



DEPARTMENT OF THE NAVY

ENGINEERING FIELD ACTIVITY, WEST
NAVAL FACILITIES ENGINEERING COMMAND
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IN REPLY REFER TO:

5090
Ser 1841.2/L6080
29 Feb 96

From: Commanding Officer, Engineering Field Activity West, Naval Facilities
Engineering Command

To: Distribution

Subj: FINAL COMMUNITY RELATIONS PLAN FOR THE NAVAL WEAPONS
STATION (NWS) CONCORD, CA

Encl: (1) Community Relations Plan (CRP), Final, NWS Concord, CA,
February 26, 1996.

1. The Final CRP for the Naval Weapons Station, Concord is forwarded as enclosure (1).
2. This Final CRP incorporated and addressed the agency comments and concerns made on the Draft Final CRP of July 1995.
3. If you have any questions regarding this matter, please contact the undersigned at (415) 244-2558.


RONALD YEE
By direction

Distribution:

U. S. Environmental Protection Agency (Attn: Barbara Smith & Dorothy Wilson)
Department of Toxic Substances Control (Attn: James Pinasco & Shirley Buford)
California Regional Water Quality Control Board (Attn: Susan Gladstone)
Naval Weapons Station, Concord (Attn: Richard Pieper)
Restoration Advisory Board (Attn: Clint Mayfield, 3 copies)

Copy to:

PRC Inc. (Attn: Lynn Valdivia) w/o encl.

**RESPONSES TO COMMENTS ON THE DRAFT FINAL COMMUNITY RELATIONS PLAN,
FOR THE NAVAL WEAPONS STATION CONCORD, DATED JULY 1995**

<u>Comment/Response</u>		<u>Citation</u>
<u>Comment by EPA:</u>	Overall comment: Print the final CRP double-sided.	Entire CRP
<u>Response:</u>	The final CRP is printed double-sided.	
<u>Comment by RAB:</u>	Try to delete most of the acronyms used in the draft final CRP.	
<u>Response:</u>	Most acronyms were deleted. Page vi of the final CRP defines acronyms commonly used in Navy documents.	Page vi
<u>Comment by EPA:</u>	Page 1, Section 1.0 of the draft final: After the reference to "Section 1.2," insert "of this document." On line 5, after the word "conducted," insert "of this document."	
<u>Response:</u>	Some changes were made as requested on page 1, Section 1.0. The phrase "of this document" was not included after the word "conducted" because it would alter the context of the document.	Page 1, Section 1.0
<u>Comment by DTSC:</u>	Objectives of the CRP: Objectives of the CRP are missing.	
<u>Response:</u>	The objectives of the CRP were discussed with Ms. Wilson and Ms. Buford. The objectives remain as stated in pages 1 and 2 of the draft final CRP (Section 1.1.1).	Page 2 Section 1.1.1
<u>Comment by EPA:</u>	Page 1, Section 1.1.1, line 3 of the draft final: Move "This CRP" to the next page. Page 2, Section 1.1.1, subparagraph 1, first line: After the word "identifies," delete "the," and after "concerns," delete "that...have concerning" and insert "regarding."	
<u>Response:</u>	The changes have been made as requested on pages 1 and 2. The phrase "This CRP" was changed to "This community relations plan" because the acronym was deleted from the final document in response to the concerns raised by the RAB.	Page 2, Section 1.1.1
<u>Comment by EPA:</u>	Page 3, Section 1.1.2 of the draft final: The entire paragraph at the top of the page should be moved to page 2 and inserted as the second paragraph of this section. This paragraph begins with the sentence: "The community needs reflected in this document..." On line 4, after the word "establish," delete "the" and insert "a." The words "restoration advisory board" should be upper and lower case letters. At the end of line 4, after "(RAB)" in this same paragraph, insert "at the station."	
<u>Response:</u>	The changes have been made as requested. This paragraph has been moved to page 2 and appears as the second paragraph of Section 1.1.2.	Page 2, Section 1.1.2

**RESPONSES TO COMMENTS ON THE DRAFT FINAL COMMUNITY RELATIONS PLAN,
FOR THE NAVAL WEAPONS STATION CONCORD, DATED JULY 1995 (Continued)**

<u>Comment/Response</u>		<u>Citation</u>
<u>Comment by EPA:</u>	Page 2, Section 1.1.2 of the draft final: After "a," insert "working" and delete "dynamic." Line No. 7, after "the," insert "U.S. Environmental Protection Agency's." After "(NPL)," insert a new sentence that briefly explains what NPL means.	
<u>Response:</u>	The changes have been made as requested on page 3, Section 1.1.2. All acronyms in this section were deleted.	Page 3, Section 1.1.2
<u>Comment by EPA:</u>	Page 4, Section 1.1.4 of the draft final: Insert "The Navy is the lead agency for the environmental activities at the station and will implement the community relations program identified in this community relations plan."	
<u>Response:</u>	The change has been made as requested. However, this sentence was included as the last paragraph in Section 1.0 entitled "Introduction."	Page 1, Section 1.0
<u>Comment by DTSC:</u>	List of Information Repositories: Include list of locations recommended for information repository.	
<u>Response:</u>	The information repository was established several years ago. Information regarding the information repository is contained in Section 1.1.3, page 3 of the draft final CRP.	
	In addition to the official information repository, a room at the badge and pass office at WPNSTA Concord has been established to provide the RAB with easy access to the technical documents. This information is included in Section 1.1.3.	Page 3 Section 1.1.3
<u>Comment by EPA:</u>	Page 4, Section 1.2 of the draft final: After "mandate by the," delete "major" before "federal law."	
<u>Response:</u>	The change has been made as requested.	Page 4, Section 1.2
<u>Comment by DTSC:</u>	Page 6, Section 1.2, 5th paragraph of the draft final: Delete "often" and "significant." Add "Community Acceptance" to alternatives evaluated.	
<u>Response:</u>	The changes have been made as requested.	Pages 5 and 7 Section 1.2
<u>Comment by EPA:</u>	Page 6, Section 1.2, 3rd paragraph of the draft final: Since this is an NPL site, change the RAP comment to include "record of decision."	
<u>Response:</u>	The change has been made as requested.	Page 7, Section 1.2

**RESPONSES TO COMMENTS ON THE DRAFT FINAL COMMUNITY RELATIONS PLAN,
FOR THE NAVAL WEAPONS STATION CONCORD, DATED JULY 1995 (Continued)**

<u>Comment/Response</u>		<u>Citation</u>
<u>Comment by EPA:</u>	Page 6, Section 1.3, 1st paragraph of the draft final: <ul style="list-style-type: none"> - Delete the first sentence beginning with "The list of key community contacts and information representatives..." then insert - "This section is a key component of the community relations plan." - Rearrange the second sentence to read as follows: "It contains a list (Appendix A) of key federal, state regulatory and public agencies associated with Naval Weapons Station Concord." After "Naval Weapons Station Concord," insert the following: "Questions and/or concerns regarding the environmental investigation and cleanup at the station should be directed to:" 	
<u>Response:</u>	The changes have been made as requested.	Page 7, Section 1.3
<u>Comment by EPA:</u>	Page 7, Section 1.3, top of the page of the draft final: Delete the first four lines that begin with "Naval Weapons Station Concord, and the California Environmental Protection Agency..."	
<u>Response:</u>	These deletions have been made as requested.	Page 7, Section 1.3
<u>Comment by DTSC:</u>	Page 7: List Richard Pieper as a contact for Naval Weapons Station Concord.	
<u>Response:</u>	Mr. Pieper, Naval Weapons Station Concord, requested that Ms. Anna Lou Procter, Public Affairs Director for WPNSTA, be listed as a point of contact.	Page 7, Section 1.3
<u>Comment by DTSC:</u>	Explain regulatory agencies with responsibility for oversight of community relations and technical activities.	
<u>Response:</u>	This comment was discussed with Ms. Buford and Ms. Wilson. It was explained the agency community relations contacts are noted in Section 1.3.	Pages 7 through 9, Section 1.3
<u>Comment by DTSC:</u>	Page 9: State to what entity does Los Medanos Hills belong.	
<u>Response:</u>	The suggested change has been made.	Page 10, Section 2.1.2

**RESPONSES TO COMMENTS ON THE DRAFT FINAL COMMUNITY RELATIONS PLAN,
FOR THE NAVAL WEAPONS STATION CONCORD, DATED JULY 1995 (Continued)**

<u>Comment/Response</u>		<u>Citation</u>
<u>Comment by EPA:</u>	Page 12, Section 2.3 of the draft final: Insert commas after "Tidal Area" and "Litigation Area." After the phrase: "resources of concern," insert a period. Insert the following sentence: "Although the Port Chicago Memorial has historical significance, access to the area is restricted. However, individuals interested in viewing the Memorial should contact the station's representative identified in Section 1.3."	
<u>Response:</u>	The changes have been made as requested.	Page 13, Section 2.3
<u>Comment by DTSC:</u>	Page 13, Section 2.4 of the draft final: Include who was represented on the Navy board formed in 1927 to consider expanding the Mare Island facilities.	
<u>Response:</u>	This information is not known.	Page 13, Section 2.4
<u>Comment by DTSC:</u>	Page 20 of the draft final: Spell out EPA and NPL.	
<u>Response:</u>	These changes have been made as requested.	Page 20, Section 3.0
<u>Comment by DTSC:</u>	Text is too technical.	
<u>Response:</u>	After discussing with Ms. Buford, Ms. Wilson, and members of the RAB page 21 of the draft final, it was decided to add a connector sentence between the paragraph beginning with "The four Tidal Area sites..." and the paragraph beginning with "An SI for the Inland Area..."	Page 21, Section 3.1
<u>Comment by RAB:</u>	Include some sort of comparison of the Concord community with the national demographics in Section 4.1.1 of the draft final CRP.	
<u>Response:</u>	The national racial figures are included in Section 4.1.1 of the final CRP.	Page 26, Section 4.1.1
<u>Comment by DTSC:</u>	Appendix B, Interview List: List names of those interviewed on page B-1 of the draft final.	
<u>Comment by EPA:</u>	Due to Privacy Act requirements, delete any references to private citizens interviewed.	
<u>Response:</u>	After PRC discussed this issue with Ms. Shirley Buford, DTSC, and Ms. Dorothy Wilson, EPA, it was decided that any references to private citizens who were interviewed should be deleted.	Page 32, Section 5.1, and Page B-1

**RESPONSES TO COMMENTS ON THE DRAFT FINAL COMMUNITY RELATIONS PLAN,
FOR THE NAVAL WEAPONS STATION CONCORD, DATED JULY 1995 (Continued)**

<u>Comment/Response</u>		<u>Citation</u>
<u>Comment by DTSC:</u>	Page 31, Section 5.1 of the draft final: Add a fourth sentence: "Fourth, the interviews serve to establish two-way communications between the Navy and the public."	
<u>Response:</u>	The change has been made as requested.	Page 33, Section 5.1
<u>Comment by DTSC:</u>	Page 32, Section 5.1 of the draft final: "Homemaker", which is listed as one of the groups interviewed - could this be listed as resident?	
<u>Response:</u>	The individuals interviewed requested that their profession be listed as "homemaker."	Page 33, Section 5.1
<u>Comment by EPA:</u>	On Page 32, of Section 5.2 of the draft final, delete the last sentence of the second paragraph. Replace with: "Based on the information obtained in response to this question, it has been determined that the community's interest, at this time, ranges from moderate to low."	
<u>Response:</u>	The changes have been made as requested.	Page 33 Section 5.2
<u>Comment:</u>	Community concerns: Review community concerns listed on pages 32 through 35 of the draft final and update.	
<u>Response:</u>	Community concerns were reviewed with the members of the Public Relations Committee of the RAB. Since those community concerns reflect the issues raised in the community interviews, it was agreed that no update is necessary.	Pages 34 through 36, Section 5.4
<u>Comment by DTSC:</u>	List of meeting locations: Include a list of potential meeting locations.	
<u>Response:</u>	Section 5.5.2 of the draft final CRP included the list of meeting locations. The list also appears in Appendix G.	Page 37 Section 5.5.2 and pages G-1 and G-2
<u>Comment by DTSC:</u>	Page 39, of Section 6.2.1 of the draft final: "TRC" - spell out.	
<u>Response:</u>	The change has been made as requested.	Page 38, Section 6.2.1

**RESPONSES TO COMMENTS ON THE DRAFT FINAL COMMUNITY RELATIONS PLAN,
FOR THE NAVAL WEAPONS STATION CONCORD, DATED JULY 1995 (Continued)**

<u>Comment/Response</u>		<u>Citation</u>
<u>Comment by DTSC:</u>	Table 3, page 41 of the draft final: identify by public notice or newspaper article.	
<u>Response:</u>	Table 3 was discussed with Ms. Buford, Ms. Wilson, and members of the RAB. It was decided not to change the table.	Page 41, Section 7.0
<u>Comment by EPA:</u>	Section 7.2 of the draft final: Include specifics about the President's five-point plan. After the last sentence in the second paragraph on Page 45, insert the following: "However, RAB members will provide advice as individuals to the decision-makers regarding restoration issues." Include a statement encouraging public participation at RAB meetings.	
<u>Response:</u>	The changes have been made as requested: - Section 7.2.1 refers to President Clinton's five-point plan as the president's initiative. - The suggested addition has been made to the second paragraph. - Section 7.2.4 contains a statement encouraging public participation.	Page 47, Section 7.2.1
<u>Comment by DTSC:</u>	RAB meetings: Include information on RAB meetings in the public involvement section, found in Section 7.2 of the draft final.	
<u>Response:</u>	The suggested changes have been made. Pages 48 through 50 of the final CRP contain the updated material.	Pages 47 through 50, Section 7.2
<u>Comment by DTSC:</u>	Page 45, Section 7.2 of the Draft Final: State information regarding the history of the RAB, e.g., when did the Navy establish this RAB.	
<u>Response:</u>	Section 7.2 has been updated to include information regarding the RAB as of December 1995.	Page 48, Section 7.2.2
<u>Comment by DTSC:</u>	Page 49 of the draft final: After Section 8.0, add Section 9.0, "EPA's Technical Assistance Grant Program."	
<u>Response:</u>	The change has been made as requested. A new Section 9.0 has been added to the final CRP.	Page 52, Section 9.0

**RESPONSES TO COMMENTS ON THE DRAFT FINAL COMMUNITY RELATIONS PLAN,
FOR THE NAVAL WEAPONS STATION CONCORD, DATED JULY 1995 (Continued)**

<u>Comment/Response</u>		<u>Citation</u>
<u>Comment by DTSC:</u>	Mailing list: No need to include entire mailing list in Appendix C of the draft final; list only key contacts.	
<u>Response:</u>	The suggested changes have been made. Pages C-1 through C-3 list only the key federal, state, and local contacts.	Pages C-1 through C-3

**COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN I)
Northern and Central California, Nevada, and Utah
Contract Number N62474-88-D-5086
Contract Task Orders 0281 and 0303**

Prepared For

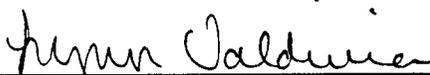
**DEPARTMENT OF THE NAVY
Ronald Yee, Remedial Project Manager
Engineering Field Activity West
Naval Facilities Engineering Command
San Bruno, California**

**COMMUNITY RELATIONS PLAN
FINAL
NAVAL WEAPONS STATION CONCORD**

February 26, 1996

Prepared By

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Lynn Valdivia, Project Manager

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COMMON ABBREVIATIONS AND ACRONYMS USED IN NAVY DOCUMENTS

ABAG	Association of Bay Area Governments
BART	Bay Area Rapid Transit
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CR	community relations
CRP	community relations plan
DERP	Defense Environmental Restoration Program
DoD	U.S. Department of Defense
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
EFA WEST	Engineering Field Activity West, Naval Facilities Engineering Command, San Bruno, California (formerly WDNFEC)
U.S. EPA	U.S. Environmental Protection Agency
°F	degrees Fahrenheit
FFA	Federal Facility Agreement
FFSRA	Federal Facility Site Remediation Agreement
FS	feasibility study
IAS	initial assessment study
IRP	Installation Restoration Program
IT	IT Corporation
MAC	municipal advisory council
MMES	Martin Marietta Energy Systems
msl	mean sea level
Navy	U.S. Department of the Navy
NCP	National Contingency Plan
NPL	National Priorities List
PA	preliminary assessment
PRC	PRC Environmental Management, Inc.
RAB	restoration advisory board
RAP	remedial action plan
RASS	remedial action subsite
RCRA	Resource Conservation and Recovery Act
ROD	record of decision
RI	remedial investigation
RWQCB	California Environmental Protection Agency, Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SI	site investigation
SWMU	solid waste management unit
TRC	technical review committee
USC	United States Code
UST	underground storage tank
WDNFEC	Western Division, Naval Facilities Engineering Command

1.0 INTRODUCTION

The U.S. Department of the Navy (Navy) is conducting environmental activities at Naval Weapons Station Concord to identify and clean up environmental contamination that may have resulted from past activities at the site. The investigations are being conducted under the Navy's Installation Restoration Program, discussed in Section 1.2 of this document. This community relations plan was prepared in support of the environmental investigation and cleanup activities being conducted. The terms "Naval Weapons Station Concord" and "station" are used interchangeably throughout this document to refer to the facility.

The community relations plan consists of seven sections. Section 1.0 explains the purpose of the community relations plan and the Installation Restoration Program. Section 2.0 describes Naval Weapons Station Concord. Section 3.0 discusses past and current environmental investigations at the station. Section 4.0 profiles the communities surrounding the station, and Section 5.0 provides results of ongoing interviews with residents of these communities. Section 6.0 describes the Navy's community relations requirements and past community relations activities at Naval Weapons Station Concord. Section 7.0 discusses the objectives (implementation) of the community relations program at the station, and Section 8.0 outlines the schedule of community relations activities. Section 9.0 describes the Technical Assistance Grant program administered by the U.S. Environmental Protection Agency. A glossary of environmental terms used in this community relations plan is provided in Appendix H.

The Navy is the lead agency for the environmental activities at the station and will implement the community relations program identified in this community relations plan.

1.1 THE COMMUNITY RELATIONS PLAN

This section discusses the community relations plan and the Installation Restoration Program. It also provides contact information for the designated community contacts.

1.1.1 Purpose of the Community Relations Plan

The purpose of this community relations plan is to establish a framework for an active communications program between the station and the surrounding communities regarding environmental investigations and cleanup activities at the station.

This community relations plan:

- Identifies community concerns regarding the environmental cleanup activities at Naval Weapons Station Concord
- Outlines procedures to address those concerns
- Provides information regarding the procedures and methods for notifying the public regarding environmental activities
- Describes the process by which the public may participate in the decision-making process regarding environmental activities at the station

1.1.2 Background

The community relations plan is based on Navy guidance, federal and state regulations, and documents derived from previous environmental investigations. Additional information was obtained from community interviews and meetings with representatives from the station, elected officials, public interest groups, neighborhood associations, and public agency officials.

The community needs reflected in this document are based on three sources: (1) community interviews; (2) Naval Weapons Station Concord community relations files and input from station staff who are knowledgeable about the surrounding community; and (3) information received from the public meetings held on April 29 and May 13, 1995 to establish a Restoration Advisory Board at the station. Restoration advisory boards are discussed further in Section 7.2.

Published documents used in preparing the community relations plan include the U.S. Environmental Protection Agency's guidance document, *Community Relations in Superfund: A Handbook*; the National Contingency Plan, Title 40 of the Code of Federal Regulations, Part 300; and state guidance

documents detailing applicable or relevant and appropriate requirements. Demographic information gathered during community interviews and from technical documents from previous investigations at the station was integral to the preparation of this document.

The community relations plan is a working document and may be modified as community interests change during the investigation and cleanup process. The cleanup process will proceed according to a schedule outlined in the Federal Facility Site Remediation Agreement signed by the Navy and California regulatory agencies on September 29, 1992. The Federal Facility Site Remediation Agreement is a legal agreement entered into between the Navy and state environmental agencies that outlines schedules and roles and responsibilities regarding the cleanup of Naval Weapons Station Concord.

On December 1994, the station was placed on the U.S Environmental Protection Agency's National Priorities List. The National Priorities List is a compilation of some of the nation's most serious hazardous waste sites which are identified by the U.S. Environmental Protection Agency for possible long-term cleanup. Because of the station's placement on the National Priorities List, the Navy is currently negotiating a Federal Facility Agreement to replace the existing Federal Facility Site Remediation Agreement.

1.1.3 Community Relations Plan Availability

The community relations plan and other technical documents are available to the public. The public may obtain these documents either by contacting any of the officials listed in Section 1.3 or by visiting the information repository. The information repository is a file containing a permanent record of documents regarding the environmental investigation and cleanup activities at Naval Weapons Station Concord. This file includes the administrative record, which contains all the documents used in making decisions concerning the cleanup. The information repository is located at the main branch of the

Contra Costa County Public Library in Pleasant Hill, California. The library's address and telephone number are as follows:

Contra Costa County Library
Main Branch
1750 Oak Park Blvd.
Pleasant Hill, CA 94523
(510) 646-6434

The community relations plan is also retained in the area dedicated to the station's restoration advisory board. Access to this area at the naval weapons station may be granted by contacting:

Ms. Anna Lou Procter
Director, Community Relations/Public Affairs
Code P
Naval Weapons Station Concord
10 Delta Street
Concord, CA 94520-5100
(510) 246-5592
(510) 246-5454 (Fax)

1.1.4 Community Relations Plan Community Interview Process

This community relations plan is based on a series of community interviews conducted in the fall and winter of 1994 through May 1995. Over 30 community interviews were conducted from September 1994 through May 1995.

The Navy interviewed community residents, local elected officials, local business representatives, civic leaders, and public agency officials to: (1) learn about the community's level of understanding regarding environmental investigation and cleanup activities at Naval Weapons Station Concord; (2) identify the community's information needs related to the environmental investigation and cleanup activities; (3) identify the community's environmental and health concerns regarding the potential impacts related to the environmental investigation and cleanup activities; and (4) aid in developing the community relations plan.

The results of the interviews conducted to date are presented in Section 5.0.

1.2

INSTALLATION RESTORATION PROGRAM BACKGROUND

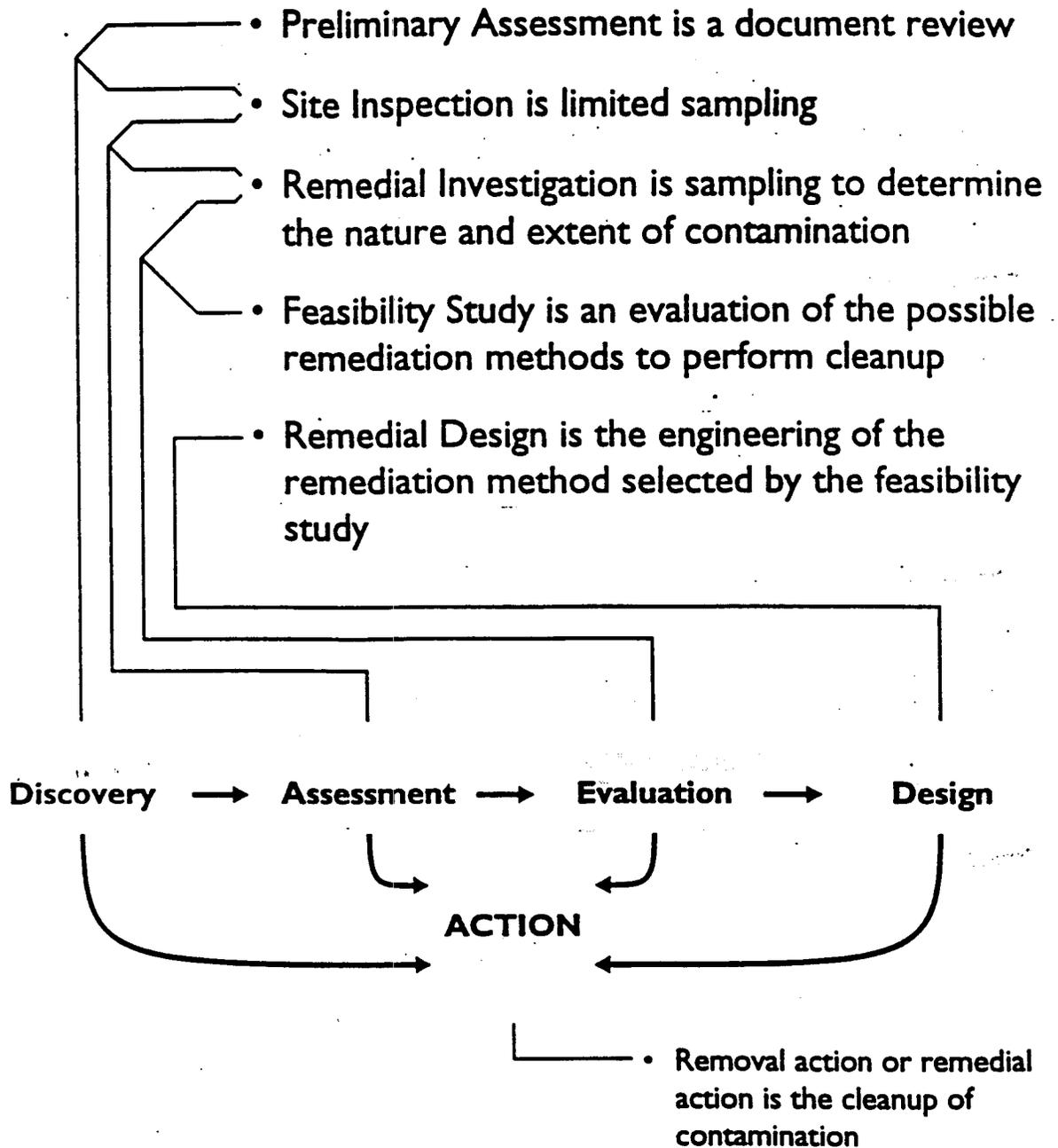
The Installation Restoration Program was developed by the Navy to identify and clean up environmental contamination caused by past waste handling practices. These practices occurred before the potentially hazardous nature of these wastes were fully understood and before environmental regulations for their safe disposal were established. The Installation Restoration Program is designed to be consistent with the requirements mandated by the federal law that regulates cleanup of hazardous substances, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986.

Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, established a series of programs that specify the procedures for the cleanup of hazardous substances at disposal and spill sites nationwide. One of the programs, the Defense Environmental Restoration Program, is codified under the Superfund Amendments and Reauthorization Act Section 211 (10 United States Code [USC] 701). The Navy Installation Restoration Program is a component of the Defense Environmental Restoration Program and is designed to identify, assess, and remediate contamination at disposal and spill sites that resulted from past Navy and Marine Corps activities.

The Installation Restoration Program follows a step-by-step approach that is illustrated in Figure 1. The first step is called a preliminary assessment. During the preliminary assessment, the information on use, storage, and spills of known or suspected hazardous substances is gathered largely from historical records and interviews with personnel from the facility being investigated. The Navy uses this information to determine if a particular area or site requires further study to confirm the release of contaminants to the environment.

If the preliminary assessment indicates further study is necessary, a site investigation is conducted. A site investigation involves verifying suspected releases of contaminants to the environment by physical sampling. If contaminant releases are confirmed, a remedial investigation and feasibility study may be necessary.

The remedial investigation is a full investigation of a site to determine the nature and extent of contamination. During the remedial investigation, groundwater, surface water, soil, and biological



NAVAL WEAPONS STATION
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**FIGURE 1
INSTALLATION RESTORATION
PROGRAM PROCESS CHART**

samples are collected and analyzed, as needed, to determine the types of contaminants and how far they may have spread. A feasibility study is conducted concurrently with the remedial investigation to evaluate possible cleanup alternatives. An ecological assessment is included in the remedial investigation/feasibility study. Each alternative is evaluated for effectiveness, cost, technical feasibility, community acceptance, and protection of human health and the environment. Once the remedial investigation/feasibility study is completed, a proposed plan for cleanup is produced. Public input is solicited during the remedial investigation/feasibility study process and especially at milestones such as the production of the proposed cleanup plan. The Navy hosts public meetings during the public comment period to address community concerns.

The feasibility study also involves preparing a record of decision. This document explains why a particular cleanup alternative was selected. After the record of decision has been formally reviewed and approved, the remedial design begins, followed by the remedial action. During the remedial design stage, the specific documents needed to obtain the remedial action services, which are typically awarded by competitive bid contract, are prepared for the selected cleanup alternative. The remedial action, the final step of the Installation Restoration Program process, involves the actual cleanup of contamination and appropriate monitoring of the site.

