of release.	E
60	Building 2 <90-Day Accumulation Area 04	Paint, Adhesives, POL, Solvents	Building 2	Interior accumulation of containerized wastes. Lack of evidence of release.	E
61	Building 228 <90-Day Accumulation Area 22	Adhesives	Building 228	Interior accumulation of containerized wastes. Lack of evidence of release.	E
62	Building 226 SAA 08	Plating Solution, Metal Hydroxide, Misc. Plating Supplies/Debris	Building 226	Interior accumulation of containerized wastes. Lack of evidence of release.	E
64	Building 56 SAA 07	Paint Cans, and Paint-Contaminated Debris	Building 56	Interior accumulation of containerized wastes. Lack of evidence of release.	E
66	Pier C SAA 30 (Refer to SWMU 80)	None	Pier C	Lack of evidence of release.	E
68	Building 5 SAA 21	Adhesives, Paints	Building 5	Interior accumulation of containerized wastes. Lack of evidence of release. Containment provided for unit.	E
69	Building 5 SAA 24	Paint, Adhesives	Building 5	Interior accumulation of containerized wastes. Lack of evidence of release.	E
71	Building 44 SAA 70	Petroleum Products, Metal Shavings	Building 44	Interior accumulation of containerized wastes. Lack of evidence of release.	E
72	Building 44 <90-Day Accumulation Area	Metal Debris/Plating Chemical Wastes	Building 44	Lack of evidence of release.	E
73	Building 43 SAA 01	Petroleum Products, Used Coolants, Solvents	Building 43	Lack of evidence of release. Containment provided for unit.	E
74	Building 57 SAA 34	Zinc, Grease, Tetrachloroethylene	Building 57	Interior accumulation of containerized wastes. Lack of evidence of release.	E
75	Drydock 1 SAA 78	Hydraulic Oil	Drydock 1	Lack of evidence of release.	E
76	Building 32 SAA 73	Paint, Caustics, Oil	Building 32	Interior accumulation of containerized wastes. Lack of evidence of release.	E
77	Drydock 2 SAA 31	Paint, Thinner	Drydock 2	Lack of evidence of release.	E
78	Drydock 2 SAA 61	Paint	Drydock 2	Lack of evidence of release.	E

Table D-1 Solid Waste Management Units Classified for No Further Investigation

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Location	Reason for NFI Classification	Study Zone
79	Building 250 SAA 53	Acetone, Adhesives, Paint, Solvents, Petroleum Products	Building 250	Interior accumulation of containerized wastes. Lack of evidence of release.	E
82	Building 177 SAA 69	Solvents, Xylene, Petroleum Products, Adhesives, Preservatives, Acetone, MEK, Toluene	Building 177	Interior accumulation of containerized wastes. Lack of evidence of release.	E
85	Building 9 SAA 03 (Boiler Shop)	Paint Debris, Petroleum Products	Building 9	Interior accumulation of containerized wastes. Lack of evidence of release.	E
86	Building 9 <90-Day Accumulation Area 36	Paint, Thinner, Petroleum Products	Building 9	Interior accumulation of containerized wastes. Lack of evidence of release.	E
88	Building 25 SAA 72	Paint, Solvents	Building 25	Interior accumulation of containerized wastes. Lack of evidence of release.	E
89	Building 13 SAA 10	Acids/Metals, Lab Samples, Freon 133	Building 13	Interior accumulation of containerized wastes. Lack of evidence of release.	E
90	Building 13 SAA	Petroleum Products, Solvents	Building 13	Interior accumulation of containerized wastes. Lack of evidence of release.	E
91	Building 13 SAA	Hexane, Waste Oil	Building 13	Interior accumulation of containerized wastes. Lack of evidence of release.	E
92	Building 13 SAA 15	Acids/Metals (ICP Waste)	Building 13	Interior accumulation of containerized wastes. Lack of evidence of release.	E
93	Building 13 SAA 43	Photographic Developer Chemicals	Building 13	Interior accumulation of containerized wastes. Lack of evidence of release.	E
94	Building 13 SAA 45	Acids/Metals, Alcohol	Building 13	Interior accumulation of containerized wastes. Lack of evidence of release.	E
95	Building 13 SAA 46	Scintillation Cocktail, Mercuric Nitrate, Spent Analytical Reagents	Building 13	Interior accumulation of containerized wastes. Lack of evidence of release.	E
96	Building 236 <90-Day Accumulation Area 14	Petroleum Products, Paint, Corrosives	Building 236	Interior accumulation of containerized wastes. Lack of evidence of release.	E
98	Pier G SAA 28	Paint, Thinner	Pier G	Lack of evidence of release.	E
99	Pier G SAA 74	Paint, Diesel Fuel	Pier G	Lack of evidence of release.	E
101	Building 1173 <90-Day Accumulation Area 62	Paint, Penetrant, Solvents	Building 1173	Interior accumulation of containerized wastes. Lack of evidence of release.	E
103	Pier H SAA 77	Paint, Solvent, Oils	Pier H	Interior accumulation of containerized wastes. Lack of evidence of release.	E

Table D-1 Solid Waste Management Units Classified for No Further Investigation

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Location	Reason for NFI Classification	Study Zone
105	Building 1518 SAA 33 (Diver's Locker)	Petroleum Products, Paint	Building 1518	Interior accumulation of containerized wastes. Lack of evidence of release. The unit is located on a Naval vessel which will be removed prior to property transfer.	E
107	Chapel CBU-412 SAA T03	Lead-Paint Removal, Construction Debris	Chapel CBU-412	Interior accumulation of containerized wastes. Lack of evidence of release.	F
108	Building 187 SAA 27	Paint	Building 187	Interior accumulation of containerized wastes. Lack of evidence of release.	F
110	Building 1346 SAA 57	Paint, Petroleum Products	Building 1346	Interior accumulation of containerized wastes. Lack of evidence of release.	F
111	Building 241 SAA 37	Paint	Building 241	Interior accumulation of containerized wastes. Lack of evidence of release.	F
112	Building 241 SAA 38	Paint	Building 241	Interior accumulation of containerized wastes. Lack of evidence of release.	F
113	Building 241 SAA 47	Paint, Anti-freeze, Petroleum Products	Building 241	Interior accumulation of containerized wastes. Lack of evidence of release.	F
114	Building 241 SAA 48	Petroleum Products	Building 241	Interior accumulation of containerized wastes. Lack of evidence of release.	F
115	Building 242 SAA 44	Petroleum Products	Building 242	Interior accumulation of containerized wastes. Lack of evidence of release.	F
116	Building 1175 SAA 65	Petroleum Products	Building 1175	Interior accumulation of containerized wastes. Lack of evidence of release.	F
117	Building 249 SAA 52	Paint	Building 249	Interior accumulation of containerized wastes. Lack of evidence of release.	G
118	Pier Z SAA	Paint	Pier Z	Lack of evidence of release.	G
119	Facility 1271 Garbage Handling	Non-hazardous Solid Wastes	End of Building 336	Lack of evidence of hazardous materials being handled. Lack of evidence of release.	G
122	Building 636 SAA 58	Paint, Grease	Building 636	Interior accumulation of containerized wastes. Lack of evidence of release.	H
123	Building 636 SAA 59	Paint, Grease	Building 636	Interior accumulation of containerized wastes. Lack of evidence of release.	H
124	Building 1508 SAA 60	Paper, Petroleum Products	Building 1508	Interior accumulation of containerized wastes. Lack of evidence of release.	H

