

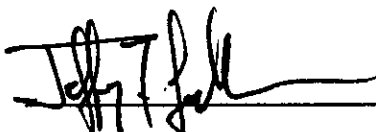
OTH-031

**Environmental Baseline Survey
McKinney Homeless Act
Group B Parcels
Former Fort Ord, California**

Prepared for

**Department of the Army
Corps of Engineers**
Sacramento District
1325 J Street
Sacramento, California 95814-2922

HLA Project No. 25894 0017615



Jeffrey F. Ludlow, R.G. 6369
Senior Geologist



Steven W.H. Walker, C.E.G. 1294
Associate Geologist

Version 2

January 30, 1996



Harding Lawson Associates
Engineering and Environmental Services
105 Digital Drive, P.O. Box 6107
Novato, California 94948 - (415) 883-0112

CONTENTS

EXECUTIVE SUMMARY	vii
1.0 INTRODUCTION	1
1.1 Purpose and Objectives	1
1.2 Procedures for Conducting an Environmental Baseline Survey (EBS)	2
1.3 Procedures for Preparing a Finding of Suitability to Transfer (FOST)	3
1.4 Summary	3
1.5 Report Organization	4
1.6 Limitations	4
2.0 PARCEL DESCRIPTION	5
2.1 Fort Ord Physical Setting	5
2.2 Geology/Hydrogeology at Fort Ord	5
2.2.1 Salinas Basin	6
2.2.2 Seaside Basin	6
2.3 Proposed McKinney Homeless Act Parcels Reuse	6
2.4 McKinney Group B Parcels Description	7
2.5 Previous and Current Activities on McKinney Group B Parcels	7
2.6 Historical Uses on Property Adjacent to Parcels	7
3.0 APPROACH TO CONDUCTING ENVIRONMENTAL BASELINE SURVEYS	9
3.1 Records Search	9
3.2 Interviews	9
3.3 Visual Inspections	10
3.4 Sampling	10
3.5 Identification of Hazardous Substance/Waste Management Practices	10
3.6 Identification of Potential Impacts from Adjoining Properties	11
3.7 Installation Restoration Program	11
4.0 RESULTS OF ENVIRONMENTAL BASELINE SURVEY FOR MCKINNEY GROUP B PARCELS	12
4.1 Asbestos Management Program	12
4.1.1 Summary of Program	13
4.1.2 Program Status and EBS Results	13
4.2 Lead-Based Paint Management Program	14
4.2.1 Summary of Program	15
4.2.2 Program Status and EBS Results	15
4.3 Radon Reduction Program	15
4.3.1 Summary of Program	16
4.3.2 Program Status and EBS Results	16
4.4 Radiological Survey Program	16
4.4.1 Summary of Program	17
4.4.2 Program Status and EBS Results	17
4.5 OE Assessment Programs	17

4.5.1	Summary of Programs	17
4.5.2	Program Status and EBS Results	18
4.6	Polychlorinated Biphenyls Management Program	18
4.6.1	Summary of Program	19
4.6.2	Program Status and EBS Results	19
4.7	Petroleum Storage Tanks	19
4.7.1	Summary of Program	19
4.7.2	Program Status and EBS Results	20
4.8	Solid and Hazardous Waste Management Program	21
4.8.1	Summary of Program	21
4.8.2	Program Status and EBS Results	22
4.9	Environmental Restoration Program	22
4.9.1	Community Environmental Response Facilitation Act (CERFA)	23
4.9.1.1	Summary of CERFA Program	23
4.9.1.2	Program Status and EBS Results	23
4.9.2	Remedial Investigation/Feasibility Study (RI/FS)	24
4.9.2.1	Summary of RI/FS Program	24
4.9.2.2	Program Status and EBS Results	25
4.10	Potential Impacts From Adjoining Properties	26
4.11	Air Quality	28
5.0	FINDINGS AND CONCLUSIONS	30
5.1	Findings	30
5.2	Conclusions	31
6.0	REFERENCES	32

TABLES

1	Reuse Parcels
2	EBS Points of Contact
3	Radon Survey Results
4	Radiological Surveys in Buildings
5	Underground Storage Tank Status
6	Aboveground Storage Tank Status
7	Solid Waste Management Units
8	Definitions of CERFA Categories
9	Basewide IRP Site Summary
10	Adjacent Property IRP Sites, Potential OE Locations, and SWMUs

PLATES

1	Fort Ord and Neighboring Areas
2	Reuse Parcel Boundaries
3	Parcel Map
4	Asbestos Investigations in Buildings
5	LBP and Radon Investigations in Buildings
6	Potential OE Locations
7	Storage Tanks, Monitoring Wells, and IRP Sites
8	CERFA Parcel Classifications
9	Property Transferable Under CERCLA

APPENDIXES

- A RESPONSES TO AGENCY COMMENTS ON DRAFT EBS/FOSTs/FOSLs
- B DRAFT FOSTs AND LEGAL DESCRIPTIONS
- C ASBESTOS SURVEY HISTORY
- D LEAD-BASED PAINT SURVEY SUMMARY

DISTRIBUTION

SELECTED ACRONYMS

ACM	Asbestos-Containing Materials
ARAR	Applicable or Relevant and Appropriate Requirement
Army	U.S. Department of the Army
BCP	BRAC Cleanup Plan
BCT	BRAC Cleanup Team
BEC	BRAC Environmental Coordinator
BRA	Baseline Risk Assessment
BRAC	Base Realignment and Closure
BTC	Base Transition Coordinator
CEQA	California Environmental Quality Act
CERFA	Community Environmental Response Facilitation Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (Superfund)
COE	U.S. Army Corps of Engineers
DEH	Directorate of Engineering and Housing
DENR	Directorate of Environmental and Natural Resources Management
DERP-MIS	Defense Environmental Restoration Program - Management Inventory System
DoD	Department of Defense
EBS/EBST	Environmental Baseline Survey/Environmental Baseline Survey for Transfer
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
ENRD	Environmental and Natural Resources Management Division, DEH
EPA	U.S. Environmental Protection Agency
FORA	Fort Ord Reuse Authority
FORG	Fort Ord Reuse Group

FOST	Finding of Suitability to Transfer
FOSL	Finding of Suitability to Lease
IAROD	Interim Action Record of Decision
IRP	Installation Restoration Program
LBP	Lead-Based Paint
NEPA	National Environmental Policy Act
NPL	National Priorities List
NoAROD	No Action Record of Decision
OE	Ordnance and Explosives
OU	Operable Unit
PCB	Polychlorinated Biphenyl
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROC	Record of Concurrence
ROD	Record of Decision
SOC	Statement of Conditions
SRE	Screening Risk Evaluation
SWMU	Solid Waste Management Unit
USAEC	U.S. Army Environmental Center
USAEDH	U.S. Army Engineer Division, Huntsville
UST/AST	Underground Storage Tank/Aboveground Storage Tank
UXO	Unexploded Ordnance

EXECUTIVE SUMMARY

This parcel-specific Environmental Baseline Survey (EBS) presents the results of an assessment of the known existing environmental conditions for a portion of former Fort Ord, Monterey County, California. The area encompassed by this EBS is known as the McKinney Homeless Act Group B Parcels.

The purpose of the EBS is to support the transfer of real property by deed or by lease by identifying information available about existing environmental conditions on a parcel and adjacent areas. A Finding of Suitability to Transfer (FOST), which documents the environmental suitability of a parcel for transfer by deed on the basis of specific criteria, may be prepared on the basis of the information in the EBS. In accordance with U.S. Department of Defense (DoD) and U.S. Department of the Army (Army) guidance, the appropriate official of the respective military department will certify through a FOST that one of the conditions below is true:

- The requirements of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section (§) 120(h)(3) have been met (i.e., all remedial action necessary to protect human health and the environment has been taken)

or

- The requirements of CERCLA §120(h)(4) have been met for the parcel because no CERCLA hazardous substances, petroleum products, or their derivatives were stored for 1 year or more, known to have been released, or disposed of on the parcel.

The EBS and FOST are coordinated and complementary documents that provide information regarding the environmental suitability of a parcel for transfer with respect to available information and specific criteria. These documents are reviewed by the appropriate federal and state agencies, and agency staff comments are incorporated as necessary into subsequent versions of the documents.

Health- or safety-related environmental conditions related to asbestos and lead-based paint are suspected to exist on some of the McKinney Homeless Act Group B Parcels. Areas in which such conditions exist include areas otherwise suitable for transfer by deed under CERCLA. On the basis of available information, the McKinney Homeless Act Group B Parcels EBS indicates that the requirements of CERCLA §120(h)(3) have been met for the Young Women's Christian Association (YWCA), Shelter Plus, and Pope John XXIII AIDS Ministry Parcels. The requirements of CERCLA §120(h)(4) have been met for the Salvation Army, Rehabilitation Services of Northern California (RSNC), and YWCA (Building T-2859) Parcels. Accordingly, draft FOSTs have been prepared for the McKinney Group B Parcels.

1.0 INTRODUCTION

This parcel-specific Environmental Baseline Survey (EBS) presents the results of an assessment of known existing environmental conditions for a portion of former Fort Ord, Monterey County, California (Plate 1). The area examined in this EBS is the Steward V. McKinney Homeless Act Group B Parcels (McKinney Group B Parcels), as shown on Plates 2 and 3. Information presented in this EBS is used by the U.S. Department of the Army (Army) to prepare parcel-specific Findings of Suitability to Transfer (FOSTs) for the McKinney Group B Parcels as discussed below and in Section 2.0. This EBS, Version 2, incorporates comments received from regulatory agencies on the draft (Version 1) EBS issued October 31, 1995 (Appendix A).

Fort Ord became an active military installation in 1917 and was selected for closure pursuant to the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510; BRAC). On July 11, 1991, the President approved the BRAC91 list of recommended closures and realignments, including the closure of Fort Ord and the realignment of troops from Fort Ord to Fort Lewis, Washington. On February 13, 1992, the Army filed a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) to examine the impacts of closing Fort Ord and realigning troops to Fort Lewis. The EIS was completed (COE, 1993), and an EIS Record of Decision (ROD) was signed by the Department of the Army in December 1993 (Army, 1993d).

In fall 1993, the Army initiated EBSs to support the transfer of excess real property at Fort Ord. The approach developed for Fort Ord includes consideration of issues that affect real property transfer, including the nature and extent of contamination at the installation and other health and safety issues associated with the condition of buildings. To accommodate the reuse needs of the surrounding community, the Army is preparing parcel-specific EBSs on the basis of requests received from the community. Table 1 lists the reuse parcels for which the Army is currently planning or preparing parcel-specific

EBSs or FOSTs. These parcels were identified by the Army and the community-based Fort Ord Reuse Group (FORG) (FORG, 1993). FORG has been superseded by the Fort Ord Reuse Authority (FORA), established in mid-1994 pursuant to California Senate Bill 899 (SB 899). The Fort Ord Base Reuse Plan outlines the anticipated reuse of designated parcels at former Fort Ord (FORA, 1994). The list of parcels may be modified periodically as the needs of the local community change.

This EBS was prepared for Fort Ord on behalf of the U.S. Army Corps of Engineers (COE), Sacramento District, which has been retained by the Army to conduct surveys to support real-property transfer at Fort Ord. This EBS was prepared by Harding Lawson Associates (HLA) in accordance with the COE February 21, 1995, Revised Amendment to the Supplemental Scope of Work (SSOW) dated September 2, 1993, under Contract DACA05-86-C-0241, Modifications P00091, P00120, P00130, P00223, and P00239.

1.1 Purpose and Objectives

Under current Department of Defense (DoD) and Army procedures, the Army's determination of the transferability of excess property associated with base closures includes the following steps: (1) review of currently available information about environmental conditions on the property, (2) preparation of an EBS, (3) determination by the Army in terms of specific criteria that the property is suitable for transfer, and (4) preparation of a FOST to document the property's suitability for transfer in terms of those specified criteria. DoD and Army policy on the preparation of an EBS and subsequent FOST, including the specific criteria to be used by the Army in assessing the suitability of a parcel for transfer, is presented in the most recent DoD guidance on the EBS/FOST process, released June 1, 1994 (DoD, 1994), and Army implementing guidance dated November 10, 1994 (Army, 1994b). If property is considered for outlease rather than transfer by deed, a Finding of Suitability to Lease (FOSL) is prepared. DoD

policy on the preparation of a FOSL is presented in DoD guidance released in fall 1993 (Appendix B of *DoD, 1993*).

This EBS was prepared on the basis of these most recent guidance documents. The purpose of the EBS is to support the transfer of real property by deed or lease by providing an assessment of existing environmental conditions on a parcel and in adjacent areas on the basis of pre-existing information. To the extent that information is available to the authors, the EBS discusses the following:

- Status of site investigations
- Nature and extent of known contamination, if any
- Solid and hazardous waste management practices
- Underground storage tank (UST) management practices
- Status of building surveys for asbestos, lead-based paint, or radon
- Other information pertaining to environmental conditions on the parcel.

The EBS focuses on identifying and documenting environmental site characterization activities and the presence or likely presence of hazardous substances or hazardous wastes on a portion of real property considered for transfer. The EBS addresses hazardous substances or wastes, including certain substances not usually regulated under CERCLA (Comprehensive Environmental Response, Compensation and Liability Act), and other substances such as petroleum products, asbestos, and lead-based paint in structures. The EBS includes a consideration of soil or groundwater contamination and a description of potential public health and safety issues, such as those associated with the condition of buildings, that may affect the Army's ability or decision to transfer such property, to the extent that relevant information is available. The EBS may not constitute a complete site characterization because it is based on existing available

information. An EBS may be updated to reflect more recently acquired information or to support transfer of additional areas.

