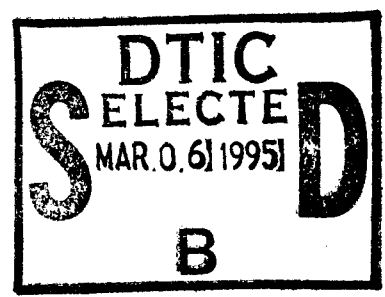




VERSION I

Base Realignment and Closure (BRAC) Cleanup Plan

Umatilla Depot Activity Hermiston, Oregon



Prepared for:

U.S. ARMY ENVIRONMENTAL CENTER
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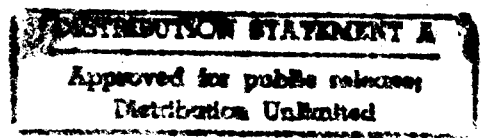
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LIST OF ACRONYMS

ACM	Asbestos-Containing Material
AOC	Areas of Concern
AR	Army Regulation
ARAR	Applicable or Relevant and Appropriate Requirements
AREE	Areas Requiring Environmental Evaluation
AST	Aboveground Storage Tank
BCP	BRAC Cleanup Plan
BCT	BRAC Cleanup Team
BEC	BRAC Environmental Coordinator
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Comprehensive Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CRP	Community Relations Plan
DD	Decision Document
DERA	Defense Environmental Restoration Account
DLA	Defense Intelligence Agency
DoD	Department of Defense
EIS	Environmental Impact Statement
EnPA	Enhanced Preliminary Assessment
FFA	Federal Facility Agreement
FFA	Federal Facilities Agreement
FS	Feasibility Study
IRDMIS	Installation Restoration Data Management Information System
IRP	Installation Restoration Program
ISA	Initial Screening of Alternatives
LTM	Long Term Monitoring
NEPA	National Environmental Policy Act
NFRAP	No Further Action Planned
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority Listed
NRC	Nuclear Regulatory Commission
ODEQ	Oregon Department of Environmental Quality
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyl
PIRP	Public Involvement Response Plan
POL	Petroleum, Oils, and Lubricants
PP	Proposed Plan
ppm	Parts Per Million
RA	Remedial Action
RAB	Restoration Advisory Board

LIST OF ACRONYMS

Continued

RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessments
RFI	RCRA Facility Investigations
RI/FS	Remedial Investigation/Feasibility Study
RMIS	Information Management System
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SI	Site Investigation
SRI	Supplemental Remedial Investigation
STP	Sewage Treatment Plant
SWMU	Solid Waste Management Unit
TRC	Technical Review Committee
TSCA	Toxic Substances Control Act
UMDA	Umatilla Depot Activity
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Center
USEPA	U.S. Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordnance

EXECUTIVE SUMMARY

Introduction

This Base Realignment and Closure (BRAC) Cleanup Plan (BCP) describes the status, management and response strategy, and action items related to Umatilla Depot Activity (UMDA) ongoing environmental restoration and associated compliance programs. These programs support restoration of the installation property, which is necessary to meet the requirements for property disposal and reuse activities associated with the closure of the installation. The Commission on Base Closures recommended UMDA for realignment. The realignment will be chemical demilitarization (Chem Demil) of chemical agents stored at UMDA. The ongoing Chem Demil prevented closure of UMDA because the U.S. Army cannot begin on-site destruction of the chemical agents until approximately 1996, which falls outside the Commission's allowed timeframe for completing closures. The depot will be realigned to the maximum extent possible in order to facilitate closure as soon as the Chem Demil mission is complete. The scope of the BCP considers the following regulatory mechanisms: the BRAC Act; National Environmental Policy Act (NEPA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Community Environmental Response Facilitation Act; Resource Conservation and Recovery Act (RCRA); and other applicable laws.

The BCP is a planning document, and the information and assumptions presented may not necessarily have complete approval from the U.S. Army and/or federal and state regulatory agencies. The BCP is a dynamic document that will be updated regularly to reflect the current status and strategies of remedial actions (RAs). This document is the first in a series of updates/modifications and represents conditions and strategies as of April 1994.

Status of Disposal, Reuse, and Interim Lease Process

Realignment at UMDA officially begins on September 30, 1994. The disposal of UMDA, which will occur following realignment, involves three interrelated activities: the NEPA Environmental Impact Statement (EIS) process, development of a disposal plan, and development of a community reuse plan. The first two items are the responsibility of the U.S. Army. The third is the responsibility of the Umatilla Depot Task Force and Oregon Economic Development Department, an agency created by the Oregon State legislature for the purpose of developing a plan for reuse and redevelopment of the installation. These three activities have been completed at UMDA. The U.S. Army remedial decisions are outlined in the four Record of Decisions (RODs) for four of the nine operable units (OUs) at the installation, four Draft RODs for five other OUs, and the Final BRAC EIS. The Umatilla Depot Task Force and Oregon Economic Development Department have prepared a reuse plan that involves development of a multiple use area which would include areas for agriculture, commercial, industrial, education, and

wildlife management. This plan was taken into account during the generation of the U.S. Army disposal decisions.

To date, there has been no property disposal at UMDA. The U.S. Army has identified the property it is retaining to site a chemical weapon deactivation incinerator, in addition to the property necessary to support the construction activity. This property is approximately one-third of the installation and includes the Administration Area and the Ammunition Demolition Activity Area. Following destruction of the chemical agents at the Depot the U.S. Army has no plans to retain any portion of UMDA. The entire property will be transferred by deed. At this time, no other military or federal agencies have identified property or facilities on the installation that they wish to acquire. Property that has not been identified for transfer to another federal entity will be declared surplus on May 31, 1994. The Bureau of Indian Affairs has the potential to acquire Depot property through the Bureau of Land Management.

Following property transfer to military and federal agencies, homeless organizations under the McKinney Act have the opportunity to identify facilities as homeless shelters or storage locations. The McKinney Act allows up to 235 days for property to be identified for homeless reuse. The Redevelopment Authority UMDA (currently the Umatilla Depot Task Force) will then have an opportunity to purchase the remaining property. The Redevelopment Authority has designed the reuse plan, which is a multiple use area that includes areas for agriculture, commercial, industrial, education, and wildlife management.

Status of Environmental Restoration Program

There are several environmental restoration program activities at UMDA to date and a few of these programs are near completion. The UMDA Explosive Washout Lagoons were placed on the National Priority List on July 1987. There are currently four RODs for four of the nine OUs. These RODs identify the selected remedy for cleanup and the cleanup standards. There are four Draft RODs of the five remaining OUs. Two of the OUs are being addressed under one ROD. It is anticipated that the four Draft RODs will be signed for these OUs in June 1994.

Originally there were 147 sites at UMDA that were identified by the U.S. Army and put in the Restoration Management Information System database. A RCRA Facility Assessment identified 30 Solid Waste Management Units in a 1987 report. In 1990, an Enhanced Preliminary Assessment (ENPA) was conducted on the Depot and 82 sites were identified. Fifty-eight of the sites identified during the ENPA were studied during a Remedial Investigation/Feasibility Study (RI/FS) report conducted in 1992. Six of the sites were studied under an underground storage tank (UST) survey. A Supplementary Remedial Investigation (SRI) was also conducted in 1992 to study two new areas of Site 12, and 13 sites that had been previously identified in earlier studies.

Of the 83 sites and 6 polychlorinated biphenyls (PCB) transformer locations where PCBs were detected, only 9 sites require RA. The additional sites were identified during a Supplementary Remedial Investigation (SRI). Remediation has begun at the Deactivation Furnace Soils OU. The RODs for the Active Landfill OU and Inactive Landfills OU are "No Action" remedies. Restoration-related compliance activities currently underway at UMDA include UST compliance,

asbestos abatement, and radon venting. A lead-based paint survey is scheduled to be conducted in Fiscal Year 1994/1995. The five Draft RODs that are expected to be signed by June 1994 are as follows: the UMDA Explosive Washout Plant, the UMDA Explosive Washout Lagoons Ground Water OU, the UMDA Ammunition Demolition Activity Area OU, the UMDA Miscellaneous Sites OU and the SRI Study Sites and PCB transformer locations. The Miscellaneous Sites OU and the SRI Study Sites are to be combined under one ROD.

Key Restoration and Transferability Strategies and Schedules

UMDA has shifted its focus from the activities of an active installation to realignment and compliance and restoration for disposal and reuse of the property. The BCP strategies are currently being implemented to focus restoration activities towards final transfer of installation property. Strategies for determining the most effective response mechanisms for contaminant sources and contaminated areas during the early stages of the restoration process at the installation have been performed on a case-by-case basis by the BRAC Cleanup Team (BCT)/Project Team. A comprehensive strategy to identify appropriate regulatory programs applicable to the areas of contamination discovered during the restoration program has been developed.

Summary of Current BCP Action Items

Table ES-1 provides a listing of recommendations and issues associated with environmental restoration, compliance, and technical/management action items that require further evaluation and implementation by the BCT/Project Team. Bottom up review program numbers specified in the Department of Defense BCP Guidebook which relate to each action item are identified in the table.

TABLE ES-1. BCT/PROJECT TEAM ACTION ITEMS

Action Item	Status		
	Program Review Item	In Progress	To Be Performed
COMPLIANCE ACTIVITIES			
UST Removal/Compliance - Depot-wide tank removal or upgrading	7	x	
Hazardous Materials Waste Management Close RCRA permitted storage area	7		x
Asbestos Abatement	7		x
Lead-based Paint Survey (X-M (to be performed))	7		x
CERCLA 120(H)(3) CONSIDERATIONS			
Environmental Condition of Property - Action items to determine environmental condition	7		x
Suitability for Property Transfer - Update environmental condition maps as RA is complete	28		x
- Monitor RDX/Trinitrotoluene groundwater plume	32		x
COMMUNITY RELATIONS			
- Update community reuse plan	14		x
MANAGEMENT AND ADMINISTRATIVE SUPPORT ACTIVITIES			
- Establish and maintain Defense Environmental Network Information Exchange for information management and transfer	21		x
- Prepare conceptual site models	22		x

CHAPTER 1

► INTRODUCTION AND SUMMARY ◀

The purpose of this BRAC Cleanup Plan (BCP) is to summarize the current status of the Umatilla Depot Activity (UMDA) environmental restoration and associated environmental compliance programs and present a comprehensive strategy for implementing response actions necessary to protect human health and the environment. This strategy integrates activities being performed under both the UMDA restoration program and the associated environmental compliance programs to support full restoration of the installation. The BCP is a dynamic document that will be updated regularly to incorporate newly-obtained information and will reflect the completion or change in status of any remedial actions (RAs). This iteration of the BCP was prepared with information available as of April 14, 1994.

This BCP is a planning document. It was necessary to make certain assumptions and interpretations to develop the schedule and cost estimates. As additional data become available, implementation programs and cost estimates could be altered. Such changes would then be reflected in future updates to the BCP.

Chapter 1 describes the objectives of the environmental restoration program, explains the purpose of the BCP, introduces the Project Team formed to review the program, and provides a brief history of the installation.

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

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

Chapter 4 describes the installation-wide strategy for environmental restoration, including the strategies for dealing with each operable unit (OU) on the installation. This chapter also includes plans for managing underground storage tanks (USTs), radon, and asbestos via an asbestos abatement program; and summarizes plans for managing responses under other compliance programs.

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

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

Chapter 7 provides a list of primary references utilized in the preparation of the BCP.

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

- ▶ Appendix A - summary tables of past, current, and projected costs for the environmental restoration program
- ▶ Appendix B - technical documents and data loading summary, listings of previous environmental restoration program deliverables by program and by site
- ▶ Appendix C - summaries of Decision Documents (DDs) for which a RA was selected
- ▶ Appendix D - summaries of each DD for each site or OU for which a no further response action planned (NFRAP) decision has been made
- ▶ Appendix E - working conceptual models for sites, zones, or OUs
- ▶ Appendix F - other ancillary materials relevant to the BCP.