Table D-1 Solid Waste Management Units Classified for No Further Investigation

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Location	Reason for NFI Classification	Study Zone
125	Building 202 SAA 16	Mercuric Nitrate Waste	Building 202	Interior accumulation of containerized wastes. Lack of evidence of release.	H
126	Building 202 SAA 17	Mercuric Nitrate Waste	Building 202	Interior accumulation of containerized wastes. Lack of evidence of release.	H
127	Building 202 SAA 18	Mercuric Nitrate Waste	Building 202	Interior accumulation of containerized wastes. Lack of evidence of release.	H
128	Building 202 SAA 40	Mercuric Nitrate Waste	Building 202	Interior accumulation of containerized wastes. Lack of evidence of release.	H
129	Building 202 SAA 41	Spent Oxygen Canisters	Building 202	Interior accumulation of containerized wastes. Lack of evidence of release.	H
130	Building 202 SAA 42	Petroleum Products	Building 202	Interior accumulation of containerized wastes. Lack of evidence of release.	H
131	Building NS-67 SAA 66	Dry Paint Waste	Building NS-67	Interior accumulation of containerized wastes. Lack of evidence of release.	H
132	Building FBM 61 SAA 06	Mercuric Nitrate	Building 61	Interior accumulation of containerized wastes. Lack of evidence of release.	H
133	Building FBM-61 SAA 09	Borate Cupric Sulfate Solution, Petroleum Products	Building 61	Interior accumulation of containerized wastes. Lack of evidence of release.	H
134	Building FBM-61 SAA 68	Petroleum Products	Building 61	Interior accumulation of containerized wastes. Lack of evidence of release.	H
135	Building FBM-61 SAA 71	Refrigerant, Petroleum Products	Building 61	Interior accumulation of containerized wastes. Lack of evidence of release.	H
137	Building 675 SAA 35	Photograph Fixer	Building 657	Interior accumulation of containerized wastes. Lack of evidence of release.	H
139	Pier P Temporary SAA	Paint, Thinner	Pier P	Lack of evidence of release.	I
140	Pier P Temporary SAA	Paint, Thinner	Pier P	Lack of evidence of release.	I
141	Pier Q Temporary SAA T01	Paint	Pier Q	Lack of evidence of release.	I
142	Building 681 <90-Day Accumulation Area 50	Paint, Petroleum Products	Building 681	Interior accumulation of containerized wastes. Lack of evidence of release.	I
143	Building 222	Mercuric Nitrate, Silver Nitrate, Chromium, Lead, Flammable Wastes, Chromium/Lead Paint	Building 222	Lack of evidence of release.	E

Table D-1 Solid Waste Management Units Classified for No Further Investigation

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Location	Reason for NFI Classification	Study Zone
144	Building 222 SAA, CNSY Permit 88	Flammable Wastes, Lead, Cadmium, Brass, Bronze	Building 222	Interior accumulation of containerized wastes. Lack of evidence of release. Containment provided for unit.	E
146	Building 13A SAA, CNSY Permit 85	Potentially Radioactive Lead Bar Stock	Building 13A	Shipyards Radiological Controls Office performed a survey to ensure no remaining radioactive materials. Lack of evidence of release.	E
147	Pier C SAA, CNSY Permit 79	Waste Oil, Aerosol Cans	Pier C	Lack of evidence of release.	E
148	Building 194 Storage Area, SAA CNSY Permit 81	Paint, Alcohol, Thinner, Solvents	Building 194	Lack of evidence of release.	E
149	Metal Trades SAA at Drydock 5, CNSY Permit T06	Paint, Solvent	Drydock 5 Area	Lack of evidence of release. Containment provided for unit.	E
150	Braswell Shipyards SAA at Pier Z, CNSY Permit 93	Paint Wastes, Solvent	Pier Z	Interior accumulation of containerized wastes. Lack of evidence of release.	G
151	Building 79A	Mercuric Nitrate, Silver Nitrate, Chromium, Lead, Flammable Wastes, Chromium/Lead Paint	Building 79A	Interior accumulation of containerized wastes. Lack of evidence of release. Containment provided for unit.	E
152	Building 79A SAA, CNSY Permit 92	Flammable Wastes, Lead, Brass, Bronze	Building 79A	Interior accumulation of containerized wastes. Lack of evidence of release. Containment provided for unit.	E
153	Pier H SAA, CNSY Permit 91	Paint, Solvent	Pier H	Interior accumulation of containerized wastes. Lack of evidence of release.	E
154	Pier H SAA, CNSY Permit 80	Waste Oil, Aerosol Cans	Pier H	Lack of evidence of release.	E
155	Building 101	Chromium, Lead, Flammable Wastes, Chromium/Lead Paint	Building 101	Interior accumulation of containerized wastes. Lack of evidence of release. Containment provided for unit.	E
156	Drydock 4, Pierside SAA, CNSY Permit 86	Lead-Paint and Lead-Paint Contaminated PPE	Drydock 4 Area	Lack of evidence of release.	E
157	Building 1278 <90-Day Accumulation Area, CNSY Permit 83	Investigation-Derived Waste (IDW)	Building 1278	Interior accumulation of containerized wastes. Lack of evidence of release. Containment provided for unit.	E
158	Pier M Quaywall SAA, CNSY Permit 82	Paint Wastes, Petroleum Products	Pier M Quaywall	Interior accumulation of containerized wastes. Lack of evidence of release. Containment provided for unit.	G
160	Port Services, SAA, CNSY Permit 95	Oily Rags	Pier S Quaywall	Lack of evidence of release. Containment provided for unit.	I