The FOST is prepared based on the EBS. The purpose of the FOST is to document the environmental suitability of a parcel for transfer to non-federal agencies or the public, in terms of specific criteria. The FOST compares these criteria with known site characteristics documented in the EBS.

As stated in the most recent DoD guidance, the EBS/FOST program has the following objectives:

- Protecting human health and the environment
- Preparing EBSs and FOSTs in a consistent manner to assess, determine, and document the environmental suitability of properties for transfer
- Ensuring transfer of property without interfering with cleanup actions
- Ensuring compliance with applicable environmental requirements, allowing DoD to demonstrate compliance with CERCLA §120(h) before property is transferred
- Providing for adequate public and regulatory participation without unduly encumbering the DoD's authority and mandate to make property available for reuse in a timely manner
- Ensuring sufficient environmental review of the real property being considered for transfer is conducted to avoid unwarranted risks of future liability.

1.2 Procedures for Conducting an Environmental Baseline Survey (EBS)

Procedures for conducting an EBS are described in the June 1994 DoD guidance noted above (*DoD, 1994*). The EBS is similar to a CERCLA Preliminary Assessment (PA) and may include information from many sources, including ongoing programs, such as Fort Ord's CERCLA

remedial investigation/feasibility study (RI/FS), building surveys for asbestos, lead-based paint, and radon, solid waste management activities, and other programs, as discussed in Section 3.0. Specific activities may include the following:

- Identification of parcel boundaries
- Search and review of existing records regarding environmental conditions on the parcel
- Description of known current or past activities on the parcel
- Interviews with current and/or former employees involved in operations on the parcel
- Description of known hazardous substance or hazardous waste management practices on the parcel or an adjacent property
- Documentation of observations made during visual and physical inspections
- Description of possible sources of contaminants on the parcel or on adjacent parcels, on the basis of available information
- Documentation of ongoing response actions.

1.3 Procedures for Preparing a Finding of Suitability to Transfer (FOST)

A FOST is expected to be a relatively brief document, only a few pages long. The BRAC Environmental Coordinator (BEC) prepares the FOST in conjunction with the BRAC Cleanup Team (BCT) to document certification of the suitability of a parcel for transfer on the basis of the information in the EBS and the specific certification criteria described in FOST guidance (Army, 1994b; DoD, 1994). According to DoD guidance (DoD, 1994), a senior-level environmental official, equivalent to at least a Deputy Assistant Secretary from the military department or their authorized delegate at a lower level, will certify through the FOST that one of the conditions listed below is true:

- The requirements of CERCLA §120(h)(3) have been met for the parcel being transferred (i.e., all remedial action necessary to protect human health and the environment has been taken)

or

- The requirements of CERCLA §120(h)(4) have been met for the parcel because no CERCLA hazardous substances, petroleum products, or their derivatives were stored for 1 year or more, known to have been released, or disposed on the parcel.

DoD guidance specifies the format for a FOST (DoD, 1994). A FOST should contain:

- Purpose
- Legal description of property and map
- Regulatory coordination, describing state agencies and U.S. Environmental Protection Agency (EPA) review of draft documents
- Findings of the EBS review, summarizing all known current or historical environmental conditions in the parcel
- Discussion of environmentally sensitive areas, listing any such areas, including wetlands, cultural or historic resource areas, or areas containing endangered species
- Analysis of intended reuse and determination of suitability for transfer under CERCLA
- Listing of specific recommended restrictions on the use of the parcel
- Signature, according to the signature authority discussed above.

Copies of the draft FOSTs and legal descriptions for the McKinney Group B Parcels are included in Appendix B.

1.4 Summary

The EBS and FOST are coordinated and complementary documents that provide

information regarding the environmental suitability of a parcel for transfer with respect to available information and specific criteria. The EBS summarizes existing environmental information and provides a technical basis for the FOST. The EBS also provides a mechanism for documenting known CERCLA and non-CERCLA information (e.g., possible health-related conditions associated with the presence of non-CERCLA asbestos-containing materials). The FOST provides an overview of the contents of the EBS and presents conclusions about the parcel's suitability for transfer or lease and restrictions on its use.

1.5 Report Organization

The remaining sections of this EBS describe environmental conditions relevant to transfer of the McKinney Group B Parcels. Section 2.0 describes the Fort Ord setting and the general characteristics of the McKinney Group B Parcels, including parcel locations and boundaries, current and historical land uses, anticipated land use following transfer, and land use adjacent to the McKinney Group B Parcels. Section 3.0 describes the specific activities conducted for the McKinney Group B Parcels EBS and FOSTs. Section 4.0 presents the results of the EBS, describing available information about existing environmental conditions on the McKinney Group B Parcels, and describes the status of FOST preparation. Section 5.0 summarizes the findings and conclusions of the EBS.

1.6 Limitations

This document was prepared for the sole use of HLA's client, the U.S. Department of the Army, Corps of Engineers, Sacramento District, the only intended beneficiary of our work, to support preparation of FOSTs for the McKinney Group B Parcels. No other party should rely on the information contained herein without the prior written consent of HLA.

Although the EBS is a publicly available document, its distribution to other parties does not constitute HLA's consent for those or other parties to rely on the information contained herein. This document may not contain

sufficient information for the purposes of other parties.

HLA's professional services for this EBS, including the preparation of this document, were conducted in accordance with practices and procedures generally accepted in the environmental consulting field in northern California at this time; no other warranty is given or implied by this report.

Information about the presence or absence of hazardous substances in the area discussed in this report is based on limited data and observations. Environmental conditions may change over time and may be different away from locations where data or samples were collected or observations made. HLA does not and cannot have complete knowledge of environmental conditions in the area discussed. Furthermore, this report is complete and accurate only to the extent that cited reports and agency information are complete and correct, and to the extent that all relevant information has been provided to HLA. The purpose of the EBS is to identify and describe available information. In the EBS, HLA has not attempted to independently verify the completeness or accuracy of the information presented, or to independently assess the environmental condition of the described area.

2.0 PARCEL DESCRIPTION

This section presents relevant descriptive information about the McKinney Homeless Act Group B parcels, including an overview of Fort Ord's physical setting, proposed parcel reuse, previous and current activities on the parcels, and historical uses of adjacent parcels.

2.1 Fort Ord Physical Setting

The former Fort Ord (Fort Ord) is adjacent to Monterey Bay in northwestern Monterey County, California, approximately 80 miles south of San Francisco (Plate 1). The base comprises approximately 28,000 acres adjacent to the cities of Seaside, Sand City, Monterey, and Del Rey Oaks to the south and Marina to the north. The Southern Pacific Railroad and Highway 1 pass through the western part of Fort Ord, separating the beachfront portions from the rest of the base. Laguna Seca Recreation Area and Toro Regional Park border Fort Ord to the south and southeast, respectively. Land use east of Fort Ord is primarily agricultural, as was land use at Fort Ord before the Army acquired the property.

After it opened in 1917, Fort Ord primarily served as a training and staging facility for infantry troops. No permanent improvements were made until the late 1930s, when administrative buildings, barracks, mess halls, tent pads, and a sewage treatment plant were constructed. From 1947 to 1975, Fort Ord was a basic training center. After 1975, the 7th Infantry Division (Light) occupied Fort Ord. Light infantry troops are those that perform their duties without heavy tanks, armor, or artillery. Fort Ord was selected for decommissioning in 1991 and placed on the BRAC91 list, but troop realignment was not completed until 1993. Fort Ord officially closed September 30, 1994. The portion of Fort Ord that remains active is now known as the Presidio of Monterey-Annex.

The three major developed areas within Fort Ord are the Main Garrison, Fritzsche Army Airfield (FAAF), and the East Garrison. The remaining approximately 20,000 acres of undeveloped property was used for training activities.

The Main Garrison contains commercial, residential, and light industrial facilities. Construction began in 1940 and ended in the 1960s, starting in the northwest corner of the base and expanding southward and eastward. During the 1940s and 1950s, a small airfield was in the central portion of the Main Garrison. This airfield was decommissioned when FAAF was completed, and the earlier airfield facilities were redeveloped as motor pools or for other operations.

FAAF, which served as the general airfield for Fort Ord, is in the northern portion of the base, adjacent to the City of Marina. FAAF was originally outside the formal boundaries of Fort Ord but was incorporated into Fort Ord in 1960 and expanded in 1961.

The East Garrison occupies 350 acres on the northeastern edge of the base and consists of military and industrial support areas, recreational facilities, and recreational open space.

2.2 Geology/Hydrogeology at Fort Ord

This section summarizes information on geology and hydrogeology in the Fort Ord area; a detailed discussion is presented in the Draft Final Basewide Hydrogeologic Investigation (HLA, 1994c).

Fort Ord is within a geologically complex area in the central California Coast Ranges. Starting with the deepest known formations and moving up to the ground surface, the region is underlain by one or more of the following units: Mesozoic granodiorite; Miocene marine siltstone and shale of the Monterey Formation; upper Miocene to lower Pliocene sandstone of the Santa Margarita Formation; Pliocene marine sediments, possibly the Pursima Formation; upper Pliocene to Pleistocene alluvial fan, lake, and flood deposits of the Paso Robles Formation; and the Aromas Sand, a Pleistocene sand and gravel unit. Above these units, unconsolidated gravel, sand, silt, and clay of the Pleistocene age Valley Fill deposits

(including the Salinas Valley Aquiclude, FO-SVA) are present. Over much of the base, these geologic units are overlain by dune sand deposits. Surface soil, developed from the dune sands, Aromas Sand, and Paso Robles Formation that cover the majority of the base, is typically sandy.

The Salinas Basin and the Seaside Basin are the two main groundwater basins underlying Fort Ord. The Salinas Basin underlies approximately the northern ½ of Fort Ord, where groundwater typically occurs at depths in excess of 100 feet, and is separated from deeper aquifers by an extensive clay (FO-SVA); the Seaside Basin underlies approximately the southern ½ of the base. The location and characteristics of the boundary between these two basins are uncertain.

2.2.1 Salinas Basin

In the area of Fort Ord, four relatively well-defined aquifers occur within the Salinas Basin: the unconfined A-aquifer and the confined 180-, 400-, and 900-foot aquifers. The latter three aquifers were originally named to reflect their average depths in the Salinas Valley proper; however, these aquifers are generally deeper at Fort Ord than in the Salinas Valley.

The A-aquifer is separated from the 180-foot aquifer throughout much of Fort Ord by the Salinas Valley Aquiclude (FO-SVA). This aquiclude becomes thinner and apparently disappears (pinches out) in some areas west of the Main Garrison and near the southern Salinas Basin boundary, resulting in pathways for water movement between the A- and 180-foot aquifers. Groundwater flow in the A-aquifer is significantly influenced by the configuration of the top of the FO-SVA. Where the FO-SVA pinches out beneath the Main Garrison area, groundwater appears to flow from the A-aquifer into the 180-foot aquifer.

Groundwater flow directions in the 180- and 400-foot aquifers vary across the base. Historical data suggest that flow was originally to the northwest in both aquifers. However, recent data indicate that groundwater flow in these aquifers is generally eastward as a result of pumping from

Salinas Valley and Fort Ord supply wells. Current and historical pumping has resulted in saltwater intrusion into the 180- and 400-foot aquifers in the vicinity of the City of Marina and the Fort Ord Main Garrison.

2.2.2 Seaside Basin

The limited data available for the Seaside Basin indicate that its water-bearing zones do not correlate with those of the Salinas Basin. The Seaside Basin reportedly consists of the following three aquifers, from deepest to shallowest: the confined Santa Margarita Formation aquifer, the confined Paso Robles Formation aquifer, and an unconfined uppermost aquifer in the dune sands and Aromas Sand.

Unlike the Salinas Basin, the Seaside Basin is structurally complex and contains several northwest- trending faults and folds. The basin is bounded on the south by the Chupines fault and on the north by a subsurface bedrock high. Faults that have displaced the Santa Margarita and lower portions of the Paso Robles aquifer are believed to divide the Seaside Basin into several subbasins, including the Seaside Coastal southern, northern, and Fort Ord subbasins and the Seaside and Laguna Seca subbasins.

Water-supply wells in the City of Seaside produce water primarily from the Santa Margarita and Paso Robles aquifers of the Seaside Basin.

2.3 Proposed McKinney Homeless Act Parcels Reuse

The McKinney Homeless Act Parcels are proposed for use by 11 homeless services organizations under the umbrella of the Coalition of Homeless Service Providers. These 11 organizations provide emergency shelter, transitional housing, employment counseling and training, child care and support services, and food services. To facilitate transfer of Fort Ord property, the McKinney Homeless Act Parcels have been divided into Groups A, B, and C. This EBS is for the Group B McKinney parcels, which include facilities for the following organizations: Rehabilitation Services of Northern California

(RSNC) Valley Center, Young Women's Christian Association-Monterey Peninsula (YWCA), Pope John XXIII Aids Ministry (John XXIII), Salvation Army, and Shelter Plus.

2.4 McKinney Group B Parcels Description

The McKinney Group B Parcels consist of approximately 18 acres comprising 25 habitable buildings in 7 locations at Fort Ord, as illustrated on Plates 2 and 3. The 7 locations are in 2 areas: Subarea B-1, including the RSNC and Shelter Plus parcels in the northern part of the Main Garrison, the YWCA parcels in the northern part of the Main Garrison and in the Patton Park Housing Area, and the John XXIII parcel in the Patton Park Housing Area. Subarea B-2 comprises the Salvation Army parcel in the southern part of the Main Garrison. The parcels are located in areas formerly used for housing, barracks, support services, and training. Each organization's parcel, building numbers, and the intended use of the building are listed below:

- RSNC - 1 building (T-2879) on approximately 0.25 acre for employment services for the mentally disabled
- YWCA - 12 buildings (3099, 8751-8758, 8765-8766, and T-2859) in 3 areas comprising approximately 7 acres for transitional housing for women and children and employment training
- John XXIII - 6 buildings (8759-8764) on approximately 5 acres for transitional housing for adults and families with AIDS
- Salvation Army - 5 buildings (8124, 8126, and 8264-8266) comprising approximately 2 acres for transitional housing for families
- Shelter Plus - 1 building (3095, Lightfighter Lodge) comprising approximately 3.5 acres for emergency shelter for families and women with children.