1.3 COMMUNITY CONTACTS

This section is a key component of the community relations plan. It contains a list (Appendix A) of federal, state regulatory and public agencies associated with the environmental investigation and cleanup activities at Naval Weapons Station Concord. Questions and/or concerns regarding the environmental investigation and cleanup at the station should be directed to:

Ms. Anna Lou Procter
Director, Community Relations/Public Affairs
Code P
Naval Weapons Station Concord
10 Delta Street
Concord, CA 94520-5100
(510) 246-5592
(510) 246-5454 (Fax)

The designated U.S. Environmental Protection Agency contact person for technical questions or comments related to environmental investigation and cleanup activities at the station is:

Dr. Barbara Smith, H-9-2
Remedial Project Manager
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2366
(415) 744-1917 (Fax)

Dr. Smith is the official representative for the U.S. Environmental Protection Agency and is a member of the restoration advisory board for Naval Weapons Station Concord, which is discussed in Section 7.0.

The designated U.S. Environmental Protection Agency contact person for community relations at the station is:

Ms. Dorothy Wilson, H-1-1
Community Relations Specialist
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2179
(415) 744-1796 (Fax)

The designated Department of Toxic Substances Control contact person for technical questions or comments related to environmental investigation and cleanup activities at the station is:

Mr. James Pinasco
Remedial Project Manager
California Environmental Protection Agency
Department of Toxic Substances Control
Region 1, Site Mitigation Branch
10151 Croyden Way, Suite 3
Sacramento, CA 95827
(916) 255-3719
(916) 255-3697 (Fax)

Mr. Pinasco is the official representative of the Department of Toxic Substances Control and participates as a member of the restoration advisory board, which is discussed in Section 7.0.

The designated Department of Toxic Substances Control contact person for community relations at the station is:

Ms. Shirley Buford
Community Relations Specialist
California Environmental Protection Agency
Department of Toxic Substances Control
Region 2
700 Heinz Avenue, Suite 200
Berkeley, CA 94710-2737
(510) 540-3909
(510) 540-3927 (Fax)

The designated Regional Water Quality Control Board contact person for technical questions or comments related to environmental investigation and cleanup activities at the station is:

Ms. Susan Gladstone
Environmental Specialist
California Environmental Protection Agency
Regional Water Quality Control Board
2101 Webster Street
Oakland, CA 94612
(510) 286-0840
(510) 286-3986 (Fax)

Ms. Gladstone is the official representative of the Regional Water Quality Control Board and participates on the restoration advisory board, which is discussed in Section 7.0.

2.0 FACILITY BACKGROUND

The following sections describe the facility; land use; historical and archaeological resources; facility history; and physical setting of Naval Weapons Station Concord.

2.1 DESCRIPTION

Naval Weapons Station Concord is the major U.S. Department of Defense (DoD) transshipment facility on the West Coast for ordnance materials. The station provides material, maintenance services, and technical support for ammunition, assigned explosives, and weapon systems for Navy activities. It provides homeport services to assigned ships and performs additional tasks assigned by the Commander, Naval Ordnance Center. In support of this mission, Naval Weapons Station Concord performs weapons quality engineering; designs and develops automated data processing systems for quality engineering; designs, develops, and procures test systems for quality engineering; performs intermediate level maintenance on ammunition; stores explosives; and conducts training (Western Division, Naval Facilities Engineering Command [WDFNEC] 1988).

2.1.1 Location

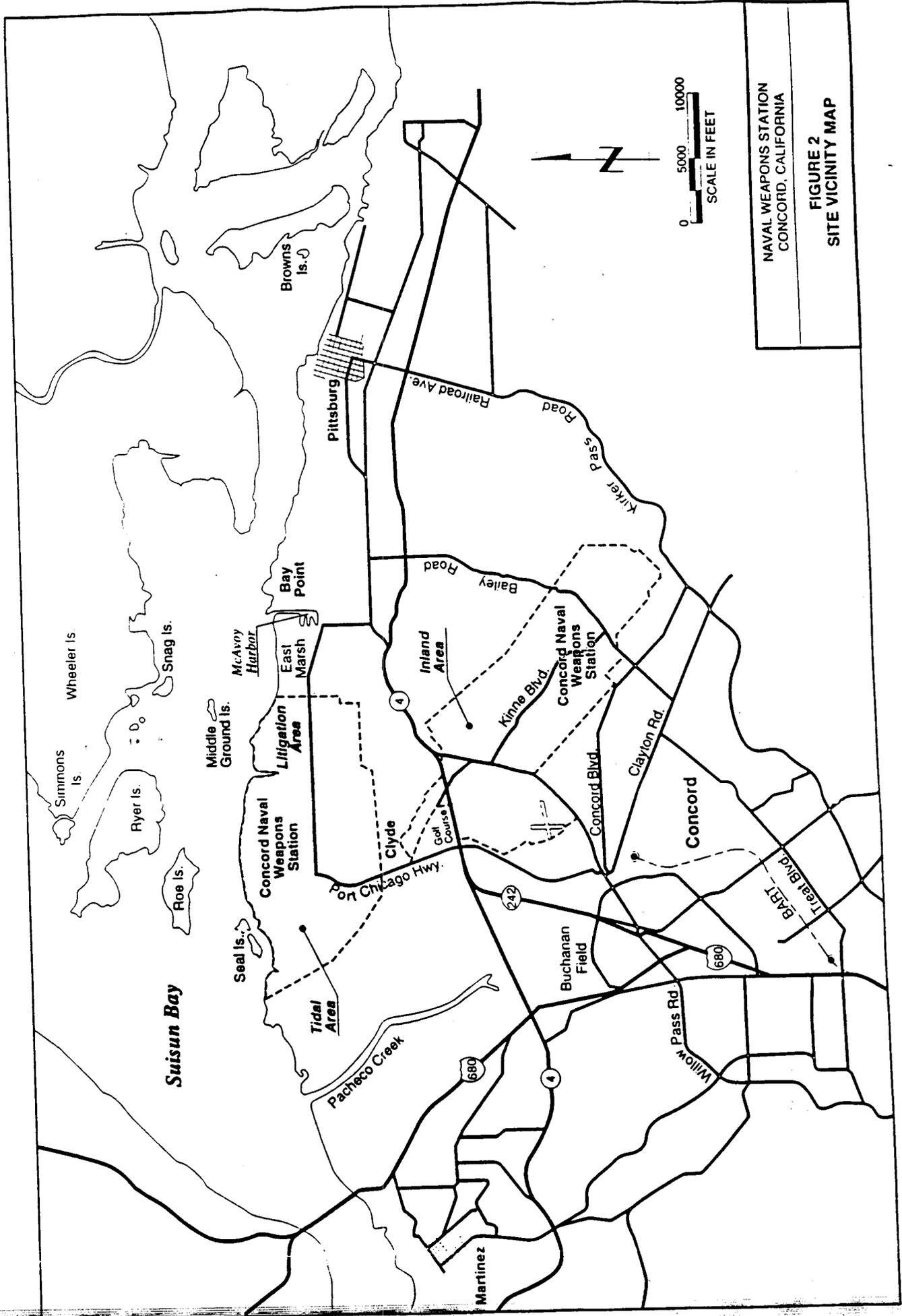
Naval Weapons Station Concord is in the north-central portion of Contra Costa County, about 30 miles northeast of San Francisco, California (Figure 2). The station is bounded on the north by Suisun Bay and on the south and west by the city of Concord. Naval Weapons Station Concord encompasses nearly 13,000 acres in three geographic holdings: the Inland Area, the Tidal Area, and a radiography facility at Pittsburg, California.

2.1.2 Inland Area

The Inland Area contains parcels of land located only in the inland portion of the station. The Inland Area covers about 5,300 acres and is separated from the Tidal Area by a range of hills not owned by the Navy (Los Medanos Hills, portions of which are owned and operated by the Pacific Gas and Electric Company). A Navy-owned road and rail line link the two areas. Three public roads cross the Inland Area: State Route 4, Willow Pass Road, and Bailey Road. Additionally, the Contra Costa Canal crosses the northwest section of the base.

2.1.3 Tidal Area

The property north of Los Medanos Hills has been designated the Tidal Area. The Tidal Area includes 6,077 acres of mainland and 1,571 acres consisting of seven islands in Suisun Bay: Freeman, Middle



NAVAL WEAPONS STATION
CONCORD, CALIFORNIA

FIGURE 2
SITE VICINITY MAP

Ground, Roe, Ryer, Snag, and the two islets that make up the Seal Islands. Two formerly public roads, Waterfront Road and Port Chicago Highway, traverse the Tidal Area in the vicinity of the former town of Port Chicago. These two roads were closed to public traffic on February 12, 1995. The area is also crossed by three railroads and the Contra Costa Canal (WDFEC 1988).

2.2 LAND USE

The majority of the facilities located in the Tidal Area are dedicated to ordnance operations. Within about 16,000 linear feet of developed waterfront are three explosives-handling piers, a barge pier, lighter moorings, and a tug basin. Barricaded rail car sidings, rail car classification yards, and a large unbarricaded truck holding lot are slightly inland from the developed shoreline of the Tidal Area. Several open storage and parking aprons are associated with the piers and support activities. In addition to the pier facilities, ordnance is handled in the segregation complex (R Area) and in two transfer facilities. The developed land in the Tidal Area is surrounded by chain-link fencing for security reasons.

The majority of station support operations are sited in the Inland Area; the Tidal Area has a limited number of support operations. Some buildings in the Tidal Area are used for inert storage, bulk storage, or general warehousing. Limited public works support facilities and administrative facilities are also present. Some land areas are also leased out for agricultural purposes, including grazing.

Land use in the vicinity of the station is diverse, characterized by a mixture of industrial, residential, agricultural, and open space zones. The land surrounding the Inland Area differs greatly from that surrounding the Tidal Area. The Inland Area is bordered on the south by residential areas of the City of Concord. These residential areas are composed of single-family, medium-density housing, which generally dates from the mid-1950s. Several public schools and parks are also located near the Inland Area property line. The extension of freeways and the Bay Area Rapid Transit (BART) system have encouraged residential development in this area.

The land uses for the areas surrounding the Tidal Area are primarily residential immediately to the east (Bay Point residential communities east of Driftwood Drive and south of Port Chicago Highway), and open space and industrial-commercial to the west (including Tosco, Monsanto, and Chevron). The

waterfront in the immediate area is almost entirely industrialized with very few recreational areas or public access points except for McAvoy Harbor in Bay Point (WDNFEC 1988).

The Los Medanos underground gas storage field is located in the hills separating the Inland and Tidal Areas. This land is privately owned and is leased to the Pacific Gas and Electric Company for deep well gas injection. The land is also used for cattle grazing. Fifteen miles to the southeast of the station is the Mt. Diablo State Park and State Game Refuge. This 7,004-acre preserve contains picnic facilities, campsites, and hiking trails.

Also located near the station is the approximately 162-acre Diablo Creek Golf Course, which occupies a triangular parcel of land between State Route 4, Port Chicago Highway, and Naval Weapons Station Concord's administration and support complex. The Navy owns about 50 percent of the land at the golf course, which is outleased to the City of Concord specifically for golf course use. To the west of Port Chicago Highway, the City of Concord operates a large wastewater treatment plant and Mallard Reservoir (WDNFEC 1988).

2.3 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

The Navy conducted cultural resources surveys in a portion of the Tidal Area, known as the Litigation Area, to identify any historical or archaeological resources of concern. After evaluating the data collected during the surveys, it has been determined that no historical or archaeological resources warranting protection under the National Historic Preservation Act were found. The Port Chicago Explosion of 1944 Memorial is the only historical site of concern at Naval Weapons Station Concord. Although the Port Chicago Memorial has historical significance, access to the area is restricted. Individuals interested in viewing the Memorial should contact the station's representative identified in Section 1.3.

2.4 HISTORY

The information in this section is taken from the Draft Master Plan for Naval Weapons Station Concord (WDNFEC 1988), unless otherwise noted.

Naval ordnance has been stored in the San Francisco Bay Region since the mid-1850s. In 1857, the first naval magazine, or ordnance storage bunker, was built at Mare Island Naval Shipyard in the recently-formed state of California. By 1927, the expanding population and economic growth of San Francisco began to significantly affect the land use and the density of development in the North Bay Area. Because of residential and industrial development across the narrow Mare Island Strait, the Navy was required to reduce activities at Mare Island Naval Shipyard that involved large quantities of explosives. The residential and industrial development across from the strait at Mare Island diminished Mare Island Naval Shipyard's explosives, industrial, and storage capabilities.

The Navy formed a board to consider relocating to another site. The board selected Bay Point, the site of the former Pacific Coast Shipbuilding Company, because it was remote from populated areas and because three major railroad lines were present in the area. After Pearl Harbor was bombed, the 12th Naval District recommended that the Navy establish a major ordnance shipping depot at Bay Point and eventually relocate all ammunition functions from Mare Island Naval Shipyard to the proposed facility.

Construction of the new facility began in January 1942, and Bay Point subsequently changed its name to Port Chicago. On December 4, 1942, the facility was officially commissioned the Naval Magazine, Port Chicago. When the munitions handling capacity of the waterfront (tidal) area was exceeded, an additional 5,143 acres of land located 1.5 miles south (inland) of the waterfront in the Diablo Creek Valley were acquired by the Navy. Administration and support functions were then relocated from the Tidal Area to the Inland Area. The Inland and Tidal Area were linked by the Bay Point and Clayton Railroad.

On July 17, 1944, a major explosion occurred at Port Chicago. Three and one-half million pounds of high explosives detonated, killing 320 people, injuring 390 others, and causing an estimated \$12.5 million in property damage. To support the war in the Pacific, reconstruction was intensified. After the war, the ordnance operations were reduced. In 1946, the Naval Magazine, Port Chicago became an independent command.

Specialized facilities were added as the weapons handled by the Navy became more sophisticated. These facilities included quality evaluation and engineering laboratories, industrial x-ray units, a guided missile test and repair center, and special weapons service and storage. With these changes, the Naval Magazine, Port Chicago evolved from a transshipment facility to a more comprehensive ordnance

facility. This resulted in the consolidation of the Naval Magazine, Port Chicago and the Naval Ammunition Depot, Mare Island Naval Shipyard. On December 23, 1957, the consolidated facility became Naval Weapons Station Concord, with part of Mare Island Naval Shipyard providing an annex to the station.

As early as 1954, the Navy attempted to remove the civilian population from within the explosive range near the ordnance wharves. However, it was not until 1967 that Congress passed Public Law 90-110, authorizing the acquisition of land (about 5,021 acres) within a 2-mile radius of the loading piers. The Navy kept several public and commercial structures and razed the remaining structures in this area. The high cost of replacing several public roads, railroads, and industrial facilities prevented the complete acquisition of the authorized land area (WDFEC 1988).

As part of this land acquisition to create a buffer zone around its munitions handling facilities, the Navy purchased several land parcels in the Tidal Area in the late 1960s and early 1970s. Eight of these parcels, covering approximately 210 acres, were subsequently found to be contaminated based on initial studies conducted by the Navy in 1983. These parcels are now referred to as the Litigation Area sites because of the legal actions conducted by the Navy with the adjacent and former property owners to recover cleanup costs. The adjacent and former property owners included chemical companies, an oil company, and several railroads.

2.5 PHYSICAL SETTING

The following subsections describe the regional climate, physical surroundings and topography, geology, hydrology, and ecology of the station. Unless otherwise referenced, the following descriptions are based on information from the draft final remedial investigation sampling plan for the Inland Area sites (IT Corporation [IT] 1989) and the final technical memorandum summarizing the results of field investigation activities conducted from 1988 through 1990 (Martin Marietta Energy Systems [MMES] 1993).

2.5.1 Regional Climate

Contra Costa County normally experiences dry, warm summers and moderately rainy winters. Occasionally, the late spring and summer weather is influenced by a high-pressure ridge over the

interior of California and the resulting high temperatures. Prevailing cool winds blow from the west through the wind gap formed by San Francisco Bay and Carquinez Strait. As a result, the Pacific Ocean and Suisun Bay have a significant impact on the climate at Naval Weapons Station Concord and the surrounding vicinity. These westerly winds are particularly dominant during the summer months but are minimal from November through February.

The mean annual precipitation for Naval Weapons Station Concord is 14 inches. As in most of northern California, about 84 percent of the rainfall occurs from November through March. Regionally, rainfall may vary from 13 inches in the eastern portion of Contra Costa County to over 30 inches on the upper slopes of Mt. Diablo. Snow falls occasionally on Mt. Diablo, but the accumulation is small and lasts only a few days.

The average local temperature varies from 45 degrees Fahrenheit (°F) in January to 75 °F in August. In 1960, a high of 106 °F in August and a low of 17 °F in January were recorded. During a hard freeze in December 1972, the record low was 16 °F. The average frost-free season is about 265 days.

The geographic and urban setting of the station make the area prone to urban air pollution problems. Inversion, an increase in air temperature with altitude, sometimes occurs. Inversion prevents airborne contaminants from dispersing in the upper atmosphere, causing concentrations at ground level to rise. The most common pollutants are sulfur dioxide, carbon monoxide, and particulates.

2.5.2 Physiography and Topography

Naval Weapons Station Concord lies approximately 10 miles west of the confluence of the Sacramento and San Joaquin Rivers. This confluence forms the Delta region, which contains over 600 miles of interconnected and meandering tidal waterways.

Contra Costa County consists of four general physiographic regions: the highlands of the Coast Range, the intermountain valleys, the San Francisco Bay depression, and the Sacramento-San Joaquin Delta. The highlands (Diablo Range) have smooth rolling hills and relatively rugged mountains ranging from 100 feet above mean sea level (msl) along the San Francisco Bay depression to 3,849 feet above msl at Mt. Diablo. The station lies in the northeastern corner of Contra Costa County, within sight of Mt. Diablo.

The San Francisco Bay depression and intermountain valleys consist of nearly flat flood plains and low terraces. Most of the low-lying, river-delta lands have been reclaimed by protective dikes and drainageways, forming islands that range from 30 to 7,000 acres.

Except for a few small streamways draining west into San Francisco Bay, the drainage of Contra Costa County enters the San Joaquin River, San Pablo Bay, or Suisun Bay to the north and east. Drainage from the station is primarily to the north into Suisun Bay.

Originally, the Tidal Area at the station consisted of three distinct land formations: salt wetlands along the shore of Suisun Bay, the upland slope, and the sandstone hills farthest from the water. A large section of the wetlands was modified when large amounts of fill material were added to construct the original station. Almost all existing naval facilities were built in these filled areas (IT 1992).

2.5.3 Geology

Two major faults are known to exist in the Naval Weapons Station Concord area. Concord Fault passes through the City of Concord at a distance of approximately 2 miles from the station. The fault is classified as active by the California Division of Mines and Geology and is evidenced by the offset of curbs and other man-made features in the area. The Clayton Fault bounds Los Medanos Hills and passes through the station. This fault has been classified as active or potentially active.

Soils at Naval Weapons Station Concord may be classified by their depositional history, estuarine deposition, and in-place weathering of bedrock materials. Soils in the Tidal Area were formed by stream sedimentation, and inland soils are predominantly weathered components of underlying bedrock. Organic clay soils underlying the Tidal Area, known as bay mud, are developed from an accumulation of plant residues that are preserved by the lower oxygen environments of shallow and stagnant waters (Donahue et. al. 1983).

2.5.4 Hydrology

The following sections describe the hydrology of the site, including its surface water and groundwater.

2.5.4.1 Surface Water

Naval Weapons Station Concord lies within the Mt. Diablo-Seal Creek Watershed, which drains an area of about 36 square miles. The watershed is bounded on the south by the north peak of Mt. Diablo and on the north by Suisun Bay. Streams that drain the watershed have headwaters on the slopes of Mt. Diablo and flow by way of Mt. Diablo Creek through Clayton Valley and Naval Weapons Station Concord to the outlet at Suisun Bay. From the beginning of the tidal wetlands to Suisun Bay for some 2 miles through the station, Mt. Diablo Creek is known as Seal Creek.

Historical records show that flooding occurs in the watershed almost every year. Major floods occurred in 1938, 1952, and 1955. The area of Mt. Diablo Creek between Clayton Canal and Arnold Industrial Highway is not a source of severe overbank flooding because the channel is deeply incised in that area. The channel downstream of Arnold Industrial Highway becomes progressively smaller, and flooding occurs on the Mt. Diablo Creek Golf Course, the entrance to the station, Port Chicago Highway, and tidal wetlands.

An important feature of the wetland areas at the Tidal Area is the tidal drainage pattern, which runs parallel to the shoreline. Wave action at the shoreline builds up debris and sediment slightly higher than the elevation of the rest of the wetlands plain. This prevents direct tidal drainage into Suisun Bay and encourages erosion.

In addition to shoreline erosion and deposition, three other significant long-term hydrologic trends influence the site. First, the sea level is rising at a rate of about 0.5 foot per 100 years. This is expected to continue at an increasing rate. The high tide of December 1983 was the highest tide ever recorded and now forms the basis for the estimate of the 100-year high tide. Second, hydraulic mining in the Sierra Nevada during the last century substantially increased the sediment input to the Bay Delta system, resulting in shallow intertidal areas. Third, grazing in upland areas has increased the sediment yield of streams discharging into the wetlands.

2.5.4.2 Groundwater

Moderate amounts of groundwater lie beneath the station. Groundwater quality at the station is generally only fair. Total dissolved solids, hardness, chlorides, and iron concentrations are relatively

high, especially when compared to available surface water in the area. Three wells along Kinne Boulevard that were drilled in the 1920s to depths of 116, 300, and 500 feet were used to obtain water. These wells were shut down in the early 1960s. At that time the wells were not closed under current applicable regulations. The wells were subsequently investigated by the Navy under the Installation Restoration Program, and were determined to not require remedial action. In April 1995, the wells were closed and sealed in accordance with Contra Costa County Environmental Health Department requirements.

Some wells near the station are still used for water supply. These include several wells in the industrial complex area to the west, used primarily for process water and cooling water, and a series of wells surrounding Mallard Reservoir, also to the west. The Contra Costa County Water District uses the groundwater from the wells surrounding Mallard Reservoir to augment the normal aqueduct supplies of drinking water to the reservoir during droughts. Water levels in wells drilled in 1987 indicate northward flow of groundwater toward Suisun Bay.

2.5.5 Ecology

The ecology of the Tidal and Inland Areas is described in the following sections.

2.5.5.1 Tidal Area

Suisun Bay is a transition zone between saltwater and freshwater ecosystems. This area contains a diverse population of fish and other aquatic life. The lower wetland portions of the Tidal Area are salt marshes characterized by vegetation such as pickleweed, which tolerates frequent inundation by brackish water. The drier upland portions are essentially grasslands.

The vegetation at the Tidal Area consists primarily of rushes, cattails (tules), and grasses. These plants provide food and shelter for native wildlife and help maintain the integrity of the marsh.

Levees provide higher, drier areas where California rose, coyote brush, and sweet fennel grow. In addition, offshore waters provide algae and plankton that form the food base for marine animals.

Several endangered and threatened species are known to be present at the Tidal Area, including the Litigation Area sites. Species of concern at the Litigation Area sites include the salt marsh harvest mouse, which is a federally- and state-listed endangered species, the California clapper rail, and the California black rail.

The Tidal Area is also host to a variety of invertebrates, small mammals, and bird species. Several bird species that may be observed include snowy egrets, great blue herons, red-shouldered hawks, white-tailed kites, red-winged blackbirds, and northern harriers.

2.5.5.2 Inland Area

The Inland Area consists of seven different habitat types: (1) grassland habitat, (2) urban and industrial areas, (3) riparian habitat, (4) orchards and homesteads, (5) eucalyptus groves, (6) valley oak habitat, and (7) ponds. Dominant vegetation includes yellow thistle and nonnative grasses.

No threatened and endangered species are known to inhabit or frequent any of the Inland Area sites. Grasslands are known to support large populations of small mammals, including deer mice, California voles, and house mice. The Inland Area also hosts wide-spread populations of grey foxes, raccoons, and striped skunks. Numerous raptors have been observed in the Inland Area, including sharp-shinned hawks and Cooper's hawks.

A tule elk reserve is also located at the Inland Area. Tule elk were once a threatened and endangered species; however, their population has increased and they are no longer endangered. The current size of the herd at the station is approximately 40.

3.0 OVERVIEW OF ENVIRONMENTAL INVESTIGATIONS

Since 1983, an environmental investigation and cleanup effort has been underway at Naval Weapons Station Concord to identify and eliminate or prevent any harmful effects from environmental contamination that may have resulted from past operations.

In December 1994, Naval Weapons Station Concord was placed on the U.S. Environmental Protection Agency's National Priorities List. The National Priorities List is an inventory of sites that the U.S.

Environmental Protection Agency has identified as containing hazardous substances requiring investigation and possibly environmental cleanup.

The environmental cleanup effort at the station is currently directed at four groups of sites: the Litigation Area, Tidal Area, Inland Area, and solid waste management unit sites. The groupings of these sites are based on optimal workability within the Installation Restoration Program process because sites were discovered and evaluated at different times and under different regulatory programs.

The following sections describe previous and current environmental investigations at the station. The information in these sections is taken from the final technical memorandum summarizing field investigation activities (MMES 1993), unless otherwise noted.

3.1 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

In 1983, the Navy initiated a series of environmental investigations and studies at Naval Weapons Station Concord. An initial assessment study in 1983 identified 26 sites at Naval Weapons Station Concord that might represent a threat to human health or the environment. Of these sites, 13 were identified as sites of potential contamination and were recommended for further investigation.

The 13 initial assessment study sites recommended for further action were divided into three groups: Litigation Area (Sites 3, 4, 5, 6, 25, and 26), Tidal Area (Sites 1, 2, 9, and 11), and Inland Area (Sites 13, 14, and 16). As noted previously, the Litigation Area sites were part of a buffer zone of land purchased by the Navy around the station in the 1970s; they are referred to as the "Litigation Area" sites because of the legal actions the Navy conducted with the adjacent and former property owners to recover cleanup costs.

The nine Litigation Area and Inland Area sites were investigated further during a confirmation study completed in 1984. Based on the results of the confirmation study, a remedial investigation/feasibility study for the six Litigation Area sites was conducted from 1984 through 1988 by the U.S. Army Corps of Engineers, Waterways Experiment Station. The six sites were subsequently aggregated into four remedial action subsites (RASS), referred to as RASSs 1, 2, 3, and 4. The Navy issued a remedial action plan for the RASSs in 1989 (Navy 1989b) and awarded the remedial action contracts in 1992. The remedial actions will be completed in 1995.

The four Tidal Area sites were investigated further during a site characterization study completed in 1992. Based on the results of the site characterization, the four sites were recommended for further evaluation. These sites are currently undergoing a remedial investigation/feasibility study.