1.1 Environmental Response Objectives

The objectives of the installation closure environmental restoration program at UMDA are as follows:

- ▶ Protect human health and the environment
- ▶ Strive to meet reuse goals established by the U.S. Army and the community, consistent with legislation relevant to UMDA realignment (and ultimately closure)
- ▶ Comply with existing statutes and regulations
- ▶ Conduct all environmental restoration activities in a manner consistent with Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA)
- ▶ Meet Federal Facility Agreement (FFA) deadlines as detailed in Chapter 5 of this BCP
- ▶ Conduct Comprehensive Environmental Response Facilitation Act (CERFA) investigations
- ▶ Continue efforts to identify all potentially-contaminated areas
- ▶ Incorporate any new sites into the FFA as appropriate

- ▶ Establish priorities for environmental restoration and restoration-related compliance activities so that property disposal and reuse goals can be met
- ▶ Initiate selected removal actions to control, eliminate, or reduce risks to manageable levels
- ▶ Identify and map the environmental condition of installation property with the intent of identifying areas suitable for transfer by deed
- ▶ Complete the environmental restoration process as soon as practicable for each source area, zone, or OU, in an order of priority which takes into account both environmental concerns and redevelopment plans; consider future land use when characterizing risks associated with releases of hazardous substances, pollutants, contaminants, or hazardous wastes
- ▶ Develop, screen, and select RAs that reduce risks in a manner consistent with statutory requirements
- ▶ Commence RAs for (1) environmental and (2) property disposal and reuse priority areas as soon as practicable
- ▶ Advise the real estate arm of the U.S. Army Corps of Engineers (USACE) of property that is deemed suitable for transfer and properties that are not suitable for transfer because they are either not properly evaluated or pose an unacceptable human health or environmental risk
- ▶ Conduct long-term RAs for groundwater and any necessary 5-year reviews for wastes left on site
- ▶ Establish interim and Long-Term Monitoring (LTM) plans for RAs as appropriate.

1.2 BCP Purpose, Updates, and Distribution

This BCP presents, in summary fashion, the status of UMDA's environmental restoration and compliance programs and the comprehensive strategy for environmental restoration and restoration-related compliance activities. It lays out the response action approach at the installation in support of installation closure. In addition, it defines the status of efforts to resolve technical issues so that continued progress and implementation of scheduled activities can occur. The UMDA BCP Strategy and Schedule is designed to streamline and expedite the necessary response actions associated with identification of clean property in order to facilitate the earliest possible disposal and reuse activities. Risk assessment protocols have incorporated future land use in exposure scenarios.

This BCP will be updated annually, or more frequently if determined to be necessary. Updates of the BCP will be distributed to each member of UMDA Project Team, as well as to additional individuals and addresses identified in Table 1-1.

TABLE 1-1. BCP DISTRIBUTION LIST

Name	Title	Address
Mark Daugherty	BEC/Remedial Project Manager	UMDA Attn: BEC Hermiston, Oregon 97838
Harry Craig	BCT, USEPA Representative	USEPA Oregon Operations Center 811 SW Sixth Avenue Portland, Oregon 97204
Bill Dana	BCT ODEQ Representative	Department of Environmental Quality 811 SW Sixth Avenue Portland, Oregon 97204
Charles Lechner	Technical Oversight	Commander U.S. Army Environmental Center (USAEC) Attn: SFIM-AEC-BCA Aberdeen Proving Ground, MD 21010-5401
Jeff Rodin	USEPA Project Manager	USEPA Region X, HW 124 1200 6th Avenue Seattle, WA 98101
Mike Nelson	Technical Manager	Commander USACE, Seattle District Attn: CENPS-EN-GT-HW (M. Nelson) 4735 East Marginal Way So. P. O. Box C-3755 Seattle, WA 98124-2255
Fred McClaren	DoD Installation Transition Coordinator	BRAC Office Tooele Army Depot Tooele, UT 84074
James Kludge	BCP Document Coordinator	Commander USACE, Seattle District Attn: CENPS-EN-GT-GE (J. Kluge) 4735 East Marginal Way So. P. O. Box C-3755 Seattle, WA 98124-2255
Alex Byler	UMDA Reuse Task Force Chairman	Chairman, UMDA Reuse Task Force 222 SE Dorian Pendleton, Oregon 97801
Current Commander	Commander	Commander U.S. Army Depot System Command Attn: AMSDS-IN-E Chambersburg, PA 17201-4170

TABLE 1-1. BCP DISTRIBUTION LIST**Continued**

Name	Title	Address
Larry Anderson	Technical Manager	Commander USACE North Pacific Attn: CENPD-PM-MP (Larry Anderson) 220 NW 8th Avenue, P.O. Box 2870 Portland, OR 97208-2870
J. Reasoner	Technical Manager	Commander USACE North Pacific Attn: CENPD-PM-RE (J. Reasoner) 220 NW 8th Avenue, P.O. Box 2870 Portland, OR 97208-2870
A. Coburn	Technical Manager	Commander USACE, Seattle District Attn: CENPS-PM (A. Coburn) 4735 East Marginal Way S., P.O. Box C-3755 Seattle, WA 98124-2255

1.3 BRAC Cleanup Team (BCT)/Project Team

The BCT is composed of three members, including Remedial Project Managers from both the U.S. Environmental Protection Agency (USEPA), Region X and from the Oregon Department of Environmental Quality (ODEQ). The BCT is led by the BRAC Environmental Coordinator (BEC).

The Project Team consists of the BCT and additional individuals whom the BCT selects to assist in the environmental restoration process at the UMDA. The Project Team is led by the BEC. Project Team meetings are the means of conducting periodic program reviews and reaching consensus on decisions with the USEPA and the ODEQ. Table 1-2 lists the current Project Team members, and specifies individual roles and responsibilities.

TABLE 1-2. CURRENT BCT/PROJECT TEAM MEMBERS

Name	Title	Phone	Role/Responsibility
BCT MEMBERS			
Mark Daugherty	BEC/Remedial Project Manager	(503) 564-5294	UMDA Project Manager
Harry Craig	BCT USEPA Representative	(503) 326-3689	USEPA Project Manager
Bill Dana	BCT ODEQ Representative	(503) 229-6530	ODEQ Project Manager
OTHER KEY PARTICIPANTS			
Chuck Lechner	USAEC Technical Project Manager	(410) 671-1605	Technical Oversight

TABLE 1-2. CURRENT BCT/PROJECT TEAM MEMBERS**Continued**

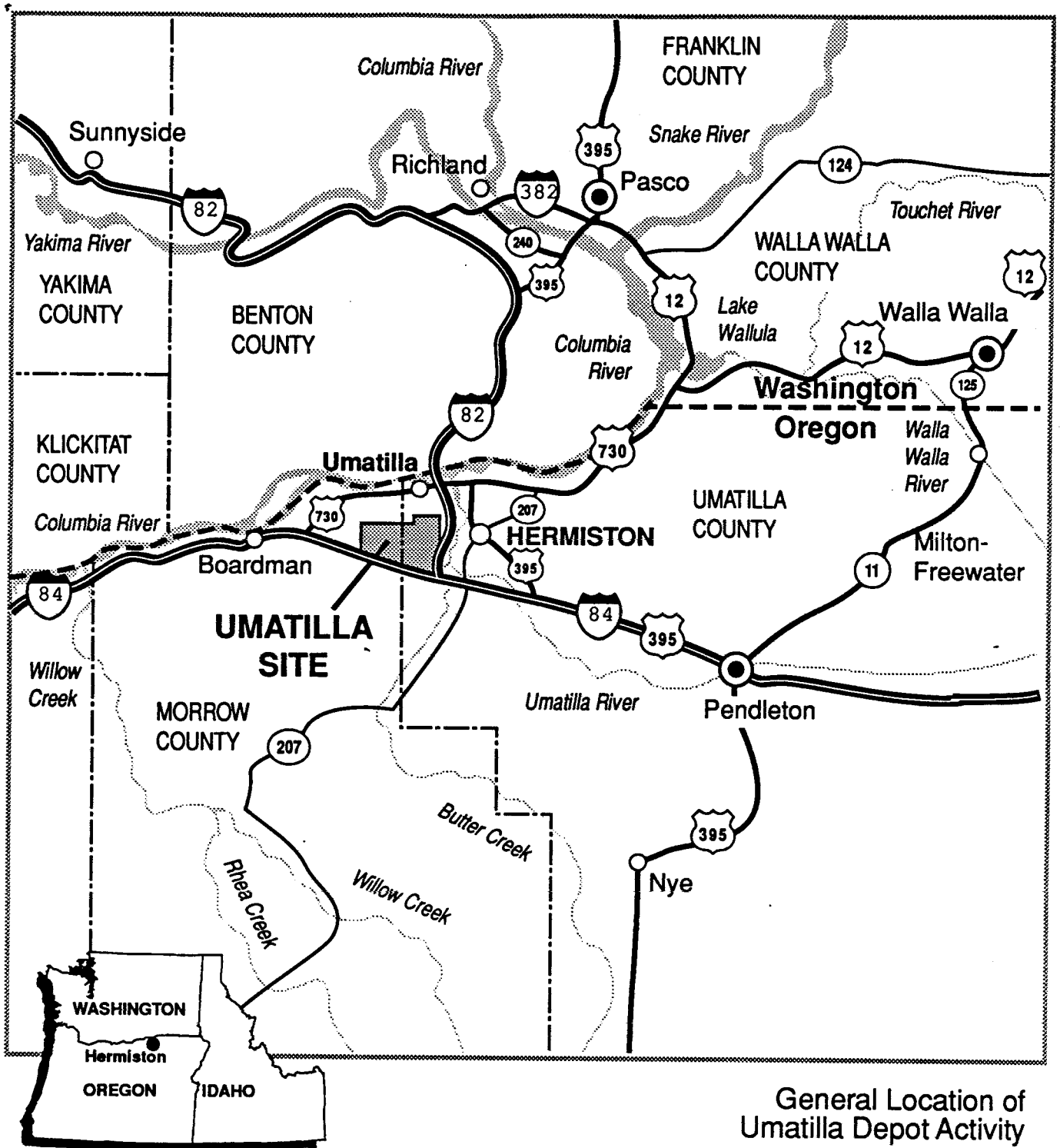
Name	Title	Phone	Role/Responsibility
Clayton Kim	USAEC Technical Project Manager	(410) 671-1604	Technical Oversight
Jeff Rodin	USEPA Remedial Project Manager	(206) 553-4497	USEPA Project Manager
Mike Nelson	USACE Technical Project Manager	(206) 764-3458	Remedial Design (RD)/RA
Alan Coburn	USACE Project Manager	(206) 764-6849	RD/RA
Fred McLaren	DoD Installation Transition Coordinator	(801) 833-3833	Liaison with Community
Larry Anderson	USACE Program Manager	(503) 326-3854	RD/RA
James Kludge	USACE BCP Document Coordinator	(206) 764-3320	BCP Writer/Editor
CONTRACTORS			
Woodward-Clyde	USACE Contractor	(206) 343-7933	Technical Support

1.4 Installation Description and History

UMDA is located on 17,054 acres, and has an additional 2,674 acres of restrictive easements surrounding the north and east Depot perimeter. The terms of the easements grant perpetual rights to the U.S. Government. UMDA is almost equally divided between Morrow and Umatilla counties. Union Pacific Railroad tracks run adjacent to the installation's southern boundary. Interstate 84 runs east-west just south of the Depot and Interstate 82 runs north-south just east of the Depot. UMDA is bordered on the north and west by agriculture. The majority of the land adjacent to UMDA is agricultural. Agriculture continues south and east of UMDA, beyond the Interstates and the Union Pacific Railroad tracks. The Columbia River which separates the State of Washington from the State of Oregon, is located three miles north of the Depot. Figure 1-1 shows the general location of the installation. Figure 1-2 shows surrounding land use.