Table D-1 Solid Waste Management Units Classified for No Further Investigation

SWMU Number	SWMU Name	Materials Released, Stored, or Disposed	Location	Reason for NFI Classification	Study Zone
165	Paint Operation, MOMAG 11	Paint, Lead Paint	Building 2556, NS Annex	Lack of evidence of release. Containment provided for unit.	K
167	MOMAG < 180-Day Accumulation Area, CNSY Permit 94	Waste Paints, Petroleum Products, Spent Solvents, Batteries, Heavy Metals, Aerosol Cans	South of Building 2522, NS Annex	Interior accumulation of containerized wastes. Lack of evidence of release.	K
168	Building 2A, Temporary Metal Storage Area	Zinc, Metals (Non-hazardous)	Building 2A, Between Buildings 2 and 59	No hazardous constituents have been stored at unit.	E
169	Building 57, Touch-up Painting Operations	Waste Paint, Thinner	Building 57	Lack of evidence of release.	E
174	Air Compressor Oil Blowdown, Building 97	Petroleum Lubricating Oils	Building 97	Lack of evidence of release. Containment provided for unit.	F
179	Building 222 SAA, Shipping and Receiving, Permit 90	Flammable Wastes, Lead, Cadmium, Brass, Bronze	Building 222	Interior accumulation of containerized wastes. Lack of evidence of release.	E
180	Building 222 SAA, New Fuel Enclosure, Permit 102	Flammable Wastes, Lead, Cadmium, Brass, Bronze	Building 222	Interior accumulation of containerized wastes. Lack of evidence of release.	E

Table D-2 Areas of Concern Designated for No Further Investigation

AOC Number	AOC Name	Materials Released, Stored, or Disposed	Location	Reason for NFI Classification	Study Zone
509	Building 1079 Hazardous/Flammable Storage	Petroleum Products, Oxidizers, Infectious Material, Peroxides, Poisonous Gas, Solid Explosives	Building 1079	Lack of evidence of release. Containment provided for unit.	C
514	Building 1813 Flammable Storage	Paint, Adhesive, Petroleum Products	Building 1813	Interior accumulation of containerized wastes. Lack of evidence of release.	C
521	Oil Storehouse 1052 Facility M1262	Petroleum Products	Building M1262	Lack of evidence of release.	C
524	Building 451A Substation	PCBs, Petroleum Products	Building 451A	Lack of evidence of release.	D
527	Building 24 Transformer House	PCBs, Petroleum Products	Near Building 3	Lack of evidence of release.	E
529	Building 2A Coating and Spray Systems	Paint, Solvents	Building 2A	Lack of evidence of release.	E
532	Building 2 Sump Collection Vats	Shaping Fluids, Solvent, Metals	Building 2	Lack of evidence of release.	E
533	Building 460 Substation	PCBs, Petroleum Products, Lead, Acids	Building 460	Lack of evidence of release. Containment provided for unit.	E
534	Building 27 Latrine	Organic Wastes, Heavy Metals	Near Building 59	Lack of evidence of release.	E
535	Building 28 Latrine	Organic Wastes, Heavy Metals	East of Building 2	Lack of evidence of release.	E
536	Building 460 Substation	PCBs, Petroleum Products, Lead, Acids	Building 460	Lack of evidence of release. Containment provided for unit.	E
545	Building 3 Surface Coating Operations	Paint, Adhesives, Thinner	Building 3	Lack of evidence of release.	E
547	Building 5 Fiberglass Shop	Fiberglass Process Resins	Building 5	Lack of evidence of release.	E
565	Building 1006 Former Temporary Coal Bin	Coal and Coal By-products	North of Drydock 5	Lack of evidence of release.	E
568	Building 26 Latrine	Organic Wastes, Heavy Metals	Building 26	Lack of evidence of release.	E
577	Building 25 Paint Booth	Paint, Thinner	Building 25	Interior accumulation of containerized wastes. Lack of evidence of release.	E
581	Building 20 Substation and Radio Lab	PCBs, Petroleum Products	NE of Building 236	Lack of evidence of release.	E
582	Building 455 Substation	PCBs, Petroleum Products	Building 455	Lack of evidence of release.	E
584	Building 451H Substation	PCBs, Petroleum Products, Batteries	Building 451H	Lack of evidence of release.	E
585	Former Building 36 Latrine and Officers Club Storage	Organic Wastes, Heavy Metals	East of Drydock 5	Lack of evidence of release.	E
587	Building 21 Former Aviation Gas Storage	Petroleum Products, Paint Waste	Building 21	Lack of evidence of release.	E

Table D-2 Areas of Concern Designated for No Further Investigation

AOC Number	AOC Name	Materials Released, Stored, or Disposed	Location	Reason for NFI Classification	Study Zone
588	Building 218 Paint Booth	Paint, Solvent	Building 218	Interior accumulation of containerized wastes. Lack of evidence of release.	E
589	Building 85 Substation	PCBs, Paint, Solvents, Petroleum Products	Building 85	Lack of evidence of release.	E
594	Building 190 RADCON Training & Offices	PCBs, Paint, Petroleum Products	Building 190	Lack of evidence of release. Containment provided for unit.	E
595	Building 1018 Oil & Paint Storehouse	Petroleum Products, Paints, Solvents	SW of Building 101	Lack of evidence of release.	E
600	Coal and Oil Pier Former 318L Pier	Petroleum Products, Coal By-products	North of Drydock 3	Lack of evidence of release.	E
601	Oil Pier Former 319 Pier	Petroleum Products	South of Pier 317F	Lack of evidence of release.	E
606	Building 187 Paint Booth	Paint	Building 187	Lack of evidence of release.	F
608	Building 1263 Naval Exchange Storage Shed	Petroleum Products	Building 1263	Lack of evidence of release.	F
610	Building 241 Paint Booth	Paint, Thinner	Building 241	Lack of evidence of release.	F
612	Building 94 Substation	PCBs, Petroleum Products	Building 94	Lack of evidence of release.	F
614	Building 242 Paint Booth	Paint, Solvents	Building 242	Lack of evidence of release.	F
618	Building 466 Switching Substation	PCBs, Petroleum Products, Batteries	Building 466	Lack of evidence of release.	F
630	Building 3913 POL Sampling/Test Building	None	Building 3913	No hazardous materials have been stored at the unit. Lack of evidence of release.	G
632	Building 124 Substation	PCBs, Petroleum Products	Building 124	Lack of evidence of release.	G
639	Alcohol Storage	Alcohol	South of Building 132	Lack of evidence of release.	G
640	Former Pier 322 Fuel Oil Pier	Petroleum Products	Pier 336	Lack of evidence of release.	G
644	Building 1793 Substation	PCBs, Petroleum Products, Lead, Acids	Building 1793	Lack of evidence of release.	G
645	Building 3906S Transformer Vault	PCBs, Petroleum Products	Chicora Tank Farm	Lack of evidence of release.	G
647	Building 3906R Transformer Vault	PCBs, Petroleum Products	Chicora Tank Farm	Lack of evidence of release.	G
648	West of Building 672 Transformer Vault	PCBs, Petroleum Products	West of Building 672	Lack of evidence of release.	H
652	Building 636 Paint Booth	Paint, Thinner, Reducers	Building 636	Lack of evidence of release. Containment provided for unit.	H
657	Building 645 Engine Overhaul Facility	Solvents, Degreasers, Petroleum Products, Chlorofluorocarbons	Building 645	Lack of evidence of release.	H