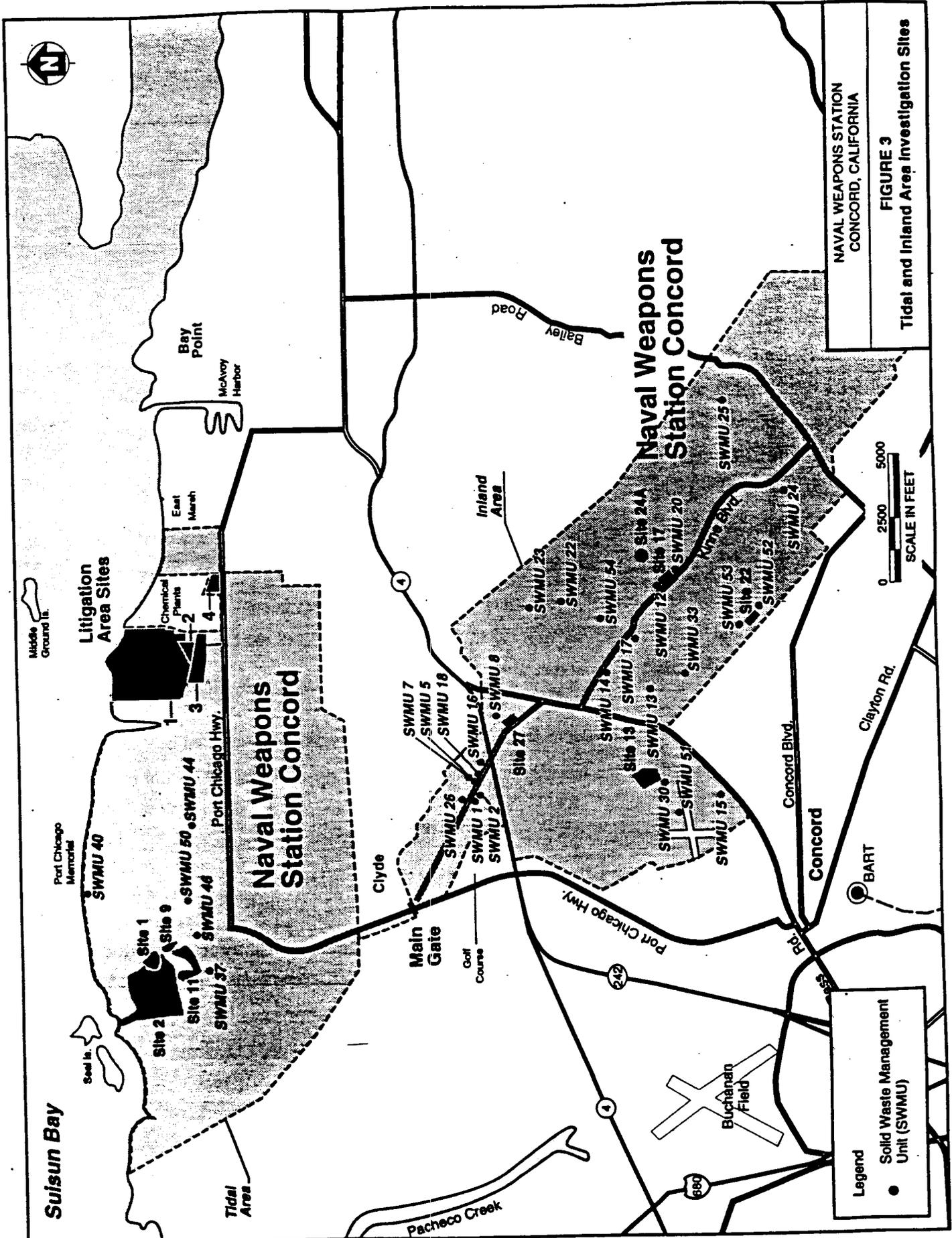
In 1992, the Department of Toxic Substances Control conducted a survey of sites at Naval Weapons Station Concord under the Resource Conservation and Recovery Act corrective action program. The survey, a Resource Conservation and Recovery Act facility assessment, identified 24 solid waste management units in the Tidal and Inland Areas that required further action. Twelve additional solid waste management units requiring further investigation were subsequently identified.

Field work for the confirmation study for the solid waste management units was conducted from February to May 1995. Based on the initial results of the confirmation study, supplemental field work was completed in October 1995 to further characterize contamination at seven of the solid waste management unit sites. Figure 3 shows the locations of the Tidal and Inland Area sites currently being investigated by the Navy.

A site investigation for the Inland Area was completed in 1993. Eleven sites were investigated during the site investigation. These included two sites recommended for further action in the initial assessment study (Sites 13 and 14); eight sites not recommended for further action in the initial assessment study (Sites 8, 17, 19, 22, 23A, 23B, 24A, and 24B); and one additional site (Site 27). Only five of these sites (Sites 13, 17, 22, 24A, and 27) were recommended for further evaluation based on the site investigation. These sites are currently undergoing a remedial investigation/feasibility study.

3.2 CURRENT ENVIRONMENTAL INVESTIGATIONS

The following sections describe the current environmental investigations at the Tidal Area, the Inland Area, and the Litigation Area under the Installation Restoration Program and Underground Storage Tank Program.



NAVAL WEAPONS STATION
CONCORD, CALIFORNIA
FIGURE 3
Tidal and Inland Area Investigation Sites



Legend

- Solid Waste Management Unit (SWMU)

3.2.1 Tidal Area Investigations

A remedial investigation/feasibility study is being conducted for four sites in the Tidal Area to determine the nature and extent of contamination present. These sites include the Tidal Area Landfill (Site 1), the R Area Disposal site (Site 2), the Froid and Taylor Roads site (Site 9), and the Wood Hogger site (Site 11). Project plans were completed in February 1995, and field work began in July 1995. During the field investigation, soil and groundwater will be sampled and analyzed for a wide range of potential contaminants. In addition, a qualitative ecological risk assessment is being conducted.

A Resource Conservation and Recovery Act (RCRA) facility assessment confirmation study is being conducted at four solid waste management units located in the Tidal Area. Some of the solid waste management unit sites are buildings where chemicals may have been disposed of in sinks that drain into septic tanks. Other solid waste management unit sites in the Tidal Area include an electrical substation and a boiler house. Field work began in February 1995 and was completed in May 1995. Based on the results of the RCRA facility assessment, most of the sites will be recommended for no action. A RCRA interim measure is planned for mid-spring 1996, and will trigger various community relations activities, including public notices and possible public meetings.

In addition, underground storage tanks containing petroleum products are being investigated and removed by Naval Weapons Station Concord and the Navy's environmental contractors under the Underground Storage Tank Program.

3.2.2 Inland Area Investigations

A remedial investigation/feasibility study is being conducted at five sites in the Inland Area to determine the nature and extent of contamination present. These sites include Site 13 (Burn Area), Site 17 (Building IA-24 - Acid Sump), Site 22 (Building 7SH5 - Missile Wings and Fins Repair facility), Site 24A (Pistol Firing Range), and Site 27 (Building IA-20 - Weapons Quality Engineering Center Chemical Laboratory). Project plans were completed in February 1995, and field work was conducted from April through June 1995. During the field investigation, soil and groundwater will be sampled and analyzed for a wide range of potential contaminants. In addition, a qualitative ecological risk assessment is being conducted.

A RCRA facility assessment confirmation study is being conducted at 20 solid waste management units located in the Inland Area. Many of the solid waste management units are buildings where chemicals may have been disposed of in sinks that drain into septic tanks. Other solid waste management units in the Inland Area include repair and painting facilities and a pesticide mixing area. Field work began in February 1995 and was completed in May 1995. Based on the results of the RCRA facility assessment confirmation study, most of these sites will be recommended for no action, and a few sites will proceed into the remedial investigation/feasibility study process.

In addition, underground storage tanks containing petroleum products are being investigated and removed by Naval Weapons Station Concord and the Navy's environmental contractors under the Underground Storage Tank Program.

3.2.3 Litigation Area Investigations

The remedial actions for RASSs 3 and 4 were completed in 1994. The remedial actions for RASSs 1 and 2 will be completed in 1995. The Navy is also conducting yearly monitoring as part of the remedial actions to evaluate the overall condition of the sites. In addition, a qualitative ecological risk assessment is being performed to ensure that the remedial actions adequately reduce risks to flora and fauna at the site.

4.0 COMMUNITY PROFILE

This section provides a brief profile of the community surrounding Naval Weapons Station Concord. It also discusses the demographics, economics, industrial resources, government and local services, educational resources, and transportation resources of the surrounding community.

4.1 DEMOGRAPHICS

Naval Weapons Station Concord is in the northeastern corner of Contra Costa County. Contra Costa County is situated northeast of San Francisco and is bordered by San Francisco and San Pablo Bays, the Sacramento River Delta, and Alameda County.

Contra Costa County's 720-plus square miles ranks it as California's ninth smallest county in area. Contra Costa County's population increased approximately 20 percent in the 1980s and has increased more than 9 percent in the years 1990 to 1993. As a result, Contra Costa County is now the ninth most populous in the state (Greater Concord Chamber of Commerce 1993).

4.1.1 City of Concord

The City of Concord is the nearest population center to Naval Weapons Station Concord. The center of Concord is approximately 5 miles from the main entrance to the station. The population of Concord is about 116,000. The ethnic make-up of Concord is about 70 percent white, 11 percent hispanic, 9 percent asian, 2 percent black, and 8 percent other ethnic groups (Greater Concord Chamber of Commerce 1993). This compares with a national ethnic make-up of approximately 73 percent white, 10 percent hispanic, 3 percent asian, 12.3 percent black, and the remainder are other racial categories.

4.1.2 Bay Point

Bay Point, formerly known as West Pittsburg, is an unincorporated town situated adjacent to the station's northeastern boundary. Bay Point's population is approximately 17,000. Its ethnic make-up is about 47 percent white, 20 percent hispanic, 11 percent asian, 11 percent black, and 11 percent other ethnic groups (Association of Bay Area Governments [ABAG] 1991).

4.1.3 Clyde

Clyde is an unincorporated town located off Port Chicago Highway just past the main gate of the station. Approximately 600 persons reside in single family homes in Clyde. No figures concerning the ethnic make-up of Clyde's residents are available (*Clyde Civic Association Phone Directory* 1995).

4.2 ECONOMY

Naval Weapons Station Concord is one of the top five employers in the county, with an estimated \$53.5 million yearly civilian payroll. The station puts approximately \$150 million a year into the surrounding community (Kirkwood 1995).

The median home price in the area is around \$189,000, while rentals cost between \$600 to \$1,800 per month. In 1993, the median income per household in the City of Concord was \$41,675 (Greater Concord Chamber of Commerce 1994).

4.3 INDUSTRIAL RESOURCES

The county is strategically located near San Francisco and Silicon Valley, and is linked to regional and worldwide markets through an extensive air, land, and water transportation network. Convenient location, skilled workforce, and highly competitive development costs have attracted some of the nation's most prominent businesses to Concord.

Originally, Contra Costa County's economy was based on agricultural resources. In 1995, the county is fast becoming one of the San Francisco Bay Area's leading commercial business centers. Chevron USA's nationwide accounting and credit card center and the Bank of America Technology Center, each with over 3,000 employees, are based in Concord. Concord is also home of Tosco Refining Company and Wells Fargo Credit Card.

4.4 GOVERNMENT AND CITIZEN ASSOCIATIONS

This section describes the government and citizen associations of the communities surrounding Naval Weapons Station Concord.

4.4.1 City of Concord

The City of Concord is organized under a council-manager form of government. The city council members, who are elected from the general populace, in turn elect a mayor from the sitting city council members. The current mayor of Concord is:

Ms. Helen Allen
Mayor
1950 Parkside Dr.
Concord, CA 94519
(510) 671-3158
(510) 671-3375 (Fax)

The Concord city council consists of five members, elected at large, that set policy, approve the budget, and enact local laws for the city.

The city provides a police department with three branch locations, and the Contra Costa County Consolidated Fire District provides fire services. Concord offers a wide variety of health care services, ranging from small private practices to a large, comprehensive medical center (Greater Concord Chamber of Commerce 1993).

Several civic clubs and organizations are active in Concord. These include, but are not limited to, the Lions Club International, Fraternal Order of Eagles, Elks' Lodge, Loyal Order of Moose Lodge, and Masonic Lodge. No environmentally oriented civic clubs or organizations are headquartered in Concord.

4.4.2 Bay Point

The unincorporated city of Bay Point is governed by the Contra Costa County Board of Supervisors. The citizens of Bay Point elect seven members to a municipal advisory council (MAC), which advises the Contra Costa County supervisors on issues related to Bay Point. The MAC meets at the centrally located Ambrose Community Center located on Willow Pass Road in Bay Point. The supervisor representing the community of Bay Point is:

Mr. Tom Torlakson
Supervisor
Contra Costa County
300 East Leland Road, Suite 100
Pittsburg, CA 94565
(510) 427-8138
(510) 427-8142 (Fax)

Bay Point supports a police and fire department. The Contra Costa County Sheriff's Department maintains a desk at the Ambrose Community Center located on Willow Pass Road in Bay Point.

The Lions Club International is the only civic club within the boundaries of Bay Point.

4.4.3 Clyde

Clyde is represented by Contra Costa County Supervisor Mark DeSaulnier. His address and telephone number are as follows:

Mr. Mark DeSaulnier
Supervisor
Contra Costa County
2425 Bisso Lane, Suite 110
Concord, CA 94520
(510) 646-5763
(510) 646-5767 (Fax)

Supervisor DeSaulnier recommends seven Clyde residents to be approved for a 2-year term as members to an advisory committee, the County Service Area M-16 (M-16) Citizens Advisory Committee. The entire Contra Costa County Board of Supervisors then ratifies the recommendations. The chair of the M-16 Citizens Advisory Committee is Jana Whipple. Her address and telephone number are as follows:

Ms. Jana Whipple
Chair
County Service Area M-16
Citizens Advisory Committee
251 Medburn Street
Clyde, CA 94520
(510) 685-1583

Although Clyde is a relatively small community, it is well-organized. A significant organization with local influence is the Civic Improvement Association, Inc. All residents of Clyde are members of this association which meets monthly in its community center, located at 212 Norman Avenue. The president of the Clyde Civic Improvement Association, Inc. is David Kory. His address and telephone number are as follows:

Mr. David Kory
President
Clyde Civic Improvement Association, Inc.
419 Highland Court
Clyde, CA 94520
(510) 687-2728

4.5

EDUCATIONAL RESOURCES

The Concord and Bay Point public school systems are part of the Mt. Diablo Unified School District that provides education at all levels. Clyde does not have any schools within its unincorporated borders. The local Concord School District consists of 16 elementary schools, four junior high schools, and five high schools. Bay Point has three elementary schools and one junior high school. The remainder of the students are bused to the Concord high schools. The Mt. Diablo Unified School District serves approximately 34,000 students per year. A number of teachers in the surrounding schools live near the station in Concord, Bay Point, or Clyde.

Nine public schools are near the station: Ayers Elementary, Monte Gardens Elementary, Wren Elementary, Mountain View Elementary, El Dorado Intermediate, Pine Hollow, Clayton Valley High, Mt. Diablo High, and Concord High School. Approximately 70 percent of all Mt. Diablo Unified School District students are white, 13 percent hispanic, 9 percent asian, 4 percent black, and 4 percent other ethnic groups (Greater Concord Chamber of Commerce 1993).

At the postsecondary level, a satellite campus of California State Hayward that opened in Concord in 1992, offers upper division classes as well as graduate courses. There are three community colleges within the county borders: Los Medanos College in Pittsburg, Diablo Valley College in Pleasant Hill, and Contra Costa College in San Pablo. Two of these community colleges are within 20 miles of the station. There are numerous other trade schools, 2-year and 4-year institutions in the San Francisco Bay Area and Sacramento (Jacobsen 1994).

The Mt. Diablo Unified School District also offers an extensive special education program and serves more than 40,000 students in a thriving adult education program (Greater Concord Chamber of Commerce 1993).

4.6

TRANSPORTATION RESOURCES

This section discusses the transportation resources available in the areas surrounding Naval Weapons Station Concord.

4.6.1 Naval Weapons Station Concord

An organized public transportation system is not available on the station. Access to Naval Weapons Station Concord is through guarded gates, and private vehicles provide local transportation for workers arriving and departing the station. During normal station operations, the majority of private vehicle traffic is concentrated in the Inland Area. Access to this area is through the main gate off Port Chicago Highway or through secondary gates on Willow Pass and Bailey Roads. Access to the Tidal Area is through gates off Port Chicago Highway.

The majority of the sites in the Inland and Tidal Areas can be accessed by two-lane asphalt-capped, gravel, or dirt roads. Depending on the weather, all-terrain vehicles may be required to reach some areas within the sites.

Naval Weapons Station Concord is located on Highway 4, off Port Chicago Highway. The nearest Bay Area Rapid Transit station is about 5 miles away in downtown Concord. A Bay Area Rapid Transit station located about 1.2 miles from the station's main gate is under construction and will open Summer 1995. The Port Chicago Highway transects the station, connecting it with Clyde and Bay Point. A portion of Port Chicago Highway was acquired by the Navy and was permanently closed to the public on February 12, 1995.

4.6.2 City of Concord

The City of Concord is located on Interstate 680 and State Routes 242 and 4. RIDES for Bay Area Commuters, Inc. provides free ride sharing information to persons interested in a carpool or vanpool. Concord is also one of 34 Bay Area Rapid Transit stops. Beginning at the existing downtown Concord Station, the Bay Area Rapid Transit system will be extended to the Port Chicago Highway corridor under the Bay Area Rapid Transit Extension Program. This extension will include service to the Bay Point community. Public transit within the central county is provided by the Central Contra Costa Transit Authority.

No major airports are located near the City of Concord, nor in Contra Costa County. Buchanan Field, operated by the county, serves the Concord and Bay Point communities. This facility fills a number of

needs, including scheduled commercial air passenger service, recreational flight, agricultural crop dusting services, cargo services, and private business flights.

The Southern Pacific and Santa Fe railroads provide freight service only. However, the cities of Martinez and Richmond in Contra Costa County offer Amtrak services. Pleasant Hill has a Greyhound Bus depot.

5.0 COMMUNITY ENVIRONMENTAL INTEREST AND CONCERNS

This section provides a brief summary of community awareness regarding environmental activities at Naval Weapons Station Concord and primary concerns of the community members residing or working on or near the station. Much of the information in this section was taken from community interviews. The community interview process is discussed in Section 5.1. Section 5.2 summarizes general community interest in environmental issues. Section 5.3 summarizes the interest and current knowledge regarding environmental activities at the station. Section 5.4 summarizes concerns raised by the community members interviewed. Section 5.5 summarizes other issues raised during the interviews.

5.1 COMMUNITY INTERVIEW PURPOSE AND PROCESS

The interviews for this community relations plan began in September 1994. Individuals either residing or working in Concord, Bay Point, Clyde, the station, Walnut Creek, Pittsburg, Antioch, and Oakland were interviewed. As of May 1, 1995, 33 interviews have been conducted by representatives of the Navy. Regulatory agencies working with Naval Weapons Station Concord in the Installation Restoration Program, primarily Department of Toxic Substances Control, also participated in some of the interviews.

Members of the regulatory team, including representatives from U.S. Environmental Protection Agency, Department of Toxic Substances Control, and Regional Water Quality Control Board, provided input and guidance into the creation of the community interview questions. Appendix B provides a copy of the community interview questions.

The community interviews serve four purposes. First, the face-to-face interview format strengthens the relationship between community members and the Navy. Second, valuable information is obtained regarding the community's concerns and information needs regarding the cleanup process. Third, the interviews serve, in most instances, to introduce each interviewee to Naval Weapons Station Concord's Installation Restoration Program. Fourth, the interviews serve to establish two-way communications between the Navy and the public.

The interview process consists of several steps. First, the Navy contacts various former technical review committee members (see Section 6.2), local civic leaders, and other interested persons by telephone. The Navy then coordinates the schedules of the Navy and the regulatory agency representatives, notably Department of Toxic Substances Control, with the interviewee. Second, the Navy, and on some occasions a regulatory agency representative, meet with the interviewee. The interview generally lasts about 30 minutes. During the interview, the interviewee is asked to recommend others to contact for interviews. Finally, the Navy contacts the recommended interviewees to schedule additional interviews.

A cross-section of individuals within the community have been interviewed. Interviewees have included elected officials, local business representatives, homemakers, clergy, civic association leaders, environmental groups, representatives from ethnic minorities, and current and former station personnel.

5.2 GENERAL ENVIRONMENTAL AWARENESS AND INTEREST

No organized environmental organizations are based in the immediate communities (Concord, Clyde, or Bay Point) surrounding the station. One local newspaper, the *Ledger Dispatch*, reported that "Whether there is no organized [environmental] movement at all or it is just in its infancy, local environmentalists seem to have failed to make their presence known on issues affecting the quality of life in East County" (Hacker 1995). This article is reprinted in Appendix E.

During each community interview, interviewees were asked what they thought of the community's general interest in environmental issues. Based on the information obtained in response to this

question, it has been determined that the community's interest, at this time, ranges from moderate to low.

5.3 COMMUNITY AWARENESS AND INTEREST IN ENVIRONMENTAL ACTIVITIES AT NAVAL WEAPONS STATION CONCORD

Many of those interviewed stated that community interest in the environmental activities at the station is moderate. Some of those interviewed stated that they recalled either meeting the commanding officer of the station or attending a meeting hosted by the commanding officer regarding environmental issues at the base. Most of the interviewees stated that they read articles in the *Contra Costa Times* concerning environmental activities at the station.

Most interviewees were unaware of the Installation Restoration Program. However, several were aware that the station was engaged in environmental investigation and cleanup but did not know the name of the program.

5.4 COMMUNITY CONCERNS

This section summarizes the interview responses and the specific community concerns that were expressed during the interview process.

5.4.1 Groundwater Contamination

Every interviewee expressed varying degrees of concern regarding the potential for groundwater contamination. Some use groundwater to water their lawns. Some interviewees stated that they thought groundwater was used as drinking water. All of those interviewed stated that they would like to learn more about the existence and extent, if contamination exists, of groundwater contamination at the station.

5.4.2 Bay Water and Fish Contamination

All interviewees expressed concern regarding the declining quality of water in Suisun Bay. Some Bay Point residents mentioned that the many large-scale industrial activities of the surrounding area and

potential surface water runoff, including contaminants from the station, adversely affect the fish. Some Bay Point residents stated that fish look "stressed" and "sick." The interviewees also cited recent newspaper articles that cautioned residents to limit consumption of fish caught in the Delta, indicating the likelihood of contamination and associated adverse health affects. Neither the Concord nor the Clyde residents mentioned the fishing issue.

5.4.3 Degree of Environmental Contamination and Level of Cleanup

All of those interviewed expressed interest in learning more about the degree of contamination identified at the station, whether it presents any health risks, to what level the base would be cleaned up, and the timeframe projected for completion of cleanup activities. Frequently, after interviewees were introduced to the Installation Restoration Program and associated activities during the interview, their interest heightened, and they requested to be notified of the investigation results and proposed cleanup plans.

Most residents, business persons, and government leaders stressed that, while they had confidence and a certain "comfort level" regarding the Navy's handling of contaminated sites at the station, they would like to know more regarding the extent and type of the contamination and the status of the cleanup activities.

5.4.4 Transportation

Almost every person expressed moderate concern over the transportation of hazardous materials and weapons through their neighborhoods. "Moderate" means that, although the residents stated that they had concerns, they also emphasized that they had a long-standing trust of the Navy regarding the management of the station. Many citizens from all three communities (Clyde, Bay Point, and Concord) stated that they felt the Navy took proper safety measures.

5.4.5 Effect of the Environmental Cleanup on the Surrounding Community

Most of the interviewees stated that the environmental cleanup may have a positive effect on the community. Several interviewees stated that the cleanup would have a positive effect because job opportunities would be created. Some interviewees had no opinion on this matter.

5.4.6 Credibility

Most of the interviewees expressed generally positive feelings and opinions concerning the Navy and Naval Weapons Station Concord. Every person interviewed, while concerned about the contamination at the station, regarded the Navy as a "good neighbor." Beginning in the mid-1980s, the commanding officers at the station have consistently met with community leaders to discuss environmental concerns. Almost every citizen interviewed mentioned the station's community outreach programs.

5.4.7 Nuclear Weapons

Nearly every person interviewed asked questions about the possible presence of nuclear weapons. Some, particularly Clyde and Bay Point residents, expressed concern over the likelihood of radiation and radioactive contamination. This concern may be heightened due to a U.S. Department of Energy announcement that the station may be used to unload and transfer used nuclear reactor fuel (Spears 1995). A newspaper article explaining this announcement is in Appendix E.

5.4.8 Ground Squirrel Infestation

Some of those interviewed, particularly those residing in Clyde and Concord, mentioned a concern over the ground squirrel infestation at Naval Weapons Station Concord.

5.5 OTHER ISSUES

This section summarizes the interviewees' use of local newspapers and preferences for meeting locations and time.

5.5.1 Local Newspaper Use

Nearly all of those interviewed stated that they either subscribe to or read on a regular basis the *Contra Costa Times*. Those living in Clyde and Concord also read or subscribe to the *San Francisco Chronicle*. Most Bay Point interviewees read or subscribe to the *Ledger Dispatch*.

5.5.2 Preferred Meeting Locations and Time

The interviewees varied widely on preferred meeting locations. However, nearly every interviewee stated that the station was centrally located and would be an acceptable location. A major drawback to this choice is the need to escort visitors onto the station or to obtain sponsorship to obtain a pass at the guard house.

Interviewees were split by geography regarding preferred meeting locations. Bay Point residents preferred to meet at the Ambrose Community Center. It is centrally located on Willow Pass Road in Bay Point and is handicapped-accessible; there is a \$150.00 fee for each use of the facility.

Clyde residents expressed reluctance to meet in Bay Point. All the Clyde residents interviewed recommended the Clyde community center as a convenient place for them to meet. However, the Clyde community center is not suitable for large gatherings because it is not handicapped-accessible, and it lacks adequate restroom facilities as well as air conditioning.

Concord residents mentioned Concord High School as a possible meeting place. A user permit must be obtained from the Mt. Diablo School District prior to renting a room. The high school charges \$37.00 for a 4-hour block and \$18.00 an hour for custodial care, with a 4-hour minimum.

All interviewees noted that they preferred to meet after 6:00 p.m., Tuesday through Thursday.

6.0 NAVY COMMUNITY RELATIONS REQUIREMENTS AND ACTIVITIES AT NAVAL WEAPONS STATION CONCORD

Public participation is encouraged throughout the Installation Restoration Program process. The community relations plan is a guide for establishing and maintaining effective communication between the Navy and the community surrounding the station. Effective communication will allow the Navy to be more responsive to the community's information needs and input. This section outlines the community relations requirements and techniques for Naval Weapons Station Concord and describes past community relations activities.

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6.1 NAVY COMMUNITY RELATIONS REQUIREMENTS

The Navy's community relations program is consistent with community relations requirements established under Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, and applicable U.S. Environmental Protection Agency guidelines. It is consistent with the public participation goals established under the Installation Restoration Program. Table 1 provides a matrix of both required and recommended community relations activities to be conducted throughout the Installation Restoration Program. Table 2 delineates the community relations activities required prior to and during removal actions. Appendix D contains a chart listing community relations milestones in the remedial process.

6.2 PAST COMMUNITY RELATIONS ACTIVITIES AT NAVAL WEAPONS STATION CONCORD

The Navy recommended in 1989 that all naval facilities should implement a community relations plan (Navy 1989a). Naval Weapons Station Concord followed the Navy's recommendations and drafted a community relations plan for the Litigation Area in 1989. This document was never finalized (MMES 1992). In 1994, the station decided to draft a community relations plan for the entire facility.

6.2.1 Technical Review Committee

In 1990, Navy guidance recommended that the station form a Technical Review Committee. The Technical Review Committee is an advisory committee created under Section 211 of Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act. This section of the law recommends the formation of a Technical Review Committee whenever possible and practical to review and comment on actions and proposed actions with respect to releases or threatened releases of hazardous substances at a federal facility.