2.5 Previous and Current Activities on McKinney Group B Parcels

Subarea B-1 is located in the northern part of the Main Garrison, which included barracks, motor pools, support services, and training areas. The RSNC and YWCA Building T-2859 are currently in use as part of the post headquarters. No activities are currently taking place in the remaining 23 buildings. YWCA Building 3099 was a former base exchange convenience store. Shelter Plus Building 3095 was the former Lightfighter Lodge, a club for enlisted personnel. The ten YWCA and six John XXIII buildings were part of the Patton Park Housing Area. Similarly, the five buildings in the Salvation Army parcel were part of the Hayes Park Housing Area.

2.6 Historical Uses on Property Adjacent to Parcels

The area surrounding the McKinney Group B Parcels consists of both developed and undeveloped property. Developed properties within approximately 1 mile of Subarea B-1 include the following:

- The Patton, Abrams, and Frederick housing areas to the north and east
- Fritzsche Army Airfield to the northeast
- Residential areas, local services, and commercial areas in the City of Marina to the north
- The Main Garrison to the south.

Undeveloped properties outside but within approximately 1 mile beyond the Subarea B-1 boundaries include the Beach Trainfire Ranges to the west.

Developed properties within approximately 1 mile of Subarea B-2 include the following:

- Fort Ord golf courses to the north and east
- The Hayes Park housing area to the west and south

- Inland Ranges to the southeast
- Residential areas, local services, and commercial areas in the City of Seaside to the south.

Undeveloped properties outside but within 1 mile of Subarea B-2 include the Beach Trainfire Ranges to the west.

According to a literature review and base inventory report prepared for the Army DEH in March 1991, several facilities in the City of Marina have underground storage tanks (USTs; EA, 1991). The closest reported leaking UST is approximately 0.7 mile north of the Fort Ord boundary. It was not determined whether testing has been conducted on any of these USTs (EA, 1991). A 1993 data search prepared for Arthur D. Little, Inc. (ADL), by Environmental Database, Inc., indicated that four permitted RCRA facilities in Marina are within

approximately 1 mile of the McKinney Group B Parcels in Subarea B-1, although seven permitted RCRA facilities were identified in the City of Marina near the northern Fort Ord boundary (EDI, 1993). One permitted RCRA facility and two leaking UST locations are present within 1 mile of the Subarea B-2 parcels in the City of Seaside (EDI, 1993).

3.0 APPROACH TO CONDUCTING ENVIRONMENTAL BASELINE SURVEYS

This section describes the activities performed for the McKinney Group B Parcels EBS. The procedures followed are described in EBS guidance (*DoD, 1994; Army, 1994b*). This EBS for the McKinney Group B Parcels considers currently available information from various sources, including interviews with Fort Ord personnel and the results of investigations conducted under the RI/FS or other programs. These include UST investigations, results of building inspections, and evaluation of the potential for adverse impacts from other parcels near the McKinney Group B Parcels. The information is presented in Section 4.0.

Environmental programs currently ongoing or recently completed at Fort Ord include the Basewide RI/FS, the UST program, building surveys for asbestos-containing materials (ACM) and lead-based paint (LBP), radiological surveys, management of PCB-containing transformers, evaluation of potential releases from onpost solid waste management units (SWMUs), and an assessment for the presence of ordnance and explosives (OE). Additional information will likely be available in the future because some of the programs are ongoing. New information will be incorporated in the preparation of other parcel-specific EBSs in the future.

3.1 Records Search

Existing reports and other available records, including federal government and state and local agency records, have been reviewed to identify past or current activities relating to environmental conditions within and near the McKinney Group B Parcels. Documents and information reviewed for this EBS include the following types of reports or investigative or management plans developed by Fort Ord as part of the Installation Restoration Program (IRP) and BRAC programs:

- RI/FS literature surveys and base inventory reports
- Preliminary assessment/site inspections

- Enhanced preliminary assessments
- Work plans
- Sampling and analysis plans
- Construction information for buildings within the McKinney Group B Parcels
- Results of building surveys for asbestos, lead-based paint, radon, and radiological programs
- Inventories and management programs for USTs and SWMUs
- Hazardous waste management surveys, including surveys for management of transformers containing polychlorinated biphenyls (PCBs) and oils and Fort Ord's Defense Environmental Restoration Program - Management Inventory System (DERP-MIS) records
- Air monitoring reports/emissions inventories
- Documents developed during the Community Environmental Response Facilitation Act (CERFA) assessment
- Records of an archive records search for UXO and OE
- Documentation of federal and state environmental database searches, including the EPA NPL and Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) databases and the list of California state Superfund sites, which was obtained from the final CERFA report (*ADL, 1994*).

3.2 Interviews

Fort Ord (now Presidio of Monterey-Annex) or COE personnel were interviewed as necessary to support the EBS. The Army identified a specific point of contact for each of the environmental

programs being conducted at Fort Ord. The points of contact for this EBS are listed in Table 2. As specifically noted in Section 4.0, these people were contacted at various times to obtain updates of schedules and the status of assessment and abatement or remedial actions that were underway. In addition to the points of contact identified in Table 2, other current or former employees of Fort Ord were contacted to gather information about past or current activities. In some cases, interviews documented in this EBS were conducted as part of previous assessments. The sources of information obtained from interviews are documented in appropriate portions of Section 4.0.

3.3 Visual Inspections

Visual inspections were conducted as necessary either to confirm information reviewed or to identify additional potential problems. Because of the extensive investigations and assessments conducted to date, limited visual inspections for the McKinney Group B Parcels EBS were conducted to confirm the previous observations. The McKinney Group B Parcels were routinely inspected during previous investigations, such as investigations at IRP sites adjacent to the McKinney Group B Parcels. Additionally, specific inspections have been conducted previously by other contractors in support of building surveys for asbestos and lead-based paint. The results of the visual inspections are noted in appropriate portions of Section 4.0.

3.4 Sampling

The EBS and FOST are typically prepared on the basis of available data. However, according to DoD guidance, sampling of environmental media including soil, groundwater, or building materials is appropriate in the EBS to support decision-making and the preparation of a FOST. Asbestos, lead-based paint, radon, and radiological surveys have been completed for a number of structures within or near the McKinney Group B Parcels. These investigations are described in Sections 4.1 through 4.4. Some of these programs are not complete, but on the basis of the reported scopes and objectives of the individual programs and selected other assessment activities, additional sampling in the

EBS did not appear necessary to support decision-making and possible preparation of FOSTs/FOSLs for the McKinney Group B Parcels.

3.5 Identification of Hazardous Substance/Waste Management Practices

Documents identified by Fort Ord and interviews with Fort Ord personnel provided information on hazardous materials and hazardous waste management procedures at Fort Ord. Relevant documents identified by Fort Ord and reviewed for this EBS include the following:

- Evaluation of Solid Waste Management Units (AEHA, 1988)
- Fort Ord Regulation 200-1 of the Fort Ord Hazardous Waste Management Plan (HWMP), September 4, 1990
- Fort Ord Underground Storage Tank Management Plan (HLA, 1991a)
- Verification of Solid Waste Management Units, Fort Ord, California (HLA, 1993b)
- Fort Ord Spill Prevention, Control, and Countermeasures Plan (SPCC), Table 1 and Section VI, Detailed Spill History (Dynamac Corporation, 1993)
- Pest Management, Army Regulation 420-76 (June 3, 1986).

Use of pesticides at Fort Ord is governed by and conforms with Army Regulation 420-76, Pest Management, and is consistent with planned future reuse of parcels (FORA, 1994). Areas in which above normal use of pesticides (herbicides, insecticides, rodenticides) occurred have been identified as part of the basewide investigation at IRP Sites 15, 24, and 33. No other areas of pesticide use have been identified where residual levels of hazardous substances pose a threat to human health or the environment.

A database list of hazardous waste generators, dated April 19, 1990, was reviewed. Other potentially relevant documents, including the

HWMP, Hazardous Waste Facility Inventory Report, Spill Plan, and site-specific spill reports, were not available for review.

Fort Ord personnel interviewed included Ms. Claire Murdo and Mr. Richard Schmitt. Ms. Murdo was interviewed in December 1993 and February 1994. She provided information about the status of revisions to various management documents and provided some background to development of these documents. Mr. Schmitt provided the database list of hazardous waste generators and summarized the development and evolution of hazardous waste management activities at Fort Ord.

Information from these documents and interviews is summarized in Section 4.8.

3.6 Identification of Potential Impacts from Adjoining Properties

Potential impacts from adjoining properties were identified on the basis of available land use information associated with properties within approximately 1 mile of the McKinney Group B Parcels boundary. The 1-mile search distance is consistent with the American Society for Testing and Materials (ASTM) standard for property transfer investigations. Several activities were conducted to evaluate potential impacts from adjoining properties within the 1-mile boundary. The boundaries of the McKinney Group B Parcels were first located on a Fort Ord site map, which was prepared using a computer-aided design/drafting (CADD) program. The areas surrounding the McKinney Group B Parcels were then searched for known or suspected locations of Fort Ord IRP sites, SWMUs, USTs, and other previously identified areas where potentially hazardous materials may have been stored, released, or disposed onpost. The process also considered the nature of the potentially contaminated medium and the likelihood for contamination in that medium to affect the McKinney Group B Parcels. Groundwater flow directions were considered in identifying potential effects of groundwater contamination on the McKinney Group B Parcels. Details of the potential impacts from adjoining properties are discussed in Section 4.10.

Additionally, the results of known building surveys for asbestos, lead-based paint, and radon were considered in identifying possible sources of potentially hazardous materials. For sites near the Fort Ord installation boundary, potential impacts from areas immediately offpost were also identified by reviewing the results of a search of environmental databases maintained by federal, state, and local agencies, as noted above. Information from this process is presented in Section 4.10.

3.7 Installation Restoration Program

Fort Ord was placed on the NPL on February 21, 1990. Since then, the Army has conducted site investigations at 41 identified sites to assess the nature and extent of contamination at Fort Ord. Thousands of soil, groundwater, air, and biota samples have been collected at Fort Ord under the IRP. The investigations are described in numerous basewide or site-specific reports, including the RI/FS Work Plan (HLA, 1991c), Sampling and Analysis Plan (HLA, 1991b), the Final Basewide RI/FS (HLA, 1995b), and 41 site investigation reports that are either completed or in preparation (see Section 6.0, References), which themselves contain site-specific work plans for subsequent site characterization activities. The scopes of the investigations documented in these reports were developed in coordination with relevant regulatory agencies.

Twenty-two IRP sites under CERCLA are near the boundaries of the McKinney Group B Parcels, as discussed in Sections 4.9 and 4.10. Additionally, the groundwater plumes associated with Operable Unit 2 (OU 2), the Fort Ord Landfills, underlie several of the parcels. OU 2 is being investigated and remediated under the installation's RI/FS program. Information from OU 2 investigations was reviewed during development of the McKinney Group B Parcels EBS. Information from other site investigation activities, including evaluation of potential soil contamination associated with USTs, was also included in the McKinney Group B Parcels EBS if appropriate.

4.0 RESULTS OF ENVIRONMENTAL BASELINE SURVEY FOR MCKINNEY GROUP B PARCELS

The results of the McKinney Group B Parcels EBS, including a discussion of potential impacts from adjoining properties, are presented below.

4.1 Asbestos Management Program

The descriptions of the asbestos management program and its status to date are based on the information that the Army made available to HLA. Neither asbestos surveying, sampling, or analysis, nor assessment or evaluation of the precision, accuracy, or applicability of the methods or data presented herein were performed by HLA as part of the EBS.

The purpose of the asbestos management program at Fort Ord is to identify asbestos-containing materials (ACM) in Army-controlled buildings, evaluate the ACM's friability, condition, and potential for damage, and implement response actions if appropriate. According to Mr. Mark Reese, Environmental Protection, Directorate of Environmental and Natural Resources Management (DENR), asbestos-related work at Fort Ord is performed in accordance with the following documents/guidelines:

- Department of the Army
Army Regulation (AR) 200-1, *Environmental Protection and Enhancement*
Chapter 10, "Asbestos Management Program"
May 23, 1990

To control asbestos and minimize environmental release and subsequent occupational and incidental exposure, Chapter 10 of AR 200-1 requires that the following objectives be met:

- Exclude ACM from procurements and uses where possible
- Handle, store, transport, and dispose of asbestos and perform asbestos-related

work in accordance with applicable regulations

- Perform building surveys to maintain an inventory of ACM, assess the potential for exposure to asbestos, and implement operations and maintenance programs and management plans to minimize potential exposure to personnel
- Maintain a nonoccupational environment safe from asbestos exposure.
- Department of the Army
Memorandum, "Policy Guidance - Lead-Based Paint and Asbestos in Army Properties Affected by Base Realignment and Closure"
November 15, 1993

This memorandum provides Army policy guidance on identifying and eliminating lead-based paint and asbestos hazards for properties affected by BRAC. The guidance requires the following:

- Compliance with all applicable regulations and coordination with regulators to ensure compliance
- Maintenance of minimum essential operations, maintenance, and repair standards to prevent deterioration of BRAC properties and to assure sufficient protection of human health and the environment
- Verification that asbestos surveys and assessments have been or will be performed for BRAC properties prior to disposal
- Removal of ACM from a BRAC property if:
 - Protection of human health requires removal, such as for damaged friable ACM

- It is intended to be used as a school (K-12) or child care facility
- It is unsalable without removal or its removal prior to sale is cost-effective
- It is intended by the Army for demolition prior to property disposal
- Friable or potentially friable asbestos that presents a health hazard and that has been stored or disposed of underground or elsewhere on the property that presents a health hazard will be properly disposed
- Final BRAC actions taken regarding asbestos will be dependent on the overall disposal plan and any reuse of the building
- If the Army is pressed for early release of vacant property, where it is known that the buyer intends to demolish the property or remove the asbestos before reoccupancy in accordance with applicable regulations, removal of threatening asbestos may not be required. Negotiations are necessary to ensure that the Army's liability is minimized and notice and disclosure of any restrictions are required in the transfer language.