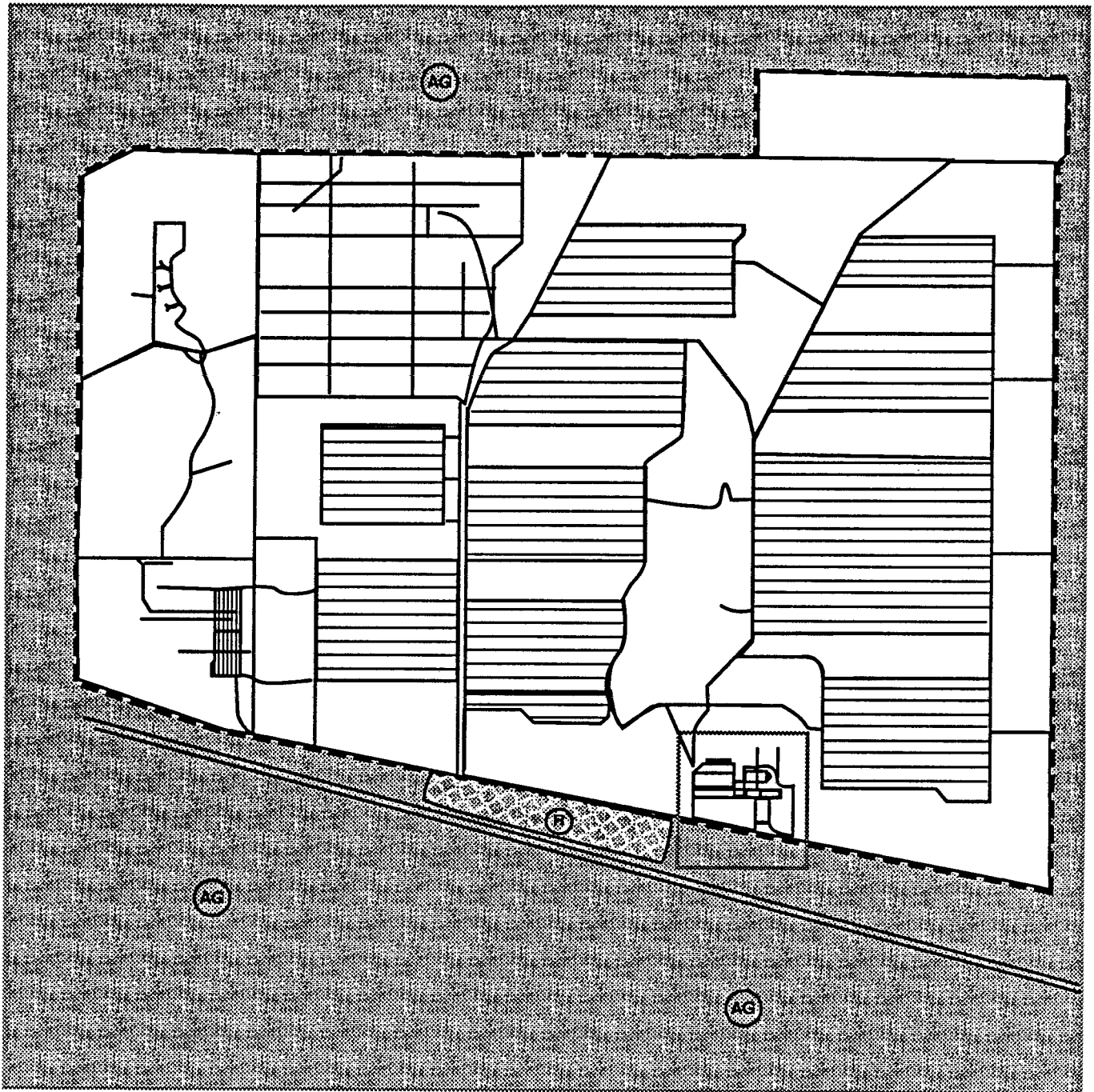
UMDA was established by the U.S. Army as an ordnance facility for storing conventional munitions in 1941. Subsequently, the functions of the Depot were extended to include ammunition demolition (1945), renovation (1947), and maintenance (1955). In 1962, the U.S. Army began to store chemical munitions at UMDA. In August 1973, the installation was redesignated as an "Activity" by the U.S. Army Materiel Command.

The construction of 1,001 ammunition storage igloos began in February 1941. By the end of 1941, the Depot began functioning as an ammunition storage facility; in 1947, an ammunition renovation complex was constructed. Two ammunition maintenance buildings were added in 1955 and 1958.



General Location of Umatilla Depot Activity

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EXPLANATION

- | | |
|--------------------------------------|------------------------------------|
| POS Public Open Space and Recreation | UT Utilities and Services |
| R Residential | AG Agricultural |
| CG Commercial General | NRC Natural Resources Conservation |
| CO Commercial Office | UD Undeveloped |
| CR Commercial Residential Mixed | IN Institutional |
| ID Industrial | |
| Installation Boundary | |

Surrounding
Off-Post
Land Use

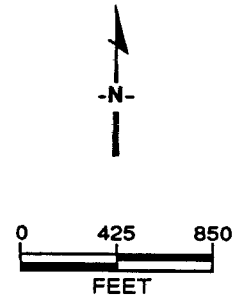


Figure 1-2

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Chemical agent-filled munitions and 1-ton containers of chemical agents have been stored in the K block igloos at UMDA since 1962. However, no chemical weapons have been used, manufactured, or tested at the Depot. In addition to the chemical munitions, conventional munitions are stored in 14 magazines and the igloos in A-J blocks. Missiles and missile fuel components were stored from the mid-1950s to the early 1960s.

On July 22, 1987, UMDA was placed on the National Priorities List (NPL). This listing followed the scoring of the Explosive Washout Lagoons, which had a score of 28.50 using the Hazard Ranking System.

No manufacturing operations have been conducted at UMDA. However, munitions testing, rework, demolition, and disassembly operations have been performed in several areas throughout the activity. The Explosives Washout Plant area, located in the central portion of UMDA and the Ammunition Demolition Activity (ADA) Area located along the western boundary of UMDA, are the most noteworthy.

UMDA land use and acreage is as follows: ammunition storage (5,933 acres), open space buffer (4,851 acres), ammunition demolition (1,716 acres), chemical storage (646 acres), former firing range (621 acres), airfield (293 acres), standard magazines (140 acres), administrative (136 acres), facilities maintenance (40 acres), spoil areas (32 acres), abandoned landfills (20 acres), housing (15 acres), landfill (15 acres), utilities service area (7 acres), and Union Pacific Railroad leased land (140 acres).

The federal government first purchased parcels of land that is now UMDA in 1941. Parcels were also transferred from the Department of Interior (DOI), Bureau of Land Management (BLM) to the U.S. Army. UMDA became a U.S. Army Depot in 1941.

A property acquisition summary is provided in Table 1-3.

TABLE 1-3. PROPERTY ACQUISITION SUMMARY

Tract Number	Previous Land Owner	Acreage			Acquisition Date
		Fee Land	Transfer Land	Easement Land	
A	DOI, BLM		6,999.86		June 14, 1941
B	DOI, BLM		160.00		December 26, 1941
C	DOI, BLM		1,280.00		February 10, 1959
1	Umatilla County	323.55			January 10, 1941
2	Umatilla County	320.00			January 10, 1941
20	Umatilla County	160.00			October 24, 1941
4	Morrow County	664.44			January 10, 1941
5	Morrow County	640.00			January 10, 1941
7	Morrow County	560.00			January 10, 1941
8	Morrow County	640.00			January 10, 1941
9	Morrow County	598.52			January 10, 1941
10	Morrow County	319.95			January 10, 1941
11	Morrow County	320.00			January 10, 1941

TABLE 1-3. PROPERTY ACQUISITION SUMMARY

Continued

Tract Number	Previous Land Owner	Acreage			Acquisition Date
		Fee Land	Transfer Land	Easement Land	
13	Northern Pacific Railway Company	667.20			October 4, 1941
14	Northern Pacific Railway Company	640.00			October 4, 1941
15	Northern Pacific Railway Company	640.00			October 4, 1941
16	Northern Pacific Railway Company	367.19			October 4, 1941
17	Northern Pacific Railway Company	640.00			October 4, 1941
18	Northern Pacific Railway Company	83.02			October 24, 1941
19	Northern Pacific Railway Company	320.00			October 24, 1941
3	Western Irrigation Company	135.06			January 10, 1941
6	Marie Alice Hanson	80			January 10, 1941
23E	D.J. Phillips, et ux.			41.32	December 13, 1956
24E	Lawrence P. Doherty			424.25	February 20, 1957
25E	J.A. Robbins, et ux.			640.00	February 20, 1957
26E	Henry C. Vogler, Jr. et ux.			320.00	February 20, 1957
27E	Benjamin E. Conner et ux.			800.00	February 20, 1957
28E	Roger J. Bounds et ux.			143.12	February 20, 1957
29E	Deloss M. Webb et ux.			280.00	May 1, 1958
130E	Lamb-Weston, Inc.			120.00	February 7, 1974
131E	Ronald R. Baker et ux.			40.00	September 6, 1977

1.5 Environmental Setting

The land currently occupied by UMDA was originally farmed or idle. The portion of Oregon within an approximate 50-mile radius of UMDA includes parts of two geomorphic regions, the Deschutes-Umatilla Plateau and the Blue Mountains.

The Deschutes-Umatilla Plateau is of relatively low relief. It gradually rises southward from elevations near 260 feet at the Columbia River to approximately 800 feet at the foot of the Blue Mountains. Near-surface deposits underlying the Plateau consist primarily of Miocene basalt flows, basalt debris and silts deposited as alluvial fans, Quaternary silts and clays, and Quaternary alluvial gravel and sand deposited by catastrophic flooding of the Columbia River.

The edge of the Blue Mountains lies approximately 40 miles south and southeast of UMDA. The Blue Mountains reach elevations ranging from 3,500 to 6,000 feet. The mountains are considerably dissected by streams that have eroded many steep-walled canyons. Near-surface deposits are primarily basalt and rhyolitic tuffs, with smaller areas of metamorphosed sedimentary and volcanic rocks of probable Triassic age, and diorite and other intrusive rocks of probable Cretaceous age.

Catastrophic flood gravels form the surface in a band about 10 miles wide south of the Columbia River. UMDA is located three miles south of the Columbia River. These flood gravels consist of angular, poorly sorted gravel ranging in size up to large boulders, with coarse sand partly

filling the openings between clasts. These gravels have previously been mapped as glaciofluvial or glaciofluvial deposits.

The flood gravels in the vicinity of UMDA area as much as 200 feet thick. They pinch out to the south near an elevation of 750 feet, thin northward from UMDA, and are a few tens of feet thick at places near the Columbia River. The thickness of the flood gravels, as shown by well borings on the Depot, range from 59 to 208 feet, with an average of 135 feet.

Coyote Coulee, the most prominent surface feature, is a valley that cuts across the facility along a north 30° east axis. The western edge of Coyote Coulee slopes at 5 to 10 percent. The eastern edge is an escarpment that rises 60 to 90 feet at a 30 to 45 percent slope. The coulee appears to be a large relict sand wave. Its exceptional size is likely due to extraordinary river discharge during catastrophic floods.

Hydrogeology. The flood gravels are the most important aquifer in the lowlands near UMDA. Groundwater is usually unconfined within the gravels. Under such conditions, the upper limit of groundwater is the water table--the surface that divides saturated gravel from unsaturated gravel. The water table is free to move up and down in response to changes in recharge and discharge, unlike a confined aquifer whose upper limit is a confining bed with a fixed position. Locally, clay beds may confine groundwater in the gravels. Such confined conditions occur within small areas and restricted vertical intervals.