The Technical Review Committee at the station consisted of regulatory agency representatives, local elected officials, and interested members of the public. Environmental project plans and reports were provided to members of the Technical Review Committee. The Technical Review Committee met

**TABLE 1
COMMUNITY RELATIONS ACTIVITIES THROUGHOUT THE INSTALLATION RESTORATION PROGRAM**

Technical Milestones	Remedial Investigation/Feasibility Study	Draft Record of Decision	Final Record of Decision	Remedial Design (RD)/Remedial Action (RA)
Community Relations Activities Specified by Federal and State Law	<ul style="list-style-type: none"> • Develop community relations plan • Establish information repository • Create administrative record • Post notices in location of proposed remedial/removal actions • Inform public of availability of technical assistance grants 	<ul style="list-style-type: none"> • Distribute fact sheet summarizing proposed plan • Publish public notice of availability of feasibility study and proposed plan • Notify community of 30-day public comment period • Host public meeting 	<ul style="list-style-type: none"> • Publish public notice of availability of remedial action plan • Publish meeting transcript • Prepare response to comments • Notify public of responsiveness summary • Publish record of decision • Distribute summary to administrative record/information repository 	<ul style="list-style-type: none"> • Publish public notice of availability of RD • Revise community relations plan as necessary • Post notices in location of proposed remedial/removal actions • Distribute fact sheet on RD • Provide opportunity for public meeting
Recommended Community Relations Activities	<ul style="list-style-type: none"> • Conduct site tour • Review draft community relations plan, revise as necessary • Develop community mailing list and update • Distribute fact sheet introducing Installation Restoration Program • Distribute fact sheet explaining remedial investigation findings • Conduct public kick-off meeting • Publish public notice/news releases • Conduct workshops as needed on special issues • Write fact sheets: quarterly • Update information repositories • Establish restoration advisory board • Hold regular restoration advisory board meetings • Maintain dialogue with community 	ONGOING		

**TABLE 2
COMMUNITY RELATIONS REQUIREMENTS FOR REMOVAL ACTIONS**

ACTIVITY	EMERGENCY Those releases or threats of releases requiring that cleanup activities begin on site within hours of the lead agency's determination that a removal action is appropriate. Where a site activity lasts less than 30 days	TIME CRITICAL Including emergencies lasting longer than 30 days, those releases requiring that cleanup activities begin on site within 6 months of the lead agency's determination, based on the site evaluation, that a removal action is appropriate. Where a site activity lasts less than 120 days	TIME CRITICAL Including emergencies lasting longer than 30 days, those releases requiring that cleanup activities begin on site within 6 months of the lead agency's determination, based on the site evaluation, that a removal action is appropriate. Where a site activity is expected to last more than 120 days	NONTIME CRITICAL Those releases or threats of cleanup activities begin on site within 6 months after the lead agency's determination, based on the site evaluation, that a removal action is appropriate. Where a site activity lasts more than 120 days
Designate spokesperson	▲	▲	▲	▲
Notify affected citizens	▲	▲	▲	▲
Establish administrative record files	▲	▲	▲	▲
Make administrative records available				▲
Make administrative records available within 60 days of initiation of site activity	▲	▲	▲	▲
Place administrative records in central location	▲	▲	▲	▲
Place administrative records at or near facility	▲	▲	▲	▲
Publish a notice of availability of administrative records	▲	▲	▲	▲
Publish a notice of availability and brief description of engineering evaluation/cost analysis (EE/CA)				▲
Provide a 30-day comment period from date EE/CA is completed		▲	▲	▲
Provide a 30-day comment period from date administrative record is available		▲	▲	▲
Prepare responsiveness summary		▲	▲	▲
Conduct community interviews		▲ ^a	▲ ^a	▲
Establish information repository near facility		▲ ^a	▲ ^a	▲
Prepare community relations plan		▲ ^a	▲ ^a	▲

Note:
^a These activities should be completed within the 120 days.

once, on February 14, 1990. No other formal meetings of the Technical Review Committee were held. However, informal conference calls with the regulatory agency representatives have been held routinely since 1990.

6.2.2 Previous Public Meetings

On October 12, 1988, Naval Weapons Station Concord hosted a public meeting concerning a proposed remedial action plan for the Litigation Area sites. One additional public information meeting was held on April 19, 1990 in the Concord City Council Chambers. This meeting was called a "community information meeting" and was held to facilitate discussion about the environmental cleanup issues at the station.

6.2.3 Past Public Notices

Numerous public notices have been issued since 1985; these are listed in Table 3. The most recent public notice appeared on Sunday, January 14, and Thursday, January 18, 1996, in the *Contra Costa Times*. This public notice announced the January 18, 1996 restoration advisory board meeting and invited the public to attend the meeting.

7.0 IMPLEMENTATION OF THE INSTALLATION RESTORATION PROGRAM COMMUNITY RELATIONS PROGRAM

This section describes the objectives of the Installation Restoration Program community relations program at Naval Weapons Station Concord.

7.1 MAINTAIN COMMUNICATION

Public participation is encouraged throughout the Installation Restoration Program process. Naval Weapons Station Concord is committed to maintaining and strengthening the community involvement in the environmental cleanup process at the station. This community relations plan will be used as a baseline for maintaining and strengthening effective communication between the Navy and the surrounding community.

TABLE 3
NAVAL WEAPONS STATION CONCORD PUBLIC NOTICE ACTIVITIES

Date	Public Notice Activity
August 8, 1985	Legal notice soliciting comments on final draft remedial investigation report and final draft feasibility study report for Litigation Area sites.
February 14, 1986	Legal notice soliciting comments on final remedial investigation report of contaminant mobility at Naval Weapons Station Concord for Litigation Area sites.
March 7, 1986	Legal notice soliciting comments on revised final draft feasibility study report of contamination remediation at Naval Weapons Station Concord for Litigation Area sites.
July 30, 1987	<i>Contra Costa Times</i> published article regarding the San Francisco Regional Water Quality Control Board tentative order for cleanup.
November 14, 1987	<i>Oakland Tribune</i> published news article regarding the Regional Water Quality Control Board delaying issuance of an order for cleanup.
September 16, 1988	Legal notice soliciting comments on six reports including the proposed Remedial Action Plan for the release, and the threatened release, of hazardous substances on Parcels 572, 573, 574, 575, 576, 579D, and 581 on the Naval Weapons Station Concord for Litigation Area sites.
September 20, 1988	News article in <i>Ledger Dispatch</i> regarding announcement of cleanup plans for Litigation Area sites.
September 22, 1988	Legal notice in <i>Oakland Tribune</i> regarding proposed remedial action plan for Litigation Area sites.
September 23, 1988	Legal notice in <i>Contra Costa Times</i> regarding proposed remedial action plan for Litigation Area sites.
October 12, 1988	Public meeting concerning proposed remedial action plan for the release, and the threatened release, of hazardous substances on parcels 572, 573, 574, 575, 576, 579D, and 581 at the Naval Weapons Station Concord. The purpose of the meeting was to solicit comments and information necessary to evaluate the proposed remedial action plan for Litigation Area sites. Court recorder transcribed meeting comments and discussions.
April 6, 1989	Legal notice regarding issuance of a record of decision for selection of final remedial action plan for the release, and the threatened release, of hazardous substances on Parcels 572, 573, 574, 575, 576, 579D, and 581 on the Naval Weapons Station Concord for Litigation Area sites. Responses to comments were issued with the legal notice
April 8, 1989	<i>Oakland Tribune</i> published news article regarding Navy issuance of the record of decision for the Litigation Area sites.

TABLE 3
NAVAL WEAPONS STATION CONCORD PUBLIC NOTICE ACTIVITIES
(Continued)

Date	Public Notice Activity
April 9, 1989	<i>Ledger Dispatch</i> published news article regarding Navy issuance of record of decision for remedial action plan for Litigation Area sites.
April 10, 1989	Legal notice published in <i>Oakland Tribune</i> regarding issuance of record of decision for remedial action plan for Litigation Area sites.
April 12, 1989	Legal notice published in <i>Contra Costa Times</i> regarding issuance of record of decision for remedial action plan for Litigation Area sites.
April 19, 1990	Community information meeting at Concord city council chambers in the evening.
August 28, 1990	<i>Contra Costa Times</i> published news article indicating U.S. Environmental Protection Agency had proposed Concord Naval Weapons Station for the National Priorities List along with Lawrence Livermore National Laboratory.
February 8, 1992	<i>Contra Costa Times</i> published news article indicating Naval Weapons Station Concord had been formerly proposed for National Priorities List in 1988, thence dropped and now repropoed for listing on the National Priorities List.
April 19, 1992	<i>Contra Costa Times</i> published news article indicating Naval Weapons Station Concord cleanup had begun.
September 12, 1992	<i>Contra Costa Times</i> article on the transport of explosive weaponry at the station.
September 29, 1992	<i>Contra Costa Times</i> published news article indicating Mare Island Naval Shipyard and Naval Weapons Station Concord cleanup efforts may cost \$153 million.
October 8, 1992	<i>Contra Costa Times</i> published news article, "Seven county firms named on Bay list of toxic hot spots." Naval Weapons Station Concord was not on the list (among conceivable "county" firms).
November 6, 1992	<i>Contra Costa Times</i> published news article regarding "the first large scale cleanup, removal, of hazardous waste for a Bay Area Navy base contract awarded." (Pertained to contract for remedial action subsite (RASS) 4 in the Litigation Area, which was awarded September 24, 1992).
May 1, 1993	<i>Contra Costa Times</i> published Department of Toxic Substances Control legal notice regarding public comment and hearing on Naval Weapons Station Concord RCRA Part B permit application.

TABLE 3
NAVAL WEAPONS STATION CONCORD PUBLIC NOTICE ACTIVITIES
(Continued)

Date	Public Notice Activity
May 10, 1993	<i>Ledger Dispatch</i> published news article regarding Naval Weapons Station Concord application for RCRA Part B permit.
June 25, 1993	<i>Contra Costa Times</i> published news article regarding resident from Bay Point who said the sale of his home fell through because prospective buyer saw and was concerned about the hazardous waste warning sign on RASS 4. (The signs had been posted for 6 or 7 years and were visible from Port Chicago Highway.)
September 27, 1993	<i>Ledger Dispatch</i> published news article indicating over 100 accidents, incidents, and injuries occurring at Naval Weapons Station Concord. The article and accompanying editorial cited possibility of radioactive exposure.
October 3, 1993	<i>Ledger Dispatch</i> published headline article indicating "Navy: No Nuke mishaps at Concord."
October 16, 1993	<i>Ledger Dispatch</i> published news article indicating that the San Francisco Regional Water Quality Control Board cited "toxic hot spots" of the bay waters and identifying Naval Weapons Station Concord as a potential hot spot contributing to the toxic hot spots of the bay waters. Suisun Bay was listed as a toxic hot spot with "more than 250 acres; selenium." The intent of the Regional Water Quality Control Board report was not to list specific polluters for the state. The news article noted that "In some situations, the best remedy is to do nothing. Stirring up chemical contaminants as part of a cleanup can do more harm than good."
August 25, 26, 27, 28, 1994	Legal notice printed in the <i>Contra Costa Times</i> regarding the Explanation of Significant Difference for the Litigation Area.
April 9, 10, 11, 12, 13, 1995	Legal notice printed in the <i>Contra Costa Times</i> regarding the restoration advisory board formation. Also announced Environmental Orientation and Tour scheduled for April 29, 1995, at the station.
April 16, 1995	Legal notice printed in the <i>Ledger Dispatch</i> and <i>San Francisco Chronicle</i> regarding restoration advisory board formation. Also announced Environmental Orientation and Tour scheduled for April 29, 1995, at the station.
May 5, 1995	Editorial printed in the <i>Contra Costa Times</i> regarding the environmental cleanup at the station.
September 17, 21, 1995	Legal notice printed in the <i>Contra Costa Times</i> in the community calendar section regarding the September 21, 1995, restoration advisory board meeting.
October 15, 19, 1995	Legal notice printed in the <i>Contra Costa Times</i> in the community calendar section regarding the October 19, 1995, restoration advisory board meeting.

TABLE 3
NAVAL WEAPONS STATION CONCORD PUBLIC NOTICE ACTIVITIES
(Continued)

Date	Public Notice Activity
November 12, 16, 1995	Legal notice printed in the <i>Contra Costa Times</i> in the community calendar section regarding the November 16, 1995, restoration advisory board meeting.
December 17, 21, 1995	Legal notice printed in the <i>Contra Costa Times</i> in the community calendar section regarding the December 21, 1995, restoration advisory board meeting.
January 14, 18, 1996	Legal notice printed in the <i>Contra Costa Times</i> in the community calendar section regarding the January 18, 1996, restoration advisory board meeting.

7.1.1 Individual Communication

Naval Weapons Station Concord values community concerns and strives to maintain and strengthen, two-way communication. To maintain a positive relationship between the community and the station, the Navy welcomes and considers all relevant and technically valid information presented by the community. The designated Navy contact person for the community relations activities is Ms. Anna Lou Procter. Her address and telephone numbers are listed in Section 1.3.

7.1.2 Public Meetings and Workshops

Community members, stakeholders, community officials, and other interested parties will be given opportunities to comment on site-specific environmental actions or information at public meetings and workshops.

The Navy recently responded to community suggestions raised during the community interviews to host an Environmental Orientation and Tour, which was held on April 29 and May 13, 1995. The Navy issued legal notices for this event in three newspapers, the *San Francisco Chronicle*, *Contra Costa Times*, and *Ledger Dispatch*. The Environmental Orientation and Tour consisted of a guided tour through some of the contaminated sites as well as a theater-style presentation providing additional explanation of the impending formation of a restoration advisory board.

The Navy may give additional presentations or hold informal workshops about cleanup activities at regularly scheduled meetings of organized groups in the community to explain the goals, constraints, and progress of the Installation Restoration Program and other environmental activities. Meetings may be conducted in public locations, such as Concord's city council chambers or other accessible locations where community members can talk to agency officials on a one-to-one, informal basis. These meetings may include displays and video presentations, and technical and community relations staff may be present to answer specific questions about the Naval Weapons Station Concord investigation and cleanup effort.

As needed or upon request, presentations or informal workshops may be held for specific issues or for targeted groups. Individuals interested in obtaining more information through a presentation or

workshop may contact Ms. Anna Lou Procter of Naval Weapons Station Concord at the address and telephone numbers listed in Section 1.3.

The Navy will hold public meetings at significant milestones throughout the entire cleanup process to provide an opportunity for the community to comment on the station's environmental activities and proposed cleanup actions. The meetings may be held at one of the locations listed in Appendix G. Public meetings will be held following completion of the remedial investigation/feasibility study and any proposed records of decision. To facilitate community input and involvement regarding proposed cleanup alternatives, a comment period of at least 30 days will be scheduled when the draft record of decision is released. The comment period will be announced at least 2 weeks in advance through a legal notice in the main local newspapers cited in the community interviews. These newspapers include the *San Francisco Chronicle*, *Ledger Dispatch*, and the *Contra Costa Times*. To ensure adequate time for citizens to review and comment on proposed cleanup measures, the Navy may extend this comment period at the community's request.

As necessary, public meetings may be conducted before removal actions are implemented during the course of investigation to expedite cleanup.

7.1.3 Mailing List

To help keep the community informed, a community mailing list (Appendix C) is being developed that will include residents, elected officials, civic organizations, government agencies, public interest groups, and the news media. Legal notices, information releases, and fact sheets will be mailed to the persons on this list. The mailing list will be updated regularly. All fact sheets will include information about how individuals and groups can be added to the station's mailing list. In addition, individuals who contact the Navy with inquiries about the Installation Restoration Program will be added to the mailing list at their request.

7.2 RESTORATION ADVISORY BOARD

7.2.1 General Background

On July 2, 1993, President Clinton announced a program to accelerate cleanup and provide greater community involvement in the cleanup process at military installations. This program announced by the president is made up of five points:

- Fast-track cleanup
- Larger economic development grants
- Transition coordinators at closing bases
- Jobs-centered property disposal
- Easy access to transition and redevelopment assistance

Although the president's plan was originally designed to clean up closing bases, it was expanded to include open, active military bases including Naval Weapons Station Concord. To ensure citizen input into the cleanup process, the president's plan directed that existing Technical Review Committees become restoration advisory boards.

Restoration advisory boards are citizen advisory committees formed at individual military installations to provide interested community members with an opportunity to participate in the environmental cleanup process. Community members, known as "stakeholders," review base environmental documents. Restoration advisory board members meet regularly to discuss the results of field investigations, review documents, and discuss interim proposals for final cleanup activities. The overall goal of the restoration advisory board is to solicit input from diverse interests in the local community and to facilitate continuing dialogue between the affected community and the Navy. The restoration advisory board is not a replacement for other community relations activities required by law, regulation, or policy; all existing community relations requirements will be fully implemented as required. Since the restoration advisory board is not a decision-making body, a consensus or majority vote of the restoration advisory board members is not required. Restoration advisory board community members will provide advice as individuals to the decision-makers regarding restoration issues.

7.2.2 Naval Weapons Station Concord Restoration Advisory Board Formation

On April 29 and May 13, 1995, Naval Weapons Station Concord held an Environmental Orientation and Tour to introduce the community to the Installation Restoration Program and solicit restoration advisory board membership applications. Prior to this event, two fact sheets (Appendix F) were distributed to interested community members. One fact sheet summarized the environmental investigations at the station, and the other summarized the restoration advisory board process. The restoration advisory board fact sheet included a restoration advisory board application form. Over 8,000 of these fact sheets and applications were mailed or hand delivered to residents of neighboring communities, including Clyde, Concord, and Bay Point. In addition, over 150 restoration advisory board fact sheets and applications were distributed on April 29 and May 13.

On June 26, 1995, Commander Sue Fitzgerald, the Executive Officer for Naval Weapons Station Concord, sent letters to 51 restoration advisory board applicants inviting those individuals to participate on the restoration advisory board. The restoration advisory board held its first meeting on July 20, 1995.

7.2.3 Restoration Advisory Board Membership

The Naval Weapons Station Concord restoration advisory board consists of a cross-section of community representatives who will work in partnership with the Navy to expedite the cleanup of the station. The restoration advisory board will also include representatives from the Navy, U.S. Environmental Protection Agency, Department of Toxic Substances Control, and Regional Water Quality Control Board. Appendix I includes a list of the members of the restoration advisory board, with their addresses and telephone numbers as of December 31, 1995.

On September 21, 1995, the restoration advisory board elected a community co-chair, Mr. Herb Schwartz. Mr. Schwartz works with the Navy co-chair to ensure the orderly flow of information between the community members and the Navy representatives.

7.2.4 Restoration Advisory Board Structure, Meeting Times, and Meeting Location

At the September 21, 1995, meeting of the restoration advisory board, the community members elected to form four committees: Document Review Committee, Finance Committee, Procedures Committee, and Public Relations Committee. The purpose of the Document Review Committee is to review technical documents distributed by the Navy and to recommend comments to the restoration advisory board. The Finance Committee was formed to investigate the interest in creating a nonprofit organization to qualify for the U.S. Environmental Protection Agency's Technical Assistance Grant Program. The Procedures Committee addresses organizational issues, and the Public Relations Committee conducts community outreach.

The restoration advisory board meets on the third Thursday of each month at the Ambrose Community Center located on Willow Pass Road in Bay Point.

The restoration advisory board meetings are open to all members of the public. Members of the public are encouraged to participate on the restoration advisory board and may contact the station's community relations representative listed in Section 1.3.

7.2.5 Relaying of Community Information to the Navy

Proper flow of information from the community to the individuals developing the final cleanup plan is critical to the success of the Installation Restoration Program. Given the number of parties involved in the cleanup of the station, the lines of communication between the various parties must be clearly established. Accordingly, the Navy will seek to ensure that the diverse views and interests of community members are effectively conveyed.

Techniques for soliciting community input may include, but are not limited to: (1) ongoing discussion with restoration advisory board members; (2) presentations concerning the environmental activities at the station to community groups for discussion; (3) maintaining dialogue with individual community members through Naval Weapons Station Concord community contacts; and (4) collecting community input at restoration advisory board and civic organization meetings.

The Navy also works closely with the restoration advisory board to ensure the proper flow of information. At virtually every restoration advisory board meeting, the Navy works with individuals to present timely information regarding the cleanup process.

7.3 ADMINISTRATIVE RECORD

An administrative record has been established at Engineering Field Activity West, Naval Facilities Engineering Command headquarters in San Bruno, California. The administrative record contains all the documentation upon which the Navy bases the selection of cleanup remedies. In addition, the U.S. Environmental Protection Agency's general guidance documents and other supporting materials, such as the raw data from field investigations, are kept at this same location.

Those desiring more information regarding the administrative record may contact the following individual:

Mr. Roy Santana
Remedial Project Manager
Engineering Field Activity West
Naval Facilities Engineering Command
900 Commodore Drive, Building 206
San Bruno, CA 94066-2402
(415) 244-2523
(415) 244-2776 (Fax)

7.4 FACT SHEETS, PRESS RELEASES, AND LEGAL NOTICES

As of May 1995, Naval Weapons Station Concord produced two fact sheets: (1) an environmental fact sheet and (2) a fact sheet announcing the restoration advisory board formation (Appendix F). These fact sheets were mailed to 8,000 residents living on or near the station. An additional 400 fact sheets were distributed door-to-door to residents living adjacent to the station.

Additional fact sheets, press releases, and legal notices will be produced by the Navy to provide the community with information about site activities, to inform them about removal actions, and to announce public meetings and the conclusions of the remedial investigation/feasibility study and the

draft record of decision public comment period. The fact sheets will be distributed to all individuals or groups included on the mailing list and reprinted in the base newspaper, the *Transhipper*, as appropriate. In addition, the fact sheets will be included in the information repository. These materials will be prepared and distributed throughout the entire cleanup process.

Fact sheets summarizing the proposed cleanup remedy will be distributed when appropriate. Fact sheets will be sent to individuals on the mailing list (Appendix C). Press releases announcing the environmental activity or public meeting will be distributed to the appropriate media.

Legal notices will be placed in the local newspaper to announce removal actions and the selection of current available technologies for proposed cleanup. Fact sheets may also include information related to public health issues, results of environmental investigations, and information regarding documents available in the information repository. All fact sheets will include the name, address, and telephone number of a Navy contact for Naval Weapons Station Concord.

To further inform community members, reviews of findings of environmental studies and related press releases will be included in the local newspapers. A newspaper ad may be placed for the special purpose of providing study updates, recommendations, and conclusions.

7.5 TRANSCRIPTS AND RESPONSIVENESS SUMMARIES

A transcript of draft record of decision public meeting proceedings will be prepared by a certified court reporter. Copies of the transcript will be placed in the information repository. In addition, a responsiveness summary will be written to describe and document the community's comments and concerns on the proposed cleanup measures presented in the draft record of decision. The Navy will consider these comments and concerns when selecting a cleanup measure and may revise the draft record of decision if appropriate. The summary will also present the Navy's responses to community concerns. The information obtained in the responsiveness summary will be available in the information repository.

7.6

MAINTAINING THE COMMUNITY RELATIONS PLAN

This community relations plan is a working document and will be revised and updated as necessary to address new community information needs, interests, and concerns. It will be updated with new information regarding the progress of the Installation Restoration Program steps to be taken by the Navy, or significant changes within the community. The community relations plan will also be revised or updated to address community concerns that may emerge as a result of the investigations and selection of remediation measures.

8.0 COMMUNITY RELATIONS ACTIVITIES SCHEDULE

Community relations activities will continue to be managed by the Navy to address the community's concerns regarding the Installation Restoration Program at Naval Weapons Station Concord. The Navy is working in partnership with various regulatory agencies including, but not limited to, U.S. Environmental Protection Agency, Department of Toxic Substances Control, and the Regional Water Quality Control Board to ensure that the public's concerns are addressed. The Navy and the regulatory agencies will evaluate these concerns. As a result of these evaluations, the schedule of community relations activities may be periodically revised. Revised schedules will be placed in the information repository and sent to those individuals on the mailing list. Throughout the process, community members are encouraged to become involved in the Installation Restoration Program by contacting the station's community relations contact person (Section 1.3). Appendix D contains a chart listing community relations milestones in the remedial process.

9.0 THE U.S. ENVIRONMENTAL PROTECTION AGENCY'S TECHNICAL ASSISTANCE GRANT PROGRAM

Congress authorized the Technical Assistance Grant program to assist local citizen groups that are composed of individuals who either reside in the local area or are otherwise affected by Superfund sites. Under section 117(e) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, an initial grant of up to \$50,000 is available for any site that is placed on the National Priorities List where the U.S. Environmental Protection Agency has begun a response action.

Groups eligible to receive grants under the Technical Assistance Grant program are those whose members may be affected by a release or a threatened release of toxic wastes from any facility listed on the National Priorities List. Any group applying for the grant must be a nonprofit organization, incorporated under the applicable state laws. Various groups formed through restoration advisory boards in the Bay Area have applied for and received these grants. The Naval Weapon Station Concord restoration advisory board discussed the option of applying for a Technical Assistance Grant at the November 16, 1995, meeting. It was decided to postpone discussion of the Technical Assistance Grant to an indefinite time.

Individuals interested in obtaining further information regarding the Technical Assistance Grant program may contact:

Ms. Dorothy Wilson, H-1-1
Community Relations Specialist
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2179
(415) 744-1796 (Fax)

REFERENCES

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APPENDIX A
ASSOCIATED REGULATORY AND PUBLIC AGENCIES

ASSOCIATED REGULATORY AND PUBLIC AGENCIES

California Coastal Commission

California Department of Fish and Game

California Environmental Protection Agency

- Air Resources Board
- Department of Pesticide Regulation
- Department of Toxic Substances Control
- Integrated Waste Management Board
- Office of Environmental Health Hazard Assessment
- Regional Water Quality Control Board
- Water Resources Control Board

National Oceanic and Atmospheric Administration

San Francisco Bay Conservation and Development Commission

State Historic Preservation Office

State Lands Commission

U.S. Army Corps of Engineers

U.S. Coast Guard

U.S. Department of Agriculture Soil Conservation Service

U.S. Environmental Protection Agency

U.S. Fish and Wildlife Service

APPENDIX B

**INTERVIEW QUESTIONS FOR NAVAL WEAPONS STATION
CONCORD COMMUNITY RELATIONS INTERVIEWS AND THOSE INTERVIEWED**

COMMUNITY INTERVIEW QUESTIONS

NAVAL WEAPONS STATION CONCORD

The strategy and questions are to be used by the interviewer as guidance. All questions have been reviewed for compliance with the Department of Toxic Substances Control (DTSC) suggested question list.

I. Community Interview Strategy

Assure interviewee that their statements will be confidential.

Let interviewee know who will be present at the interview.

Explain the purpose and the process of the community interview questions and the process of developing the Community Relations Plan (CRP).

[Note: Consistent with the CERCLA guidance document, this strategy will be implemented at least twice. First, when the Navy is setting up the interviews and discussing the purpose over the telephone with the interviewee. Second, when the interview is being conducted.]

II. Citizen Awareness

Are you aware of any potential environmental problems at Naval Weapons Station Concord?
If so, please explain.

Are you familiar with the Navy's Installation Restoration Program at Naval Weapons Station Concord?

Do you feel that there is a strong community interest in the environmental cleanup at Naval Weapons Station Concord?

What do you think of the community's interest in environmental issues in general?

How long have you lived and worked in the community?

When did you become aware that there are environmental investigations? When and how did you become aware?

Do you trust your government leader's actions related to Naval Weapons Station Concord?

Community leaders: Have you received any inquiries regarding environmental issues or programs related to Naval Weapons Station Concord? What kinds of issues have been raised?

Has anyone from a governmental agency or political organization provided you with information?

III. Citizen Concerns

Do you believe your health has been affected by contamination both on and off the weapons station? If so, how?

Do you believe the environmental cleanup will impact the local community? If so, how?

What do you think the impact will be on local businesses due to potential contaminants that may be found on or off the weapons station?

Do you have any concerns regarding potential impacts on water, including the surrounding bay water, groundwater, surface water, and the tidal basin area?

Are you concerned about the routes that may be used for transporting potentially hazardous substances from the weapons station to off-site disposal facilities?

IV. Navy Credibility

Do you have confidence in the current environmental cleanup program at Naval Weapons Station Concord?

V. Citizen/Community Involvement

How can the Navy best provide you with information regarding Naval Weapons Station Concord's cleanup activities?

How often would you like to receive updates on the cleanup process?

Would you be interested in attending informational meetings or workshops for people who live in the area?

Federal and state laws require public comments to be considered before the final decision is made on the cleanup remedy for the weapons station. There will be a formal comment period during this process. What other ways can you recommend for the Navy to receive input during the study of the weapons station?

Can you suggest other individuals or groups that the Navy should contact for additional interviews?

What is the best method for communicating with you?

When is a convenient time for you to meet?

Through what medium would you prefer to hear/receive announcements?

Are there any specific community needs? (e.g., language, elderly)

Is the local library a convenient place to meet? Are there any other suggestions?