Table D-2 Areas of Concern Designated for No Further Investigation

AOC Number	AOC Name	Materials Released, Stored, or Disposed	Location	Reason for NFI Classification	Study Zone
658	Building 203 Gas Storage	Flammable gases	East of Building 1303	Interior accumulation of containerized wastes. Lack of evidence of release. Containment provided for unit.	H
664	Building X33A Transformer Vault	PCBs, Petroleum Products	Building X33A	Lack of evidence of release.	H
668	Building 1899 Hazardous Material Storage	Oxygen, Acetylene, Welding Supplies, Scrap Metal	Building 1899	Lack of evidence of release.	H
669	Building 1888 Indoor Pistol Range	Lead	Building 1888	Interior accumulation of containerized wastes. Lack of evidence of release. Containment provided for unit.	H
674	Building RTC-4 Paint Storage	Paint, Petroleum Products, Solvents, Thinners	Building RTC-4	Lack of evidence of release.	I
682	Building 681 Spray Booth	Paint Wastes, Epoxy, Thinner	Building 681	Lack of evidence of release.	I
683	Transformer Vault	PCBs, Petroleum Products	Building 678 Area	Lack of evidence of release.	I
686	Building X54 High Explosive Storage	Explosives	Building X54	Lack of evidence of release.	I
697	Transformer Area Near Building 2554, MOMAG 11	PCBs, Petroleum Products	Building 2554, MOMAG 11	Lack of evidence of release.	K

APPENDIX E

CONCEPTUAL SITE MODEL DATA SUMMARIES

None as Yet

APPENDIX F

EBS FILE STRUCTURE INDEX

EBS FILE STRUCTURE INDEX

1.0 Historical Information

- 1.1 Historical Site Information
- 1.2 Real Estate Records
- 1.3 Chain of Occupancy
- 1.4 Aerial Photographs
- 1.5 Historical Maps, Topographical Maps, Utility Maps

2.0 Base Master Plan

3.0 Environmental Documents

- 3.1 Correspondence
- 3.2 Preliminary Assessment Documents
- 3.3 Site Investigation Documents
- 3.4 Copies of Environmental Permits
- 3.5 Removal Response Reports
- 3.6 CERCLA Removal Site Records
- 3.7 Sampling and Analysis Data (from CERCLA investigation)
- 3.8 Work Plans (including FSAP and QAPP)
- 3.9 Interagency or Federal Facility Agreements
- 3.10 ARARs
- 3.11 Remedial Investigation (RI) Report
- 3.12 Health Assessments
- 3.13 Endangerment/Risk Assessments
- 3.14 Treatability Studies/Site Characterizations, if applicable
- 3.15 Feasibility Study (FS) Reports
- 3.16 Plans for Remedial Action
- 3.17 Record of Decision (ROD)
- 3.18 SPCC Plan
- 3.19 Contingency Plan

4.0 Legislative Documents

- 4.1 Correspondence - Documentation of State Involvement
- 4.2 State Enforcement Records/Violations
- 4.3 Environmental Compliance Evaluation
- 4.4 Pollution Prevention Plan
- 4.5 SARA Reports
- 4.6 Biennial Hazardous Waste Inventory Reports
- 4.7 Storm Water Pollution Prevention Plan
- 4.8 Environmental Impact Statement

5.0 Resource Conservation and Recovery Act (RCRA) Records

- 5.1 Correspondence
- 5.2 Notification/Part A
- 5.3 RCRA Part B
- 5.4 RCRA Closure documentation
- 5.5 RCRA Facility Assessment (RFA) Report
- 5.6 Corrective Measures Study/Implementation
- 5.7 RCRA Facility Investigation (RFI) Report
- 5.8 RCRA Enforcement Action

6.0 Underground and Aboveground Storage Tanks

- 6.1 Storage Tank and Pipeline Inventory (Aboveground and USTs, assessment and closure reports)
- 6.2 Tank Notification
- 6.3 Leak Test Results
- 6.4 Corrective Action Plan/Report
- 6.5 Tank Abandonment/Removal

EBS FILE STRUCTURE INDEX

7.0 Media Addressed

- 7.1 MSDS
- 7.2 Hazardous Materials Use and Storage Areas
- 7.3 Solid and Hazardous Waste Disposal
- 7.4 PCB-Containing Electrical Equipment
- 7.5 Soil Contamination
- 7.6 Groundwater
- 7.7 Asbestos-containing Buildings
- 7.8 Surface Water and Wetlands
- 7.9 Wastewater Treatment and Discharge
- 7.10 Lead (Lead-based Paint, Lead in Drinking Water)
- 7.11 Air Emissions (Quantities, Emission Allowances)
- 7.12 Other Issues (e.g., Radon)