4.1.1 Summary of Program

An asbestos survey of approximately 350 nonhousing buildings (i.e., retail stores, office buildings, lavatories, dining halls, barracks, general purpose buildings, vehicle maintenance and storage, oil storage, bus/taxi stations, and ammunition bunkers) performed in 1989 and 1990 found both friable and nonfriable ACM. ACM was found in tank and pipe insulation, HVAC vibration joint cloths, exhaust flues, acoustic ceiling treatment, floor tile, linoleum and associated mastics, and debris in the buildings (*Weston, 1990; DEI, 1993*).

From October 1991 to April 1993, a basewide asbestos survey of an additional 2,689 nonhousing and barracks structures was performed and found both friable and nonfriable

ACM such as tank and pipe insulation, HVAC vibration joint cloths, exhaust flues, acoustic ceiling treatment, floor tile, linoleum and associated mastics, and debris in the buildings (*DEI, 1993*). This report included the information from *Weston, 1990*, referenced above.

Surveys of housing units scheduled for disposal began in October 1993 and were completed in August 1995. The final summary report for the housing surveys will be made available to the recipients of the property (*Reese, 1994*).

4.1.2 Program Status and EBS Results

All of the 25 buildings within the McKinney Group B Parcels have been surveyed for ACM. Results are summarized in the tables in Appendix C, which list the 25 structures within the McKinney Group B Parcels by their building numbers, the building construction dates, whether the building has been surveyed for asbestos, whether friable and/or nonfriable ACM were identified, and, if ACM was found, the numerical condition assessment rating assigned. In those surveys, ratings range from 1 to 13, with the rating of 1 indicating the highest concern.

According to ACM survey results, one building (8764) in John XXIII contains ACM with a rating of 2 (immediate repair/removal recommended); this ACM consists of approximately 6 feet of loose duct tape in the furnace room. Twenty-three buildings contain friable or nonfriable ACM rated 6 to 13, and no ACM (rating 0) was found in one building (3095, Lightfighter Lodge). Plate 4 indicates buildings within the McKinney Group B Parcels in which (1) no ACM was found (rating 0), (2) ACM with a rating of 1 to 5 was found, (3) ACM with ratings 6 to 13 were identified, and (4) structures for which no asbestos survey information is available. Under Army policy, the Army does not intend to remove or repair the ACM present in these structures. Information in Appendix C was prepared by Diagnostic Environmental, Inc. (now ATC Environmental, Inc.), from its Fort Ord asbestos survey database (*DEI, 1993*).

4.2 Lead-Based Paint Management Program

The descriptions of the lead-based paint (LBP) management program and status to date are based on information that the Army made available to HLA. HLA performed no LBP surveys, testing, sampling, or analysis, and no evaluation of the precision, accuracy, or applicability of the methods or data presented herein as part of this EBS.

The purpose of the LBP management program at Fort Ord is to identify and control LBP and lead-contaminated dust in target facilities and eliminate LBP hazards in certain BRAC properties in accordance with Title X of Public Law 102-550, Residential Lead-Based Paint Reduction Act of 1992. It applies to buildings constructed prior to 1978, planned for disposal after January 1995, and intended to be used as residences. Target facilities are Army-owned or leased facilities constructed prior to 1978 and used regularly by children 6 years old or younger or by pregnant women as family housing, child development centers, family child care homes, schools, playgrounds, or similar facilities.

In 1978, the Consumer Products Safety Commission reduced the allowable lead concentration in residential paint to 0.06 percent. On the basis of this revised allowable lead concentration, painted structures built prior to 1978 that have not been surveyed as of the date of this report are suspected of containing LBP. The Army does not intend to perform further surveys of these buildings for LBP.

According to Mr. Mark Reese, the LBP management program at Fort Ord is performed in accordance with the following Army documents/guidelines:

- Department of the Army Memorandum, "Policy Guidance - Lead-Based Paint and Asbestos in Army Properties Affected by Base Realignment and Closure" November 15, 1993

The purpose of the memorandum is to provide Army policy guidance on identifying and eliminating lead-based paint and

asbestos hazards for properties affected by BRAC. The guidance requires the following:

- Compliance with all applicable regulations and coordination with regulators to ensure compliance
- Maintenance of minimum essential operations, maintenance, and repair standards to prevent deterioration of BRAC properties and to assure sufficient protection of human health and the environment
- In accordance with Title X of Public Law 102-550, (1) inspection of housing constructed before 1978 (and affected by BRAC activities in which children younger than 6 years of age may be expected to reside), or (2) abatement of LBP in housing constructed prior to 1960
- Taking steps to ensure that (1) properties sold for residential habitation are free of immediate LBP hazards prior to residential habitation or (2) if a property is transferred before the Army can perform the LBP investigation, that conditions of sale will prevent use of the property for residential habitation until investigations are completed and potential LBP hazards existing at the time of transfer have been eliminated by the Army or the recipient
- Management of nondefective surfaces in place to prevent them from becoming hazards
- Notification of potential transferee if evidence suggests that LBP may be present.

- Department of the Army Memorandum, "Lead-Based Management Program" April 28, 1993

The purpose of this memorandum is to determine the greatest health risks and to target resources to achieve acceptable environmental standards for individuals

exposed to lead. The memorandum requires the following:

- Assessing lead levels in water
- Assessing blood lead levels in children
- Assessing LBP contamination
- Developing abatement programs for high risk health areas
- Establishing a data tracking system.

4.2.1 Summary of Program

LBP surveys of pre-1978 housing areas were conducted by U.S. Army Environmental Hygiene Agency (AEHA) in accordance with modified Housing and Urban Development (HUD) guidelines, and as described in the AEHA lead-based paint inspection report (AEHA, 1994a). The AEHA LBP survey did not include all of the Patton Park and Hayes Park Housing Area Buildings in the McKinney Group B Parcels. From each homogeneous housing area, a representative number of structures was randomly surveyed according to AEHA policies and modified HUD guidelines. Building components were presumed to contain LBP throughout the homogeneous housing area if 11 percent or more of the tests for that component were positive for LBP. Building components that consistently tested negatively for LBP were only considered to be negative when all components in a designated sample group tested negatively.

No hazard assessment was conducted as part of the AEHA survey or this EBS. No other LBP surveys or LBP abatement activities for structures within the McKinney Group B Parcels had been scheduled as of the date of this report.

4.2.2 Program Status and EBS Results

LBP surveys at Fort Ord began in November 1993 and were completed by March 1994. LBP survey results are available for two homogeneous housing areas within the McKinney Group B parcels, the Patton Park and Hayes Park Housing

Areas. At Patton Park one structure to be transferred (8758) was surveyed and found to contain LBP. As a result, all 16 similar McKinney Group B structures in the Patton Park Housing Area (John XXIII and YWCA) were assumed to contain LBP (Appendix D). At Hayes Park, none of the five building included in the Salvation Army Parcel was surveyed for LBP. However, on the basis of date of construction and LBP surveys of similar nearby buildings, these five buildings are presumed to contain LBP. Building components presumed to contain LBP in the McKinney Group B structures in the Patton Park and Hayes Park Housing Areas are listed in Appendix D.

Because the five Salvation Army Parcel buildings were constructed prior to 1960 and will be reused as residences, Public Law 102-550 requires that the Army sample and remove LBP found in these structures and surrounding soil before the buildings can be reused. The Army is planning to perform this testing and LBP abatement in 1996. The Army does not intend to abate LBP in the structures constructed between 1960 and 1977.

Of the four remaining structures on the McKinney Group B Parcels, two (T-2859, T-2879) were constructed before 1978 and are suspected of containing LBP and two (3070, 3095) were built after 1978 and are not suspected of containing LBP. Plate 5 shows locations for the following buildings within the McKinney Group B Parcels: (1) structures surveyed and found to contain LBP, (2) structures that were not within the scope of the survey but are suspected of containing LBP due to their pre-1978 construction date, and (3) structures that were built in or after 1978 and are not suspected of containing LBP. Construction dates were obtained from the list of buildings surveyed for asbestos (Appendix C).

4.3 Radon Reduction Program

The descriptions of the radon reduction program and its status to date are based on information that the Army made available to HLA. HLA did not perform radon testing or evaluations of the precision, accuracy, or applicability of the

methodologies or data presented herein as part of the EBS.

The purpose of the radon reduction program at Fort Ord is to assess indoor levels of radon and mitigate elevated levels of radon. According to Mr. Mark Reese, previous radon testing was performed in accordance with the following Army documents/guidelines:

- Department of the Army Regulation (AR) 200-1, *Environmental Protection and Enhancement* Chapter 11, "Radon Reduction Program" May 23, 1990

To identify indoor levels of radon and mitigate elevated levels of radon, Chapter 11 of AR 200-1 requires that the following objectives be achieved:

- Identify structures owned or leased by the Army that have indoor radon levels greater than 4 picocuries per liter of air (pCi/L), which is the EPA's occupancy standard
 - Modify all structures found to have levels greater than 4 pCi/L to reduce levels to less than 4 pCi/L.
- Department of the Army Army Radon Reduction Program (ARRP) Instructions Manual for Field Personnel Prepared by Keller & Gannon August 1991
- The purpose of this document is to provide step-by-step procedures to ensure proper deployment, retrieval, and storage of radon detectors. The manual requires the following:
- Alpha track monitors (ATMs) are placed in the lowest living area and left undisturbed for 90 days
 - Charcoal canister monitors (CCMs) are placed in the lowest living area and left undisturbed for a period of 72 hours and analyzed within 24 hours.

- Department of the Army Memorandum, Army "Radon Reduction Program Completion and Installation Status Update" September 24, 1993

The purpose of this memorandum is to request that (1) radon testing and mitigation programs be completed as soon as possible and (2) the annual installation ARRP Status Report be updated.

4.3.1 Summary of Program

Radon testing using ASTM procedures was originally performed in the 1989 through 1990 fiscal year. Those surveys included testing of approximately 2,900 housing and office buildings basewide. Army policy dictates that buildings with radon levels above 4 pCi/L be retested for 12 months. Those buildings with levels above 8 pCi/L must undergo complete remediation within 1 to 4 years.

4.3.2 Program Status and EBS Results

No buildings within the McKinney Group B Parcels had radon test results above 4 pCi/L; therefore, none are being retested (*Ludwig, undated; Table 3*).

4.4 Radiological Survey Program

The radiological survey program being performed at Fort Ord is outlined in a memorandum titled "Base Closure Actions - Radiological Surveys; Trip Report of Mr. John Manfre to Fort Ord, California, 14 - 16 Sep 93," dated September 20, 1993 (*Rankin, 1993*). The major points included in the memorandum are:

- Closeout radiological surveys will be required at Fort Ord due to Nuclear Regulatory Commission (NRC) and state interest
- The survey procedures will follow the requirements set forth in NRC Regulatory Guide CR 5489
- U.S. Army Environmental Hygiene Agency (AEHA) was retained by the Corps of

Engineers (COE) to serve as one of its radiological base closure consultants. AEHA is considered the project manager for the radiological surveys

- If any contamination is found, remediation will be required. Minor remediation/decontamination will be performed by the survey teams. Major remediation/decontamination will be handled through the Army Material Command (AMCCOM), Low-Level Radioactive Waste (LLRW) Office.

4.4.1 Summary of Program

Potential storage and maintenance areas for licensed radioactive materials or equipment were identified in a memorandum titled "Revised List of Buildings at Fort Ord Recommended for Radiological Decommissioning," dated December 8, 1993 (*Chmar, 1993*).

4.4.2 Program Status and EBS Results

According to Mr. Joe R. Daniels, the former Installation Radiological Protection Officer, Directorate of Logistics, radiological survey activities were conducted between January and April 1994 by a 13-member survey team from Seneca Army Depot (*Daniels, 1994*). A three-person mobile radiological laboratory from the Army Communications-Electronics Command (CECOM) analyzed the samples. The survey team was briefed on the procedures for the radiological surveys by personnel from AEHA.

No buildings or areas within the McKinney Group B Parcels were identified by Fort Ord for radiological surveys because no radioactive materials were stored in them (Table 4).

4.5 OE Assessment Programs

This section describes the investigations performed to evaluate whether ordnance and explosives (OE) from past training activities at Fort Ord is present on the parcels. Ordnance-related training at Fort Ord occurred primarily at the Beach Trainfire Ranges along the western boundary of Fort Ord, and within the

Inland Ranges, which comprise approximately 8,000 acres in the southwest portion of Fort Ord, and potentially in several areas outside the Beach Trainfire and Inland Ranges.