INTERVIEWEES

Bay Point Residents

Business Persons

Chamber of Commerce Executives

Clergymen

Clyde Residents

Concord Residents

Elected Officials

Professional Staff

Public Works Director

APPENDIX C
COMMUNITY RELATIONS MAILING LIST

APPENDIX C

COMMUNITY RELATIONS MAILING LIST

Honorable George Miller
U.S. Congress
367 Civic Drive
Pleasant Hill, CA 94523
(510) 602-1880

Honorable George Miller
U.S. Congress
2205 Rayburn HOB
Washington, DC 20515
(202) 225-2095
(202) 225-5609 (Fax)

Dan Boatwright
State Senator
1001 Galaxy Way
Suite 210
Concord, CA 94520
(510) 689-1973
(510) 689-0618 (Fax)

Dan Boatwright
State Senator
State Capitol
Sacramento, CA 95814
(916) 445-6083
(916) 446-7367 (Fax)

Robert Campbell
Assemblyman
815 Estudillo
Martinez, CA 94553
(510) 372-7990
(510) 372-0934 (Fax)

Robert Campbell
Assemblyman
State Capitol Building
Room 2163
Sacramento, CA 95814
(916) 445-7891
(916) 327-2999 (Fax)

Richard Pieper
Naval Weapons Station
Building IA-15, Code 092
10 Delta Street
Concord, CA 94520
(510) 246-5650
(510) 246-2003 (Fax)

Susan Gladstone
California Regional Water
Quality Board
San Francisco Bay Region
2101 Webster Street
Suite 500
Oakland, CA 94612
(510) 286-0840
(510) 286-3986 (Fax)

James R. Pinasco
California EPA
Dept. of Toxic Substances
Control. Reg 1
10151 Croydon Way
Suite 3
Sacramento, CA 95827
(916) 255-3719
(916) 255-3697 (Fax)

Cindy Flemming
Naval Base San Francisco
Building One, Treasure
Island
410 Palm Avenue
San Francisco, CA 94130
(415) 395-3903
(415) 395-3990 (Fax)

Alfred B. Elkins
Commander
Base Transition Field Office
410 Palm Avenue, Treasure
Island
San Francisco, CA 94130
(415) 395-3931
(415) 395-3990 (Fax)

Roy Santana
EFA WEST
900 Commodore Drive,
Building 206
San Bruno, CA 94066
(415) 244-2523
(415) 244-2776 (Fax)

Ronald Yee
EFA WEST
900 Commodore Drive,
Building 206
San Bruno, CA 94066
(415) 244-2558
(415) 244-2776 (Fax)

Barbara Smith
U.S. Environmental
Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2366
(415) 744-1917 (Fax)

APPENDIX C (Continued)

COMMUNITY RELATIONS MAILING LIST

LOCAL AND REGIONAL
OFFICIALS

Karen Klaczynski
68 Water Street
Bay Point, CA 94565

Edward James
City Manager
City of Concord
1950 Parkside Drive, MS/01
Concord, CA 94519

Michael A. Pastrick
City Council Member
City of Concord
1950 Parkside Drive, MS/01
Concord, CA 94519
(510) 671-3158
(510) 798-0636 (Fax)

Mike Vogan
Public Works Director
City of Concord
3200 Clayton Road
Concord, CA 94519
(510) 671-3231
(510) 680-1660 (Fax)

Mark De Saulnier
Contra Costa County
2301 Stanwell Drive
Concord, CA 94520
(415) 646-5763
(415) 646-5767 (Fax)

Doug & Jane Whipple
Clyde, CA 94520

Mayor Leonard Herendeen
P. O. Box 130
Antioch, CA 94509
(510) 779-7010
(510) 779-7003 (Fax)

Mayor Ed Dimmick
P.O. Box 8039
Walnut Creek, CA 94596
(510) 256-3504
(510) 943-5897 (Fax)

Mayor Michael M. Menesini
City of Martinez
525 Henrietta Street
Martinez, CA 94553
(510) 372-3501
(510) 372-0257 (Fax)

Mayor Helen Allen
City of Concord
1950 Parkside Drive
Concord, CA 94519
(510) 671-3158
(510) 671-3375 (Fax)

Fire Chief Alan Little
2010 Geary Road
Pleasant Hill, CA 94523
(510) 930-5531

Robert Bradshaw
Police Chief
Concord Police Department
Willow Pass Road and
Parkside Drive
Concord, CA 94519
(510) 671-3232
(510) 671-2261 (Fax)

APPENDIX C (Continued)

COMMUNITY RELATIONS MAILING LIST

**LOCAL COMMUNITY
LEADERS**

Roger Barry
The IN REACH Foundation
Bay Point, CA 94565

William Manning, Esq.
Walnut Creek, CA 94596

Memory Woodard
Executive Director
Concord Chamber of
Commerce
2151A Salvio Street
Concord, CA 94520
(510) 685-1181
(510) 685-5623 (Fax)

Cindy Kelly
Concord Chamber of
Commerce
2151-A Salvio Street
Concord, CA 94520
(510) 685-1181
(510) 685-5623 (Fax)

Karen Mitchoff
Office of Contra Cost
County Supervisor
Mark De Saulnier
2301 Stanwell Drive
Concord, CA 94520

LOCAL BUSINESSES

Atlas Tree Service, Inc.
150 Medburn Street
Clyde, CA 94520

Eagle Iron Works
100 Medburn Street
Clyde, CA 94520

Value Plumbing Co.
100-B Medburn Street
Clyde, CA 94520

APPENDIX D

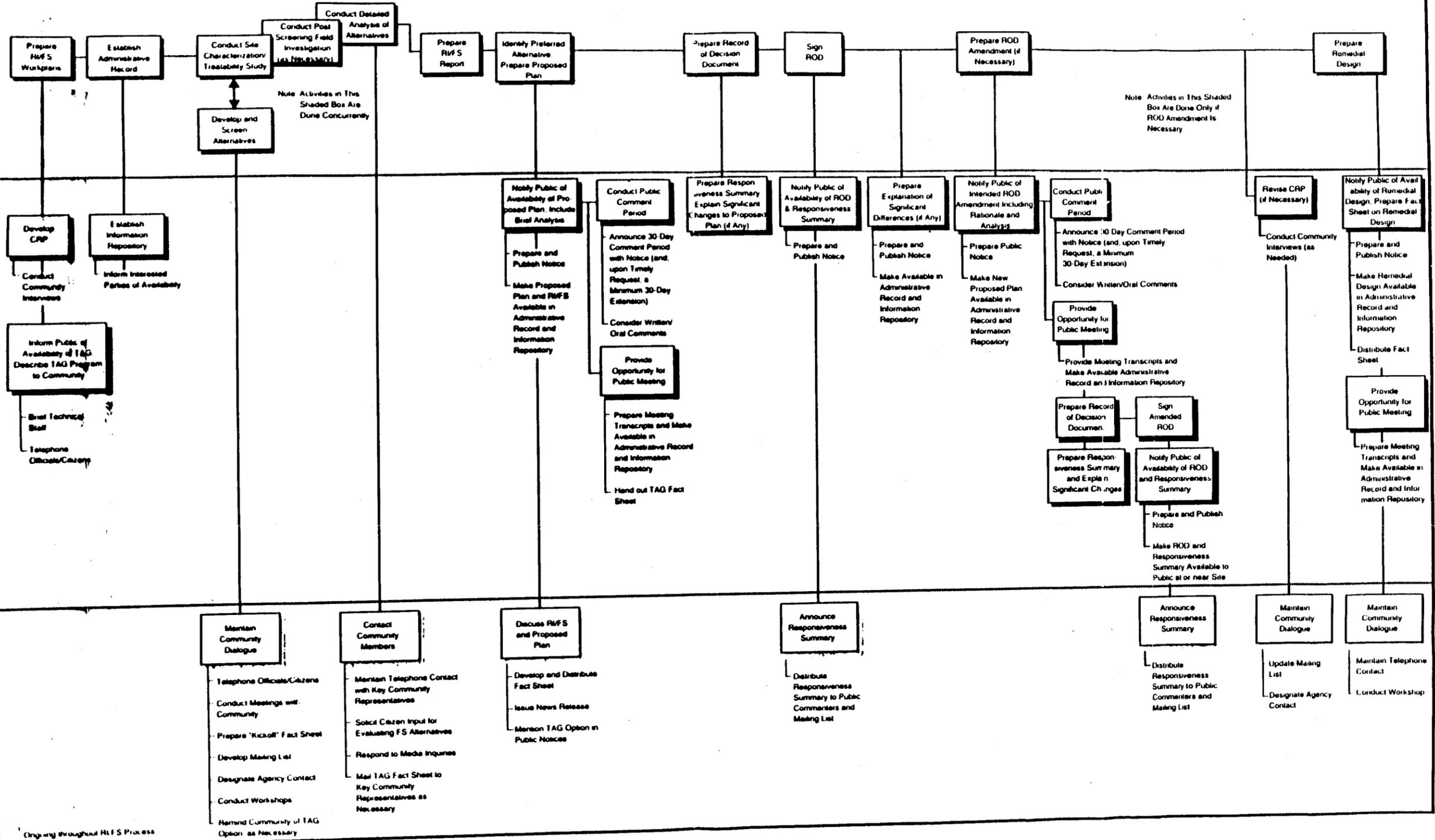
**RELATIONSHIP OF COMMUNITY RELATIONS ACTIVITIES TO THE SUPERFUND
REMEDIAL PROCESS**

Relationship of Community Relations Activities to the Superfund Remedial Process From Remedial Investigation/Feasibility Study to Remedial Design

Remedial Process

Required Community Relations Activities

Suggested Community Relations Activities



APPENDIX E
NEWSPAPER ARTICLES

Violin virtuoso
Acclaimed musician
performs
in Pleasanton



Bard 101

Companies help you
bone up on Shakespeare

Charged in Pleasanton woman's slaying/3A

Valley Times

National Newspaper Association general excellence winner

Vol. 112 No. 33 46 cents plus tax

Concord added to nuclear rods' shipping route

Supervisor vows suit over feds' plans

By LARRY SPEARS
Staff writer

CONCORD — The Naval Weapons Station will handle shipments of spent nuclear fuel bound for Idaho storage areas, federal officials announced Thursday.

A Contra Costa County supervisor immediately said he would press for a lawsuit to block the decision.

U.S. Department of Energy hearings held here last year on the proposal were a "joke," said Supervisor Mark DeSaulnier. "I think the reasons they chose Concord are a bunch of baloney."

Shipments of nuclear waste will arrive at weapons stations docks five times during the next 13 years, said an Energy Department statement released Thursday afternoon. Within two to four hours, it said, the fuel will be transferred to trucks or trains bound for the National Engineering Laboratory in the Idaho desert.

Stainless steel casks weighing up to 120 tons hold 3-foot spent nuclear rods from foreign research reactors. Altogether, ships would carry 38

casks bearing 1,200 rods, amounting to 500 pounds of nuclear waste.

The Energy Department chose Concord and the Navy base at Charleston, S.C., from among 10 possible ports, said Dave Christy, a spokesman in Oakland. Federal officials originally proposed handling 165 casks at Concord, Christy said. Charleston will take more than 600.

DeSaulnier said the department should have chosen a Pacific Northwest city instead of Concord for the western port. "Tacoma is a lot closer to Idaho than we are," he said.

The Energy Department, said its statement, chose the two military ports for their experience handling nuclear and other hazardous cargo, plus security and access to rails and highways.

Christy said the decision was final. Opponents only have the option of a court challenge, he said.

"I will encourage our elected leaders to file a suit," said Dave Kory, president of the Civic Improvement Association in Clyde, the village sit-

Please see NUCLEAR, Back Page

Nuclear

FROM PAGE 1A

ting at the weapons station gate on Port Chicago Highway.

"I have a feeling that some of the cities will be drawing a line in the sand on this one," said Michael Veiluva, attorney for the Western States Legal Foundation, which advises environmental groups.

The Energy Department, he said, had ignored what residents said in a Concord hearing last May. "They've paid no attention to the hazards of bringing that material into the Bay, under bridges, through shipping channels and past population centers," he said.

Concord officials are seeking more information, said Mayor Lou Rosas. "We're very disappointed."

Activists in Groundswell, an opposition group, would stage protests, said leader Bob Mannaberg. "What we want first is a community forum on this."

The fuel contains highly enriched uranium. The United States is taking it from other countries to keep it out of world markets and to encourage other nations to use low enriched fuel, said Jim Werner, the Energy Department environmental policy director in Washington, D.C.

Marylita Kelley, co-founder of TRI-VALLEY CARES, a Livermore-based environmental group, said she was concerned that the United States would reprocess the fuel into highly enriched uranium, which can be used for weapons.

Staff writers Andy Jokelson, C. K. Maclay, Ariel Ambruster and Sam Richards contributed to this story.

Squirrels moving in

Five years after the Concord Naval Weapons Station's last attempt to rid itself of ground squirrels, 27,000 more have moved in — and the rodents are undermining weapons bunkers, base officials said Wednesday. "They have weakened protective earthen berms over the magazines, they have burrowed under roadways and railroad beds, they've caused cracks in foundations," said spokeswoman Anna Lou Procter. The fastest, most efficient and cheapest way to stop the squirrels is poisoning them and bulldozing their burrows — but animal protection groups are already up in arms about the proposal.



BOB PEPPING/CONTRA COSTA TIMES VIA AP

BAY AREA REPORT

**Squirrels Undermine
Naval Weapons Station**

Concord — Five years after the last attempt by the Concord Naval Weapons Station to rid itself of ground squirrels, 27,000 more of the unruly rodents have moved in and are undermining weapons bunkers, base officials said yesterday.

"They have weakened protective earthen berms over the magazines. They have burrowed under roadways and railroad beds. They've caused cracks in foundations," said station spokeswoman Anna Lou Procter. "And we've had squirrel-related power failures."

The burrowing threatens the safety of the weapons bunkers, which store conventional arms, ammunition and missiles, she said.

The fastest, most efficient and cheapest way to stop the squirrels is to poison them, probably with Chlorophacinone, and to bulldoze their burrows. However, animal protection groups are already up in arms about the proposal.

"This is an extremely painful and inhumane process," says Jean Bonadio of In Defense of Animals. "The baited oats cause a slow, painful death from internal bleeding. It can take up to two weeks for the suffering animals to die."

In addition, the poison could hurt some of the approximately 20 endangered species living on the base, including the San Joaquin kit fox, the tiger salamander and possibly bald eagles, she said.

Contra Costa Times
Wednesday, June 7
Front Page

Nuke waste? Board says no way

Martinez council will fight plan, too

By ARIEL AMBRUSTER
and C.K. MACLAY
Staff writers

Contra Costa County, Martinez and Concord leaders have voted to oppose a federal government plan to ship nuclear waste through the Concord Naval Weapons Station.

The Board of Supervisors on Tuesday not only disliked the idea, they asked other Bay Area governments to join their fight against it.

"We have to be loud and vociferous in making our voices heard so this doesn't happen," said Supervisor Mark DeSaulnier, who represents Concord and Clyde near the



weapons station.

"A well-populated, very seismically active area is not an appropriate location," Supervisor Jeff Smith of Martinez said before he and his

colleagues voted to oppose the proposal.

The Department of Energy is looking at 10 ports around the country, including Concord, as possible sites for accepting spent nuclear fuel from reactors around the globe.

From the ports, shipments would be trucked or railed to processing sites elsewhere in the country. Federal officials say the program would help protect nuclear fuel from being used to make bombs.

But opponents say local residents shouldn't have to bear the burden of an international non-proliferation program.

Residents and political leaders said they're not merely being "nimbys" (not in my back yard) in opposing the plan.

Shipments to Concord would pass by densely populated areas, earth-

quake faults, six oil refineries, chemical plants and oil tankers.

While federal officials say there's never been an accident with casks of spent nuclear fuels, local leaders aren't reassured.

"A tragedy involving this material would be incalculable," said Martinez Councilwoman Harriett Burt at a Monday night meeting at which the council voted unanimously to oppose the plan.

Mayor Mike Menesini said he was puzzled how the federal government could decide several years ago to close a Veterans Administration hospital in town because it was too close to the Concord fault, yet pursue nuclear waste transfers at a base near the same fault line.

"How can it be less safe to operate a hospital than it is to download

Please see NUKES, back page



BOB PEPPING/Times

ABOUT TWO DOZEN residents, including Green Party activist Edita Harrott of Walnut Creek, waited Tuesday outside the Contra Costa County Board of Supervisors chamber for an opportunity to attack the federal proposal to move nuclear waste through the county.

Nukes

FROM PAGE 1A

nuclear fissionable material?" he asked.

Concord City Council members Tuesday unanimously opposed shipments of nuclear waste through the Concord Naval Weapons Station.

"There are too many unanswered questions," said Councilman Mike Pastrick. "They don't talk about what streets will be used, what railroads, whether we will need more police, they don't even get into this."

Pastrick, a pharmacist at Mt. Diablo Medical Center, said the hospital training for disasters never had included emergencies with radioactivity.

A federal report on the proposal, he said, declared that local jurisdictions would be the first line of defense against a nuclear mishap.

Nearly 100 people crowded the council hearing and about a third re-

mained for the council vote after a two and a half hour hearing. Eighteen people spoke, all against the shipments.

Council members voted to oppose the proposed shipments and separately to condemn a draft federal environmental impact statement.

At the earlier supervisors' meeting, residents said the Concord station could be vulnerable to terrorists.

Several years ago, a peace activist, Brian Willson, lost both legs after lying down in front of a Concord military train carrying weapons.

Dominic Von Zabern, an activist who said he was present when Willson was injured, asked board Chairwoman Gayle Bishop after the meeting if she and fellow board members would declare Contra Costa County a nuclear-free zone.

"That sounds like a good idea," Bishop responded.

Oakland, which did the same, successfully fended off the federal government's original plan to ship the nuclear waste through that city. That's when federal officials started

looking at Concord, saying it is a less populous area.

Political leaders said they were appalled and offended by the way the federal government has treated local concerns. No local officials knew about the proposal until April, and since then, they've been unhappy with the lack of details and the unresponsiveness of federal officials.

Leaders said the federal government has done a poor job of providing details on the plan.

County Planner Chuck Zahn said the federal environmental report on the proposal is "ponderous, disjointed and incomplete."

Local politicians are asking the federal government to give them more time to comment on the report. At this point, all public comments must be submitted by June 20.

"I don't think that's going to be possible," Sharon Rummery, Department of Energy spokeswoman, said outside Tuesday's meeting. The department, she said, must follow a government-mandated timetable.

EDITORIALS

Cleaning weapons base

Disclosure of toxic sites welcome, but overdue

For decades, military bases have been exempt from environmental laws affecting private businesses and other public institutions. Too often bases became toxic waste dumps without the knowledge of nearby residents. But no longer.

Legislation now requires bases to disclose information regarding environmental impact of cleaning up hazardous wastes and also mandates public participation from nearby communities.

That's why the Concord Naval Weapons Station held a public tour last Saturday for the first time in its

history. The station has 40 possible hazardous waste sites that must be cleaned up.

The base is situated on wetlands and has been designated a Superfund hazardous waste site, which gives it a priority for federal funding.

It's about time. There is no reason for military bases to keep hazardous waste dangers and clean-up efforts secret.

Full disclosure of environmental clean-up efforts should be a public matter. Military bases are among the worst violators of the environment. The federal government must do all it can to remove toxic materials so bases do not pose a danger to public health and the land can later be used for other purposes if the bases close.

The withering heights



Homes line the hills in southeast Antioch off of Hillcrest Avenue. Environmentlists complain suburban sprawl is gobbling the greenbelt. Staff photo/Reg Stidham

Environmentalism lags in E. County

By Holly K. Hacker
Staff writer

This weekend, the Bay Area, along with the rest of the world, celebrates the 25th anniversary of Earth Day. And while local environmentalists are recognizing attempts to protect the earth, some are also wondering why those efforts haven't taken root in East County.

Whether there is no organized movement at all or it is just in its infancy, local environmentalists seem to have failed to make their presence known on issues affecting the quality of life in East County.

Some people beg to differ. But the popular consensus is that aside from fighting a proposed toxic waste incinerator in Pitts-

■ Delta is still a natural playground for many

— See page 3A

People have their theories as to why East County lacks a strong environmental movement. Residents are too new and too busy to get involved. East County's industrial and agricultural origins have made older residents naturally suspicious of environmental causes. Another view is that folks do care about the environment, but the movement is young and faces a formidable opposition alliance of developers and politicians.

Whoever the cause, Bay Area environmentalists say that if East County residents don't get more involved in local environmental issues soon, they'll lose the natural

resources that brought them here in the first place.

"There will be tremendous losses in East County just because there's not enough concern yet on the part of the residents," said Seth Adams, executive director of Save Mt. Diablo.

San Franciscans raise issues

If the environment should be an issue anywhere, you'd expect it to be in East County. It links the Bay Area, the cradle of the environmental movement, and the Delta, a fragile ecosystem that provides most of the state's water. As one of the few places left in the Bay Area with lots of open space because of agricultural lands and Mt. Diablo and its rolling foothills, de-

See GREEN, back page

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the fact of the matter
is there is not a lot of, quote-
unquote, environmental activity
out here," Brentwood mayor Bill
Hill said.

Kidnapper gets light sentence

To the judge who sentenced Francisco Cruz Sarinana to eight years in prison for the kidnapping of Antioch resident Ruth Mayer. Because of time already served, Sarinana could be paroled in two years. While the kidnapper ultimately freed his victim, the light sentence is unwarranted in the ordeal during which Mayer feared for her life. A longer sentence was definitely in order for this crime.



Editor:

It's absolutely amazing how modern

checks of the American Southwest were

everyday gossip which traveled at the

speed of sound. Every village had a

Politicians find it hard to limit themselves

When the House of Representatives recently voted down congressional term limits — even though it supposedly was one of the most important items on the GOP's 10-point "Contract With America" — and though it was overwhelmingly popular with voters — no one was terribly shocked.

Despite their populist rhetoric, most politicians rarely do anything voluntarily that limits their pay, their perks, their tenure in office or their power.



John JACOBS

COMMENTARY

yourself, locally, there's not much we can do... Perrault also mentioned the proposed 6,600-home Cowell Ranch development south of Brentwood. She said it would help if the people living around Cowell took an interest, along with the more regional environmental groups.

"The last 4½ to five years, the developers have essentially been able to do whatever they want to do," said Al McNabney, vice president of conservation for the Mt. Diablo Audubon Society.

Cow waste opposed
Nonsense, says Tim Donahue, chairman of the Delta branch of the Sierra Club. With 300 members from Bay Point to Discovery Bay, the group is East County's most visible environmental body.

Donahue said membership has held steady in the group's eight-year existence. Members sit on various advisory groups and bodies in the county, and they've spoken out on the major environmental issues affecting East County, he said.

"We're a very active group," he said. "Anything, you name it, we've had a finger in the pot." For example, he pointed to his and other groups' successful opposition in 1992 to the incinerator Dow Chemical Co. wanted to build in Pittsburg. Locally people helped get the Antioch dump off James Donlon Boulevard closed a few years ago, he added.

Antioch ranch owner Howard Higgins said local environmentalists applied enough pressure to close a working ranch on Mt. Diablo. Environmentalists, including some from East County, were concerned about residue from cow waste polluting streams, he said.

"They are strong. I hate to admit it, but they are strong," said Higgins, president of the Citizens

Land Alliance, a Byron-based group of property owners, mostly farmers and ranchers, fighting to keep the rights to their land.

The successful passage of growth-control limits by voters in 1990 — the so-called urban limit line that precludes development outside it — is another example of a strong environmental base, Higgins claims.

However, that was a measure approved by voters countywide, not strictly those in East County. And a more restrictive measure backed by environmentalists was defeated.

Still, Higgins believes environmentalists are stronger than some think. "The developers have been taking a pretty good beating the last three or four years," Higgins said.

Why no involvement?
The most popular explanation for why East County hasn't taken more of an interest in local environmental issues is simple: Most residents are too new and too busy to care yet. Those who have lived here longer have reasons to distrust the environmental movement, some say.

"If you've been a hometown person and you've lived here all your life, the industry has been your friend, your provider of income," Antioch Councilwoman Mary Rocha said.

In Brentwood, much of the land has been owned by farmers who have sold their land to developers to ensure their own financial security.

As Rocha noted, "There's a concern there, but yet it's farmers' land, and how can you impose on the farmer?"

"Meanwhile, people who have just moved into new homes in Antioch, Oakley and Brentwood are spend-

ing their lives at the office or in traffic. And many haven't had time to get involved in environmental issues.

"They have just moved into the community, and if they're new, they're not going to be as involved. They're just establishing their roots and getting their bearings and by that very nature probably they're less connected and willing to get out there," the Building Industry Association's Bjerke said.

"It takes time."
There is yet another view that people here do want to protect the open space but they're up against strong, moneyed developers. And some say the politicians are closely allied with the developers, making it even harder to rally opposition.

In the early afternoon, rescuers were ordered to leave for fear the building was shifting. They returned, only to be ordered out again because of an unauthorized person on the site.

The death toll remained at 78 Saturday evening, with another 150 people still unaccounted for. More than 400 others were injured in the blast caused by thousands of pounds of homemade explosives packed into a Ryder rental truck.

The first memorial service was held for a bombing victim.

RWANDA
From page 1A

near the town of Kibeho. The new Tutsi-led Rwandan government began to close several camps in the area Tuesday, claiming they are sheltering militias loyal to the Hutu government ousted last year. But many refugees, afraid to return home, have resisted.

Mutuli said gunfire first broke out Saturday morning, then again in the afternoon. As of 8 p.m., she said, gunfire was still reported in

weather were stalled yet again by a threatening crack in the building's wall. Assistant Fire Chief Jon Hansen said workers were four to five hours from the day care center and the social security office area, where they expect to find many bodies.

Asked about the chances of finding anyone alive, he said: "At this point, it would almost be a miracle."
Earlier Saturday, stiff winds, 20-degree wind chills, lightning and steady rains stalled searchers as they began the heart-breaking job of digging through the part of the collapsed building that had housed the day care center.

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MCVEIGH
From page 1A

Timothy James McVeigh, arrested on a weapons charge in Perry, Okla., within 80 minutes of Wednesday's bombing, was born on April 23, 1968, and grew up in the suburbs of Buffalo, N.Y.

A neighbor during his boyhood, Pat Waugh, recalls McVeigh as a child with promise.

At one point, refugees broke through the cordon and soldiers attacked them as they fled, she said. "When people were running away they were being fired upon," Mutuli said.

Brocker of Decker, Mich., where McVeigh spent time off and on in recent years with Army buddy Terry Nichols, now being held as a witness.

Neighbors said McVeigh often drove his car around town loaded with guns and ammunition for sale. "He was a drifter," said Mary Ann Saenen. "He was very militant and always carried a weapon."

The manager of an Arizona trailer park where McVeigh lived for five months last year said he never saw any guns, but evicted McVeigh and his pregnant girlfriend last June after a series of arguments over loud music, the couple's dog and the wrecked car McVeigh refused to have towed away.

"He said he just got out of the Army, and he'd had enough of rules and regulations," said Bob Ragin of the Canyon West Mobile and RV Park in Kingman.

Timothy James McVeigh, arrested on a weapons charge in Perry, Okla., within 80 minutes of Wednesday's bombing, was born on April 23, 1968, and grew up in the suburbs of Buffalo, N.Y.

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Rafael Miramontes



900

LEGAL NOTICES

Public Notices 900
Public Notices/
S.F. City County 901

**900
PUBLIC NOTICES**

**PUBLIC NOTICE
NAVAL WEAPONS
STATION CONCORD**

Naval Weapons Station Concord is hosting an Environmental Orientation and Guided Tour, from 10:00 a.m. to 12:15 p.m. on Saturday, April 29. All local residents and other interested citizens are invited to attend.

The Environmental Orientation and Guided Tour are being conducted as part of Naval Weapons Station Concord's environmental outreach activities. Additionally, information regarding the formation of a Restoration Advisory Board will be provided during this program.

Restoration Advisory Boards, or "RABs," are committees formed at the individual military installations to provide the community and additional opportunity to participate in the environmental cleanup at neighboring military bases. The RAB is intended to bring together community members who reflect the diverse interests of the nearby community. A key responsibility of the RAB members is to review and comment on documents related to the environmental cleanup at the Naval Weapons Station.

The Environmental Orientation and Guided Tour will start at 10:00 a.m. at the main gate located off Port Chicago Highway. Tour participants will be asked to park their cars at the gate. A bus and a guide will take the participants around the Naval Weapons Station and explain the environmental cleanup activities currently being conducted at the Naval Weapons Station. After the guided tour, a presentation regarding the RAB will be made at the base theater. Tour participants may submit an application to join the RAB after this meeting. Refreshments will be served in the theater.

All interested community members are asked to call

Ms. Anna Lou Procter
or Ms. Linda Zukeran at
(510) 246-5591

at the Public Affairs
Office for a reservation.

If you plan to participate in the April 29 Environmental Orientation and Guided Tour, you MUST call one of the above individuals no later than Wednesday, April 26 at 3:00 p.m. Special transportation will be provided at the Naval Weapons Station for the disabled and elderly. No cameras will be permitted at this event.