The unconfined aquifer is bounded below by the basalt surface. The upper part of the basalt may be fractured and weathered, and thus may be capable of transmitting groundwater.

The saturated thickness of the gravel varies according to the elevation of the basalt surface and the availability of water. Saturated thickness in the area near UMDA ranges from 25 to 100 feet.

Groundwater. Groundwater levels in the flood gravels have been strongly influenced by pumping and other artificial causes. Levels were relatively stable until about 1965, then declined sharply by an average of 16 feet between 1965 and 1973 as irrigation pumping increased. Levels were stable until 1977, and then recovered by about 10 feet between 1977 and 1984. The recovery is apparently in response to reduced pumping and increased natural and artificial recharge.

The direction of groundwater flow in the flood gravels outside UMDA is uncertain. Hydrogeologists consider flow near UMDA to be generally to the northwest, others consider the matter to be undecided. This is in part due to low water-table gradients and a lack of surveyed elevations for wells in the area surrounding UMDA. Interpretation of water levels is greatly complicated by large-scale pumping from, and artificial recharge to, the flood gravels.

Potable water for the Depot is supplied by seven U.S. Army-owned wells on the UMDA property. According to well logs, all seven wells are deep wells, installed in the basalt aquifers. The medium depth to groundwater in the basalt aquifer wells is 104 feet.

Surface Water. There are no surface water bodies on UMDA and no surface runoff from the Depot would drain to nearby surface water sources. The closest surface water sources are the Columbia River, located 3 miles north of the Depot and the Umatilla River located approximately 4 miles to the northeast.

1.6 Hazardous Substances and Waste Management Practices

A variety of activities involving the handling of hazardous substances and generation of listed hazardous wastes have occurred at UMDA through its history. Some of the wastes generated include red fuming nitric acid, aniline, explosive contaminated rinsewater, pesticides, solvents, expired ordnance, ordnance propellant, battery acid, and perhaps minor quantities of other potentially hazardous wastes. Waste petroleum, oil, and lubricants (POL) have also been generated at UMDA.

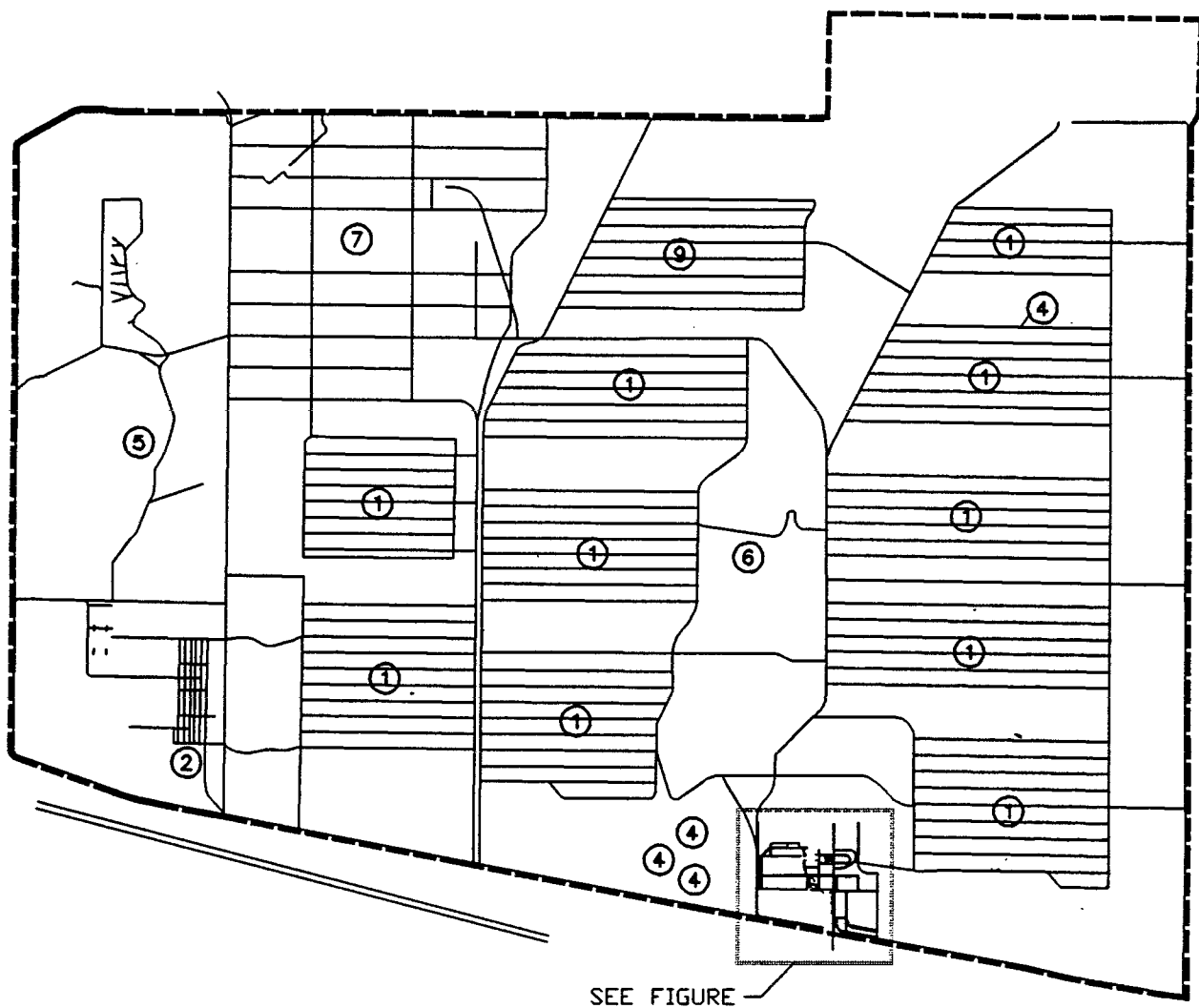
Recognized past industrial waste disposal practices at UMDA have included the disposal of red fuming nitric acid, aniline, and pesticides into pits; explosive contaminated rinsewater into unlined lagoons; battery acid into a concrete sump; burning of ordnance propellant in burning pans; and demolition of expired ordnance in covered pits. Presently, only the latter two disposal methods continue to be practiced. In addition, landfilling of the solid waste has occurred in several locations at UMDA. There are five small former landfills at the Depot and the active landfill no longer accepts solid waste. At this time, the active landfill accepts only solidified soil from the Deactivation Furnace OU.

Table 1-4 identifies the historical hazardous substance activities conducted at UMDA by type of operation. Figures 1-3A and 1-3B show the location of past hazardous substance activities conducted at UMDA by the type of operation. Table 1-5 outlines the current hazardous waste generating activities at UMDA.

1.7 Off-Post Property/Tenants

Off-Post Properties. There are no off-post properties currently owned by UMDA. Future changes will be reflected in Table 1-6 and Figure 1-4.

Tenant Units. Table 1-7 lists the significant tenant organizations on the installation that were identified from installation real property records and tract maps. None of the tenant units have conducted significant industrial operations at UMDA.



EXPLANATION

- ① Designation of Activity Location
- Installation Boundary

**Location of Past
Hazardous
Substance
Activities**

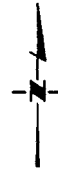
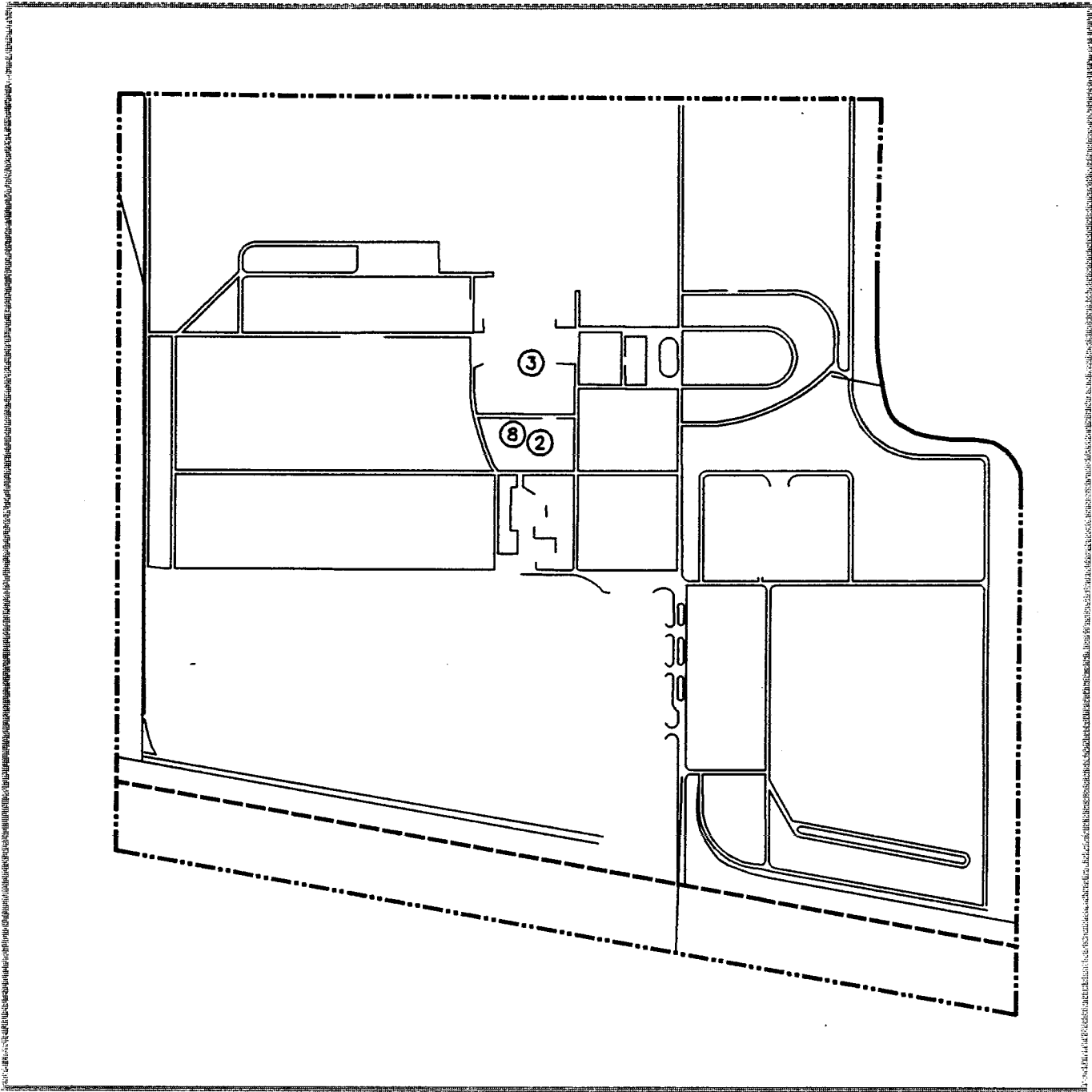


Figure 1-3A

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EXPLANATION

- ① Designation of Activity Location
- Installation Boundary
- Administration Area Boundary