8.0 Building Checklist

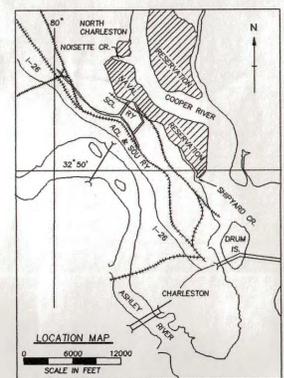
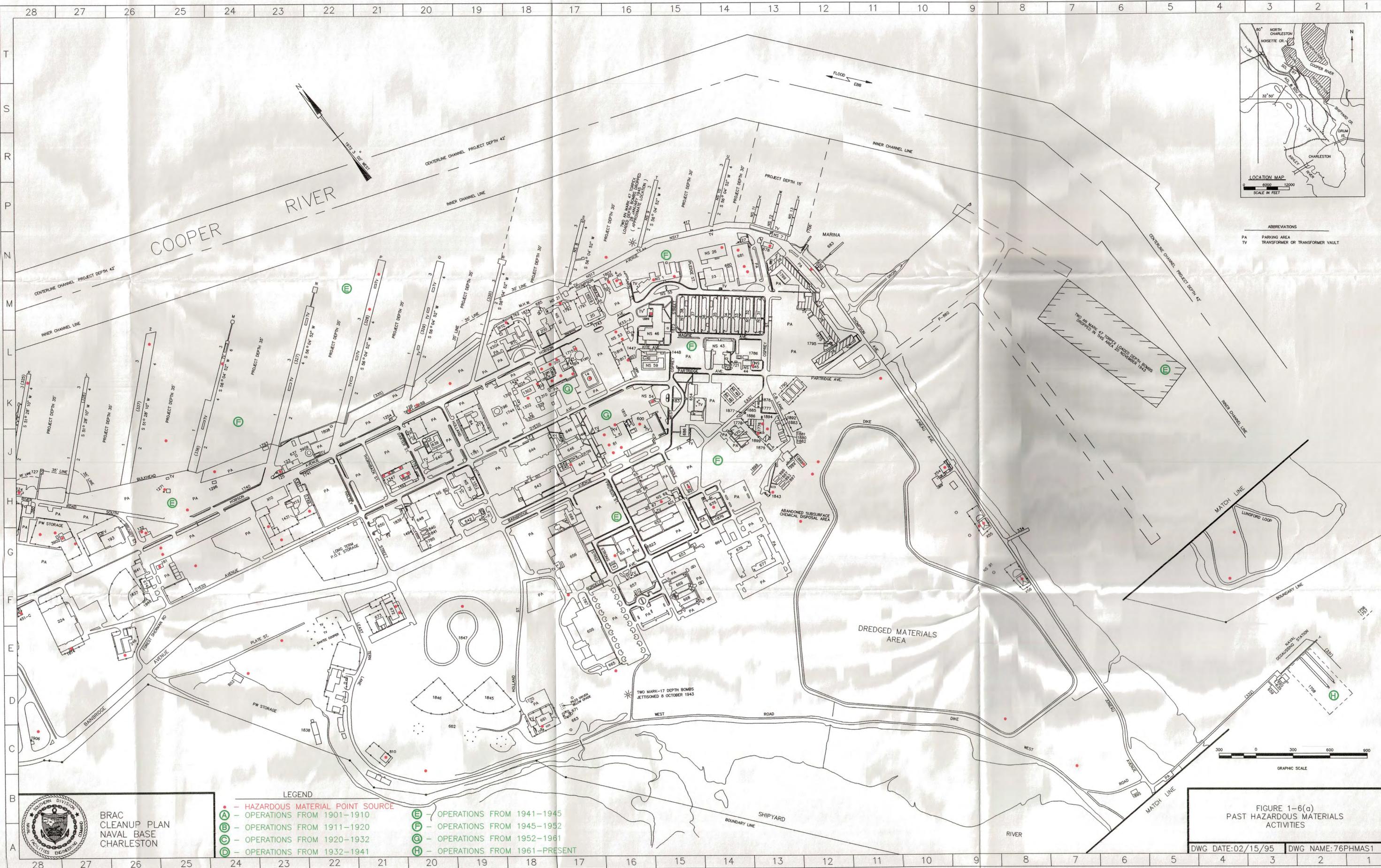
- 8.1 Interview Notes
- 8.2 Adjoining Building/land-use Information
- 8.3 Photographs
- 8.4 EDI Report
- 8.5 Summary and Final Checklist

9.0 Building Drawings

- 9.1 Site Plans
- 9.2 Location Plans
- 9.3 Utility Plans

10.0 Process Closure Requirements

- 10.1 Pollution Control Equipment to be Closed
- 10.2 Process Equipment
- 10.3 Decontamination Procedures

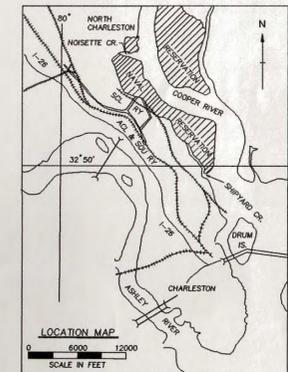


ABBREVIATIONS
 PA PARKING AREA
 TV TRANSFORMER OR TRANSFORMER VAULT



- LEGEND**
- - HAZARDOUS MATERIAL POINT SOURCE
 - A - OPERATIONS FROM 1901-1910
 - B - OPERATIONS FROM 1911-1920
 - C - OPERATIONS FROM 1920-1932
 - D - OPERATIONS FROM 1932-1941
 - E - OPERATIONS FROM 1941-1945
 - F - OPERATIONS FROM 1945-1952
 - G - OPERATIONS FROM 1952-1961
 - H - OPERATIONS FROM 1961-PRESENT

FIGURE 1-6(a)
 PAST HAZARDOUS MATERIALS
 ACTIVITIES
 DWG DATE: 02/15/95 DWG NAME: 76PHMAS1



AREA OF PROPERTY (IN ACRES)

TOTAL	
NAVAL SHIPYARD	120.80
NAVAL BASE	1395.43
RIVER)	
TOTAL	2914.23

PIER DESIGNATION ELEV.

A	12.08
B	12.60
C	11.64
F	11.64
G	11.71
H	11.72
J	11.00
K	11.12
L	11.08
M	11.12
N	11.12
O	11.12
P	11.12
R	12.00
S	12.00
T	12.00
V	11.00
W	11.00
X	20.00
Z	12.00
375	12.00
378	12.00

ABBREVIATIONS

NH	NAVAL HOSPITAL
UG	UNDERGROUND
PA	PARKING AREA
PW	PUBLIC WORKS
NS	NAVAL STATION
TV	TRANSFORMER OR TRANSFORMER VAULT

LEGEND

[Symbol]	BUILDINGS
[Symbol]	PAVING
[Symbol]	RAILROAD TRACKS
[Symbol]	CRANE TRACKS
[Symbol]	FENCE
[Symbol]	STRUCTURES UNDER CONSTRUCTION
[Symbol]	INDUSTRIAL SECURITY FENCE GATE
[Symbol]	NAVAL BASE BOUNDARY FENCE GATE

- LEGEND
- - HAZARDOUS MATERIAL POINT SOURCE
 - (A) - OPERATIONS FROM 1901-1910
 - (B) - OPERATIONS FROM 1911-1920
 - (C) - OPERATIONS FROM 1920-1932
 - (D) - OPERATIONS FROM 1932-1941
 - (E) - OPERATIONS FROM 1941-1945
 - (F) - OPERATIONS FROM 1945-1952
 - (G) - OPERATIONS FROM 1952-1961
 - (H) - OPERATIONS FROM 1961-PRESENT

WATER DATA

DATUM PLANE IS MEAN LOW WATER	0.0
MEAN HIGH WATER	+5.6
EXTREME LOW WATER (29 NOV 1963)	-3.2
EXTREME HIGH WATER (11 AUG 1940)	+10.4
HURRICANE HUGO (21 SEPT 1989)	+10.4