OE is defined as the following materials: bombs and warheads; guided and unguided ballistic missiles; artillery, mortar, and rocket ammunition; small arms ammunition; antipersonnel and antitank mines; demolition charges; pyrotechnics; grenades; torpedoes and depth charges; containerized high explosives and propellants; depleted uranium rounds; military chemical agents and all similar or related items designed to cause damage to personnel or material. Unexploded ordnance (UXO) is an item of explosive ordnance which has failed to function as designed or has been abandoned, discarded, or improperly disposed of and can still function, causing damage to personnel and material. Explosive waste (EW) is defined as uncontainerized high explosives, propellants, or soils with explosive constituents at concentration sufficient to be reactive and present and imminent safety hazard. The investigations regarding potential physical hazards and contamination from OE at Fort Ord are discussed below.

4.5.1 Summary of Programs

Investigations related to OE at Fort Ord are conducted under two separate programs. The first program, which includes the investigation and removal of OE, is being managed by the U.S. Army Engineer Division, Huntsville (USAEDH), Mandatory Center of Expertise (MCX) for OE at Army installations. The main objective of this program is to evaluate and address physical hazards due to the presence of OE. USAEDH's program includes (1) an archive search to identify the types of ordnance and locations of ordnance training areas at Fort Ord, (2) a random grid sampling program to evaluate the presence of OE, and (3) a clearance program to remove and dispose of OE if it is detected. In general, the sampling program consists of visual and magnetometer sweeps conducted in a representative number of randomly selected grid areas within a parcel. If OE is found, the nature and extent of contamination is evaluated; on the basis of that evaluation, a "clearance"

(i.e., removal and disposal action) may be performed over the entire parcel. The areas identified for OE investigation and the technical procedures are described in work plans for each phase of the investigation (HFAI, 1993, 1994a; 1994b, UXB, 1994).

The second program, which pertained more to EW, was performed by HLA and managed by the Sacramento District COE as part of the RI/FS. It evaluated the likelihood that soil and/or groundwater at ordnance training areas was contaminated with ordnance-related chemical residues. The investigation consisted of (1) a research task to identify possible ordnance-related training areas and to develop a list of contaminants probably related to ordnance, (2) a sampling and analysis program to evaluate the nature and extent of explosive compounds and metals in selected ordnance training areas at Fort Ord, and (3) a risk assessment and feasibility study using data collected during the sampling and analysis program.

The results of the research task and a work plan describing the areas of investigation and technical approach are presented in the Draft Final Data Summary and Work Plan, Site 39 - Inland Ranges (HLA, 1994a). The results of the investigation are presented in the Draft Final Fort Ord Basewide RI/FS (HLA, 1995b).

Information obtained during these two investigations was used to identify sites that might contain OE. No potential OE locations were identified within or immediately adjacent to the McKinney Group B Parcels (Plate 6). Potential OE areas in the vicinity of the McKinney Group B Parcels are discussed in Section 4.10.

4.5.2 Program Status and EBS Results

The results of the archive search conducted by USAEDH are presented in the Archives Search Report (USAEDH, 1993) and the draft Archives Search Report (Supplement No. 1) (USAEDH, 1994). These reports identify the types of ordnance used at Fort Ord and describe areas both inside and outside of the Inland Ranges where ordnance-related training may have

occurred. A multiple-phase work plan (HFAI, 1993, 1994a, 1994b; UXB, 1994b) prepared at the direction of USAEDH describes the OE investigation program proposed to address areas within and near reuse parcels, as they were identified at that time. Sites where OE has been found and for which USAEDH recommends a removal action require the preparation of an Explosives Safety Submission (ESS), formerly known as a Land Disposal Site Plan (LDSP). An LDSP addressing several parcels was produced by Fort Ord in February 1994. The McKinney Group B Parcels were not included in the LDSP.

As stated in Section 4.5.1, no potential OE locations were identified within or immediately adjacent to the McKinney Group B Parcels; potential OE locations within 1 mile of either of the subareas are discussed in Section 4.10, which addresses adjoining properties.

4.6 Polychlorinated Biphenyls Management Program

The descriptions of the PCB management program and status are on the basis of information that the Army made available to HLA (current through October 1994). The purpose of the PCB management program at Fort Ord is to evaluate electrical transformers and other materials that may contain PCBs and evaluate their potential to contain PCBs. As part of this program, HLA also examined transformer storage locations and areas where transformers were reportedly buried.

According to an Army memorandum dated August 25, 1982, all PCB transformers and PCB-filled electromagnets at Fort Ord are to be inspected on a weekly, quarterly, or annual basis as required by the EPA's Rule on PCBs, 40 CFR Parts 761, 761.120, and 268, and any other applicable environmental regulations. These guidelines also apply to the handling, use, storage, and disposal of PCBs and PCB-contaminated material.

4.6.1 Summary of Program

Several sampling episodes for PCBs in transformer oils have been conducted at Fort Ord. According to the Fort Ord Enhanced Preliminary Assessment (Weston, 1990), all transformers at Fort Ord were tested for PCBs in 1987. Information from Fort Ord personnel (Temple, 1994b), indicates that additional sampling was conducted between 1985 and 1987. The sampling programs encompassed approximately 1,000 transformers throughout Fort Ord, ranging in size from 1.5 KVA to 750 KVA. Most of the sampled transformers were pole-mounted, although pad- or ground-mounted transformers were also sampled. PCB test results indicated that dielectric fluids from three transformers in Building 3702 (Main Garrison) had PCB concentrations ranging from 360,000 to 860,000 ppm and that oil from a transformer near Building 2066 (Main Garrison Sewage Treatment Plant) had a PCB concentration of 100 ppm. No other transformer oils had PCB levels exceeding the Toxic Substances Control Act (TSCA) limit of 50 ppm. Approximately 168 transformers had PCB levels between 5 and 50 ppm and were considered PCB contaminated on the basis of California guidelines at that time. The remaining transformers at Fort Ord had PCB levels under 5 ppm (Weston, 1990).

4.6.2 Program Status and EBS Results

No reported releases of PCBs are known to have occurred on the McKinney Group B Parcels. All transformers having dielectric fluid with 50 and 500 ppm PCBs have been replaced (Weston, 1990). The last transformers containing greater than 500 ppm PCBs were removed and replaced with non-PCB transformers in 1992 (Temple, 1994b). There was no basewide program to replace transformers with PCB levels between 5 and 50 ppm; these are replaced with non-PCB transformers as needed (Weston, 1990). HLA's review of Army documents indicates that many transformers have been removed and disposed of and that dielectric fluid from the transformers has been tested for PCBs, changed out, and disposed as necessary. Little supporting documentation is available to match test results

and disposal manifests to specific transformers and their current or former locations.

4.7 Petroleum Storage Tanks

This section provides a summary of the UST management program and additional information regarding the status of aboveground storage tanks (ASTs) at Fort Ord. The current status of the program and the status of USTs and ASTs within the McKinney Group B Parcels are based on data available through February 1995.

4.7.1 Summary of Program

This summary section describes the Army's UST program, regulatory compliance objectives, and the goals of the Fort Ord UST Management Plan (HLA, 1991a). The Army UST management program requires compliance with federal, state, and local requirements as outlined in AR 200-1 and the Fort Ord Hazardous Waste Management Plan (HWMP; Fort Ord, 1990). Army UST standards state that USTs permanently taken out of service will be removed from the ground. Any UST determined to be leaking is emptied immediately and taken out of service. The UST is then either removed or repaired and retested. Monterey County Department of Health (MCDOH) permits are obtained for all UST repairs and removals. According to Chapter 5-7 of AR 200-1, abandoned tanks were to be removed by 1992.

HLA located and mapped all known existing and former USTs at Fort Ord, documented their regulatory status so that recommendations for compliance with UST regulations could be developed, and identified their location, age, and capacity, the materials they stored, and whether they were in use (HLA, 1991a). On the basis of information available at the time, some of the identified USTs were also placed on one of the three following lists:

- Removal List - USTs designated for removal
- Phase II Vapor Recovery List - USTs designated for piping system upgrades with Phase II vapor recovery systems to reduce emissions into the atmosphere from gasoline-dispensing facilities

- Environmental Assessment List - USTs for which additional documentation or environmental assessments are necessary to properly close the UST locations.

The results of the field work, site plan development, and a regulatory review were evaluated to formulate recommendations to abandon, replace, or upgrade each UST on the above lists. USTs that were no longer in service (those on the "removal list" in the UST Management Plan) were removed during 1991. MCDOH permits were obtained for all of the UST removals.

Specific criteria such as age, construction, pressure test results, documentation of leaks or spills, and costs associated with upgrading were used to further categorize the USTs into groups:

- USTs that met current requirements
- USTs that were suitable for upgrading
- USTs that should be replaced
- USTs that were no longer in use and should be removed
- USTs whose purpose could be replaced by another facility or by an alternative energy source or system
- Hazardous waste (primarily waste oil) USTs that should be replaced or eliminated.

Each UST was assigned to one of the above groups or lists. UST summary sheets and site plans were included as appendixes to the UST Management Plan (HLA, 1991a).

According to a list provided by the Environmental and Natural Resources Management Division, DEH (formerly ENRD, now DENR), approximately 39 ASTs are located at Fort Ord (Temple, 1994a). Their condition is unknown. In August 1993, the ENRD registered one 210,000-gallon diesel AST at Fort Ord with the California Regional Water Quality Control Board in accordance with applicable guidelines (Aboveground Petroleum Storage Act, 1990; see California Health and Safety Code). In that letter,

the ENRD stated that no changes, modifications, deletions, or additions had been made to the ASTs since its last storage statement on April 13, 1993.

HLA interviewed Ms. Claire Murdo, DENR, on January 4, 1994, requesting information about any known spills from ASTs at Fort Ord. She was unaware of any reportable spills or leaks from the ASTs other than a 50-gallon diesel spill near Building 2722, which is outside of the McKinney Group B Parcels.

4.7.2 Program Status and EBS Results

This section summarizes the status of the UST management program at Fort Ord, including a listing of the number of tanks removed recently or that are in place, a description of site characterization activities, and a listing of the number of tanks anticipated for future removal. Information presented below was obtained from Fort Ord (Schmitt, 1994):

- One hundred thirty nine USTs were removed from Fort Ord, primarily between 1991 to 1994
- Sixteen of the sites from which those 139 USTs were removed were found to be contaminated
- Site characterization studies are underway at the 16 contaminated sites to evaluate the vertical and horizontal extent of contamination
- Remediation at the 16 sites will likely include excavating, removing, and treating the contaminated soil
- 113 formerly used USTs remain in place. The tanks were used for storing heating fuel, vehicle and aircraft fuel, waste oil, or Stoddard solvent or as emergency storage reservoirs
- Of the remaining USTs, approximately 91 have been identified for removal due to base closure. USTs associated with operation of water wells, sewage lifts, or emergency

facilities or that are in areas to be retained by the Army have been replaced with ASTs.

An inventory of existing and former USTs on the McKinney Group B Parcels was compiled from various sources of information, including a database and a map of the parcel boundaries provided by the DENR and COE, respectively, the CERFA report (ADL, 1994), and the UST Management Plan (HLA, 1991a). There are no documented USTs or ASTs within the McKinney Group B Parcels (Tables 5 and 6, Plate 7).

4.8 Solid and Hazardous Waste Management Program

Fort Ord's program for managing hazardous wastes was identified by reviewing available documents and interviewing people responsible for implementing procedures in the program. The documents reviewed are described in Section 3.5. The documents indicate that hazardous wastes at Fort Ord are managed in accordance with applicable federal, state, and local laws and regulations for managing hazardous wastes (Fort Ord Hazardous Waste Management Plan [HWMP], Fort Ord Regulation 200-1, September 4, 1990, and AR 200-1). Other sections of the Fort Ord HWMP were not available for review because they are being updated on the basis of changes in command and operations resulting from Fort Ord's closure.

The Fort Ord Spill Prevention, Control, and Countermeasure Plan (SPCC) (Dynamac, 1993) indicates that hazardous materials, such as brake fluid, acetylene, paint and paint strippers, batteries, transmission and motor oils, waste oils, acids, solvents, pesticides, and adhesives, were stored at Fort Ord (Table 1 of the SPCC, Dynamac, 1993). These materials were stored at motor pools, maintenance shops, equipment sheds, and the DRMO Yard. Storage container capacities typically ranged from 1 gallon to 55 gallons, although, at a few locations, waste oils were reportedly stored in containers holding up to 400 gallons. Materials such as oxygen and acetylene were stored in compressed gas cylinders. Table 1 of the SPCC lists known container volumes and quantities; information was current through the end of 1993. Because of

base closure, fewer hazardous materials are likely to be stored at Fort Ord today.

According to Ms. Claire Murdo, DENR, spill plans in the HWMP identify requirements for addressing emergencies and spills. Internal Army spill reports that document specific releases have been prepared as necessary over the past 2 to 3 years but could not be retrieved from the files at the time of EBS preparation because of recent changes in DENR office facilities and personnel. However, according to Ms. Murdo and Section VI of the SPCC, during the period covered by the spill reports, no "reportable quantity" spills have occurred that would have required notification of regulatory agencies. As noted previously, Fort Ord is updating hazardous waste or materials management documents in response to base closure.

Documents about the status of solid waste management units (SWMUs) at Fort Ord were reviewed (AEHA, 1988; HLA, 1993b). These documents identified operations at each SWMU and whether further assessment of the SWMU was recommended to identify potential releases. This section summarizes information about the SWMUs at Fort Ord. The following section discusses the types of SWMUs at Fort Ord and previous evaluations of the SWMUs.

4.8.1 Summary of Program

In 1988, the AEHA performed an assessment to identify, describe, and evaluate SWMUs at Fort Ord. The purpose of the AEHA assessment was to assist Fort Ord in bringing the SWMUs into compliance with state and federal regulations and to identify SWMUs requiring environmental sampling and/or remedial action. The methods used by AEHA to identify and assess the SWMUs included:

- A literature search that included review of the installation assessment previously performed by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA)
- Site visits and inspection of conditions at each site.