**Location of Past
Hazardous
Substance
Activities**

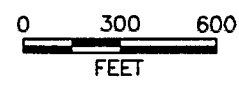


Figure 1-3B

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TABLE 1-4. HISTORY OF INSTALLATION OPERATIONS

Period	Type of Operation	Weapon System	Hazardous Substance Activities	Map Reference (see Figure 1-3)
Pre-1941	BLM Land	None	None	--
1941-1945	Conventional ordnance storage	None	Ordnance storage area; vehicle maintenance; fuel/oil storage; landfills	1, 2, 3, 4
1945-1947	Conventional ordnance storage/demolition	None	Ordnance storage/ ordnance demolition areas; vehicle maintenance; fuel/oil storage; landfills	1, 2, 3, 4, 5
1947-1962	Conventional ordnance storage/demolition/renovation/maintenance	None	Ordnance storage areas; ordnance demolition areas; ordnance renovation areas; ordnance maintenance areas; vehicle maintenance; fuel/oil storage; landfill; machine shop	1, 2, 3, 4, 5, 6, 7, 8,
1962-present	Conventional ordnance storage/demolition and chemical munitions storage/maintenance	None	Ordnance storage/ordnance demolition; chemical munitions storage areas; vehicle maintenance; fuel/oil storage; landfill	1, 2, 3, 4, 5, 9
30 September 1994	Depot realigned. Static storage of chemical munitions only	None	Chemical munitions storage; vehicle maintenance; fuel/oil storage	2, 3, 9

TABLE 1-5. HAZARDOUS WASTE GENERATING ACTIVITIES

Facility	Unit	Activity	Name of Waste Material	Generation Rate	Disposition
Vehicle Maintenance Garage, Building 5	GOCO	G, AS	Paint waste/thinner	650 lbs/yr	DRMO
Carpenter Shop, Building 7	UMDA	G, AS	Paint waste/thinners	900 lbs/yr	DRMO
ADA	UMDA	G, AS	Off Spec ammunition	813 STs/1992	Open Detonation
ADA	UMDA	G, AS	Waste Explosive Propellant	46.5 STs/1992	Open Burning
Battery Shop, Building 27	UMDA	G, AS	Waste Battery Electrolytes	812 lbs/yr	DRMO
Services, Building 4	UMDA	G, AS	Safety-Kleen Solvent	142 gal/yr	Installation Disposal Contract
Chemical Laboratory, Building 656	UMDA	G, AS	Chemical Agent related wastes	Unknown	Storage in J-Block
Locomotive Roundhouse, Building 10	UMDA	G, AS	Safety-Kleen Solvent	142 gal/yr	Installation Disposal Contract

Key: G = Generator
AS = Satellite Accumulation
DRMO = Defense Reutilization Marketing Office
GOCO = Government-owned, Contractor-operated
ST = Static Tons

TABLE 1-6. OFF-POST PROPERTIES

Description	Acreage	Date of Acquisition	Environmental Status	Location	Remarks
	There are currently no off-post properties associated with UMDA. Future changes will be reflected here.				

TABLE 1-7. ON-POST TENANT UNITS

Tenant	Building
Oregon National Guard	115 and part of 52
Defense Logistics Agency	42 and part of 18
Union Pacific Railroad	Railroad tracks in southern portion of Depot
Department of Energy	204
U.S. Postal Service	101 and 105
U.S. West Communications, Inc.	2
Federal Contracting Corporation	5
Medical Detachment (Out of Fort Lewis, WA)	11

**There are currently no Off-Post
Properties associated with Umatilla
Depot Activity. Future changes will be
reflected here.**

EXPLANATION

Off-Post Properties

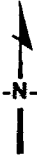


Figure 1-4

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CHAPTER 2

► PROPERTY DISPOSAL AND REUSE PLAN ◀

This chapter describes the status of the disposal planning process at UMDA and the relationship between the disposal process and environmental programs at the installation. It also identifies property transfer methods being utilized or considered in the disposal process.

2.1 Status of Disposal Planning Process

The disposal of UMDA involves three interrelated activities: the NEPA EIS process, development of a disposal plan, and development of a community reuse plan. The NEPA EIS was completed by the USACE, Fort Worth District in August 1991, while the community reuse plan, also known as the comprehensive long-term development plan was developed by the Umatilla Depot Reuse Task Force in October 1993. A disposal plan has been formulated and is in the screening process.

Disposal Plan. A disposal plan has been completed at this time, and the disposal screening process is underway. The U.S. Army is currently reviewing its screening process and an initial U.S. Army footprint has been identified. Other federal entities, as well as the homeless, under the Stewart B. McKinney Homeless Assistance Act, will have a opportunity to screen the property following the completion of the U.S. Army Screening. The Stewart B. McKinney Homeless Assistance Act screening process will begin in June 1994. The McKinney Act allows up to 8 months for a decision regarding the use of buildings by local homeless organizations. Following this screening, the Umatilla Redevelopment Authority will have up to a year to decide what property will be utilized in the redevelopment scheme. Following the Umatilla Redevelopment Authority property screening, the local homeless, under the McKinney Act, will again be allowed to screen property. State and local government screening will occur following the second screening by the homeless organizations and any remaining property the U.S. Army will make available for sale to the private community. Potential development of the property will be in accordance with Oregon land use laws. At this time, the Umatilla Depot Reuse Task Force is functioning as the Umatilla Redevelopment Authority. In February 1995, a permanent redevelopment authority will be appointed by the State Governors.

Reuse Plan. The Umatilla Depot Reuse Task Force, a group of volunteers appointed by the Governor of Oregon, working in conjunction with the Oregon Economic Development Department, directed the preparation of a Comprehensive Long-term Development Plan (henceforth the Reuse Plan) for UMDA in December 1992. At that time the Task Force outlined a program that would enable the residents of nearby communities, local governments and special districts to participate in the formulation of the Depot reuse strategy. The purpose of the strategy is to ensure that realignment and closure of the UMDA by the U.S. Army is completed in a manner that is consistent with the objectives of the Task Force and provides opportunities for reuse and redevelopment of the Depot for community purposes.

The Task Force determined that the plan for the UMDA must be organized to achieve ten specific objectives:

- ▶ Create as much employment as possible.
- ▶ Maximize the long-term potential for reuse by carefully evaluating shorter term proposals for reuse.
- ▶ Morrow and Umatilla counties should share in the benefit of reuse.
- ▶ A clear understanding of the location and condition of the existing infrastructure must be identified.
- ▶ A "Vision" for the future should be created.
- ▶ To the extent possible, the plan should be economically viable.
- ▶ The reuse strategy should be implementable.
- ▶ Communicate the plan as a positive long-term opportunity for the region.
- ▶ Encourage interim or phased reuse of the Depot properties.
- ▶ Reuse proposals for the Depot should be responsive to the regional resource base.

The UMDA Comprehensive Plan Report (or Reuse Plan) has two phasing plans for the Depot, Phasing Plan A and Phasing Plan B. Each plan involves a total of six, five-year phases, for a total of 25-plus years. The 25 years indicate the time period necessary to implement the plan, and is not intended to indicate the number of years needed for transition. Phasing Plan A assumes the chemical ordnance stored at the depot will be incinerated on-site and Phasing Plan B assumes the chemical ordnance will be transported off-site for demilitarization.

At this time, the approval to construct the chemical agent incinerator has been obtained from the State of Oregon and the money to construct the incineration has been approved by the U.S. Army; so only the Phasing Plan A will be described in this section. Table 2-1 presents summary information on the UMDA reuse parcels and an approximate timetable for transfer for each parcel.

The U.S. Reuse Plan is a mixed-use alternative plan, developed to allow for interim use while the U.S. Army continues its realignment mission. Figures 2-1A and 2-1B, graphically portray the latest liaison of the U.S. Army realignment footprint. Figure 2-1C and Figure 2-1D graphically portray the planned disposal and reuse parcels at the time of the Depot's closure in approximately 2006. The plan has been specifically crafted to achieve the initial objectives set by the Task Force or set the framework for their fulfillment in the future. It represents the first step by the Task Force for the transition of this 17,054-acre site from the U.S. Army's defense-

TABLE 2-1. REUSE PARCEL DATA SUMMARY

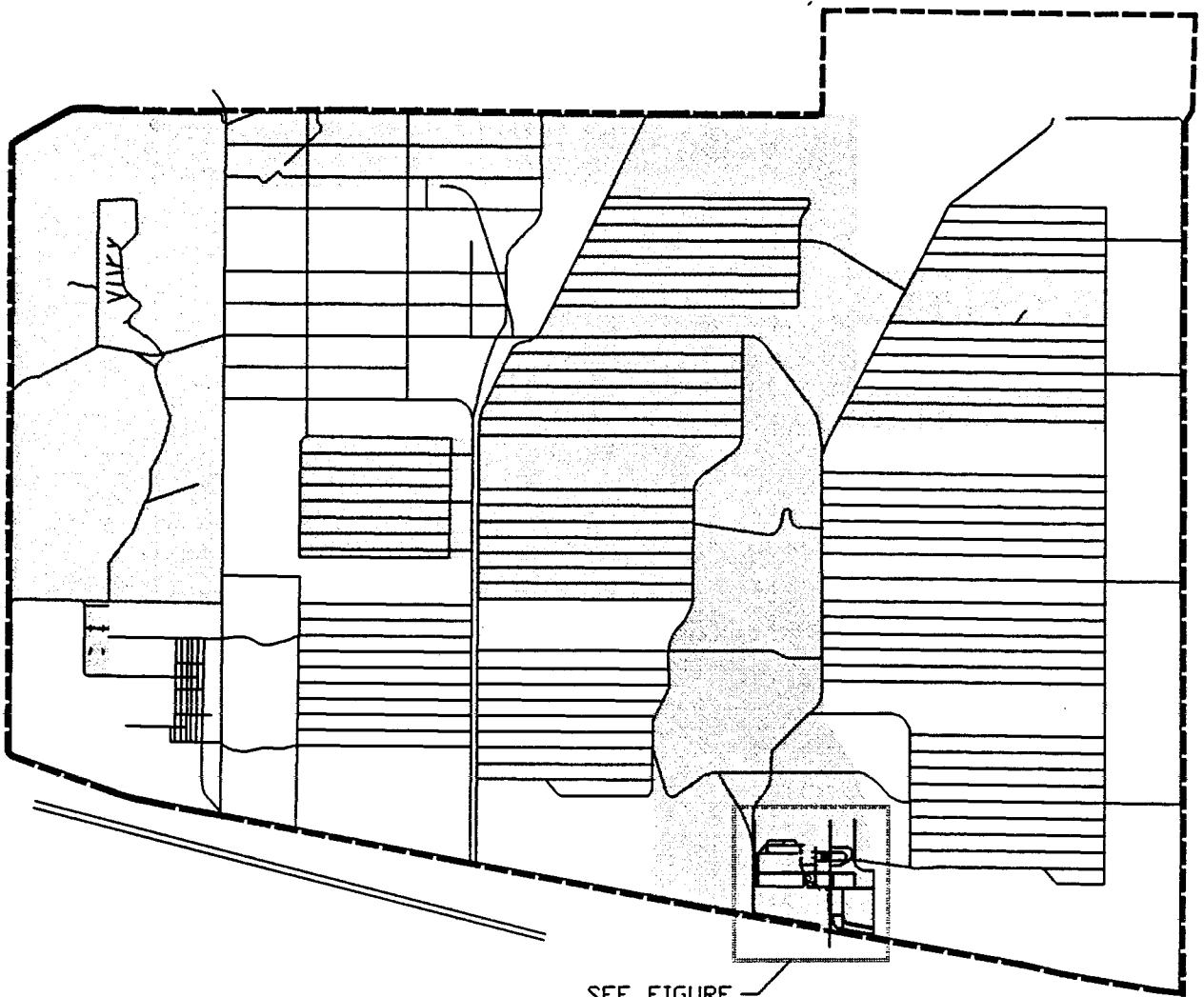
Reuse Parcel	Acres (approx)	Priority	Description and Proposed Reuse	Known Sites or OUs	Projected Transfer Date	Transfer Mechanism	Recipient
A	1,790	Undetermined	ADA Area: Oregon National Guard Impact Area Leased through Redevelopment Authority	OU 4	5 to 10 years	TBD	TBD
B	735	Undetermined	Warehouse Area: Short-term Industrial	OU 1, Sites 3, 25, 26, 35, 37, 44, 46, 80, 81 (two of three parts of Location I)	0 to 5 years	TBD	TBD
C	138	Undetermined	Open Area: Police and Fire Training	Site 69	10 to 15 years	TBD	TBD
D	1,056	Undetermined	Railroad Yards and Parts of Igloo Blocks F&H: Heavy/Light Industrial	Site 6, 30, 48, 64, 66, 81 (one part of 81-1 and 81-2)	25+ years	TBD	TBD
E	2,766	Undetermined	Igloo Blocks G, I, the western half of Igloo Block H, and the eastern half of Igloo Blocks F&J: Agricultural/Wildlife Management	Site 25 (II), 34 and 82	25+ years	TBD	TBD
F	603	Undetermined	Open Area: Agriculture	Site 9	10 to 15 years	TBD	TBD
G	440	Undetermined	Open Area: Wildlife Reserve		5 to 10 years	TBD	TBD
H	662	Undetermined	Igloo Block K: Oregon National Guard		25+ years	TBD	TBD
I	1,238	Undetermined	Area North of Igloo Block K and western half of QA Function Range: Agriculture	Sites 10, 45, 49, 63 and 65	10 to 15 years	TBD	TBD
J	543	Undetermined	Eastern half of QA Function Range and Open Area Northwest of Igloo Block E: Wildlife Reserve	Site 39	5 to 10 years	TBD	TBD
K	751	Undetermined	Open Areas North of Igloo Block E and East of Igloo Blocks C, D, E		25+ years	TBD	TBD
L	2,261	Undetermined	Igloo Blocks B, C, D and E: Agriculture/Wildlife Management	Site 11 and 53	20 to 25 years	TBD	TBD
M	1,271	Undetermined	Open Area within Coyote Coulee and Explosive Washout Plant Area: Wildlife Reserve	Sites 4, 5, 12 (1&3), 36, 43, 50, 51, 53, 62, 67	20 to 25 years	TBD	TBD
N	114	Undetermined	Open Storage and Inactive Landfill Area: Heavy/Light Industrial	Sites 12 B, D, E	25+ years	TBD	TBD
O	113	Undetermined	Western half of Administrative Area: Industrial, Warehouse, Storage Maintenance	Sites 22, 27, 42, 44, 70, 74, 75, 76, 77	20 to 25 years	TBD	TBD
P	220	Undetermined	Open Area North and Northeast of Administration Area: Commercial/Recreational		15 to 20 years	TBD	TBD
Q	340	Undetermined	Magazine Area: Short-term Industrial		15 to 20 years	TBD	TBD