Parental pressure

High school coaches who lose their jobs often blame parents of the players

1D

■ East Bay snack maker may fold without buyer/1C

ContraCostaTimes

Vol. 84 No. 324

Thursday, April 13, 1995

46 cents plus tax

T I M E O U T

END OF THE NEA? IF

Arts groups ponder where the money will come from



+

Weapons station may get nuke waste

By LARRY SPEARS
Staff writer

CONCORD — Ships might bring used nuclear reactor fuel containing plutonium to the Naval Weapons Station here under a Department of Defense proposal revealed Wednesday.

For 13 years, the weapons station would unload the radioactive cargo and transfer it to trucks or trains bound for storage sites in Nevada, Washington or Idaho.

Concord Chief Planner Dave Gollick

learned about the plan Wednesday when the city received a 6-inch-thick draft environmental report from the federal Department of Energy.

"I came back from lunch and found this big cardboard box," Gollick said. Until then, he said, "no one contacted me about it."

The spent fuel rods present no danger to residents, said John Belluardo, an Energy Department spokesman in Oakland.

Jackie Cabasso, director of the Western States Legal Foundation, had another view.

"Plutonium is one of the most dangerous materials known to mankind," she said.

According to a federal statement released Wednesday, the United States would collect spent nuclear fuel from foreign countries to prevent it from being diverted for use in nuclear weapons.

Over more than 30 years, the United States sent highly enriched uranium to 28 other countries for peaceful uses, including power plants. Highly enriched uranium can be used for nuclear weapons. When it is spent in a reactor, the plutonium byproduct

it produces also can be used for weapons. Under the weapons nonproliferation proposal, the United States would collect the spent fuel at 10 ports — including Concord, Tacoma, Wash., and Portland, Ore. — on the West Coast. From there it would be shipped to five "fuel management" sites, three in the West.

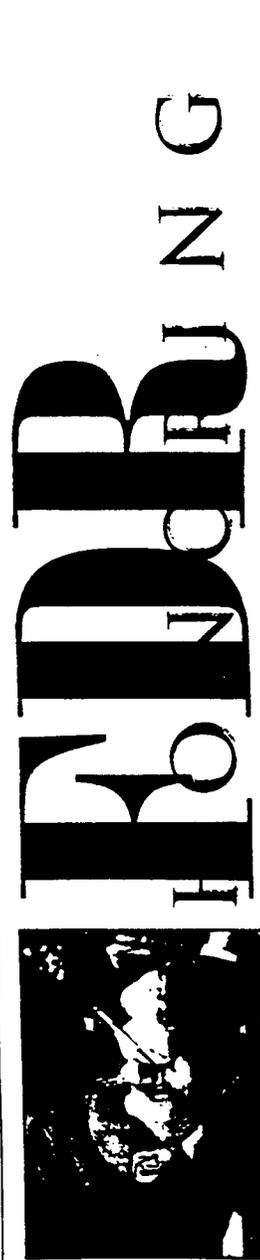
Representatives of the weapons station could not be reached for comment. Concord Councilmen Mike Pastrick and Bill McManigal said they would have no comment until they knew more. "We have to re-

view the document first," said City Manager Ed James.

Gollick said he would recommend that the Energy Department hold a public meeting on the issue in Concord. "I will be sending a memo to the city manager Thursday," he said.

The Energy Department plans a series of meetings at the ports, storage sites and in Washington, D.C., after April 21. A 60-day public comment period would end June 20.

Please see NUCLEAR, back page



Iacocca, partner bid for Chrysler

\$23 billion offer rejected, but also being reviewed

THE BACK PAGE

College

FROM PAGE 1A

was arrested this week by Yale University police and is scheduled to be arraigned next week on a charge of first-degree larceny. Grammer, who was expelled one month before graduating, is accused of using false pretenses to obtain \$61,475 in loans and scholarships. Police say they learned of the deceit after Grammer bragged to a roommate.

Yale officials said they cannot discuss Grammer's case because of student confidentiality laws. Nonetheless, Yale spokesman Gary G. Fryer has admitted that it is impossible for the university to verify every document sent along with applications.

Experts say elaborate ruses are uncommon but acknowledge they

may work because of the huge volume of applications that colleges and universities review each year.

"It's sad to say, but it doesn't surprise me," said Joyce Smith, associate director of the National Association of College Admission Counselors. She added that sophisticated desktop computer software now makes it easier than ever to duplicate documents such as school transcripts.

Officials at Bay Area universities and colleges agree that with thousands of applications arriving each year, there is no way to authenticate every piece of information.

"We look at things carefully to see if there's hanky-panky," said Connie Rusk, a spokeswoman for St. Mary's College in Moraga. "We're a small school with small classes, so we can read every letter. There are a lot of informal cross

'We look at things carefully to see if there's hanky-panky. We're a small school with small classes, so we can read every letter. There are a lot of informal cross checks. But we do rely on the student's integrity.'

— Connie Rusk, spokeswoman, St. Mary's College

checks. But we do rely on the student's integrity."

UC-Berkeley admissions officials focus on checking transcripts and test scores by making sure they come in sealed envelopes and are not falsified, spokeswoman Marie Felde said. The school has caught a few applicants forging transcripts, she said, although officials do not believe any have passed through the

system.

But Berkeley applicants also must write personal essays, which Felde concedes are difficult to check for accuracy.

"We have two readers for each one, and we look for inconsistencies," she said. "But I suppose if you were really good, you could slip something by."

At Stanford, applicants sign pa-

pers promising they are telling the truth, and admissions officers read through all applications twice, O'Toole said. This year, Stanford found false information in just one of more than 15,000 undergraduate applications, said O'Toole, who would not elaborate on the case.

School officials conceded that students could be getting away with cheating. "There isn't any way to know what isn't there," O'Toole said. "You know about the ones you catch, but generally, I don't think this is a big issue."

Public universities tend to be tougher to trick because they often rely strictly on transcripts and test scores sent directly from schools and testing services, signed and sealed in official envelopes, said Ed Apodaca, vice president of enrollment services for San Francisco State.

"We don't look at recommendations or essays, like many private institutions," Apodaca said. "We look at grades and test scores only. So unless a student is able to get inside an admission office and get official documents, maybe change grades on a computer, most (fake applications) stand out right away." Private schools also check these documents for fakes, but apparently Grammer's passed through the Yale system, Yale officials acknowledged.

"I'm surprised Yale didn't catch this," Apodaca said. "I think most campuses feel very comfortable that their systems are foolproof. Once in awhile you find someone like that but it seems they always will get caught."

The New York Times News Service contributed to this story.

Hard-boiled wonderland



Nuclear

FROM PAGE 1A

The department plans to issue a final report in September.

Copies of the draft report are available at Department of Energy reading rooms or by calling 1-800-7EM-DATA (1-800-736-3282).

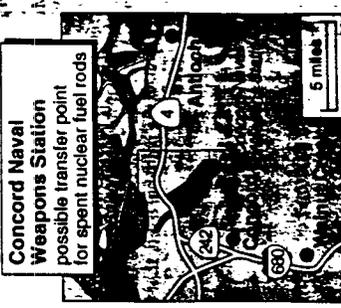
The report says energy officials are considering these alternatives:

- Bringing all spent fuel to the United States.
- Helping other countries store their fuel on their own soil or process it into lower-grade material.
- Combine those approaches, bringing some of the spent fuel to the United States.

Do nothing. With this approach, the report says, the supply of highly enriched uranium likely would increase.

Federal officials have "no preferred... alternatives at this time," the report says.

"I'm just opposed to them storing it any place in this country," said Kathryn Smick of the Mt. Diablo Peace Center board. "None of it makes any sense because we



Concord Naval Weapons Station possible transfer point for spent nuclear fuel rods

haven't devised a method of disposing of or storing (nuclear wastes) safely."

Through late last year, Energy Department officials were considering routing the fuel to the Port of Oakland. The department held a hearing in Oakland last November.

"There is nothing new except that they substituted Concord for Oakland," said Cabasso of the Western States Legal Foundation.

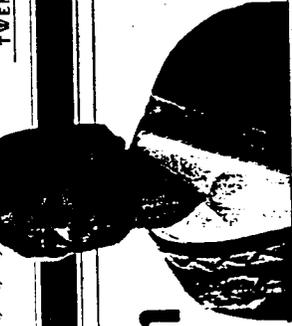
Staff writers Peter Weiss, Andy Jackson and Gordon Mohr-Ung contributed to this story.

Simpson

FROM PAGE 1A

The defense has suggested that taking a vial of Simpson's blood to his home gave police the opportunity to frame him for murder. Vannatter testified earlier that the blood

San Francisco Examiner



Olympic coach

VanDerveer to lead '96 women's basketball [C-1]

Bay Area designers dress up film [B-1]



U.S. plan would ship nuclear waste to Bay

Concord base among sites that would handle other nations' fuel rods

By Key Davidson
 OF THE EXAMINER STAFF

Nuclear waste from foreign countries would be shipped through the San Francisco Bay to the Concord Naval Weapons Station under a long-awaited plan by the Clinton administration to control nuclear weapons proliferation. Anti-nuclear activists warn that such shipments could cause a serious environmental accident and threaten the health of Bay Area residents. The U.S. Energy and State departments released a draft proposal of the plan late Wednesday; it wouldn't take effect until after a series of public hearings. Under the plan, the United

States would offer to accept other countries' spent nuclear fuel rods, which contain highly enriched uranium and small amounts of plutonium, both of which can be fashioned into nuclear bombs. In exchange, other countries would begin fueling their reactors with low-enriched uranium, which is much harder to turn into bombs. The Clinton administration proposal comes at a politically sensitive time, just days before members of the United Nations are scheduled to debate whether to revise the so-called "holy grail" of arms control — the quarter-century-old Nuclear Non-proliferation Treaty.

It identifies 10 sites in the United States that would be "ports of entry" for the waste, including, on the West coast, Concord, Portland and Tacoma. After arriving by sea at Concord, the waste would be shipped by truck or rail to medium-term

[See WASTE, A-1]

◆ WASTE from A-1

Nuclear rods would be sent to Concord

storage sites in Nevada, Washington, Idaho, Tennessee or Georgia. Eventually, the waste might be permanently buried at a long-term waste repository, perhaps Yucca Mountain, Nev.

"This is some of the most dangerous stuff that exists," anti-nuclear activist Jackie Cabasso of Western States Legal Foundation in Oakland said Thursday. "It contains plutonium, which has a half-life of 24,500 years and it's lethal for 10 times longer than that." Half-life refers to the amount of time it would take half the plutonium to decay.

Safety assured

But Energy Department spokeswoman Jayne Brady stressed that the Energy Department has concluded the shipments can be made safely.

"The (Energy) Department isn't saying (the spent fuel) isn't danger-

ous. We know it's very dangerous. That's not the issue here," Brady said. "The real issue is non-proliferation and ... encouraging the foreign research reactors to convert to low-enriched uranium."

A public hearing in Concord is tentatively scheduled for late May, Brady said.

Energy Department officials originally had considered shipping the waste through Oakland, but the city was not on the list released Wednesday. Brady said she wasn't sure why Oakland was dropped.

The waste would consist of numerous 3-foot "spent" nuclear fuel rods. Such rods have been exposed to radiation in a nuclear reactor and are highly radioactive.

During the time a rod is exposed to radiation, a small amount of its highly enriched uranium — no more than one-fiftieth of 1 percent — is converted to plutonium.

Concern about accident danger

Marilyn Kelley, a leading anti-nuclear activist with Tri-Valley Care in Livermore, said the proposal has the potential for disaster.

"If I lived in Concord or anywhere around the Carquinez Strait, I would be very concerned about this proposal," she said. "You would certainly be bringing it through very populated areas. If there were an accident and it were dropped from a crane during off-loading — rupturing the 'cladding' or outer skin, which is made usually of aluminum or zirconium — it would expose the workers to intensely radioactive fission products."

Other cities on the list are Charleston, S.C.; Galveston, Texas; Jacksonville, Fla.; Hampton Roads, Va.; Sunny Point, N.C.; Savannah, Ga., and Wilmington, N.C.

The Oakland Tribune

MARCH 1, 1995

PAGE 1

Concord naval base eventually may stand alone in Bay Area

By Kathleen Kirkwood
STAFF WRITER

The largest military base in the Bay Area, Concord Naval Weapons Station, will probably be the Navy's lone outpost in the region after the turn of the century.

That's because the 13,000-acre base near Concord has managed to survive the nation's three rounds of base closures, despite the decisions to shut down five other Navy bases in the area by 1999.

And the Concord base, the largest defense terminal for shipping explosive ordnance on the

West Coast, doesn't appear on the fourth list of recommended closures released Tuesday by Defense Secretary William Perry.

For some, it's ironic, because the Concord base has probably generated the most criticism from peace activists over the years due to its weapons mission.

Unlike Vallejo or Alameda, where Navy boosters drown out the opposition, there's always been a vocal contingent at Concord that wants the base closed and its mission abo-

Please see Base, A-7

Base: Injects \$150 million annually into area economy

Continued from A-1

lished.

"We certainly would like to have it closed down and converted to civilian use," said Andy Baltzo, founder of the Mt. Diablo Peace Center. Baltzo, a retired teacher from Pleasant Hill, said activists have pushed for the past six years to get the Concord facility on the closure list.

One of the most dramatic moments in the nation's peace movement happened in front of the Concord base eight years ago, when activist Brian Willson lost his legs beneath a munitions train.

Although Baltzo maintains, "Nobody wants to live near a weapons station," some say they do, and want the Navy to remain in the community for as long as it can.

The base, established in 1942, benefits surrounding communities, like Concord, Clyde, and Pleasant Hill, regional officials say. The local Chamber of Commerce even formed a committee for the contingency that the weapons station popped up on this year's defense list of recommended shutdowns.

"We know at some point it could be on the closure list, that nothing's for sure," said Karen Mitchoff, staff assistant to Contra Costa County Supervisor Mark DeSaulnier. "We're happy that it's perceived as vital to the nation's military."

She said she's lived in the area for 30 years, and maintains the benefits of the base outweigh its existence as a weapons station.

The base has the largest "transshipment outloading port" on the West Coast, according to weapons station commanding officer Capt. Roger B. Lanning.

That means it has facilities for handling, loading and storing ord-

nance, from ammunition to missiles, from railroad cars and trucks onto ships. The base's three circular deepwater piers on Suisun Bay can handle six ships, but only four ammunition ships are now homeported there.

During the Vietnam and Korean wars and the Panama invasion, the station was the principal port for shipping ammunition overseas. In the war with Iraq, the base supplied about 30 percent of explosive ordnance shipped overseas, amounting to about 93,000 tons.

Although it's a bone of contention for peace activists, local officials and many business owners don't want the base to move away. It's one of the top five employers in the county, and its annual \$53.5 million civilian payroll goes a long way. Lanning estimates that the base pumps \$150 million annually into the region's economy.

The Concord base has fewer employees than others that are closing, like Mare Island Naval Shipyard and the Alameda Naval Aviation Depot, which have more than 6,000 civilian workers between them.

The 968 civilian employees at Concord even include some "tenant" activities from other service departments that have already started to "look for a home" because other bases are closing down, Lanning said.

He added that the base hasn't managed to entirely escape defense downsizing. Between July 1993 and November 1994, 171 employees took early retirements and another 131 were laid off as a result of reduced workload.

The base has 530 military personnel, most of them security personnel who patrol about 35 miles of the base perimeter fence, waterfront and 300 storage magazines.

San 12/17/97

Ed Badua, 33, was charged with possession of prohibited reptiles for allegedly owning the cobra, a mamba and a rattlesnake — three extremely dangerous and prohibited snake species, said Mike Frazer, state humane officer for Santa Clara County.

Badua had advertised the snakes for sale. Posing as a potential snake buyer, an undercover official responded to the ad and met Badua in a parking lot to purchase the cobra. When Badua returned to his home, Frazer intercepted him, finding the rattlesnake and the mamba in his car and numerous other legal-to-own reptiles caged in his garage in the 1900 block of Tobago Avenue.

Rescue Effort Fails — Woman Dies in Fire
Sunnyvale — An 82-year-old Sunnyvale woman died yesterday after police and firefighters were unable to rescue her from her burning condominium.
A Santa Clara County coroner's office spokeswoman identified the victim as Kathleen Thoren.
Police officers, who arrived first at the scene, were unable to rescue the woman inside a ground floor condo on Crescent Terrace early yesterday after they were driven back by flames and smoke.
Some 20 firefighters brought the blaze under control in approximately half an hour, but by the time they were able to enter, the woman had died, police said.

Jury Recommends Death For Murderer, 70
San Jose — A jury recommended the death penalty yesterday for one of Santa Clara County's oldest murder defendants.
Raymond Johns, 70, of San Jose, was convicted in November of first-degree murder in the strangulation deaths of two women, who were killed nine years apart.
Johns was found guilty of the July 1989 murder of Nancy Johnson — a Mountain View woman he had dated for two years — and the murder of his fiancée, Maureen Rettig, of San Jose, sometime in December 1980 or January 1981.
Johns also was convicted at the end of his trial of two counts of paying a prison gang member \$6,000 to kill two witnesses in the case — Johnson's sister and Johns' secretary in his court reporting business. Both testified against Johns during the trial.
Johns is scheduled to be sentenced January 18.

San Jose Man Arrested For Selling Snakes
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■ SOUTH BAY
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long-term threats to public health and to the environment.

An EPA fact sheet compiled in February 1992 stated that one 20-acre site at the Contra Costa County facility was a major disposal area from 1944 to 1979 and received an estimated 33,000 tons of waste.
In another area, hazardous substances identified in a recent chemical analysis included zinc, copper, cadmium, lead, arsenic, naphthalene and methylene chloride in soil, sediment and surface water, the fact sheet said.

According to officials, there are now 1,242 final sites and 46 proposed Superfund locations nationwide.

Engineer Wins Honor From UC Berkeley
Berkeley — Structural engineer T. Y. Lin, known for such designs as the huge arches that hold up the Moscone Center in San Francisco, has been named the University of California at Berkeley's alumnus of the year for 1994 by the California Alumni Association.
A native of China who earned his master's degree in engineering at Berkeley in 1952, Lin pioneered the use of prestressed concrete in groundbreaking engineering projects around the world.
The 82-year-old engineer, who lives in El Cerrito and has offices in San Francisco, will be honored at the alumni association's annual

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more than two years in prison for misappropriating client investments and mortgage funds.

U.S. District Judge Eugene Lynch ordered Christel to pay nearly \$1.6 million in restitution to financial institutions and individual investors, many of them former personal friends, whose money she mishandled.
Christel and her husband, Sheldon, fled to Mexico last year after the FBI started to investigate complaints about the operations of Christel Mortgage Inc. They returned from Mexico after a month and surrendered voluntarily to local authorities.

Darlene Christel, who pleaded guilty to one count of bank fraud August 12, was ordered to serve five years probation and contribute 800 hours of community service after she completes her 27-month prison term.
Sheldon Christel pleaded guilty to one count of wire fraud and will be sentenced next week.

Concord Naval Station Added to Superfund List
Concord — The Concord Naval Weapons Station was added yesterday to the final Superfund priority cleanup list, the U.S. Environmental Protection Agency announced.
The list includes the most serious hazardous waste sites in the country, which pose the greatest

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three of Grogg's U-Haul truck, which he had rented earlier in Ita Rosa. Grogg stopped the vehicle but stayed inside as police rounded it.
The highway patrol closed off Highways 12 and 121 for more than an hour while negotiators tried to get Grogg to leave the truck.
Grogg surrendered peacefully to an FBI agent just after noon. Grogg, who allegedly gave a note to a bank teller saying he had a gun, was unarmed.

Banker Sentenced in Mortgage Fraud Case
Walnut Creek — A federal judge sentenced former Walnut Creek mortgage broker Darlene Christel to

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OBITUARIES

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APPENDIX F

1995 NAVAL WEAPONS STATION CONCORD FACT SHEETS



Naval Weapons Station Concord Restoration Advisory Board

U.S. Department of the Navy, Engineering Field Activity West • May 1995

Introduction

Naval Weapons Station Concord is currently conducting an environmental cleanup at various sites throughout the weapons station. This fact sheet is one of a series of fact sheets prepared for community members living or working near the Naval Weapons Station. The purpose of this fact sheet is to introduce community members to the Restoration Advisory Board and to invite interested persons to submit an application to join.

What is a Restoration Advisory Board?

Restoration Advisory Boards, or "RABs," are committees formed at individual military installations to provide the community an additional opportunity to participate in the environmental cleanup at neighboring military bases.

Naval Weapons Station Concord is establishing a RAB in your community. The RAB brings together community members who reflect the diverse interests of individuals, businesses, and organizations living and working on or

near the Naval Weapons Station. Community members who participate are asked to review various technical documents and related site information regarding the environmental cleanup at the Naval Weapons Station. Although the RAB members will not make decisions on environmental restoration activities, members are encouraged to make recommendations or suggestions as to how the process should proceed.

A unique feature of the RAB is that there will be two cochairs, one

person who will represent the Navy and one person who will be selected from community members.

Where did RABs come from?

On July 2, 1993, President Clinton announced a major plan to speed the economic recovery of communities where military bases are slated to close. A significant element of the President's program is the establishment of a RAB at closing bases. Since then,

RAB Meeting Soon!



U.S. Department of the Navy, Engineering Field Activity West • April 1995

the RAB concept has been expanded to include all military facilities. RABs are intended to increase public participation by involving the community in the environmental decision making process including the Installation Restoration Program.

Why should I join the RAB?

Membership on the RAB gives you an opportunity to work with the environmental cleanup team at Naval Weapons Station Concord. RAB members learn about the ongoing cleanup activities, share opinions, make recommendations, or suggestions on environmental cleanup issues that may affect your home, business, or community. Also, RAB members serve as a valuable source of information related to the environmental cleanup at Naval Weapons Station Concord. They act as a conduit for environmental information to and from your community.

What are the RAB's responsibilities?

RAB responsibilities include the following:

- Attending regular meetings, which are open to the public
- Reviewing and commenting on documents related to

the environmental cleanup

- Serving as a conduit for information between the Naval Weapons Station and the community on environmental cleanup issues
- Providing input on cleanup activities and priorities

How do I become a RAB member?

Anyone interested in becoming a RAB member must submit an application to Naval Weapons Station Concord. RAB members will be selected by a committee composed of representatives from the Naval Weapons Station, federal and state regulatory agencies, and the community. Applicants should reside or work in the Concord/Clyde/Baypoint community.

What is the application process?

An application for membership is included as part of this fact sheet (see page 3). After the application is received, it will be reviewed by the selection committee. Applications must be submitted by May 12, 1995. All applicants will be notified in June regarding their RAB participation.

How can I learn more about the RAB and the environmental cleanup process at the Naval Weapons Station?

A public meeting and guided tour of several sites undergoing investigation at the Naval Weapons Station will be held 10:00 a.m. to noon Saturday, April 29, 1995. The upcoming activities begin with a guided tour. If you plan to attend the April 29, 1995 Environmental Orientation and participate in the site tours activity, please contact the Public Affairs Office at the Naval Weapons Station (Ms. Anna Lou Procter or Ms. Linda Zuckerman) at (510) 246-5591. A flyer about this public meeting is attached to this fact sheet. Please note that you must phone to reserve a space if you plan to attend the Environmental Orientation on April 29.

Community members interested in learning more about the RAB are encouraged to attend the April 29 community meeting. At the meeting, we will provide more information regarding the RAB, including membership opportunities and RAB responsibilities. RAB membership applications will be available at the meeting, or you may call the Public Affairs Office at Naval Weapons Station Concord, (510) 246-5591 to have an application mailed to you.

Naval Weapons Station Concord Restoration Advisory Board Fact Sheet

Restoration Advisory Board Membership Application

Naval Weapons Station Concord
Concord, California

Purpose

Naval Weapons Station Concord is forming a Restoration Advisory Board (RAB). This RAB will serve as a mechanism for community members to provide information, suggestions, and input on the environmental cleanup to the officials at Concord Naval Weapons Station.

Conditions for Membership

Service on the RAB is voluntary. RAB members are expected to serve a 2-year term and attend all RAB meetings or designate an alternate. Members who are absent (without a designated alternate) from two or more consecutive meetings may be asked to resign. Priority for membership will be given to local residents who are affected by the environmental contamination and cleanup at the Naval Weapons Station and represent the diverse interests of the nearby communities.

Name: _____

Address: _____

Phone numbers: Daytime () _____ Home () _____ Fax () _____

1. Briefly state why you would like to be considered for membership.

2. Which of the following apply to you as an individual?

- | | | |
|--|--|---|
| <input type="checkbox"/> Local resident | <input type="checkbox"/> Business community | <input type="checkbox"/> Base employee/resident |
| <input type="checkbox"/> Local or regional environmental group | <input type="checkbox"/> Civic or public interest organization | <input type="checkbox"/> Religious community |
| <input type="checkbox"/> Labor organization | <input type="checkbox"/> Homeowner association | <input type="checkbox"/> Local government |
| <input type="checkbox"/> Other: | | |

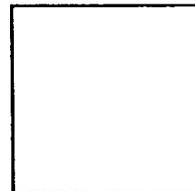
3. Please state the names of the organizations with which you are associated with and give your role in that organization.

Applicant Signature _____ Date _____

Please return your completed application to:

RAB Membership Application
c/o Richard Pieper
Code 092, Building IA-15
Naval Weapons Station Concord
10 Delta Street
Concord, CA 94520-5100

Naval Weapons Station Concord Restoration Advisory Board Fact Sheet



RAB Membership Application
c/o Richard Pieper
Code 092, Building IA-15
Naval Weapons Station
10 Delta Street
Concord, CA 94520-5100



Printed on Recycled Paper



Environmental Fact Sheet

NAVAL WEAPONS STATION CONCORD

U.S. Department of the Navy, Engineering Field Activity West • May 1995

Introduction

This fact sheet is the first in a series that will be produced by Naval Weapons Station Concord to inform the public about environmental investigations and subsequent cleanup underway at the facility. This fact sheet contains information about environmental activities and upcoming public involvement related to the site environmental cleanup.

Site Background

Naval Weapons Station Concord encompasses nearly 13,000 acres and is located in north central Contra Costa County, about 30 miles northeast of San Francisco, California. Suisun Bay lies immediately to the north of the Naval Weapons Station, the city of Concord surrounds it to the west and south, and the cities of Bay Point and Pittsburg are to the east (see map on page 3). Naval Weapons Station Concord is the major naval munitions facility on the west coast, and has operated as a shipping port for ammunition and weapons since 1942.

An environmental cleanup effort is underway to identify and eliminate or minimize environmental contamination that may have re-



Navy Environmental Contractors Performing Soil Sampling Activities

sulted from past operations at Naval Weapons Station Concord. The environmental cleanup effort is carried out under the Department of Defense's Installation Restoration Program.

The Installation Restoration Program environmental cleanup team includes representatives from the Navy, U.S. the Environmental Protection Agency (U.S. EPA), the California

Environmental Protection Agency's Department of Toxic Substances Control, and other federal and state agencies.

In December 1994, the Naval Weapons Station was placed on the U.S. EPA National Priorities List. The National Priorities List is an inventory of sites that the U.S. EPA has identified under the Superfund law that require investigation and possibly long-term environmental cleanup action.

The Navy's Environmental Cleanup Program

The Navy's environmental cleanup program, known as the Installation Restoration Program, was initiated to identify and clean up environmental contamination caused by past waste handling practices. These practices occurred before the potentially hazardous nature of these wastes were fully understood and before environmental regulations for their disposal were established.

The Installation Restoration Program follows a step-by-step approach (see chart on page 4). The first step is called a preliminary assessment/site inspection. During the **preliminary assessment**,

the information on use, storage, and spills of known or suspected hazardous substances is gathered largely from historical records and interviews with facility personnel. The Navy uses this information to determine if a particular area or site requires further study to confirm the release of contaminants to the environment.

If the preliminary assessment indicates further study is necessary, a **site inspection** is conducted. A site inspection involves verifying a suspected release of contaminants to the environment by physical sampling. If contaminant releases are confirmed, a remedial investigation/feasibility study may be necessary.