AEHA's Interim Final Evaluation of Solid Waste Management Units (AEHA, 1988) identified 58 SWMUs at Fort Ord and divided them into three categories:

- SWMUs with evidence of release to the environment
- SWMUs with no evidence of release to the environment
- SWMUs that required environmental sampling to complete the requirements of the Resource Conservation and Recovery Act (RCRA) facility assessment (RFA).

Recommendations to ensure environmental compliance at Fort Ord presented in the 1988 SWMU report included:

- Inclusion of the 1988 SWMU report with the RCRA Part B permit renewal application for review by state and EPA Region IX regulatory authorities
- Coordination with the state and EPA Region IX for visual inspections of the identified sites
- Completion of environmental sampling and/or investigations at seven SWMUs: FTO-001, FTO-002, FTO-010, FTO-014, FTO-025, FTO-026, and FTO-041
- Completion of the closure process for abandoned landfills in accordance with state and federal regulations
- Consolidation of all hazardous waste at the numerous motor pools in temporary storage buildings.

The 1988 SWMU evaluation was updated in 1993 (HLA, 1993b). The scope of work performed in the update included:

- Reviewing the 1988 SWMU report
- Developing a site map showing the location of each of the 58 SWMUs

- Conducting site visits under the supervision of Fort Ord personnel to verify the location and status of each SWMU

- Preparing a report.

4.8.2 Program Status and EBS Results

The status of the original 58 SWMUs identified in the 1988 report was summarized in the 1993 SWMU update as follows:

- Nine SWMUs have been closed or are no longer in existence
- Nine SWMUs have different associated units
- Two SWMUs are now used differently than as described in the 1988 report
- One SWMU location is still in operation but stores its waste elsewhere
- Thirty-seven SWMUs are essentially unchanged since the 1988 report was prepared.

No changes are known to have occurred since the 1993 SWMU update. HLA conducted site visits of the original 58 SWMUs to re-evaluate their status in the spring of 1995. The site visits also included evaluation of 16 additional sites identified as potential SWMUs in the RI/FS (HLA, 1994d). Preliminary site visit findings indicated that additional SWMU locations were identified as a result of the site visits. Upon the completion of the field program, HLA will prepare a report summarizing any status changes to the SWMUs.

No SWMUs were identified within the McKinney Group B Parcels (Table 7).

4.9 Environmental Restoration Program

This section discusses two principal components of Fort Ord's overall environmental restoration program, the CERFA program and the RI/FS program. The CERFA program involves the identification of uncontaminated real property.

The RI/FS program, which involves the characterization and cleanup of contaminated property, was formally initiated in 1991, following Fort Ord's 1990 listing on the NPL. Investigation of Fort Ord soil and groundwater contamination began in 1984 at the FAAF Fire Drill Area (Operable Unit 1). The discussion below is an overview of the CERFA and RI/FS programs, the locations of sites within and adjacent to the McKinney Group B Parcels, the status of site investigation and remedial activities, and the overall strategy for completing the programs.

4.9.1 Community Environmental Response Facilitation Act (CERFA)

This section discusses the CERFA program, including the purpose of CERFA legislation, the effect of the legislation on real property transfer, and the findings of the Fort Ord CERFA report.

4.9.1.1 Summary of CERFA Program

CERFA (Public Law 102-426) was enacted on October 19, 1992, and amended CERCLA in two principal areas. First, CERFA added CERCLA §120(h)(4), which requires the identification of uncontaminated property ("CERFA parcels"). The fundamental purpose of CERCLA § 120(h)(4) is to expedite identification of real property having the greatest opportunities for redevelopment at facilities at which federal operations are terminating. Properties are identified by evaluating their current and historical uses. Specific procedures for conducting the evaluation are described in the CERFA legislation. In general, the procedures encompass the following:

- A search of government records
- Review of recorded chain of title documents
- Review of aerial photographs reflecting prior uses
- Visual inspection of the property
- Physical inspection of and review of information for adjacent properties

- Interviews with current or former employees.

For installations on the NPL, the identification of uncontaminated property is not considered complete until the EPA concurs.

The second principal change provided by CERFA is in the clarification of the requirements of CERCLA §120(h)(3) for declaring that all necessary remedial actions have been taken. Generally, according to CERFA, remedial action has been taken if an approved remedial system has been constructed and demonstrated to the administrator of the EPA to be operating properly and successfully. This revision permits the transfer of real property within a time frame significantly more favorable to communities surrounding closing installations by allowing such transfer to proceed potentially well before remedial actions are concluded.

As noted above, a focus of the CERFA program is the identification of uncontaminated property. The CERFA report functions as a basewide EBS for Fort Ord and provides information that supports the parcel-specific EBSs. Because real property identified as uncontaminated under CERFA appears to have no history of storage, release, or disposal of CERCLA hazardous substances or petroleum products or their derivatives, and because no remedial actions are, therefore, considered necessary, a deed for transfer of such real property can indicate that the requirements of CERCLA §120(h)(4) have been met.

4.9.1.2 Program Status and EBS Results

A CERFA assessment for Fort Ord was initiated in fall 1992. The Fort Ord CERFA program was conducted by the Army Environmental Center (USAEC) on behalf of Fort Ord. On December 6, 1993, the draft CERFA report was issued to Fort Ord and the regulatory agencies. On January 28, 1994, a meeting was conducted to discuss preliminary comments on the draft CERFA report. The final CERFA report was released April 8, 1994 (ADL, 1994). Concurrence on the Army's identification of specific CERFA uncontaminated parcels was received from the EPA and the California Environmental Protection

Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) on April 18 and 19, 1994, respectively (EPA, 1994b; DTSC, 1994). The agencies did not necessarily concur with the Army's identification of CERFA uncontaminated property in all cases.

The principal result of the CERFA assessment is a map showing the areas identified as uncontaminated. Plate 8 presents information from the final CERFA report for areas surrounding and including the McKinney Group B Parcels. The distribution of CERFA-defined parcels on Plate 8 (CERFA parcels, CERFA parcels with qualifiers, CERFA disqualified parcels, and CERFA excluded parcels) is taken directly from the CERFA report. Table 8 defines the categories developed in the CERFA report.

Plate 8 shows the areas in the McKinney Group B Parcels that have been categorized as CERFA parcels with qualifier(s), defined by CERFA. The five buildings requested by the Salvation Army (Subarea B-2) are in CERFA Parcel with Qualifiers No. 130. CERFA parcels with qualifiers have no history of storage of CERCLA-regulated hazardous substances, petroleum, or petroleum derivatives for 1 year or more, and no release or disposal of CERCLA-regulated hazardous substances, petroleum, or petroleum derivatives, or threat of migration of such contamination from adjacent property. The EPA has concurred that this parcel is "uncontaminated" (EPA, 1994b). Although the parcel does comprise buildings containing ACM and potentially LBP, it otherwise meets CERCLA §120(h)(4) requirements. In accordance with CERCLA §120(h)(4), no other decision documents are necessary to provide a covenant in the deed warranting that necessary remedial action has been taken for CERFA parcels with qualifiers (EPA, 1994a).

The remaining McKinney Group B Parcels are all included within CERFA Disqualified Parcel No. 4 (Plate 8). This large area, which includes the YWCA, Shelter Plus, RSNC, and the John XXIII parcels, was considered to be CERFA disqualified primarily because of groundwater contamination resulting from the Fort Ord Landfills (OU 2). Subsequent investigations have better

characterized the extent of groundwater contamination exceeding OU 2 cleanup criteria (Plate 7). The John XXIII, YWCA, and Shelter Plus parcels are above this portion of the groundwater plumes. Originally, the Army intended to lease these portions of the McKinney Group B Parcels, with appropriate use restrictions. Because the Army has received concurrence from the regulatory agencies that the remedial actions relating to the OU 2 groundwater plumes have been installed and are operating properly and successfully (EPA, 1996), the Army intends to transfer these portions of the McKinney Group B Parcels under CERCLA § 120(h)(3) with appropriate deed restrictions and required covenants.

The RSNC and YWCA Building T-2859 parcels are not above the portion of the OU 2 groundwater plume requiring remediation. Recent and historical groundwater sampling results do not indicate that groundwater beneath these parcels contains detectable concentrations of volatile organic compounds (VOCs) (HLA, 1995c). Therefore, the Army intends to transfer these McKinney Group B Parcels under CERCLA § 120(h)(4) with EPA concurrence.

4.9.2 Remedial Investigation/Feasibility Study (RI/FS)

4.9.2.1 Summary of RI/FS Program

Fort Ord was added to the NPL (55 Federal Register 6154) on February 21, 1990. A Federal Facilities Agreement (FFA) was signed by Fort Ord for the Army with the EPA, Region IX, the California Department of Health Services (DHS), and the California Regional Water Quality Control Board, Central Coast Region (RWQCB), in July 1990. Under the FFA, the Army is required to perform an RI/FS at Fort Ord.

To date, the Army and regulatory agencies have identified two RI/FS Operable Units (OUs) at Fort Ord:

- OU 1 Fritzsche Army Airfield Fire Drill Burn Pit
- OU 2 Main Garrison Landfill Areas.

The RI/FS includes basewide investigation programs and individual site characterizations. Five basewide studies have been conducted:

- Background Soil and Groundwater Investigation
- Basewide Biological Inventory
- Basewide Hydrogeologic Characterization
- Basewide Surface Water Outfall Investigation
- Basewide Storm Drain and Sanitary Sewer System Investigation.

Forty-one sites at Fort Ord have been identified for inclusion in the RI/FS. Site characterization activities were designed to screen sites for contamination. The primary objective of the site characterizations was to assess the absence or presence and nature of contaminants at each site.

Based on the results of the investigations, the 41 sites have been characterized as follows:

- **No Action sites:** Sites where screening risk evaluations of collected samples indicate that the threat to human health or the environment, if any, is acceptably low. These sites will not require additional investigation or remediation. Nineteen sites have been assigned to this category.
- **Interim Action sites:** Sites where small areas of contamination have been delineated and remedial action can be implemented quickly by excavation. Thirteen sites have been assigned to this category.
- **Remedial Investigation sites:** Sites where soil and/or groundwater data indicated that a complete RI/FS will be necessary prior to remediation. Nine sites have been assigned to this category.

The 41 Fort Ord IRP sites and their assigned categories are summarized in Table 9. The assignment of sites to these categories is based on available information. The designation of a site will not be considered final until the appropriate decision document has been completed.

Additional information on the RI/FS program is provided in the Final Basewide RI/FS (HLA, 1995b); Sampling and Analysis Plan (HLA, 1991b); Work Plan (HLA, 1991c); basewide study reports prepared by HLA; and individual site characterization reports prepared by HLA.

4.9.2.2 Program Status and EBS Results

No IRP sites are located within the boundaries of the McKinney Group B Parcels (Plate 7); however, the groundwater plume from OU 2 extends beneath four of the six parcels within Subarea B-1 (Plate 7). The groundwater plume has been identified beneath some of the McKinney Group B Parcels using data from nearby groundwater monitoring wells. However, no wells are present on any of these parcels.

OU 2, the Fort Ord Landfills site, consists of three known inactive landfill areas covering approximately 150 acres, the immediate surrounding area, and the underlying contaminated groundwater plume. The surface boundaries of OU 2 and the approximate extent of the VOC groundwater plume, as defined by chemical concentrations exceeding the OU 2 cleanup criteria, are shown on Plate 7 (HLA, 1995a). The landfill areas were used during the past 35 to 40 years for disposal of residential and commercial waste. The main landfill was operated as a municipal waste landfill from the early 1960s until May 31, 1987.

The landfill areas are not located within any of the McKinney Group B Parcels; however, the edges of the OU 2 groundwater remediation plumes in the A- and upper 180-foot aquifers extend beneath a portion of Subarea B-1 (Plate 7) (HLA, 1995a). The groundwater plumes extend approximately 4,000 feet west of the main landfill areas and underlie portions of IRP Sites 15, 16, 17, and 25. Trichloroethene (TCE), the most frequently detected VOC, was detected at a maximum concentration of 80 micrograms per liter ($\mu\text{g/L}$). Other VOCs detected in the plumes included tetrachloroethene, benzene, cis-1,2-dichloroethene, and dichloromethane. On the basis of recent groundwater monitoring results, the total estimated concentration of VOCs in groundwater beneath the Shelter Plus, YWCA

(except Building T-2859), and John XXIII parcels in Subarea B-1 is approximately 20 $\mu\text{g/L}$ (HLA, 1995c).

A Baseline Risk Assessment (BRA) was performed for OU 2 as part of the Remedial Investigation (Dames and Moore, 1993). The BRA quantitatively evaluated potential cancer risks and noncancer health effects associated with contaminated soil and groundwater at OU 2. Results of the BRA for OU 2 indicate that there would be no unacceptable noncancer health effects associated with chemicals present at the site. The maximum estimated incremental cancer risk for hypothetical residential receptors was approximately 2×10^{-4} (i.e., 2 in 10,000), which is slightly above the 10^{-4} to 10^{-6} range identified as acceptable in the NCP. Estimated risks were predominantly associated with daily use of untreated groundwater for drinking and showering/bathing for a 30-year period. Potential risks to occupants of this parcel would be much lower than risk estimates presented in the BRA because current remedial activities are resulting in decreased chemical concentrations in groundwater, and ingestion of groundwater from the contaminated aquifer will be prohibited through use restrictions to be included in the deed. On the basis of the BRA, current remedial activity, and proposed site use, no potential adverse health effects related to groundwater are expected for occupants at this parcel (Dames & Moore, 1993).