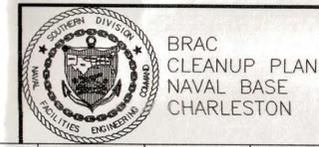
DRY DOCK DATA

NO. 1 - MAXIMUM SHIP LENGTH 607', BEAM 96'-10", DRAFT 30'-2 1/2" AT MEAN HIGH WATER. ELEV. COPING +11.6, ELEV. SILL -28.83

NO. 2 - MAXIMUM SHIP LENGTH 579'-6", BEAM 97', DRAFT 33'-3 1/2" AT MEAN HIGH WATER. ELEV. COPING +11.6, ELEV. SILL -31.9

NO. 3 & 4 - GATE OPENINGS TWO AT 42' CLEAR WIDTH FOR EACH DOCK. INSIDE DIMENSIONS: 98'-0" BY 365'-10". ELEV. SILL -5.0 BELOW MEAN LOW WATER. ELEV. FLOOR -9.0

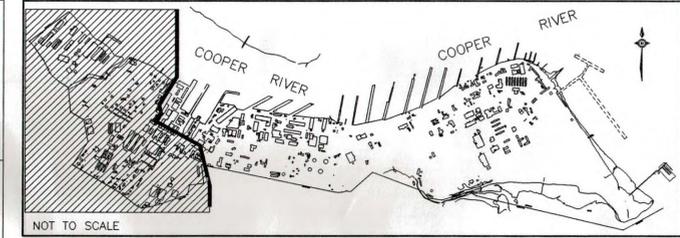
NO. 5 - MAXIMUM SHIP LENGTH 741'-5", BEAM 110'-7", DRAFT 32'-9 1/2" AT MEAN HIGH WATER. ELEV. COPING +11.6, ELEV. SILL -31.4



BRAC
CLEANUP PLAN
NAVAL BASE
CHARLESTON

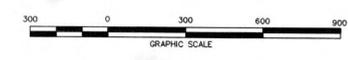
FIGURE 1-6(b)
PAST HAZARDOUS MATERIALS
ACTIVITIES

DWG DATE: 02/15/95 DWG NAME: 76PHMAN1

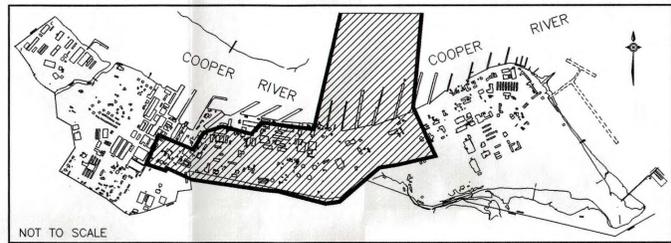


LEGEND

D - RCRA INVESTIGATION ZONES



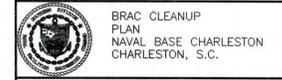
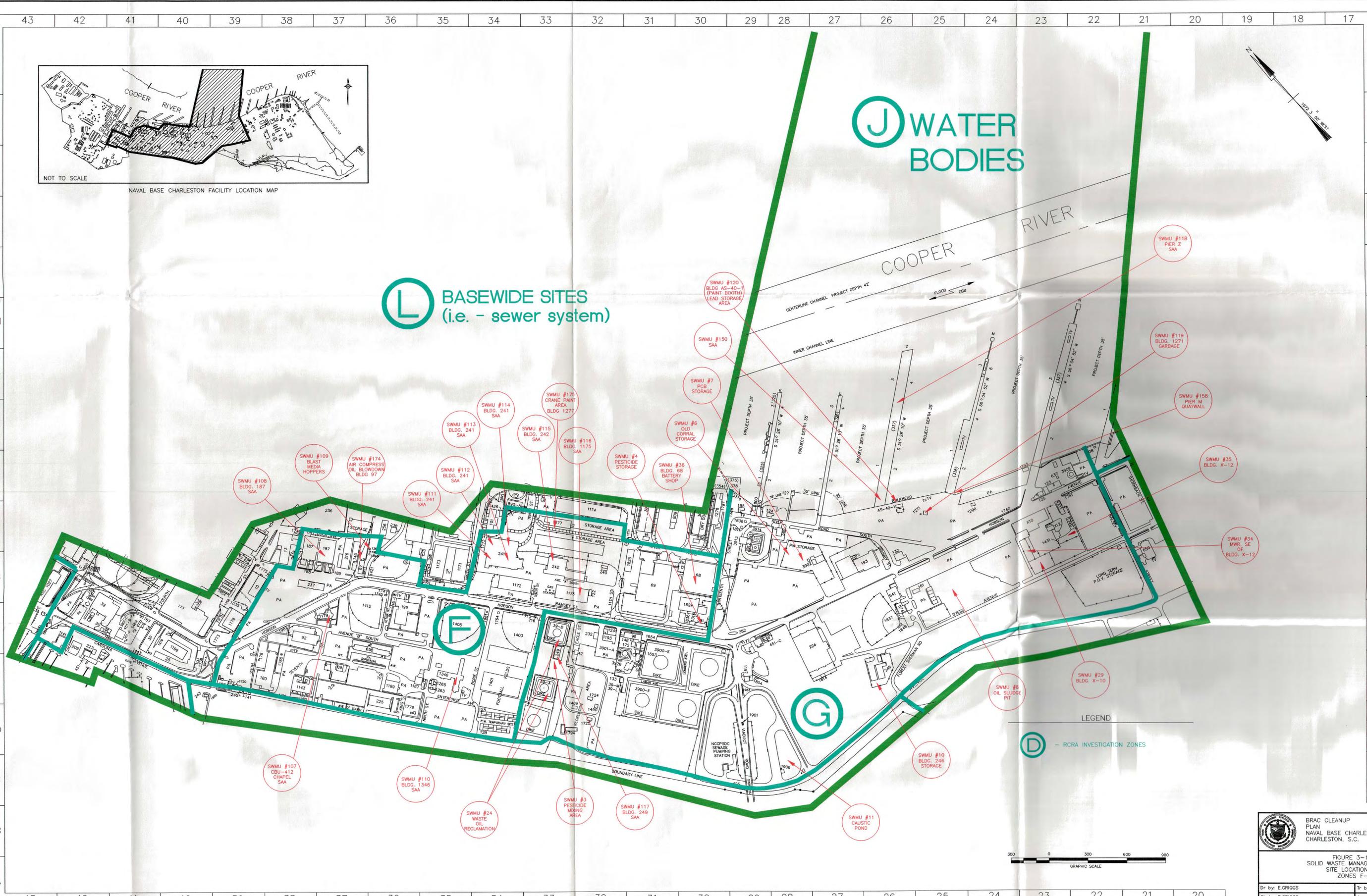
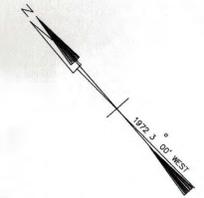
BRAC CLEANUP PLAN NAVAL BASE CHARLESTON CHARLESTON, S.C.	
FIGURE 3-1(a) SOLID WASTE MANAGEMENT UNIT SITE LOCATION MAP ZONES A-D	
Dr by: E.GRIGGS	Tr by: E.ROGERS
Ck by: E.GRIGGS	App by: E.GRIGGS
Date: 02/17/95	DWG Name: 76SROV5A
Sheet 1	Of 1



NAVAL BASE CHARLESTON FACILITY LOCATION MAP

J WATER BODIES

L BASEWISE SITES (i.e. - sewer system)



BRAC CLEANUP PLAN
NAVAL BASE CHARLESTON
CHARLESTON, S.C.