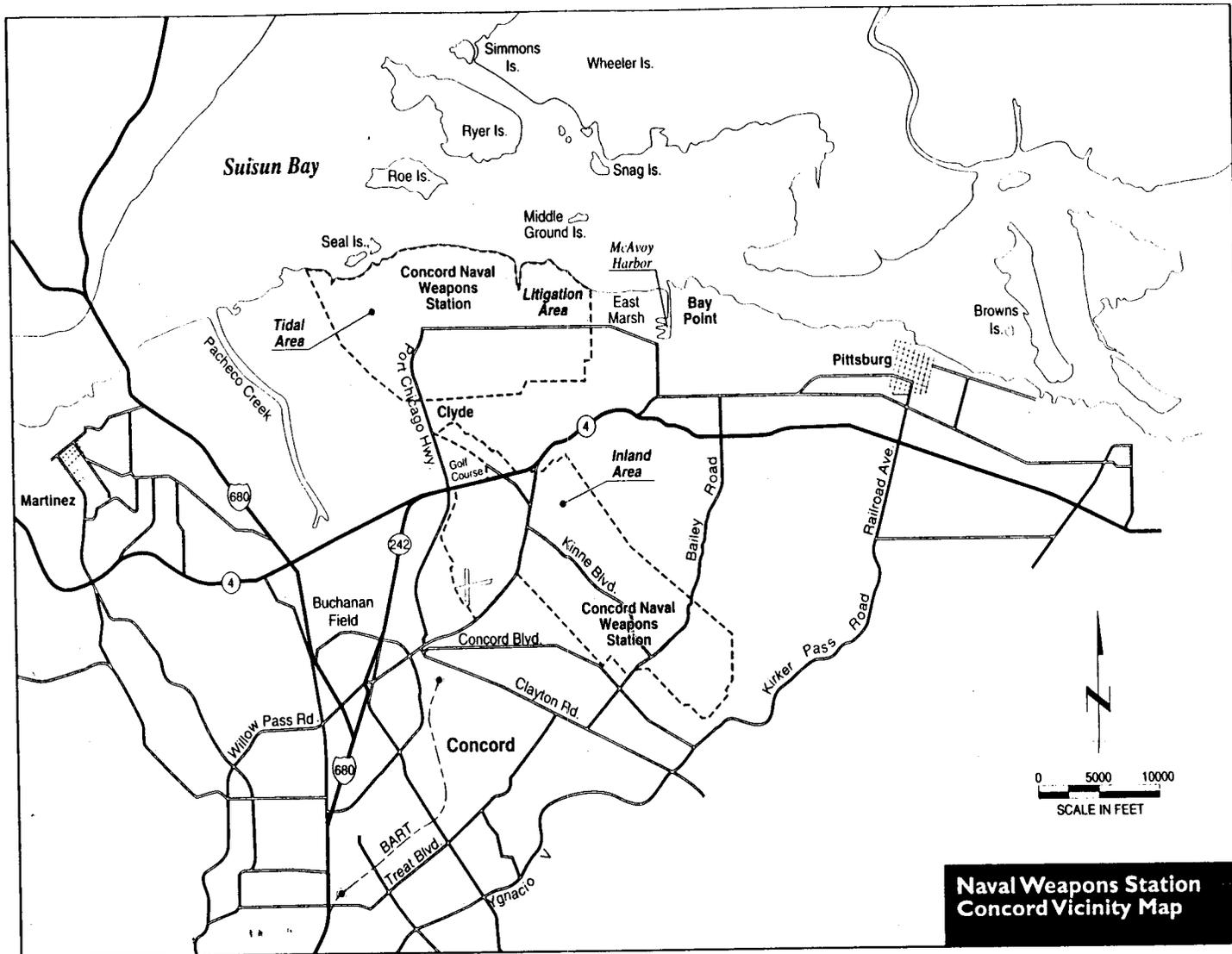
The **remedial investigation** is a full investigation of a site to determine the nature and extent of contamination. During the remedial investigation stage, groundwater, surface water, soil, and biological samples are collected and analyzed, as needed, to determine the types of contaminants, and how far they may have spread.

A **feasibility study** is conducted concurrently with the remedial investigation to evaluate possible cleanup alternatives. Each alternative is evaluated for effectiveness,

cost, technical feasibility, and protection of human health and the environment. Once the remedial investigation/feasibility study is completed, a proposed plan for cleanup is produced. During the public comment period, public meetings may be held to address significant community concerns. Public input is solicited throughout the entire remedial investigation/feasibility study process and especially at milestones such as the proposed plan.

The next step involves preparing a final **remedial action plan** and a **record of decision**. These documents provide the reasoning behind the selection of a particular cleanup alternative. After the remedial action plan and record of decision have been formally reviewed, approved, and signed by the regulatory agencies, the remedial design/remedial action begins.

During the **remedial design**, the specific construction documents are prepared for the selected cleanup alternative. The **remedial action** is the final step of the Installation Restoration Program where the cleanup action is performed and appropriate monitoring of a site occurs.



**Naval Weapons Station
Concord Vicinity Map**

Environmental Cleanup Activities at Naval Weapons Station Concord

Naval Weapons Station Concord is divided into two geographical areas called the Tidal Area and the Inland Area.

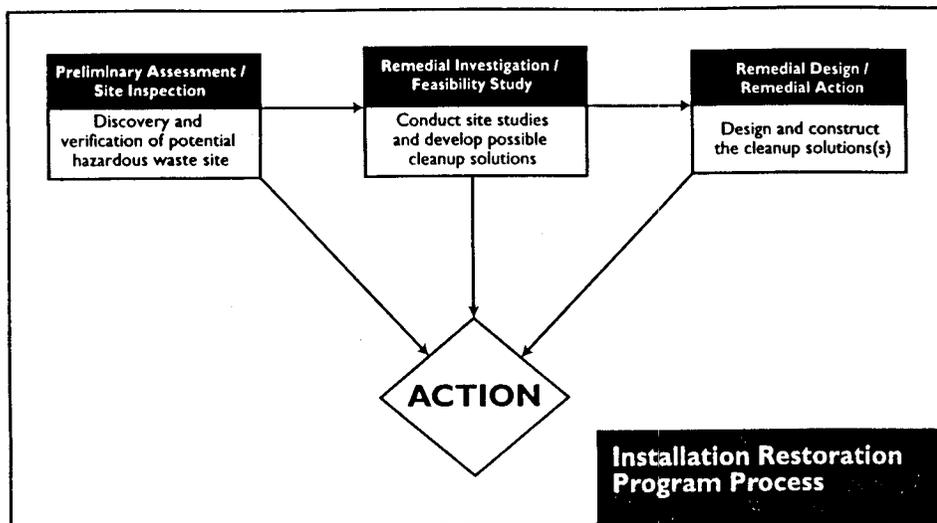
The Tidal Area includes about 6,077 acres of mainland and 1,571 acres of land on six islands in Suisun Bay. The Tidal Area is used for receiving, inspecting, and storing munitions

transported to and from off-site locations.

The Inland Area, encompassing about 5,200 acres, contains various facilities for munitions storage, munitions inspection and maintenance, administration, public works, supply, and housing.

Although current waste handling practices are carried out in full compliance with federal and state laws, past practices may have caused the

release of contaminants in some areas within the Naval Weapons Station. Operations in the Tidal Area and Inland Area that may have caused environmental contamination include the disposal of paints and solvents; the disposal of chemically-treated wood; the disposal of miscellaneous household and industrial debris; the operation of a small arms firing range; the open burning of various munitions;



and spills or leaks from fuel storage tanks.

The environmental cleanup effort at Naval Weapons Station Concord has four groups of sites: Litigation Area Sites, Tidal Area Sites, Inland Area Sites, and Solid Waste Management Unit Sites. The grouping of these sites occurred because sites were discovered and evaluated for further action at different times and under different regulatory programs. The Litigation Area Sites and the Tidal Area Sites contain parcels of land located in the Tidal Area of the Naval Weapons Station. The Inland Area Sites contain parcels of land located only in the inland portion of the Naval Weapons Station. The Solid Waste Management Unit Sites are found in both Inland and Tidal Areas.

Litigation Area Sites

The Litigation Area is so named because of the legal actions conducted by the Navy with the adjacent and former property owners to recover cleanup costs for a portion of the area. The Litigation Area is divided into four subsites that are contaminated with metals. Remedial actions, including removing contaminated soils and revegetating, will be completed by the end of 1995. As part of the monitoring of the remedial action, an ecological risk assessment is being performed to evaluate the condition of the sites.

Tidal Area Sites

Four Tidal Area Sites (Sites 1, 2, 9, and 11) are currently undergoing a remedial investigation. These sites are located in or adjacent to wetland ar-

reas. Field activities, including soil and water sampling, are scheduled to begin in June 1995.

Site 1, the Tidal Area Landfill, was used from about 1944 to 1979 to dispose of household garbage as well as wastes from the base, such as paints and solvents.

Site 2, the R Area Disposal Site, was used from the late 1940s to about 1976 to dispose of materials generated from painting, stenciling, renovating, and packaging of munitions in the surrounding buildings. Ammunition casings, cans, drums, and other inert ordnance-related materials are visible on the surface of this site.

Site 9, the Froid and Taylor Roads Site, is an area of land bordered by Froid and Taylor Roads where a piece of expended ordnance was found on the surface. In addition, scrap metals and other debris were found in the surrounding area.

Site 11, the Wood Hogger Site, is where wood scrap from Naval Weapons Station operations was chipped by a wood hogging (shredding) operation between 1967 and 1973. Wood chips were deposited on the ground next to the hogger. Some of the wood may have

been treated with wood preservatives.

These four Tidal Area Sites are currently undergoing a remedial investigation. Based on contaminants associated with earlier studies at the site, chemicals that have been targeted for study include paints, solvents, wood preservatives, petroleum products, and metals.

Inland Area Sites

Five Inland Area Sites (Sites 13, 17, 22, 24A, and 27) are currently undergoing a remedial investigation. Field activities, including soil and water sampling, began in April 1995.

Site 13, the Burn Area, was used from the late 1940s until about 1974 for burning ordnance. Ordnance was burned in gullies and pits at this site. Studies have identified ordnance-related metal fragments such as flares, and petroleum products, including diesel, in surface soils at the site.

Site 17 consists of Building IA-24 and two adjacent storage sheds where battery acid was reportedly drained from forklift batteries into surrounding soil prior to 1974. Underground storage tanks containing diesel are also located at the site. Studies have identified petroleum

products, including diesel and gasoline, in the soil.

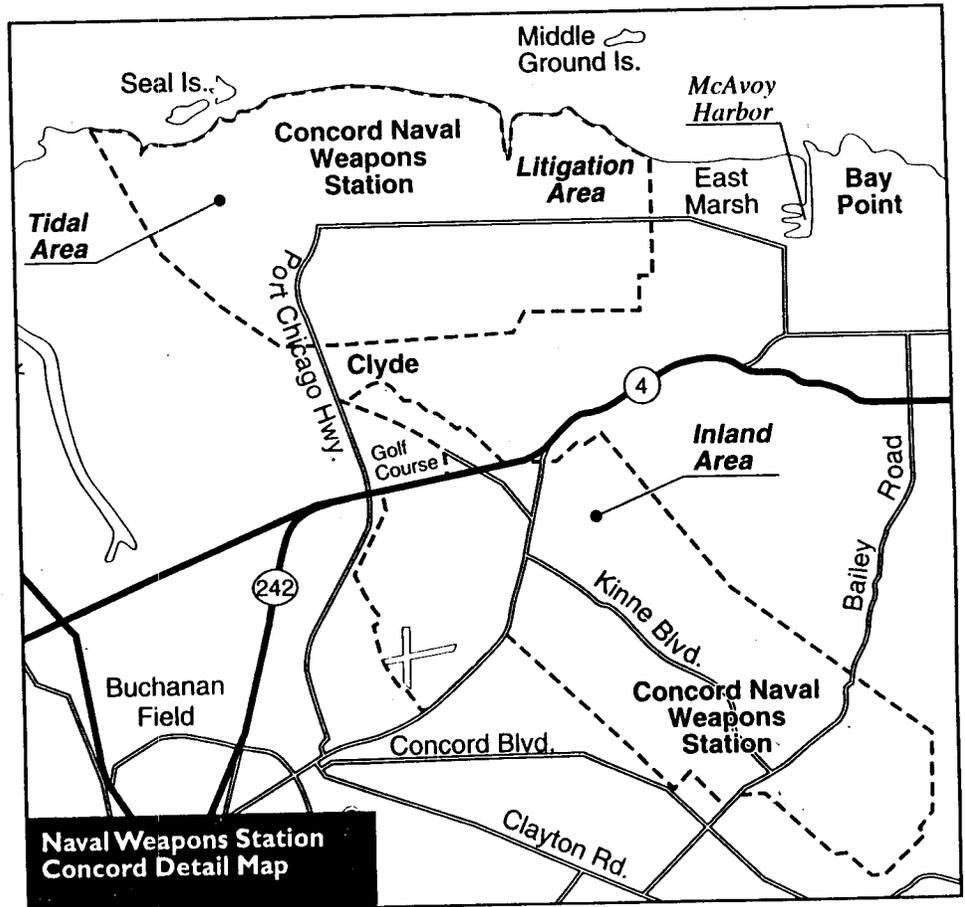
Site 22, Building 7SH5, was formerly used to clean and paint missile wings and fins. Cleaning solvents, paint thinners, and paints were used in the painting operations. Wastes generated at this site were reportedly disposed of in a pit or into a drainage ditch near the building. An underground storage tank containing diesel is also located next to the building. Studies have identified petroleum products, including diesel, in soil at the site.

Site 24A has been an active pistol range for over 30 years.

Studies have identified high levels of lead, copper, and zinc in soil in the target berm.

Site 27 consists of a chemical laboratory at Building IA-20 and an underground storage tank containing diesel. The laboratory is used to test oils and hydraulic fluids. Studies have identified pesticides and petroleum products, including diesel and gasoline, in soil. The pesticides may be due to pesticide application in the area around the building.

In addition, three former facility supply water wells in the Inland Area were closed in April





Tule Elk Within the Inland Area at Naval Weapons Station Concord

1995. The wells were installed along Kinne Boulevard in 1928 and had not been used since the early 1960s. Groundwater collected from each of the wells during previous investigations was analyzed for a complete suite of metals and organic compounds. Analytical results showed that the water from the wells was not contaminated. The well closures included drilling and sealing of the entire length of each well for the protection of the groundwater in accordance with county regulations.

Solid Waste Management Unit Sites

An additional 29 sites in the Tidal Area and Inland Area have been identified for site investigations.

These sites are called Solid Waste Management Units. Solid Waste Management Units are sites where hazardous waste has been generated, treated, stored, or disposed. These sites are cleaned up in accordance with the federal Resource Conservation and Recovery Act.

Many of these sites are buildings where chemicals may have been disposed of into sinks that drain into septic tanks. Other sites include repair and painting facilities and a pesticide mixing area. The site investigations are being conducted to determine whether past activities at the sites have resulted in chemicals being discharged to the environment. Investigations at these sites are currently being conducted and will be completed in mid-1995.

The Community Relations Program

Community involvement is an important part of Naval Weapon Station Concord's environmental cleanup program. Community involvement is achieved through the implementation of the Community Relations Plan. The objectives of the Community Relations Plan include maintaining open two-way communication between the Navy and the community by providing the community with information about environmental investigation and cleanup activities and addressing the community's concerns. The Navy has been working with local residents since the 1980s to ensure this objective is fulfilled.

Key steps that the Navy takes to facilitate community involvement include the following:

- Conducting community interviews to identify community concerns regarding the cleanup effort. These interviews are discussed in the Community Relations Plan.
- Preparing the Community Relations Plan, which contains a schedule of planned and recommended community activities including public meetings, fact sheets such as this environmental fact sheet, public notices on key activities, a mailing list of interested citizens, site tours, and workshops. The Community Relations Plan also lists various contact persons to provide information to the community. The Community Relations Plan is currently being updated.
- Establishing a Restoration Advisory Board to provide a forum for community involvement. The Restoration Advisory Board consists of regulatory agency representatives, Navy officials, and local citizens interested in the environmental cleanup process. A separate fact sheet explaining the Restoration Advisory Board process is enclosed.
- Creating an information repository that includes a permanent file of documents regarding the environmental cleanup at Naval Weapons Station Concord. The information repository includes the administrative record, which contains all the documents used in making decisions concerning cleanup at the Naval Weapons Station. The information repository is available to the public and is located at the main branch of the Contra Costa County public library in Pleasant Hill. The address and telephone number for the library are:

**Contra Costa County Library
Main Branch
1750 Oak Park Blvd.
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(510) 646-6434**



Send this form to:
Mr. Richard Pieper
Code 092, Building IA-15
Naval Weapons Station Concord
10 Delta Street
Concord, CA 94520-5100

PHONE:

ADDRESS:

NAME:

MAILING LIST

For more information on the Navy's environmental cleanup program at Naval Weapons Station Concord, complete the mailing list form below. You may also contact either Ms. Anna Lou Procter or Ms. Linda Zukeran at the Public Affairs Office, Naval Weapons Station Concord at (510) 246-5591.

Mr. Richard Pieper
Code 092, Building IA-15
Naval Weapons Station Concord
10 Delta Street
Concord, CA 94520-5100

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APPENDIX G

LIST OF POTENTIAL MEETING SITES

HALLS & BANQUETS

CCAR AUDITORIUM
111 N. Wiget Ln.
Walnut Creek 938-1144
225-300 Capacity
Kitchen/Dance Floor
Courtyard/Stage

CENTRE CONCORD
5298 Clayton Rd.
Concord 671-3466
Up to 400 Capacity

CONCORD PAVILION
200 Kirker Pass Rd.
Concord 676-8742
8500 Capacity

C.C. WATER DISTRICT
1331 Concord Ave.
Concord 674-8000
100 Capacity/Theater
25 Capacity/Anteroom
NON-PROFIT ORGANIZATIONS ONLY

DIABLO VALLEY COLLEGE
321 Golf Club Rd.
Pleasant Hill 685-1230
250 Capacity/Forum Room/Theater
410 Capacity/Performing Arts
2 Lecture Rooms/85 Capacity

ELKS CLUB
3994 Willow Pass Rd.
Concord 685-1994
600 Capacity/Banquet
Kitchen/Bar

HACIENDA DE LAS FLORES
2100 Donald Dr.
Moraga 376-2520
Outdoors, 200 Capacity
Kitchen/NO HARD LIQUOR

HEATHER FARMS GARDEN
1540 Marchbanks Dr.
Walnut Creek 947-1678
Sit-Down Capacity 200
(1 Year Advance, Please)

CONCORD POLICE ASSOCIATION
Willow Pass Rd. & Parkside Dr.
Concord 676-8298
170 Capacity/Kitchen

JEWISH FEDERATION/EAST BAY/
1271 Tice Valley Blvd.
Walnut Creek 938-7800
Auditorium-Lecture Style/300
Food Service /153
Library- Lecture Style/100
Food Service / 70
Meeting Rooms- 80-100 Capacity
CLOSED SAT./FOOD RESTRICTIONS

OLD MARSH CREEK SPRINGS
RECREATIONAL PARK
12510 Marsh Creek Rd.
Clayton 672-7007
350 Capacity
(150 Capacity/Hall,
200 Capacity/Courtyard)

ROCKEFELLER LODGE
San Pablo 235-7344
400 Capacity

WILDWOOD ACRES RESORT
1055 Hunsaker Canyon Rd.
Lafayette 283-2600
400 Capacity/Outside
100-120 Capacity/Clubhouse
Gazebo/Full Bar
Available Catering Service

COUNTRY CLUBS

ROUND HILL COUNTRY CLUB
3169 Roundhill Road
Alamo 934-8211

SAN RAMON GOLF & COUNTRY CLUB
9430 Fircrest Lane
San Ramon 828-6100
300 Capacity

INNS & RESTAURANTS

SAVOY AT BOUNDARY OAKS
3800 Valley Vista Rd.
Walnut Creek 935-8121
400 Capacity/Banquet

CHINA PAVILION
2050 Diamond Blvd.
Concord 827-2212
180 Maximum Capacity/Banquet

CONCORD SHERATON HOTEL
45 John Glenn Dr.
Concord 825-7700
Up to 700 Capacity

COMFORT INN
1370 Monument Blvd
Concord 827-8998
18 Capacity/Sm. Banquet

HOLIDAY INN
1050 Burnett Ave.
Concord 687-5500
340 Capacity/Banquet
575 Capacity/Vintage Room
200 Classrooms
6 Board Rooms/30 Capacity Each

EL MONTE MOTOR INN
3555 Clayton Rd.
Concord 682-1601
55 Capacity

GIOVANNI'S BAR & GRILL
2325 Clayton Road
Concord 686-0503
168 Capacity/Banquet
210 Capacity/Cocktail

ROUND TABLE PIZZA
3393 Port Chicago Hwy.
Concord 825-1993
60 Capacity/Lrg. Banquet
25-30 Capacity/Sm. Banquet

TIME OUT SPORTS BAR
1822 Grant St.
Concord 798-1811
75 Capacity Banquet & Bar

CONCORD HILTON
1970 Diamond Blvd.
Concord 827-2000

THE PUNCHLINE
120 Petticoat Ln.
Walnut Creek 935-2002
Private Parties/Tables

ST. MICHAEL & ALL ANGEL
2900 Bonifacio St.
Concord 685-8859
500 Capacity/Church
250 Capacity/Parish
Kitchen/BBQ
NO HARD LIQUOR

BEST WESTERN HERITAGE INN
4600 Clayton Road
Concord 686-4466
2 Conference rooms/150 max.
& 25 max.

APPENDIX H
GLOSSARY OF ENVIRONMENTAL TERMS

GLOSSARY OF ENVIRONMENTAL TERMS NAVAL WEAPONS STATION CONCORD

A

abatement - Reducing the amount or concentration of, or eliminating, pollution.

abiotic - Not caused or produced by living organisms. (See "biotic.")

acclimation - Adjustment to slowly changing new conditions.

action memorandum (AM) - A document that provides a written record of the decision to select an appropriate removal action. As the primary decision document, it substantiates the need for a removal action, identifies the proposed action, and explains the rationale for the removal action selection.

active remediation area - The contaminated area at each remedial action subsite (see definition) at the Litigation Area that was designated for excavation during the remedial action.

aerate - To expose to or supply with air.

aerobic bacteria - Bacteria that require the presence of free oxygen to live.

air pollution - The presence of contaminant or pollutant substances in the air that do not disperse properly and interfere with human health or welfare, or produce other harmful environmental effects.

alternative selection report - A document that presents the results of an evaluation of the need for a temporary remedy because contamination related to point sources represents an impending threat to human health or the environment. (See "interim remedial action" and "point sources.")

anadromous - Aquatic (water) species that migrate up rivers from the sea to breed in fresh water, particularly fishes such as salmon. (See "diadromous.")

anaerobic bacteria - Bacteria that are capable of living or growing in an environment lacking free oxygen.

analyte - A chemical component of a sample to be determined or measured.

analytical method - A procedure that involves preparation of a sample and use of instrumentation to estimate the quantity of the analyte in a sample.

applicable or relevant and appropriate requirements (ARAR) - In general, this term refers to environmental laws that are already in effect and need to be followed to protect human health and the environment. "Applicable" requirements are legally enforceable cleanup standards, standards of control, and other environmental protection standards that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site. "Relevant and appropriate" requirements are cleanup standards not defined as "applicable"; however, they address problems or situations similar to those encountered at a CERCLA site. Agencies may also

designate "TBC" ARARs, that is, other requirements "to be considered." ARARs can be chemical specific, location specific, or action specific. (See "CERCLA.")

aquatic - Growing or living in, or frequenting water. An aquatic plant is one that grows in water.

aquifer - Water found between layers of material such as rock, sand, gravel, or soil below the earth's surface. Aquifers can yield a significant amount of water through wells or springs. Most aquifers used in the United States are within 1,000 feet of the earth's surface. For environmental, regulatory, and monitoring purposes, most agencies consider any water-producing soil to be an aquifer, including artificial fill.

asbestos - A naturally occurring material that readily separates into long flexible fibers that, when handled, break down into finer fibers that can become airborne. These fine fibers may cause lung cancer when inhaled. Asbestos is suitable for use as a noncombustible (burn resistant), nonconducting (not easily transmittable), or chemically resistant material. Asbestos has been used in the past to insulate buildings including homes and schools. Precautions should be taken when remodeling or demolishing buildings where asbestos has been used so that it does not crumble and become airborne.

asbestos lagging - Insulation made of asbestos used to keep pipes cool and prevent heat loss from steam pipes, boilers, and the like.

atom - The basic unit of an element. Elements are the building blocks that make up all matter, including air, paper, and water. Examples of elements include hydrogen, oxygen, iron, gold, nitrogen, and calcium.

B

background level - The concentration of chemicals that are naturally present in the environment. Background levels may also include chemicals in the environment that are wide-spread and result from a regional human use such as lead in soils from automobile emissions.

baseline risk assessment - A study of the potential health effects (current or future) caused by releases of a hazardous substance from a site without any actions to control or mitigate (see definition) the releases. A baseline risk assessment is the first step in the human health risk assessment (see definition). Other steps include developing preliminary remediation goals (initial cleanup goals to protect human health) and evaluating alternative remedies for a site.

bay - An inlet from the sea or other body of water.

bedrock - The solid rock that underlies all soil, sand, clay, gravel, and loose material on the earth's surface.

benthic organism - A form of aquatic (water) plant or animal life that is found on or near the bottom of a stream, lake, or ocean.

benzene, toluene, ethylbenzene, and xylene (BTEX) - Chemicals that are commonly found in petroleum products such as gasoline.

bioaccumulation study - A study of substances that increase in concentration in living organisms as these organisms breathe contaminated air, drink contaminated water, or eat contaminated food.

bioassay - The use of living organisms to measure the effect of a substance, factor, or condition by comparing effects prior to and after exposure.

bioremediation - The use of natural populations of bacteria to transform organic contaminants into less hazardous compounds. In remediation, the emphasis is often to accelerate growth of the bacteria or expand its volume coverage to encompass the contaminated area.

biota - The flora (plants) and fauna (animals) of a region or area.

biotic - Caused or produced by living things. (See "abiotic".)

C

California Department of Fish and Game - State agency responsible for conserving, protecting, and enhancing California's fish and wildlife and their habitats.

cap - A layer of clay or other material through which water does not easily pass, installed over the top of a closed landfill to prevent entry of rainwater and runoff.

carcinogen - Any substance known to cause or contribute to the production of cancer.

caulking - Material used to make something watertight or airtight by filling cracks.

chemicals of potential concern (COPC) - Chemicals that are potentially site-related and present in quantities that could be harmful to humans and the environment pending further assessment of potential risk.

class I landfill - A landfill containing "hazardous waste" regulated by the California State Water Resources Control Board.

class II landfill - A landfill containing "designated waste" regulated by the California State Water Resources Control Board.

class III landfill - A landfill containing nonhazardous wastes regulated by the California State Water Resources Control Board.

Clean Water Act (CWA) - A federal law passed in 1972 to control pollutants in water. The Clean Water Act established a national plan for spills and reporting, required water standards to be set, and established liabilities for spills.

cleanup - Actions taken to deal with a release or threatened release of hazardous substances that could affect public health or the environment. The term "cleanup" is often used broadly to describe various response actions or phases of remedial responses such as the remedial investigation and feasibility study. (See "remedial responses," "remedial investigation," and "feasibility study.")

combined sewers - A sewer system that carries both sewage and storm-water runoff. Normally, the system's entire flow goes to a waste treatment plant, but during a heavy storm, the water volume may be so great as to cause overflows. When this happens, untreated mixtures of storm water and sewage may flow into receiving waters. Storm-water runoff may also carry toxic chemicals from industrial areas or streets into the sewer system.

community - An interacting population of various species in a common location.

community relations (CR) - The ongoing effort to establish and maintain two-way communication with the public to create understanding of environmental programs and related actions, and to ensure public input into decision-making processes related to affected communities.

compound - A chemical combination of two or more elements in which the compound's own characteristics are formed. The set of characteristics of each of the individual combining elements that make up the compound are lost.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). CERCLA, commonly called Superfund, was enacted by Congress in response to the dangers posed by sudden or otherwise uncontrolled releases of hazardous substances, pollutants, or contaminants into the environment. CERCLA, as amended by SARA, created a special tax that goes into a trust fund (Superfund) to investigate and clean up abandoned or uncontrolled hazardous waste sites. Under the program, the U.S. Environmental Protection Agency has the following options: (1) pay for site cleanup when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work or (2) take legal action to force parties responsible for site contamination to clean up the site or pay back the federal government for cleanup cost.

conceptual site model - A diagram or sketch of a site developed with known information and used to identify the following: (1) potential or suspected sources of contamination, such as tanks, landfills, or contaminated buildings; (2) types and concentrations of contaminants found at the site, such as gasoline, pesticides, or industrial solvents; and (3) potentially contaminated media (groundwater, soil, surface water, or sediments), and potential exposure pathways (breathing, touching, drinking, or eating), including receptors (humans and animals).

confirmation study - A study conducted to help determine the extent of potential contamination at a site.

contaminants - Any physical, chemical, biological, or radiological substance that has an adverse affect on living organisms or the environment, including air, soil, or water.

creosote - A yellowish- to greenish-brown oily liquid obtained from coal tar and used as a wood preservative and disinfectant.