The RI/FS has been completed for OU 2, and five remedial alternatives were evaluated in the FS. The FFA parties agreed to Alternative 4, which includes construction of a landfill cap as well as a pump-and-treat system for groundwater in the A-aquifer and upper 180-foot aquifers (HLA, 1995a). A ROD for OU 2 that specifies the remedial actions to be taken for the A-aquifer was signed in August 1994 (Army, 1994a). An Explanation of Significant Differences (ESD) regarding the extent of groundwater contamination in the upper 180-foot aquifer was prepared and approved by the EPA and the DTSC in August 1995 (Army, 1995). In addition, the Army has received concurrence from the EPA that the pump-and-treat system for the remediation of the OU 2 groundwater plume is in

place and operating "properly and successfully" (EPA, 1996).

4.10 Potential Impacts From Adjoining Properties

This section summarizes potential environmental impacts from properties within approximately 1 mile of the McKinney Group B Parcels. Areas immediately adjacent to the McKinney Group B Parcels are shown on Plates 4, 5, 6 and 7. Discussions in this section are on the basis of review of documents furnished by the Army and reports pertaining to specific environmental concerns.

Asbestos: Asbestos surveys found friable and nonfriable ACM in buildings adjacent to the McKinney Group B Parcels (Weston, 1990; DEI, 1993). If the information is available, buildings containing ACM in and near the McKinney Group B Parcels are shown on Plate 4.

Lead-Based Paint: LBP surveys of excess family housing structures at Fort Ord have been completed. On the basis of available information, pre-1978 structures are likely to contain LBP (ADL, 1994). If the information is available, pre-1978 structures in the area surrounding the McKinney Group B Parcels are shown on Plate 5.

Radon: Radon testing for buildings within approximately 1 mile of the McKinney Group B Parcels found no buildings with radon concentrations exceeding 4 pCi/L (Plate 5).

Radiological Surveys: Radiological surveys of buildings adjacent to the McKinney Group B Parcels have been completed. A review of survey results indicates that no radiological health hazards were identified and the buildings were recommended for radiological decommissioning.

Ordinance and Explosives: Eleven potential OE locations exist within approximately 1 mile of the McKinney Group B Parcels. They are summarized below and listed in Table 10 along with their approximate distances from the parcels:

Results of Environmental Baseline Survey for McKinney Group B Parcels

- Beach Trainfire Ranges
- Pete's Pond
- Mine and Booby Trap Area (MBA) 1
- Flame Thrower Range 1
- Mortar Square 1
- Mortar Square 2
- Mortar Square 3
- Storage Yard Landmine
- 75-mm Pack Howitzer Firing Area
- Inland Ranges
- Rifle Grenade Ranges.

The Beach Trainfire Ranges, located between Highway 1 and Monterey Bay and west of the McKinney Group B Parcels, were used for small arms weapons training. This area, also known as IRP Site 3, was investigated for potential soil and groundwater contamination as part of the Final RI/FS program. Results of the investigation are presented in the Final Basewide RI/FS (HLA, 1995b). The Beach Trainfire Ranges were also investigated by USAEDH for potential OE. Some random grid sampling and selective grid sampling in areas likely to contain OE has been completed. Small arms rounds and related items were located in the areas sampled (HFAI, 1994c). The need for further investigation at this site is being evaluated.

Pete's Pond (approximately 0.7 mile southeast of Subarea B-1) was investigated as part of the Fort Ord RI/FS program (IRP Site 16/17) and as part of USAEDH's clearance program. The results of the Site 16/17 remedial investigation are presented in the Final Basewide RI/FS (HLA, 1995b). No live OE was found in the grids sampled during USAEDH's investigation at Pete's Pond (HFAI, 1994c).

The Inland Ranges (approximately 0.8 mile southeast of Subarea B-2) were investigated as part of the Fort Ord RI/FS program (IRP Site 39)

and are included in USAEDH's clearance program. The results of the Site 39 remedial investigation are presented in the Final Basewide RI/FS (HLA, 1995b). The start of USAEDH's clearance program in the Inland Ranges will be announced in the future. The Rifle Grenade Ranges (USAEDH Site 24) was identified after the completion of the RI/FS; the need for investigation for ordnance-related chemical hazards will be evaluated upon completion of USAEDH's work in that area.

The Storage Yard, used to store recreational vehicles, was associated with OE because an Army contractor found a land mine at the yard. Army Explosive Ordnance Disposal personnel concluded that the item was an inert training device. Because no ordnance training took place in this area, it is likely that someone carried the inert mine to the storage yard (HLA, 1994a). No further investigation for ordnance-related chemical residue or access restrictions have been recommended at the Storage Yard Landmine site.

The remaining OE locations were identified during the Fort Ord RI/FS program (Site 39 investigation) as not warranting investigation for ordnance-related chemical hazards (HLA, 1995b). MBA 1 and Flame Thrower Range 1 have been investigated as part of USAEDH's program; no live OE has been found at those areas (HFAI, 1994c). The necessity for further OE investigation at Mortar Squares 1, 2, and 3, and the 75-mm Pack Howitzer Firing Area is being evaluated.

Polychlorinated Biphenyls: Transformers with concentrations of PCBs above 50 ppm reportedly have been removed from Fort Ord. There are no documented releases of transformer oil or PCB containing materials within or in the area immediately surrounding the McKinney Group B Parcels.

Underground and Aboveground Storage Tanks: Three existing and 9 former USTs and 1 existing AST are located within approximately 1,000 feet of the McKinney Group B Parcels (Plate 7). Approximately 119 existing and former USTs are located within approximately 1 mile of the McKinney Group B Parcels. Of those 119 tanks, about 42 are currently in place, and 77 have

been removed. The Monterey County Department of Health has granted closure for 71 of the removed USTs. Approximately 8 ASTs are within 1 mile of the McKinney Group B Parcels. According to information provided by DENR, 2 of the ASTs are contained by a berm (Temple, 1994c). The condition of the other ASTs is unknown.

Solid Waste Management Units:

Twenty-eight former or existing SWMUs were identified outside but within about 1 mile of the McKinney Group B Parcels (Table 10). Twenty-six of the SWMUs had no evidence of an environmental release and required no further action (AEHA, 1988). At FTO-007, Cannibalization Area, AEHA recommended changes in general housekeeping. FTO-012, Main Garrison Sewage Treatment Plant, has had a documented environmental release and is currently undergoing remediation as part of the IRP Site 12 investigation.

Remedial Investigation/Feasibility Study Program:

In the study area, 23 IRP sites, including OU 2, are being investigated as part of the RI/FS program. The 23 sites are listed in Table 10. At 11 of the locations (Sites 1, 4, 13, 18, 19, 23, 25, 28, 33, 37, and 38) investigations have been completed, and the sites have been placed in the no action category. The remaining 12 locations (Sites 2, 3, 12, 14 through 17, 20, 22, 24, 39, and OU 2) all have some level of documented soil and/or groundwater contamination and are currently undergoing or are slated for further site characterization, interim action or remediation. Plate 7 shows IRP site locations in the vicinity of the McKinney Group B Parcels.

With the exception of the OU 2 groundwater plume, the identified environmental conditions on adjoining properties are not expected to affect the McKinney Group B Parcels.

4.11 Air Quality

Air quality issues at Fort Ord have been investigated in three major studies undertaken at the base. These studies and the years they were conducted are:

- Solid Waste Air Quality Assessment Test (SWAQAT) at the Fort Ord Landfills (OU 2), 1987
- Toxic Air Emissions Inventory Report, Headquarters 7th Infantry Division and Fort Ord, 1990
- Site 3 - Beach Trainfire Ranges, 1993.

Each study and its results are summarized below.

The SWAQAT was undertaken to evaluate the presence and distribution of landfill gas (LFG) and the ambient air quality in the vicinity of the landfills. The LFG contained methane, carbon dioxide, and nitrogen in ratios consistent with those found in landfills of similar age. Methane was found to have migrated outside the landfill into the soil of adjacent recreational areas north of Imjin Road. No bare areas or dead vegetation was found, however, that might indicate that methane was migrating to the surface and presenting a health or explosive hazard. Analysis of samples collected in the air space immediately above the landfill detected 6 parts per million (ppm) total organic compounds. Low levels of 1,1-dichloroethene (1,1-DCE) were detected in the LFG and the ambient air both upwind and downwind of the landfill. The prevailing wind direction during sampling was from the west.

The Toxic Air Emissions Inventory measured emission rates of chemicals from sources around the base, including the McKinney Group B Parcels, when it was fully active in 1990. This investigation quantified emissions from:

- Diesel-fired boilers
- Natural gas-fired boilers
- Pathological waste incinerator
- Stationary engines
- Munitions use
- Painting booths
- Offset printing presses

- Miscellaneous paint and solvent use
- Ozalid (blueprint) printers
- Gasoline storage and transfer
- Laboratory chemical use.

The five most significant emissions to the air and their sources were found to be:

- Gasoline vapors (110,000 lbs/yr) from filling stations
- Toluene (2,700 lbs/yr) from paint and solvent use
- Chlorofluorocarbons (CFCs) (1,900 lbs/yr) from paint booths
- Ammonia (1,550 lbs/yr) from munitions and ozalid
- Trichloroethene (TCE) (1,350 lbs/yr) from solvent use.

The remaining chemical emissions to air were estimated to amount to less than 900 lbs/yr. All these emissions, excluding a portion of the gasoline emissions, have been drastically reduced or eliminated altogether by base closure.

Site 3, the Beach Trainfire Ranges, extends for 3.2 miles along the Pacific Ocean and consists of approximately 780 acres. The portion of the ranges closest to the base is approximately 1,500 feet west of the McKinney Group B Parcels. The chemicals of concern for air monitoring were heavy metals related to expended munitions (bullets) in the target area. During summer 1993, high-volume ambient air monitoring for particulates was attempted in three locations in the eastern (downwind) side of Site 3. The monitoring effort was not successful and air quality modeling was performed instead to estimate particulate loading. No conclusion regarding the impact of Site 3 air quality on the McKinney Group B Parcels was possible.

5.0 FINDINGS AND CONCLUSIONS

5.1 Findings

This EBS presents an overview of existing environmental conditions on the McKinney Group B Parcels on the basis of available information. Information that is available about environmental conditions on the McKinney Group B Parcels has been gathered and summarized. Findings of the EBS for the McKinney Group B Parcels include:

- The parcel boundaries used in this study and shown in this report are approximate and are identified on the basis of information from the Army and COE.
- Asbestos surveys have been completed for all 25 structures on the McKinney Group B Parcels. These surveys show that one structure contains ACM rated 1 to 5, and one structure contains no ACM. The remaining 23 structures surveyed contain friable or nonfriable ACM rated 6 to 13.
- Lead-based paint surveys have been conducted for the McKinney Group B Parcels in Patton Park and Hayes Park Housing Areas. One structure in the Patton Park area was selected for representative sampling and found to contain LBP. Based on those results, all 16 structures in Patton Park (YWCA and John XXIII) are presumed to contain LBP. Because they were built before 1960 and will be reused as residences, the 5 buildings in the Salvation Army Parcel at Hayes Park are presumed to contain LBP which will be sampled and abated by the Army. Of the 4 remaining structures on the McKinney Group B Parcels, 2 are suspected of containing LBP and 2 are not suspected of containing LBP on the basis of their construction dates. Presently no other conclusions can be made about the condition of the LBP or whether it represents a health hazard.
- Radon surveys showed that no buildings within the McKinney Group B Parcels had radon levels above 4 pCi/L.
- No buildings in the McKinney Group B Parcels were identified for radiological surveys because these buildings were not used to store radiological materials.
- No potential OE locations are within or immediately adjacent to the McKinney Group B Parcels. Eleven known or potential OE locations were identified within a 1-mile radius of the two subareas. Three of the 11 areas, the Beach Trainfire Ranges, Pete's Pond, and the Inland Ranges, were investigated as part of the Fort Ord Basewide RI/FS. Pete's Pond, MBA1, and Flame Thrower Range 1 were investigated for OE as part of USAEDH's program; no live OE was found at these sites. Some sampling has been completed at the Beach Trainfire Ranges; the necessity for further OE investigation at the Beach Trainfire Ranges and at the remaining sites is being evaluated.
- Transformer dielectric fluids have been examined for PCBs in two basewide sampling programs encompassing approximately 1,000 transformers. There have been no reported releases of PCB-contaminated dielectric fluids within the McKinney Group B Parcels.
- No USTs or ASTs are known to exist within the McKinney Group B Parcels. In addition, no documented USTs or ASTs that could adversely affect soil and/or groundwater quality were identified adjacent to the McKinney Group B Parcels.
- No SWMUs were identified within the McKinney Group B Parcels.
- The final CERFA report, which is equivalent to a basewide EBS, identifies the McKinney Group B Parcels as being within CERFA with qualifiers and CERFA disqualified parcels.

The RSNC, YWCA, Shelter Plus, and John XXIII parcels in Subarea B-1 are within a CERFA disqualified parcel. These parcels were categorized as CERFA disqualified due to their position above or adjacent to the OU 2 groundwater contamination plume. The RSNC and YWCA Building T-2859 Parcels are now considered to be CERFA uncontaminated on the basis of recent groundwater monitoring results. The five Salvation Army buildings in Subarea B-2 are included in a CERFA parcel with qualifiers because the buildings contain ACM and potentially LBP. The EPA has categorized this parcel as CERFA uncontaminated (EPA, 1994b).

Several health-related environmental conditions (ACM and LBP) currently exist or are suspected to exist on the McKinney Group B Parcels in areas considered suitable for transfer by deed. These environmental conditions have been evaluated or investigated by the Army, and the results have been summarized in this EBS.