FIGURE 3-1(c)
SOLID WASTE MANAGEMENT UNIT
SITE LOCATION MAP
ZONES F-G

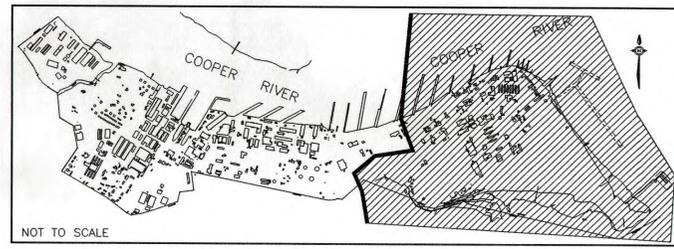
Dr. by: E.GRIGGS	Tr. by: E.ROGERS
Chk. by: E.GRIGGS	App. by: E.GRIGGS
Date: 02/17/95	DWG Name: 76SROV7A

Sheet 1
Of 1

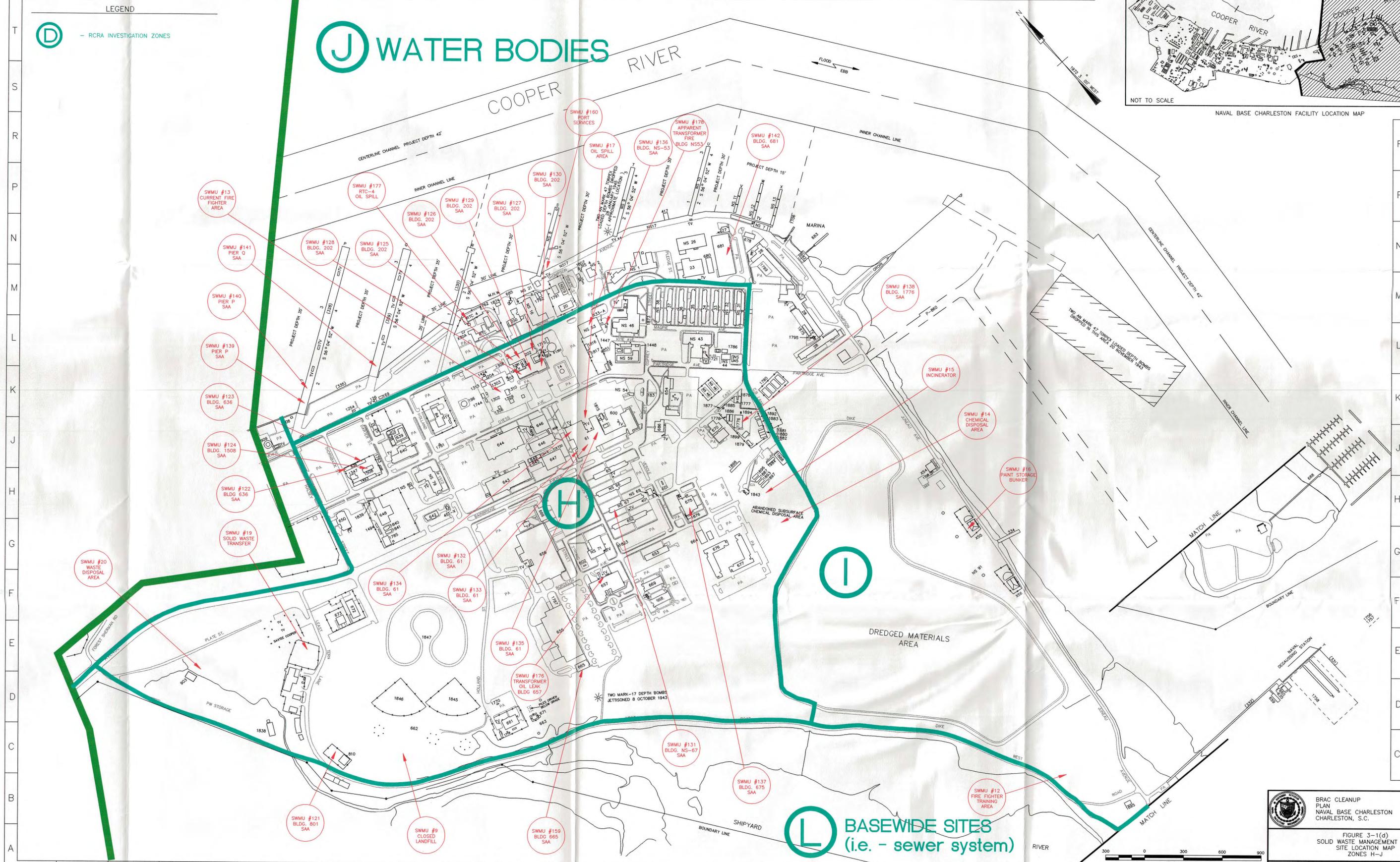
27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7

D - RCRA INVESTIGATION ZONES

J WATER BODIES



NAVAL BASE CHARLESTON FACILITY LOCATION MAP



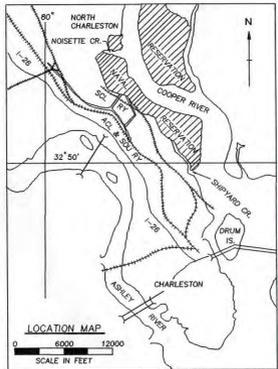
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BRAC CLEANUP PLAN
NAVAL BASE CHARLESTON
CHARLESTON, S.C.