TABLE 2-1. REUSE PARCEL DATA SUMMARY

Continued

Reuse Parcel	Acres (approx)	Priority	Description and Proposed Reuse	Known Sites or OUs	Projected Transfer Date	Transfer Mechanism	Recipient
R	40	Undetermined	Eastern half of Administrative Area: Short-term Industrial, Commercial/Recreational, Education/Training/Research, Visitors Bureau/Military Interpretive Center	Site 71	15 to 20 years	TBD	TBD
S	5	Undetermined	U.S. Army Headquarters Building: Visitors Bureau/Military Interpretive Center		15 to 20 years	TBD	TBD
T	340	Undetermined	Open Area South of Igloo Block A: Highway Related Commercial/Industrial		15 to 20 years	TBD	TBD
U	142	Undetermined	Open Area in Southeast corner and Airfield: Highway Retail		0 to 5 years	TBD	TBD
V	196	Undetermined	Open Area East of Igloo Block A: Commercial/Recreation		10 to 15 years	TBD	TBD
W	463	Undetermined	Igloo Block A: Land Bank		25+ years	TBD	TBD
X	66	Undetermined	Open Area Southeast of Igloo Block B: Regional Interpretive Center		10 to 15 years	TBD	TBD
Y	202	Undetermined	Open Area East of Igloo Block B: Commercial/Recreational Long-Term		20 to 25 years	TBD	TBD