Copies of the draft FOSTs and legal descriptions of the McKinney Group B Parcels are included in Appendix B.

5.2 Conclusions

On the basis of the EBS and FOST guidance criteria, it may be concluded that the McKinney Group B Parcels are transferable by deed under the provisions of CERCLA §120(h)(3) or (4). The requirements of CERCLA §120(h)(3) have been met for the Shelter Plus, John XXIII parcels and YWCA Buildings 3099, 8751 through 8758, and 8765 through 8766 in Subarea B-1 because the remedial action for the OU 2 groundwater plume has been implemented and shown to be operating effectively (EPA, 1996). The McKinney Group B Parcels suitable for transfer under CERCLA 120(h)(4) include the RSNC and YWCA (Building T-2859) parcels in Subarea B-1 and the Salvation Army parcel in Subarea B-2 (Plate 9).

6.0 REFERENCES

(Note: Not all references listed here are cited in the text).

ADL. See Arthur D. Little, Inc.

AEHA. See U.S. Army Environmental Hygiene Agency.

Anderson, J., 1994. U.S. Environmental Protection Agency. Comments on Final CERFA Document, Fort Ord. Letter to D. Uyesugi, U.S. Army Environmental Center. April 19.

Army. See U.S. Department of the Army.

Arthur D. Little, Inc. (ADL), 1994. *Final Community Environmental Response Facilitation Act (CERFA) Report, Fort Ord, California*. April 8.

ATC Environmental, Inc. (ATC), 1994. *Preliminary Asbestos Survey Report, U.S. Army Corps of Engineers - Fort Ord, Fredericks Park Family Housing Units*. July 1.

Baca, T.E., 1992. Office of the Assistant Secretary of Defense, U.S. Environmental Protection Agency. Letter to Thomas L. McCall, Jr. October 16.

Blackman, Betsy, 1994. Diagnostic Environmental, Inc. (DEI). Telephone conversation or facsimile transmittal to Cynthia Dahl, Harding Lawson Associates. January 10, 18, 21, and 25, February 2, October 31, and November 8.

California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), 1994. Letter to Ms. Julie Anderson, U.S. EPA Region IX, providing concurrence with portions of the Final Fort Ord Community Environmental Response Facilitation Act (CERFA) Report. April 18.

California Health and Safety Code. *Aboveground Petroleum Storage Act with Amendments*. Division 20, Chapter 6.67, Section 25270.

Chmar, LTC Andrew, 1993. Directorate of Logistics, Fort Ord, California. Revised List of Buildings at Fort Ord Recommended for Radiological Decommissioning. Memorandum to Commander, AEHA. December 8.

Cochran, Joe, 1983. U.S. Department of the Army Memorandum to Christine Knoblock, Department of Health Services. January 14.

COE. See U.S. Army Corps of Engineers.

Dames & Moore, 1993. *Baseline Risk Assessment*. Prepared for Omaha COE. June.

Daniels, Joe, 1994. Directorate of Logistics (DOL), Fort Ord, California. Telephone communication with Jeff Johnston, Harding Lawson Associates. January 14.

DEH. See Fort Ord Directorate of Engineering and Housing.

Diagnostic Environmental, Inc. (DEI), 1993. *Asbestos Survey Report for U.S. Army Corps of Engineers, Fort Ord Installation*. April 26.

DoD. See U.S. Department of Defense.

DTSC. See California Environmental Protection Agency.

Dynamac Corporation, 1993. *Spill Prevention, Control, and Countermeasure Plan for Fort Ord*. September.

EA Engineering, Science, and Technology (EA), 1990. *Site Investigations, Fort Ord and Fort Hunter Liggett*. Part 1. Prepared for Omaha COE.

_____, 1991. *Basewide Remedial Investigation/Feasibility Study, Fort Ord, California*, Vol. 1, *Literature Review and Base Inventory*. Draft final. Prepared for Omaha COE.

Environmental Database, Inc. (EDI), 1993. *Database Search Report, Fort Ord Military Base, Fort Ord, California*. November 11.

EPA. See U.S. Environmental Protection Agency.

Fort Ord, 1990. *Hazardous Waste Management Plan*. September 4.

Fort Ord, Directorate of Engineering and Housing (DEH), Environmental and Natural Resources Management Division, 1993a. *Aboveground Storage Tank Survey, Fort Ord, California*. August 24.

_____, 1993b. List of UST Sites. Letter to Stephen Farley, Harding Lawson Associates. November 24.

Fort Ord Reuse Authority (FORA), 1994. *Fort Ord Base Reuse Plan*. December 12.

Fort Ord Reuse Group (FORG), 1993. *Initial Base Reuse Plan*. March 19.

_____, 1994. *Draft Summary of Base Reuse Plan*. January 14.

Harding Lawson Associates, 1991a. *Underground Storage Tank Management Plan, COE Fort Ord Complex, California*. Prepared for Sacramento COE. October 30.

_____, 1991b. *Sampling and Analysis Plan, Remedial Investigation/Feasibility Study, Fort Ord, California*. Prepared for Sacramento COE.

_____, 1991c. *Work Plan, Remedial Investigation/Feasibility Study, Fort Ord, California*. Prepared for Sacramento COE. December 2.

_____, 1993b. *Draft Verification of Solid Waste Management Units, Fort Ord, California*. August 16.

_____, 1994a. *Draft Data Summary and Work Plan, Site 39 - Inland Ranges, Fort Ord, California*. February 1.

_____, 1994b. *Draft Site Characterization Report Site 28 - Barracks and Main Garrison Area, Fort Ord, California*. February 25.

_____, 1994c. *Draft Final Basewide Hydrogeologic Investigation, Fort Ord, California*. June 10.

_____, 1995a. *Draft Final Conceptual Design Analysis, OU 2 Groundwater Remedy, Operable Unit 2, Fort Ord Landfills, Fort Ord, California*. May 17.

_____, 1995b. *Final Basewide Remedial Investigation/Feasibility Study, Fort Ord, California*. October.

_____, 1995c. *July 1995 Basewide Groundwater Monitoring, Fort Ord, California*. November 3.

Human Factors Applications, Inc., 1993. *Fort Ord - Phase I Work Plan and Accident Prevention Plan*. Ordnance and Explosive Waste (OE) Site Operations. DACA 87-92-D-0133. December.

_____, 1994a. *Fort Ord Addendum, Phase II - Work Plan*. Prepared for U.S. Army Corps of Engineers, Huntsville. January.

_____, 1994b. *Fort Ord - Phase III Work Plan and Site Specific Safety and Health Plan*. Prepared for U.S. Army Corps of Engineers, Huntsville. February.

_____, 1994c. *OE Sampling and OE Removal Action*. Fort Ord. Final report. December 1.

Keller & Gannon, 1991. *Instructions Manual for Field Personnel*. Prepared for Army Radon Reduction Program (ARRP). August.

Knoblock, Christine, 1983. Department of Health Services - Hazardous Materials Management Report. January 14.

Ludwig, undated. Results of Radon Survey in Family Housing at Fort Ord, Presidio of Monterey, and Fort Hunter Liggett. Memorandum for Commanding General.

Montgomery, James M., 1991. *Preliminary Assessment/Site Investigations, Fort Ord and Fort Hunter Liggett, Monterey County*. Draft. Prepared for Omaha COE. January.

Ostergren, Dick, 1995. Federal Aviation Administration Airways Facilities. Telephone Conversation with Tom Williams, Harding Lawson Associates. January 11.

Rankin, John E., 1993. Safety Office, Department of Defense. *Base Closure Actions - Radiological Surveys; Trip Report of Mr. John Manfre to Fort Ord, California, 14-16 Sep 93*. Memorandum. September 20.

Reese, Mark, 1993. Fort Ord Directorate of Environmental and Natural Resources. Letter or facsimile transmission to Cynthia Dahl, Harding Lawson Associates.

_____, 1994. Fort Ord Directorate of Environmental and Natural Resources. Letter or facsimile transmission to Cynthia Dahl. January 3, 20, 21, and 26, February 7, October 21, and November 3.

_____, 1995. Fort Ord Directorate of Environmental and Natural Resources. Telephone conversation with Steven Walker, Harding Lawson Associates. March 29.

Schmitt, Barbara, 1993. Fort Ord Directorate of Public Works, Environmental and Natural Resource Management Division. Telephone conversations with Stephen Farley, Harding Lawson Associates. December.

_____, 1994. Fort Ord Directorate of Public Works, Environmental and Natural Resource Management Division. Registration of Aboveground Storage Tanks. Personal communication to Stephen Farley, Harding Lawson Associates. February.

Temple, Linda, 1993a. Fort Ord Directorate of Engineering and Housing. Memorandum to Stephen Farley, Harding Lawson Associates. November 30.

_____, 1993b. Fort Ord Directorate of Engineering and Housing. Letter to Stephen Farley, Harding Lawson Associates. December 28.

_____, 1993c. Fort Ord Directorate of Engineering and Housing. Table of Aboveground Storage Tanks. Personal communication to Stephen Farley, Harding Lawson Associates. December 28.

_____, 1994a. Fort Ord Directorate of Engineering and Housing. Site Update as of February 3,

1994. Facsimile transmission to Eric Williams and Stephen Farley, Harding Lawson Associates. February 3.

_____, 1994b. Fort Ord Directorate of Engineering and Housing. Telephone conversation with Gary Lieberman, Harding Lawson Associates. February 3.

_____, 1994c. Fort Ord Directorate of Environmental and Natural Resources. Data transmitted to Tom Williams, Harding Lawson Associates. October 25.

_____, 1994d. Fort Ord Directorate of Environmental and Natural Resources. Update on OE Site Clearance. Facsimile transmission to Bruce Wilcer, Harding Lawson Associates. November 7.

U.S. Army Corps of Engineers (COE), 1993. *Fort Ord Disposal and Reuse Environmental Impact Statement*. Final. June.

U.S. Army Corps of Engineers, Huntsville Division (USAEDH), 1993. *Archives Search Report*. Prepared by the COE, St. Louis District. October.

_____, 1994. *Archives Search Report (Supplement No. 1)*. Prepared by the COE, St. Louis District. November.

U.S. Army Environmental Hygiene Agency (AEHA), 1988. *Evaluation of Solid Waste Management Units, Fort Ord, California*. Interim final report. September 18-22.

_____, 1994a. *Industrial Hygiene Survey No. 55-71-R25A-94, Lead-Based Paint Inspection in Military Housing, Fort Ord, California*, November 1, 1993-March 11, 1994. June 6, 1994.

_____, 1994b. *Industrial Radiation Survey No. 27-43-E2HU-2-94, Facility Close-Out and Termination Survey, Fort Ord, California*, 10 January - 15 April 1994. June 6.

_____, 1994c. *Industrial Radiation Survey No. 27-43-E2HU-3-94, Facility Close-Out and Termination Survey, Fort Ord, California*, 10 January - 15 April 1994. September 7.

U.S. Department of the Army (Army), 1979. *Granting Use of Real Estate*. February.

_____, 1990. Army Regulation 200-1. *Environmental Protection and Enhancement, Chapters 10 and 11*. April 23.

_____, 1993a. *Lead-Based Paint Policy Guidance*. Memorandum. April 28.

_____, 1993b. *Army Radon Reduction Program Completion and Installation Status Update*. Memorandum. September 24.

_____, 1993c. *Policy Guidance - Lead Based Paint and Asbestos in Army Properties Affected by Base Realignment and Closure*. Memorandum. November 15.

_____, 1993d. *Fort Ord, California, Disposal and Reuse Environmental Impact Statement Record of Decision*. December 23.

_____, 1994a. *Record of Decision, Operable Unit 2, Fort Ord Landfills, Fort Ord, California*. July 15.

_____, 1994b. *Finding of Suitability to Transfer (FOST) - Army Implementing Guidance*. November 10.

_____, 1995. *Explanation of Significant Differences, Operable Unit 2, Fort Ord Landfills, Fort Ord, California*. August.

U.S. Department of Defense (DoD), 1993. *BRAC Cleanup Plan (BCP) Guidebook*. Fall.

_____, 1994. *Finding of Suitability to Transfer for BRAC Property*. June 1.

U.S. Environmental Protection Agency (USEPA), 1994a. Meeting of Mr. John Chesnutt and Ms. Deirdre Nurre of EPA with Mr. Stephen M. Farley, Harding Lawson Associates during U.S. Army BRAC Cleanup Plan Meeting. February 2 and 3.

_____, 1994b. Letter to Colonel Daniel F. Uyesugi, USAEC, regarding Fort Ord Uncontaminated Property Identification. April 19.

_____, 1996. Letter to Raymond Fatz, Acting Deputy Assistant Secretary of the Army, regarding Fort Ord CERCLA §120(h)(3) Transfer of Property Overlying OU 2 (Landfills) Groundwater Plume. January 4.

UXB International (UXB), 1994. Work Plan for OE Phase II Removal Action, Fort Ord, California. Prepared for U.S. Army Corps of Engineers, Huntsville. June.

Wang, D. 1994. California Department of Toxic Substances Control. Comments on Final CERFA Document, Fort Ord. Letter to J. Anderson, U.S. EPA. April 18.

Weston, Roy F., Inc. (Weston), 1990. *Task Order II - Enhanced Preliminary Assessment for Fort Ord*. Prepared for U.S. Army Toxic and Hazardous Materials Agency. Aberdeen Proving Grounds, Maryland. December.

Willison, J.M., 1993. U.S. Department of the Army. Letter to L. Finley-Miller, U.S. Army Corps of Engineers. August 24.

Wong, Walter, 1994. Monterey County Department of Health, Environmental Health. List of UST Sites Granted Closure. Letter to Chief, Environmental and Natural Resources Management Division, Directorate of Public Works, Fort Ord. April 6.