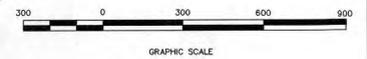
FIGURE 3-1(d)
 SOLID WASTE MANAGEMENT UNIT
 SITE LOCATION MAP
 ZONES H-J

Dr by: E.GRIGGS	Tr by: E.ROGERS
Clk by: E.GRIGGS	App by: E.GRIGGS
Date: 02/17/95	DWG Name: 76SROVBA

Sheet 1
Of 1



ABBREVIATIONS
 PA PARKING AREA
 TV TRANSFORMER OR TRANSFORMER VAULT



BRAC CLEANUP PLAN
 NAVAL BASE CHARLESTON
 CHARLESTON, S.C.

FIGURE 3-3(b)
 ENVIRONMENTAL CONDITION
 OF PROPERTY MAP

Dr. by: C. TRIPLETT
 Dk. by: E. GREGGS
 Date: 3/02/95

Tr. by: E. ROGERS
 App. by: D. BLACKUS
 DWG Name: 765CEN2
 Sheet 2 of 2

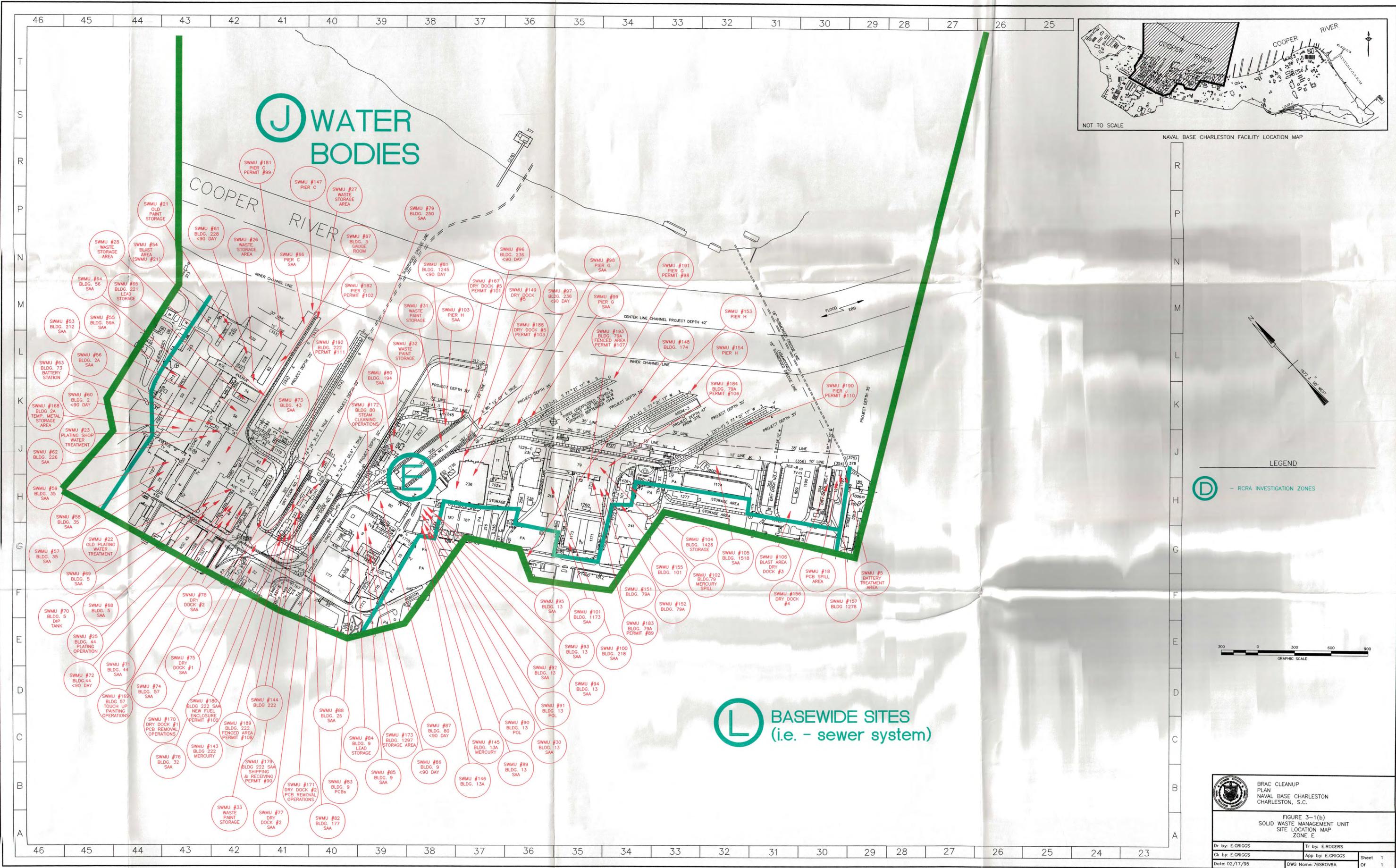
DRAWN: SIMMS
 CHECKED: WINSTEAD
 BR. MGR.: SVENDSEN
 APPROVED: _____
 DIRECTOR ENGR. DIVISION DATE _____
 APPROVED: _____
 PUBLIC WORKS OFFICER DATE _____
 SATISFACTORY TO: _____ DATE _____

DEPARTMENT OF THE NAVY PUBLIC WORKS ENGINEERING DIVISION
 CHARLESTON NAVAL SHIPYARD, CHARLESTON S.C.

MAP OF
 CHARLESTON NAVAL SHIPYARD
 NAVAL STATION
 AND CONTIGUOUS ACTIVITIES
 AS OF 1 JANUARY 1993

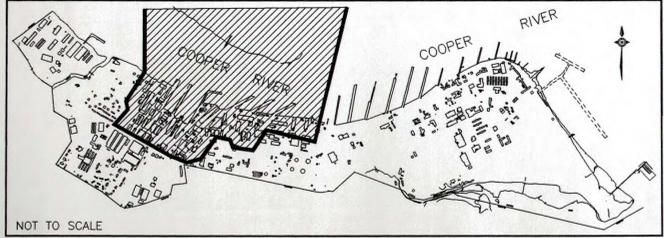
SCALE 1"=300'
 SHEET 2 OF 2

P.W. DWG. NO.
 H606-281



J WATER BODIES

L BASEWISE SITES
(i.e. - sewer system)



NAVAL BASE CHARLESTON FACILITY LOCATION MAP

LEGEND
D - RCRA INVESTIGATION ZONES



BRAC CLEANUP PLAN NAVAL BASE CHARLESTON CHARLESTON, S.C.	
FIGURE 3-1(b) SOLID WASTE MANAGEMENT UNIT SITE LOCATION MAP ZONE E	
Dr by: E.GRIGGS	Tr by: E.ROGERS
Ck by: E.GRIGGS	App by: E.GRIGGS
Date: 02/17/95	DWG Name: 76SROV6A
Sheet 1	Of 1