TBD = To be determined



SEE FIGURE
2-1B

EXPLANATION

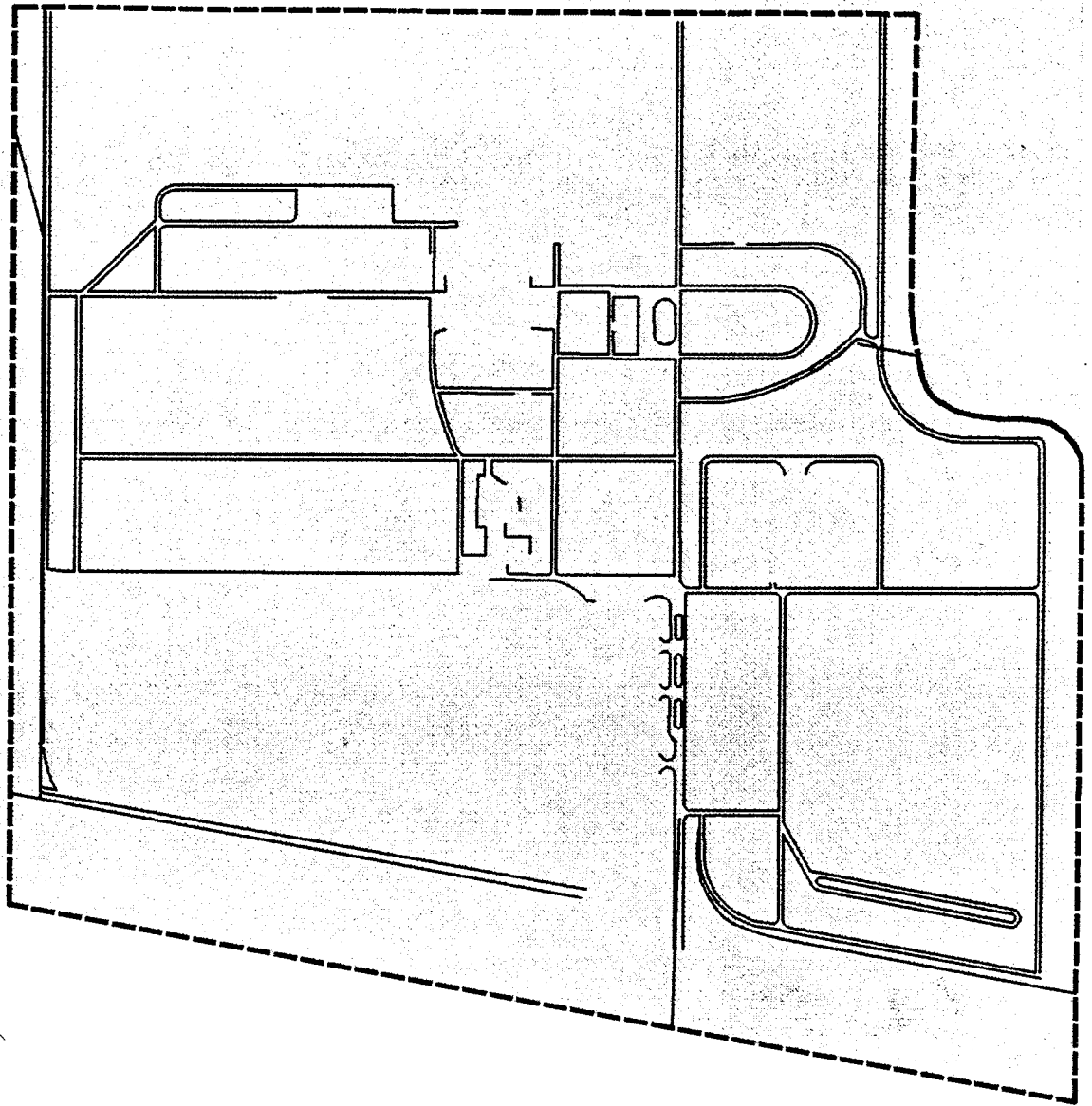
-  Zone
-  Installation Boundary

**Army
Realignment
Footprint**



Figure 2-1A

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EXPLANATION

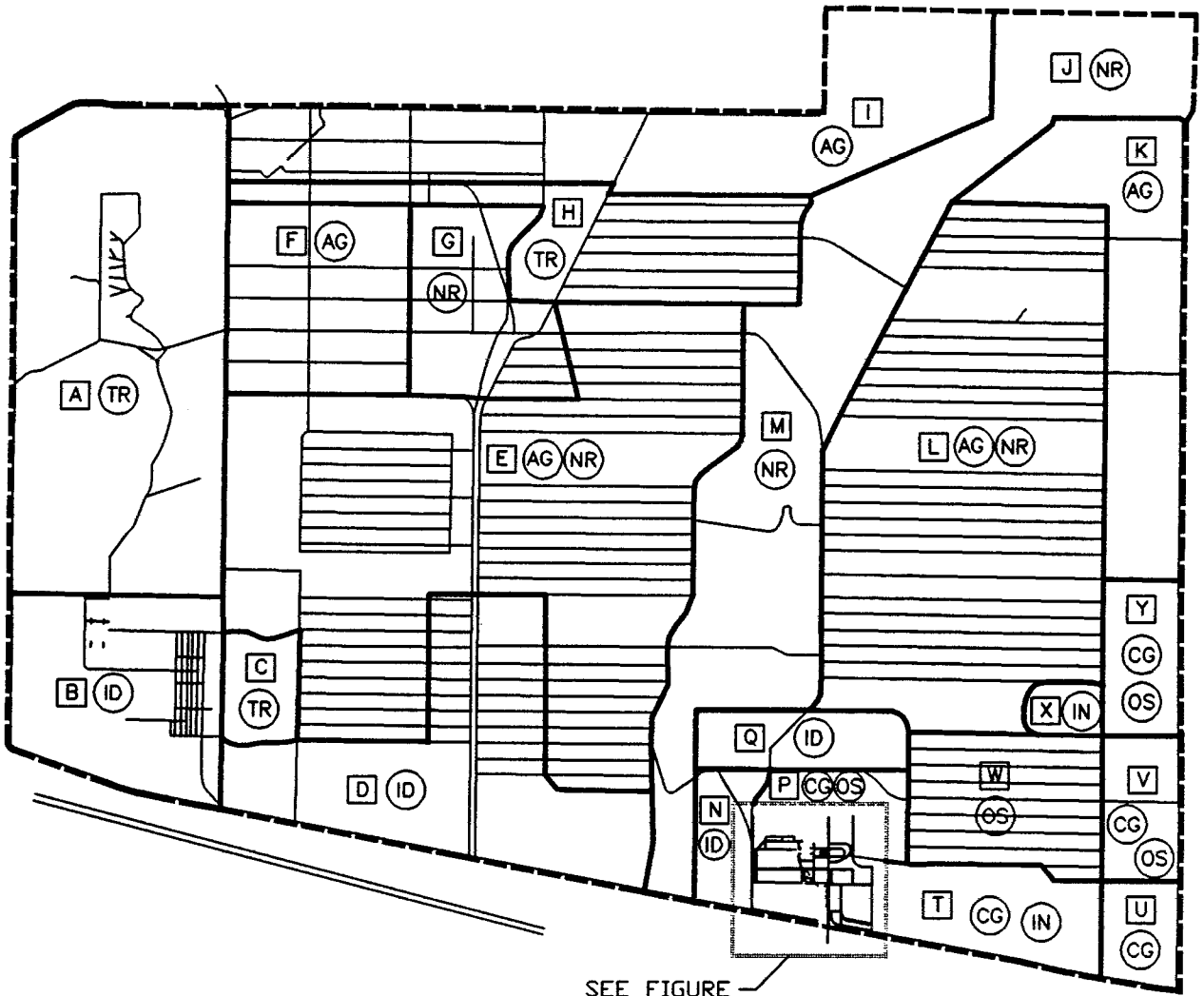
-  Zone
-  Installation Boundary

**Army
Realignment
Footprint**



Figure 2-1B

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SEE FIGURE
2-1B

EXPLANATION

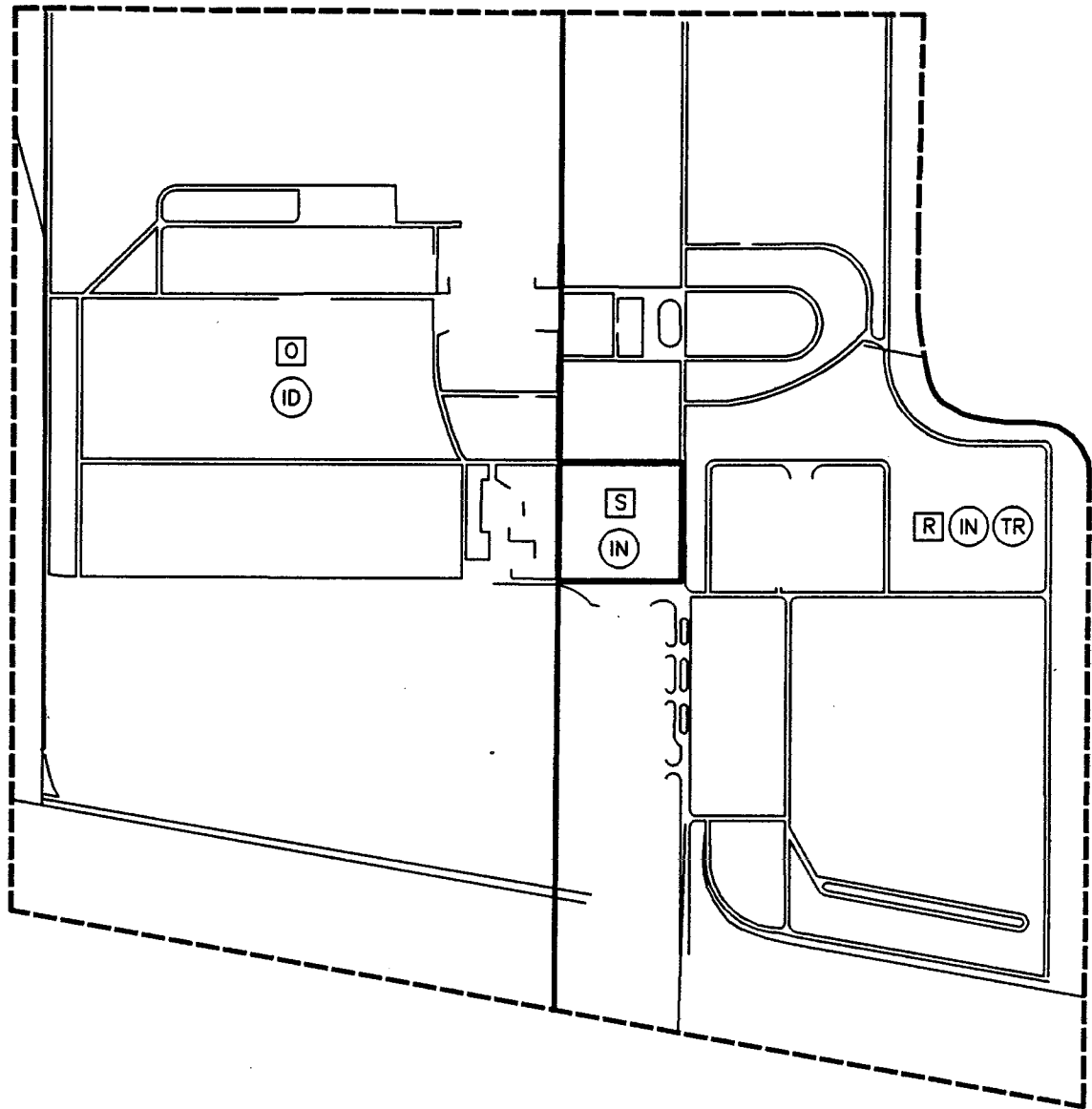
- | | |
|---------------------------------------|-----------------------------|
| (OS) Public Open Space and Recreation | (TR) Training |
| (AG) Agricultural | (UT) Utilities and Services |
| (CG) Commercial General | --- Installation Boundary |
| (NR) Natural Resources Conservation | [A] Parcel Designation |
| (IN) Institutional | |
| (ID) Industrial | |

Disposal and Reuse Parcels



Figure 2-1C

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EXPLANATION

- ⊙ OS Public Open Space and Recreation
- ⊙ IN Institutional
- ⊙ ID Industrial
- ⊠ A Parcel Designation
- Installation Boundary

**Disposal
and
Reuse
Parcels**



Figure 2-1D

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related use to civilian use. As this transition occurs over the next decade, specific plans, policies, strategies and budgets will be prepared to completely fulfill these objectives. The plan provides for the following potential uses for the UMDA.

- ▶ ***Police and Fire Training Center.*** The area designated for Police and Fire Training would be utilized for both indoor and outdoor facilities for the training of police and fire units in the region.
- ▶ ***Oregon National Guard Training.*** The Oregon National Guard would use the Test Firing Range for tank maneuvers, and the ADA Area would be utilized as a live fire training area. No tank training maneuvers would take place in the ADA area.
- ▶ ***Industrial Short-term (700 acres).*** Two areas are designated for short term industrial uses, they are the standards warehouses and the small arms ammunition magazines. The short-term designation means that there are buildings and land currently available for that use. The standards warehouses section is located in the southeastern area and the magazines are located north of the Administration Area farm. There are approximately 160,000 square feet of space in the standards warehouses.
- ▶ ***Education, Training and Research (80 acres).*** The Administration Area located in the southeastern section contains many structures in a campus-like setting which can be used immediately or with minor improvements for education or administrative purposes.
- ▶ ***Heavy and Light Industrial Uses (960 acres).*** Located along the southern perimeter of the Depot, this area could be reserved for later development, with the possible exception of utilizing several of the bunkers.
- ▶ ***Commercial/Recreation Uses - Short-term and Long-term (540 acres).*** Three areas in the southeastern corner could be used for commercial/recreation uses. Two of the areas are adjacent to I-82, and the other is adjacent to the education, training, and research area at the main entrance.
- ▶ ***Highway-related Retail (90 acres).*** Located in the southeastern corner of the Depot at the intersection of the two interstate highways, this section could be utilized as a site for retail opportunities, such as motels, service stations, and restaurants. These uses would be supportive of other businesses and complement the rest of the Depot.
- ▶ ***Highway-related Commercial and Industrial (210 acres).*** This area is along the southern boundary. Future commercial and industrial businesses which require easy highway access and visibility could be sited here.

- ▶ ***Wildlife Reserve (92,500 acres).*** Two large portions of land are planned to be set aside as a Wildlife Reserve. This designation would create large tract areas which would be retained as habitat for native plants and animals. The two areas designated as Wildlife Reserve include the 1,700 acre Coyote Coulee area and the 800 acre area to the west of K block.
- ▶ ***Agriculture/Wildlife Management (4,700 acres).*** A large portion of the land is planned to be set aside for Agriculture/Wildlife habitat uses.
- ▶ ***Regional Interpretive Center (20 acres).*** An interpretive center would be established on the eastern edge of the Depot. The center would provide interpretive information to individuals and school groups in both the natural history and ecology of the region as well as the significance of the bunkers. Staging areas would be established for parking vehicles and organizing tours.
- ▶ ***Depot Visitor's Bureau and Military Interpretive Center (Building #2, north end).*** A visitor's bureau and interpretive center would also be established in the combined Commercial/Recreation and Education, Training and Research areas. The Military Interpretive Center would illustrate the Depot's historical role in the manufacture, storage, and distribution of ordnance to support the DOD's weapon programs.
- ▶ ***Land Bank (500 acres).*** A small part of the southeastern section, including Block A bunkers, would be reserved as a land bank. This would preserve future bunkers for possible commercial development and/or allow for expansion of commercial and recreation uses.
- ▶ ***Roadways and Miscellaneous Areas (1,520 acres).*** Included within the overall acreage of the Depot are numerous roadways and rail spurs which will remain as part of future planning improvements. In many cases, additional roadway areas will need to be widened and upgraded for any increased traffic and landscape improvements. A major factor in determining the final phasing approach will be the required U.S. Army presence during the demilitarization of the stockpiled chemical ordnance on site. Two approaches presently exist for demilitarization elsewhere. The two phasing plans have been developed to meet either contingency. Phasing will also be dependent on how readily the property can be transferred to the Task Force/Redevelopment Authority.

Key factors to consider for implementation of the Reuse Plan include:

- ▶ A consensus-based reuse plan must be in place, with stated goals and objectives as well as a definition of land uses before the U.S. Army will officially begin some parts of their decision process.
- ▶ Change in ownership of the land and conveyance of the property must follow the guidelines of the Federal Property Act and other regulation.

- ▶ The Military is committed to carry out a complete environmental cleanup of the property, guided by the types of uses which the community has identified.
- ▶ An interim maintenance agreement (caretaker) and interim leases may provide tangible benefits for the community;
- ▶ An appropriate management structure with certain legal capabilities will be necessary to carry out the reuse plan over a period of time; i.e., Redevelopment Authority;
- ▶ Success of the reuse plan will only come about from an orchestrated and aggressive marketing program;
- ▶ The Federal government has made available, through a number of Federal programs, grants and assistance to help facilitate the process; and
- ▶ The transfer of ownership of any part of the Depot from the U.S. Army to a civilian entity will require that the parcel be assigned County Comprehensive Plan and Zoning Designations.

NEPA Process. A final BRAC EIS was prepared in August 1991. Based on the analyses within the document, no adverse impacts of the realignment action at UMDA are considered significant. The impacts of anticipated real property disposal could not be fully addressed at the time of the report since definitive disposal alternatives have not been identified.

At this time a property disposal and reuse EIS is planned for the Depot.

2.2 Relationship to Environmental Programs

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

- ▶ Federal property transfers to nonfederal parties are governed by CERCLA Section 120(h)(3)(B)(i).
- ▶ Residual contamination may remain on certain properties after RAs have been completed or put into place, thereby restricting the future use of those properties.

CERCLA Section 120(h)(3)(B)(i) requires deeds for federal transfer of previously-contaminated property to contain a covenant that all remedial action necessary to protect human health and the environment have been taken. All remedial action has been taken if the construction and installation of an approved remedial design has been completed, and the remedy has been demonstrated to the Administrator to be operating properly and successfully. It further states that the carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to be operating properly and successfully, does not preclude the transfer of the property. This deed requirement applies only to property on which a hazardous

substance was stored for one year or more, or is known to have been disposed of or released. CERCLA also requires that deeds for property on which a hazardous substance was stored, for more than one year, released or disposed, include information on the type, quantity, and the time at which the storage or release occurred.

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

The UMDA strategy and schedule is designed to streamline and expedite the necessary response actions associated with the 25 parcels in order to facilitate the earliest possible disposal and reuse activities. Because of the need to delineate between areas suitable for transfer and those which are not, UMDA BCT has developed an environmental-condition-of-property map for UMDA (see text and figures in Chapter 3.4) using, in part, data from the CERFA investigation of the Depot. This environmental-condition-of-property map allows the visualization of potentially contaminated areas and areas of no suspected contamination, and the relationship of these areas to disposal and reuse parcels.

CERFA established stringent requirements to designate a parcel as a CERFA clean parcel. At UMDA, a number of acres while not classified a CERFA "clean" present no threat to human health and the environment and will be available for transfer. The BCT will continue to update and refine the environmental condition-of-property and property suitable for transfer at UMDA.