D

data gaps - Information needed but currently not available to evaluate various problems and identify solutions at a site.

data quality objectives (DQO) - Goals established to ensure that information of known and documented quality is obtained during a remedial investigation and feasibility study to support an environmental decision. (See "remedial investigation" and "feasibility study.")

data usability - The process of ensuring that the information generated is adequate and appropriate for its intended use.

data validation - An evaluation process used to examine whether chemical information that has been collected meets the stated levels of necessary quality for chemical data obtained from field sampling as outlined in the U.S. Environmental Protection Agency Functional Guidelines for Evaluating Organics or Inorganics Analyses.

dense nonaqueous phase liquid (DNAPL) - Liquids heavier than water that will sink when placed in water. DNAPLs are not very soluble in water and undergo only limited degradation in the subsurface. DNAPLs persist for long periods while slowly releasing soluble organic constituents to groundwater. DNAPLs will adhere to the soil medium and are difficult to remediate to concentrations considered to be clean or useable. Some types of DNAPLs include chlorinated solvents, creosote-based wood treating oils, coal tar wastes, and polychlorinated biphenyls (PCB). An example of a DNAPL is the dry cleaning and degreasing solvent tetrachloroethene (PCE).

Department of Toxic Substances Control (DTSC) - A branch of the California Environmental Protection Agency responsible for implementing and enforcing the Hazardous Waste Control Act.

dewatering - Removal or discharge of water from an aquifer, containment structure, or other structure such as a tank or dry dock.

diadromous - Aquatic (water) species that move or migrate between salt and fresh waters. (See "anadromous.")

diptanks - A tank or concrete vault usually found in industrial or manufacturing facilities that contains solvents or water used for cleaning parts of mechanical equipment. The metal parts are submerged or dipped into the solvent or water for cleaning.

dredging - Removal of mud from the bottom of water bodies using a scooping machine.

dunnage - A loose packing of wood placed around a ship's cargo.

E

early action - An action taken for the immediate removal of an impending threat. Examples of early actions are soil excavation or removal of contaminated groundwater.

ecological risk assessment (ERA) - The preliminary step under the remedial investigation/feasibility study program to determine whether protected natural resources have been affected by the release of hazardous materials. (See "remedial investigation" and "feasibility study.")

ecosystem - An ecological unit in nature used to describe the community and its environment.

emission - Pollution discharged into the atmosphere from smokestacks, vents, and surface areas of commercial or industrial facilities, residential chimneys, and motorized vehicles.

emissions trading - The U.S. Environmental Protection Agency policy that allows an industrial complex with several facilities to decrease pollution from one or more facilities while increasing it from others, as long as total results are equal to or better than previous emission totals. Facilities where this is done are treated as if they exist in a bubble in which total emissions are averaged out. Complexes that reduce emissions substantially may "bank" (save) their "credits" (total reduced emissions) or sell them to other industrial facilities.

endangered species (ES) - A species having so few individual survivors due to loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors that the species could soon become extinct (nonexistent) in all or part of its region.

engineering evaluation/cost analysis (EE/CA) - A document that is prepared for a removal action that presents an analysis of removal alternatives for a site.

environmental assessment (EA) - A written environmental analysis that is prepared in accordance with the National Environmental Policy Act (NEPA) to determine whether a federal action would significantly affect the environment and thus require preparation of an environmental impact statement (EIS).

environmental impact statement (EIS) - A document required of federal agencies by the National Environmental Policy Act (NEPA) for major projects or legislative proposals significantly affecting the environment. A tool for decision making, it describes the positive and negative effects of the project and lists alternative actions.

environmental restoration - An action or series of actions aimed at protecting human health and the environment by attempting to meet the reuse goals established by the community, and by complying with existing state and federal laws, regulations, and other requirements.

estuary - The point at which the ocean tides meet the river currents.

exploratory excavation - The simultaneous investigation and excavation of soils in areas of limited soil contamination. This is an example of an interim remedial action (temporary remedy) used to accelerate cleanup at a site.

F

feasibility study (FS) - The feasibility study, which usually begins as soon as the remedial investigation is underway, recommends selection of a cost effective alternative. (See "remedial investigation.")

Federal Facility Agreement (FFA) - A working agreement between the U.S. Environmental Protection Agency (EPA) and the military to facilitate the investigation and cleanup of Department of Defense (DoD) properties. FFAs are developed for sites that are listed on the National Priorities List.

Federal Facility Site Remediation Agreement (FFSRA) - A working agreement between the military and state regulatory agencies, such as the California Environmental Protection Agency (Cal/EPA), to facilitate the investigation and cleanup of Department of Defense (DoD) properties.

filtered groundwater data - Chemical data obtained by collecting groundwater from sample wells using a filter. Because groundwater usually contains suspended sediment or particles that may have high levels of metals, filtered groundwater data is used to get a sample more representative of metals in groundwater and not the sediment or particles that may have high levels of metals in them.

fill - To deposit dirt and mud or other materials into aquatic areas (water bodies) to create more dry land, usually for agricultural or commercial development purposes.

floodplain - An area of low land or relatively flat land that is prone to flooding because of inadequate drainage during heavy rains or rises in rivers due to rains or geologic conditions.

friable - Readily crumbled or brittle, as in friable asbestos or friable soils.

G

geophysical survey - An investigation using electronic, magnetic or radar detection equipment designed to detect subsurface features and objects, such as utility lines and buried drums.

groundwater - Water found beneath the earth's surface that fills pores between materials such as sand, soil, or gravel. In aquifers, groundwater occurs in sufficient quantities that it can be used for drinking water, irrigation, and other purposes.

H

habitat - The site where a plant or animal naturally grows or lives in nature.

Hazard Ranking System (HRS) - The principal screening tool used by the U.S. Environmental Protection Agency to evaluate risks to public health and the environment associated with abandoned or uncontrolled hazardous waste sites. The HRS calculates a score based on the potential of hazardous substances spreading from the site through the air, surface water, or groundwater and on other factors such as the proximity of populated areas near the site. This score is the primary factor in deciding whether the site should be on the National Priorities List (NPL) and, if so, what ranking it should have compared to other sites on the list.

hazardous substance - Any material that poses a threat to public health or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.

hazardous waste - A solid waste or combination of solid wastes that, because of quantity, concentration, or physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality (death) or serious irreversible, or incapacitating reversible illness.

heavy metal - A group of naturally occurring metals that are heavy (dense or compact) for their size. Heavy metals can damage living things even at low concentrations and tend to accumulate in the food chain. Examples of heavy metals include mercury, iron, cobalt, cadmium, lead, nickel, and zinc.

hotspot - A location, such as in the sediment, soil, or water, where the concentration of a chemical, which may be harmful to human health and the environment, is substantially higher than in surrounding areas of a site.

housekeeping - Maintenance and disposal of debris and hazardous materials that have been damaged, abandoned, or collected on a site.

human health risk assessment (HHRA) - A study that identifies and measures the risks to individual people or society resulting from a specific use or occurrence of a chemical. Measuring risks involves determining the effect on individuals and populations of a particular dose of a chemical. Identifying risks includes examining all the possible routes by which humans may be exposed to a chemical, such as through soil ingestion or contact through the skin. Human health risk assessments are conducted during the site characterization phase of the remedial investigation and feasibility study (see definitions) process. Such assessments are used to determine the magnitude and probability of actual or threatened releases of hazardous substances to the environment.

humus - Soil containing decomposed organic material.

hydrocarbon - An organic compound composed of carbon and hydrogen. Hydrocarbons often occur as air pollutants from unburned or partially burned fuels and from evaporation of industrial solvents, especially from refineries. Hydrocarbons include volatile (evaporates readily) and semivolatile organic (carbon containing) compounds such as paints, solvents, and some wood-treating and electrical-insulating materials like polychlorinated biphenyls, also known as PCBs (see definition). There are also many naturally occurring hydrocarbons, such as in plants and animals and their by-products, as well as organic matter in soil.

hydrogeology - Geology of groundwater, with particular emphasis on the chemistry and movement of water.

HydroPunch - a technique for sampling groundwater that results in only minor disturbances to the soil from which the sample is taken. Use of HydroPunch involves some drilling but mostly involves pushing the sampling equipment into the ground. As a result, the soil surrounding the sample remains fairly undisturbed as opposed to the mixing or smearing of soil that occurs during drilling.

I

initial assessment study - The collection and review of available information to identify potential hazardous waste releases at a site. An initial assessment study was conducted by the Navy in 1983 to identify sites of concern at the Naval Weapons Station. The initial assessment study is similar to the preliminary assessment (see definition).

innovative technologies - Technologies that lack sufficient cost or performance data necessary before the technology can be used on a routine basis to clean up a site. Innovative technologies include soil washing, ultraviolet radiation and oxidation, and bio-slurry reactor.

inorganic compounds - Substances of mineral origin, not of basic carbon structure.

in-situ - In the natural or original position.

Installation Restoration (IR) - A designation for a site that has undergone a preliminary assessment (PA) and site inspection (SI) level of investigation under the CERCLA (see definition) process and has been recommended for further investigation at the remedial investigation (RI) level. The designation is

based on the detected presence of contamination by hazardous substances and the need to adequately characterize the substances' nature and extent.

Installation Restoration Program (IRP) - A program under the Navy's Environmental Restoration Program where sites that have undergone the preliminary assessment (see definition) and site inspection (see definition) phase of investigation are evaluated further because the data collected from the site indicate that there may be a risk to human health. Phases of the IRP include conducting a preliminary assessment (PA) to establish if historical information or visual evidence for contamination exists; a site inspection (SI) to confirm the preliminary assessment; a remedial investigation (RI) to characterize the nature and extent of contamination at a site; a feasibility study (FS) to select the most appropriate remedial technology for sites where contamination poses unacceptable risks to human health and the environment; a record of decision (ROD) to document the selected remedy and schedule for implementation; and implementing and maintaining the selected remedy.

interim remedial action - A temporary remedy conducted before the final selection of remedial actions (remedy) at a site. Implementation of interim remedial actions helps to focus the remedial action selection process at more complex sites. An example of an interim remedial action is an exploratory excavation (see definition).

intertidal zone - The geographic area between the extremes of high and low tide along the coast.

invertebrate - An animal having no backbone or spinal column. Examples of invertebrate animals are mollusks, spiders, and worms.

investigation-derived waste (IDW) - Wastes generated under the Installation Restoration Program from sampling to determine the presence of contaminants. IDW may include contaminated soil and groundwater, but also may include uncontaminated soil and groundwater that was taken during sampling.

ionizing radiation - Radiation that can produce ionization. Ionization happens when the electric charge of an atom (see definition) or group of atoms increases or decreases.

J

Jurassic-Cretaceous - A period of geologic time and the corresponding system of rocks formed during that time. The Jurassic-Cretaceous period ranges from 65 to 200 million years before the present.

L

landfill - Disposal sites including sanitary landfills and secure chemical landfills. Sanitary landfills are land disposal sites for nonhazardous solid wastes where the waste is spread in layers, compacted to the smallest practical volume, and then covered with soil at the end of each operating day. Secure chemical landfills are disposal sites for hazardous waste and are selected and designed to minimize the chance of release of hazardous substances into the environment.

lead (Pb) - A heavy metal (see definition) that can be hazardous to human health if breathed or swallowed. Its use in gasoline, paints, and plumbing compounds has been sharply restricted or eliminated by federal laws and regulations.

light nonaqueous phase liquid (LNAPL) - Liquids lighter than water that will float on the surface of water. An example of a LNAPL is diesel oil.

low-flow purging - A procedure used to collect groundwater data using a low-flow pump that pumps 0.2 to 0.3 liter of water per minute to produce a sample with relatively low amounts of sediment suspended in the water. Therefore, it is more representative of true groundwater quality.

M

media - Specific environments that could be impacted by contaminants (for example air, water, and soil).

mitigate - Mitigation includes the following: (1) minimizing the problem by limiting the amount or magnitude of an action and its implementation; (2) correcting the problem by repairing, rehabilitating, or restoring the affected environment; and (3) reducing or eliminating the problem over time by preservation and maintenance operations during the life of an action.

monitoring area - The uncontaminated area at each remedial action subsite (see definition) at the Litigation Area sites.

monitoring wells - special wells drilled at specific locations on or off a site where groundwater can be sampled at selected depths and studied to determine such things as the direction in which the groundwater flows and the types and amounts of contaminants present.

N

napalm - A flammable substance used to ignite fires, used primarily in the Vietnam War. Napalm is composed of aluminum soap and petroleum compounds.

National Oceanic and Atmospheric Administration (NOAA) - A federal agency that operates under the U.S. Department of Commerce. NOAA often is designated by the President as a "trustee" under the CERCLA program to monitor protected natural resource areas such as wetlands.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP) - The federal regulation that provides guidance to determine the sites that will be cleaned up under the Superfund program and the program to prevent or control spills into surface waters or other portions of the environment.

National Pollutant Discharge Elimination System (NPDES) - A provision of the Clean Water Act that prohibits discharge of pollutants into waters of the United States unless a special permit is issued by the U.S. Environmental Protection Agency, a state, or (where delegated) a tribal government on an Indian reservation.

National Priorities List (NPL) - Compiled by the U.S. Environmental Protection Agency (EPA), this is a list of the most serious uncontrolled or abandoned hazardous waste sites throughout the United States, identified for possible long-term remedial response. The list is based primarily on the score a site receives on the hazardous ranking system. The EPA is required to update the NPL at least once a year. In December 1994, the Naval Weapons Station Concord was placed on the list.

nonfriable - Not readily crumbled or brittle, usually used to describe asbestos or soil.

Notification of Variance - Documentation needed to let the regulatory agencies know of changes to the agreed upon work plan.

O

operation and maintenance (O&M) - Activities conducted at a site after a Superfund site action is completed to make sure that the action is effective and operating properly.

ordnance - All weapons used by the military, including ammunition, bullets, missiles, combat vehicles, and supplies.

organic - Referring to, or from, living organisms. In chemistry, any compound containing carbon.

organic chemical compounds - Animal- or plant-produced substances containing mainly carbon, hydrogen, and oxygen.

organic solvent - A liquid made up of carbon compounds that is capable of dissolving another substance. The chief uses of organic solvents are in paints, varnishes, lacquers, printing inks, rubber processing, pharmaceuticals, and dry cleaning.

P

passive remediation area - The contaminated area at each remedial action subsite (see definition) at the Litigation Area that was not designated for excavation because of the concern that damage to endangered species habitat would be excessive.

particulates - Fine liquid or solid particles, such as dust, smoke, mist, fumes, or smog, found in air or emissions.

permeability - Described as the ease with which fluid, such as water, can flow through a porous media, such as soil.

pesticide - Any chemical designed to kill insects, rodents, and other such things that humans consider to be undesirable. Pesticides include DDT (now banned in the U.S.) and ant spray available for purchase by the public.

petroleum - Goey, dark greenish-brown, strong-smelling liquid containing a mixture of hydrocarbon compounds plus small amounts of oxygen, sulfur, and nitrogen compounds.

pile - A heap of waste.

plume - A term used to describe the bulk or size and distribution of a contaminant in air, soil, sediment, or water, including groundwater. A plume may spread within the soil from areas of high to low porosity (tiny spaces/openings) and eventually could affect nearby groundwater sources.

point sources - Locations that do not move (stationary) from which pollutants are discharged. The term "point source" also includes any single identifiable source of pollution like a pipe, ditch, ship, pit, or factory smokestack.

pollutant - Generally, any substance introduced into the environment that has a negative effect on the usefulness of a resource.

polychlorinated biphenyl (PCB) - A class of manufactured chemicals able to withstand high temperatures and insulate electrical currents. PCBs were traditionally used in electrical transformers, capacitors, lighting ballasts, and other similar equipment.

polynuclear aromatic hydrocarbon (PAH) - A group of chemicals made up of two or more cyclic (arranged in a ring or closed chain) structures joined together and consisting of carbon and hydrogen. PAHs are produced during the combustion (burning) of fossil fuels. For example, PAHs are present in soot, coal tar, tobacco, smoke, and petroleum pollutants. The most commonly known PAH is naphthalene, a product widely used as a moth repellent.

population - The plants, animals, and humans inhabiting a particular location.

potable water - Water suitable for human or animal consumption.

preliminary assessment (PA) - The collection and review of all available information that may include off-site visits and interviews to evaluate the source and nature of hazardous substances present, and to identify the potentially responsible party. At the conclusion of a PA, a site may be referred for further action, or it may be decided that no further action is needed.

preliminary remediation goal (PRG) - An initial cleanup goal that is protective of human health and the environment. PRGs are developed early in the cleanup process based on readily available information and are modified to reflect results of the baseline risk assessment (see definition). They are also used during analysis of remedial alternatives (remedies) in the remedial investigation and feasibility study (see definition). PRGs provide remedial design staff with long-term targets to use when analyzing and selecting remedial alternatives.

presumptive remedies - A remedial action (remedy) such as installing a slurry wall (see definition) and cap (see definition) that have been proven to work at other sites with similar features.

publicly owned treatment works (POTW) - A waste treatment works owned by a state, local government, or Indian tribe, usually designed to treat domestic wastewaters.

pumping stations - Mechanical devices installed in sewer or water systems or other liquid-carrying pipelines that move liquids to a higher level.

Q

qualitative - Determining what makes up a substance without considering the amount of the substance.

qualitative ecological assessment (QEA) - A study designed to estimate the risk to nonhuman receptors at a site, such as plants or animals. A QEA provides a qualitative assessment of risk (for example, high, medium, or low risk) rather than a quantitative (or numerical) evaluation of risk.

quality assurance/quality control (QA/QC) - A system of procedures, checks, audits, and corrective actions to make sure that all research, design, and performance; environmental monitoring and sampling; and other technical and reporting activities are of the highest achievable quality.

quantitation limit - The lowest concentration at which a chemical can be accurately and reproducibly measured.

quantitative - Determining the amounts or proportions of the parts in a substance.

Quaternary - A measure of geologic time and the corresponding system of rocks formed during that period. The Quaternary period ranges from 2 to 3 million years ago to the present.

R

radiation - Any form of energy reproduced as rays, waves, or streams of energy.

radioactivity - The spontaneous release or emission of radiation.

radioactive material - Material that spontaneously releases ionizing radiation (see definition).

radon - A decay product of uranium that occurs naturally in some geologic formations (rocks), primarily granitic rock. Radon may be hazardous in airtight buildings where the radon gas cannot escape.

rare species - Although not now threatened with extinction (endangered), the animal or plant species has been reduced to such small numbers throughout all or a significant portion of its range that it may become endangered.

record of decision (ROD) - A public document that explains which cleanup alternative(s) will be used at a National Priorities List (NPL) site. The ROD is based on information and technical analysis generated during the remedial investigation and feasibility study (see definition) and consideration of public comments and concerns.

recycle/reuse - The process of producing less waste by recovering usable products that might otherwise become waste. Examples are recycling materials such as aluminum cans, wastepaper, and bottles and giving old clothes and appliances to organizations for use by other people.

Regional Water Quality Control Board (RWQCB) - State agency that maintains water quality standards for areas within its jurisdiction and enforces state water quality laws.

remedial action (RA) - The actual construction or implementation phase that follows the remedial design (remedy) of the selected cleanup alternative. The selected alternative is documented in the record of decision (see definition).

remedial action subsite (RASS) - A designated grouping of sites used at the Litigation Area. The seven Litigation Area sites were grouped into four remedial action subsites based on types of contaminants and geographic location.

remedial design (RD) - The engineering phase that follows the record of decision (see definition) where technical drawings and details that state the type, size, and quality of materials are developed for the subsequent remedial action (remedy) at a site.

remedial investigation (RI) - Along with the feasibility study (FS), the RI provides the framework for determining appropriate remedial actions (remedy) at Superfund sites. In an RI, investigative and analytical studies are usually performed at the same time and together referred to as the RI/FS. The intent is to gather the data necessary to determine the type and extent of contamination at the Superfund site, establish criteria for cleaning up the site, identify and screen cleanup alternatives for remedial action (remedy), and analyze in detail the technology and costs of the alternatives.

remedial response - A long-term action that stops or substantially reduces a release or threat of a release of a hazardous substance that is serious but not an immediate threat to public health.

remediation - The act of correcting or counteracting something. When used with reference to hazardous materials, remediation means any activities (remedy) undertaken to clean up, remove, contain, treat, stabilize, monitor, or otherwise control hazardous materials.

remedy - Something that corrects, counteracts, or removes an adverse situation.

removal action - An immediate action taken over the short term to address a release or threatened release of a hazardous substance.

Resource Conservation and Recovery Act (RCRA) - A federal law passed in 1976 and amended in 1984 by the Hazardous and Solid Waste Amendments. RCRA established a regulatory system to track hazardous substances from the time of generation to disposal. The law requires safe and secure procedures to be used in transporting, treating, storing, and disposing of hazardous waste. RCRA is designed to prevent new, uncontrolled hazardous waste sites.

Resource Conservation and Recovery Act (RCRA) facility assessment (RFA) - An inspection conducted at a facility to meet the requirements of the RCRA corrective action program. When a facility applies for a permit to treat, store, or dispose of hazardous wastes, the State of California conducts an RFA to identify all solid waste management units (see definition) at the facility.

response action - A CERCLA-authorized action involving either a short-term removal action or a long-term removal response that may include but is not limited to the following: (1) removing hazardous materials from a site to a U.S. Environmental Protection Agency-approved hazardous waste facility for treatment, containment, or destruction; (2) containing the waste safely on site; (3) destroying or treating the waste on site; and (4) identifying and removing the source of groundwater contamination and halting further migration of contaminants.

restoration - Measures taken to return a site to pre-contamination conditions.

restoration advisory board (RAB) - Committees formed at individual military installations to provide the community an opportunity to participate in the environmental cleanup at neighboring military bases.

riparian habitat - Areas adjacent to rivers and streams that have a high density, diversity, and productivity of plant and animal species relative to nearby uplands.

runoff - That part of precipitation (rain), snow melt, or irrigation water that flows on the land surface into streams or other surface waters, or into storm drain inlets located on paved streets.

S

sandblast - The process of using sand for such tasks as removing paint from buildings or ships. Its residues, called "sandblast grit," can be a source of contamination.

sanitary sewers - Underground pipes intended to carry off only domestic or industrial waste, not storm water.

scrap - Materials discarded from manufacturing operations that may be suitable for reprocessing.

sediments - Soil, sand, and minerals washed from the land into water, usually after rain. These materials may pile up in reservoirs, rivers, and harbors, destroying fish-nesting areas and holes where aquatic (water) animals live; they may cloud the water so that sunlight needed for development and growth does not reach aquatic (water) plants.

semivolatile organic compounds (SVOC) - Hydrocarbons or volatile organic compounds with low evaporation rates, such as the laboratory cleaner phenol, pesticides, PCBs, diesel, and motor oil. (See "hydrocarbons" and "volatile organic compounds.")

septic tank - An underground tank for sewage wastes. These wastes go directly from the sewer system to the tank. The liquid waste passes through the septic tank and flows into a leach field consisting of perforated pipe and gravel. The organic waste is decomposed by bacteria in the tank, and any remaining solid waste settles to the bottom of the tank and collects as sludge. If necessary the sludge is periodically pumped out of the tank.

site characterization study - The title of the investigation conducted by IT Corporation in 1989 at the Tidal Area sites. The site characterization study is similar to a site investigation (see definition).

site inspection - The step that follows a preliminary assessment (see definition) where further action is recommended for a site. Site inspections include the collection of samples to help determine whether a site presents a threat to human health or the environment.

site investigation - A study conducted to help determine the extent of potential contamination at a site.

sludge - A semisolid residue from various air or water treatment processes.

slurry wall - A barrier used to prevent the flow of fluids from one area to another. A slurry wall can be made of cement or grout mixed with soil.

solid waste - Discarded material such as solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial mining, or agricultural operations or community activities. A solid waste also includes any garbage, refuse, or sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility.

solid waste management unit (SWMU) - Any area or unit at a site where wastes have been placed at any time, irrespective of whether the area or unit was intended for the management of waste. Examples of SWMUs include waste accumulation areas, drum storage areas, tanks, landfills, and spills of waste materials.

soluble threshold limit concentration (STLC) - The STLC is a numerical value established by the State of California for various constituents (mostly metals) to define solid and semisolid waste classified as hazardous by State of California Law. (See also TTLC.)

solvent - A substance capable of dissolving another substance to form an even mixture. Some uses of solvents include degreasing, cleaning, fabric scouring, and diluting. Examples of solvents include water, paint thinner, and freon.

species - A biological classification made up of populations or organisms capable of interbreeding.

storm sewer - A system of pipes designed to carry only runoff water from building and land surfaces.

stratigraphic level - A layer of rock visually different from other layers above and below it. A stratigraphic level is the layer of rock (strata) that is between or next to another layer.

sump - Any pit or reservoir that meets the definition of tank and the troughs/trenches connected to it that serve to collect waste for transport to waste storage, treatment, or disposal facilities, except those that are exempted by special rule. A sump also means any lined pit or reservoir that serves to collect liquids drained from a leachate collection system (a system that separates things by percolating a liquid through it) and removal system or leak-detection system for subsequent removal from the system.

Superfund - The program operated under the legislative authority of CERCLA (see definition) that funds and carries out the U.S. Environmental Protection Agency solid waste emergency and long-term removal remedial activities (remedies). These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority level on the list, and conducting or supervising the cleanup and other remedial actions.

surface water - Water bodies that are above ground, such as rivers, lakes, estuaries, bays, oceans, and streams.

T

terrestrial - Living on or growing in the land.

total threshold limit concentration (TTLC) - The TTLC is a numerical value established by the State of California for various constituents (mostly metals) to define solid and semisolid waste classified as hazardous by State of California Law. (See also STLC.)

toxic - Harmful to living organisms.

Toxic Substances Control Act (TSCA) - A federal law passed in 1976 that enables the U.S. Environmental Protection Agency to establish a database on the effects of chemical substances on health and the environment and to regulate the manufacture, distribution, processing, use, and disposal of chemicals that pose an unreasonable risk to people and the environment.

trace element - Any element present in minute quantities.

transite - An asbestos-cement mixture used to make low-weight, high-strength pipes to convey air, steam, water, and wastewater.

U

underground storage tank (UST) - A tank located all or partially underground that is designed to hold gasoline or other petroleum products or chemical solutions.

unfiltered groundwater data - Data from wells that are sampled and analyzed without sample filtering to screen out substances suspended in water.

upper confidence level (95 percent) - The upper limit on a normal distribution (bell-shaped) curve below which the observed data will occur 95 percent of the time.

U.S. Environmental Protection Agency (EPA) - The regulatory agency established in 1970 by Presidential Executive Order that brings together parts of various government agencies involved with the control of pollution.

U.S. Fish and Wildlife Service (USFWS) - Branch of U.S. Department of Interior whose responsibilities are to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people.

V

vadose zone - The area extending from the ground surface to the top of the groundwater table.

vertebrate - An animal (mammal, bird, reptile, amphibian, or fish) with a segmented spinal column (a column of bones in a segment like the human backbone) together with a few primitive forms in which the backbone is represented by a notochord (rod-like cord).

volatile organic compounds (VOC) - Organic (carbon-containing) compounds that evaporate (volatilize) readily at room temperature. An example of a VOC is the solvent and degreaser acetone and industrial solvents such as benzene (found in gasoline) and tetrachloroethene (PCE) which is used by dry cleaners.

W

Waste Extraction Test (WET) - The WET method analysis is a procedure defined by the State of California to leach or extract constituents into a aqueous solution. The liquid extract is then analyzed for the constituents specified.

wetland - An area that is regularly wet or flooded and has a water table that stands at or above the land surface for at least part of the year. Coastal wetlands extend back from estuaries and include salt marshes, tidal basins, marshes, and mangrove swamps. Inland freshwater wetlands consist of swamps, marshes, and bogs.

APPENDIX I
LIST OF RESTORATION ADVISORY BOARD MEMBERS

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