2.3 Property Transfer Methods

The various property transfer methods being utilized or considered in the disposal process at UMDA are described in the section. Transfer methods which may not be currently applicable but which may be considered in future planning actions at the installation have also been identified.

2.3.1 Federal Transfer of Property

The BIA has inquired about turning the property over to the Umatilla Indian Tribe. These requests are being considered by the U.S. Army with consideration of statutory transfer requirements, environmental restoration requirements, and reuse goals identified in the reuse plan.

At this time, the federal screening process is in progress. Following the federal screening, local homeless organizations have the opportunity to screen property via the Stewart B. McKinney Homeless Assistance Act.

2.3.2 No-Cost Public Benefit Conveyance

There is no indication at this time that no-cost public benefit conveyance would take place at UMDA.

2.3.3 Negotiated Sale

It is assumed that reuse parcels will be transferred to the Redevelopment Authority will be through a negotiated sale. At this time, the Redevelopment Authority is the same group as the Umatilla Reuse Tank Force. In February 1995, the Umatilla Reuse Tank Force will be replaced by an appointed Redevelopment Authority.

2.3.4 Competitive Public Sale

There is no indication at this time that a competitive public sale would take place at UMDA.

2.3.5 Widening of Public Highways

The U.S. Army has granted the State of Oregon Department of Transportation (DOT) an easement at the southeast corner of the depot for a controlled access to Interstate 82 which borders the Depot's eastern boundary. According to the USACE, Seattle District, there are no plans to transfer this property to the State of Oregon DOT. The easement will continue to be granted with the next owner of the Depot property that is adjacent to the easement. Before the final transfer of property, this easement may be transferred to the State of Oregon.

2.3.6 Donated Property

There is no indication at this time that any property at UMDA will be donated.

2.3.7 Interim Leases

There is no indication at this time that there will be any interim leases at UMDA. Interim leases that may occur at the installation in the future will be identified in Table 2-2.

TABLE 2-2. EXISTING LEGAL AGREEMENTS/INTERIM LEASES

Title Interim Lease/Legal Agreement	Building No./Areas	Date of Agreement	Reuse Parcel
	There are currently no legal agreements or interim leases associated with UMDA. Future changes will be reflected here.		

During realignment, many parts of the Depot will be available for civilian use, but the procedures for interim leases remain uncertain. This is especially critical as it relates to continued Depot security. Procedures for simplifying interim leases and transfer of parts of the Depot to civilian use need to be amended in order to capture the opportunities that already exist for new business development on the Depot.

2.3.8 Other Property Transfer Methods

There is no indication at this time of any other property transfer methods at UMDA.

CHAPTER 3

► INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS ◀

This chapter provides a summary of the current status of environmental restoration projects, installation-wide source discovery and assessment activities, and ongoing compliance activities at UMDA. It also summarizes the status of the cultural and natural research program, and community reuse involvement programs at the installation to date, and describes the environmental condition and suitability for transfer of the installation property.

3.1 Environmental Program Status

A RCRA Facility Assessment (RFA) was conducted in 1987. The RFA identified 30 Solid Waste Management Units (SWMUs). The Enhanced Preliminary Assessment (ENPA), conducted in 1990, identified 82 sites to be considered for potential inclusion in the RI/FS. The RI/FS, conducted in 1992, investigated 58 of the sites and grouped them into ten OUs. The Human Health Baseline Risk Assessment, conducted in 1992, identified the contaminants of concern and calculated the cancer risk and the hazard quotient for each site. Following the Risk Assessment, the ten OUs were reorganized into 8 OUs and an additional OU was added following the SRI. To date, four of the OUs have had RODs signed. Two of the RODs were "No Action" remedies; the other two RODs recommend soil remediation, and the remedial activities are currently underway at these OUs. The other five OUs have draft RODs that are expected to be signed in June 1994. All soil remediation at the OUs is expected to be completed by Fiscal Year 1996. Groundwater remediation associated with OU 3, is estimated to be completed within 12 years.

Table 3-1 lists the nine OUs and the sites within the OUs that have been investigated as well as the sites that no further action is required. The environmental restoration sites and study areas at the installation are summarized in Table 3-2. The various sites are also identified on Figure 3-1A and 3-1B. RMIS site numbers are provided in Table 3-2 for sites where the data is available. The RMIS database tracks the status of IRP activities initially funded under the Defense Environmental Restoration Account (DERA) from the identification stage to completion of RAs and development of NFRAP documentation.

3.1.1 Restoration Sites

The restoration effort at UMDA was initiated in October 1978 when the Depot was included in the U.S. Army's IRP in October 1978. As a result, an IIA was performed in December 1978 to evaluate environmental quality at the Depot with regard to the use, storage, treatment, and disposal of toxic and hazardous materials. Findings of the IIA reported by USATHAMA in May 1979 concluded that contamination from explosives existed in certain areas of the Depot as a result of previous demilitarization and disposal operations, but that no evidence was

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Restoration Site No./ OU No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
OU 1 - DEACTIVATION FURNACE SOILS							
Site 1	Deactivation Furnace Soils	✓	✓	✓	✓	Heavy metals with lead as primary contaminant	Contaminated soil will be excavated and disposed as per ROD.
OU 2 - EXPLOSIVE WASHOUT LAGOON SOILS							
Site 4	Explosive Washout Lagoons Soils	✓	✓	✓	✓	Lagoon soils contaminated with explosives	Contaminated soil will be excavated and disposed as per ROD.
OU 3 - EXPLOSIVE WASHOUT LAGOONS GROUNDWATER							
Site 4	Explosive Washout Lagoons Groundwater		✓	✓	✓	Groundwater beneath lagoons contaminated with explosives	Draft ROD expected to be signed in June 1994. Groundwater will be remediated according to signed ROD
OU 4 - AMMUNITION DEMOLITION ACTIVITY AREA OU							
Site 7	Aniline Pit	✓	✓	✓	✓	No contamination identified	No further action as per ROD.
Site 8	Acid Pit	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 13	Smoke Canister Disposal Area	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 14	Flare and Fuse Disposal Area	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 15	TNT Sludge Burial and Burn Area	✓	✓	✓	✓	Heavy metal contamination; estimated hazard index = 80.	Contaminated soil to be remediated as per ROD.
Site 16	Open Detonation Pits	✓	✓	✓	✓	Heavy metal contamination estimated cancer and non-cancer risks were within the acceptable range for residential use.	Phased clearance of UXO as per ROD.
Site 17	Aboveground Open Detonation Area	✓	✓	✓	✓	Lead contamination, cancer risk of 3×10^{-6} .	Contaminated soil to be remediated as per ROD.
Site 18	Dunnage Pits	✓	✓	✓	✓	Heavy metal contamination, estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No./ OU No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 19	Open Burning Trenches/Pads	✓	✓	✓	✓	Heavy metal contamination, cancer risk 2×10^3 , non-cancer hazard index of 400.	Contaminated soil to be remediated as per ROD.
Site 21	Missile Fuel Storage Areas	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 31	Pesticide Pits		✓	✓	✓	Heavy metal contamination, cancer risk 5×10^4 , non-cancer hazard index 100.	Contaminated soil to be remediated as per ROD.
Site 32	Open Burning Trays (Locations I and II)	✓	✓	✓	✓	Lead contamination, non-cancer hazard index of 1.	Contaminated soil to be remediated as per ROD at Location II at Location II.
Site 38	Pit Field Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 41	Chemical Agent Decontamination Solution Burial Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 55	Trench/Burn Field		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 56	Munitions Crate Burn Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 57	Former Pit Area Locations		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 58	Borrow/Burn Disposal Area		✓	✓	✓	No contamination identified.	No further action as per ROD.
Site 59	Chemical Agent Decontamination Solution Disposal Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No./ OU No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	R/SRI	Risk Assessment	Findings	
Site 60	Active Firing Range		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
OU 5 - MISCELLANEOUS SITES							
Site 3	Hazardous Waste Storage Facility	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 6	Sewage Treatment Plant	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 9	Remote Munitions Disassembly GB Bomb Area	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 10	Former Agent H Storage Area	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 22	DRMO Area	✓	✓	✓	✓	High lead contamination in soil.	Lead contaminated soil will be remediated as per ROD.
Site 23	Building 5 Waste Oil Tank		✓			This site was evaluated in the UST survey.	See UST survey.
Site 24	Building 10 Waste Oil Tank		✓			This site was evaluated in the UST survey.	This UST has been removed.
Site 25-I	Metal Ore Piles - Location I	✓	✓	✓	✓	Cancer risk was not calculated and there were high uncertainties in the results because, contamination was sporadic and only slightly above background levels, caused the hazard quotient to be excluded.	No further action as per ROD.
Site 25-II	Metal Ore Piles Location II	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 26	Metal Ingot Stockpiles	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No./ OU No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 27	Pesticide Storage Building	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 29	Septic Tanks	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 30	Stormwater Discharge Area	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 33	Gravel Pit Disposal Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 34	Paint Spray and Shot Blast Areas		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 35	Malathion Storage Leak Area		✓	✓	✓	High cadmium contamination; Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 36	Building 493 Paint Sludge Discharge Area		✓	✓	✓	High cadmium contamination.	Cadmium contaminated soil will be remediated according to the ROD..
Site 37	Building 131 Paint Sludge Discharge Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 39	QA Function Range		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 42	Former UST Locations		✓			This site was evaluated in the UST survey.	No USTs were confirmed at these locations.
Site 43	Former Gas Station		✓			This was evaluated in the UST survey.	See UST survey.
Site 44-I	Road Oil Application Disposal Sites		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 44-II	Road Oil Application Disposal Sites		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No./ OU No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 45	Buildings 612 and 617 Boiler Discharge Areas		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 46	Railcar Unloading Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 47	Boiler/Laundry Effluent Discharge Area		✓	✓	✓	Cancer risk was not calculated and there were high uncertainties in the results because, contamination was sporadic and only slightly above background levels, caused the hazard quotients to be excluded.	No further action as per ROD.
Site 48	Pipe Discharge Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 49	Drill and Transfer (DAT) Site		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 50	Railroad Landfill Areas		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 52	Coyote Discharge Gullies		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 53	Building 433 Collection Sump/Cistern and Disposal Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 67	Building 493 Brass Cleaning Operations Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 80	Disposal Pit and Graded Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 81-1	Former Raw Materials Storage		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No./ OU No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 81-II	Former Raw Materials Storage		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 82	Former Gravel Pit/Disposal Location		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 5/OU 6	Explosive Washout Plant	✓	✓	✓	✓	The Explosive Washout Plant, overflow trough and sump and soil surrounding the plant are contaminated with explosives.	ROD is expected to signed in June 1994. Remediation will be as per ROD.
Site 11/ OU 7	Active Landfill	✓	✓	✓	✓	Landfill's current condition does not pose an unacceptable risk to human health or the environment.	ROD signed. No action was selected as the remedy.
Site 12/ OU 8	Inactive Landfills	✓	✓	✓	✓	These landfills current condition does not pose an unacceptable risk to human health or the environment.	ROD signed. No action was selected as the remedy.
OU 9 SUPPLEMENTARY REMEDIAL INVESTIGATION (SRI) STUDY SITES AND PCB TRANSFORMER LOCATIONS							
Site 12	Inactive Landfills (Two Areas Within Northern Active Landfills)			✓	✓	No contaminants of concern were identified.	ROD is expected to be signed in June 1994. U.S. Army and DEQ have agreed that the contaminants at the SRI Study Sites and the PCB transformer locations do not pose sufficient risk to require cleanup and recommended that no RA is necessary under CERCLA. This ROD is to be included in the ROD for OUS.
Site 68	Former Unsymmetrical Dimethyl Hydrazine Operations		✓	✓	✓	No contaminants of concern were identified.	See above
Site 69	Area Skunk Works Area		✓	✓	✓	No contaminants of concern were identified.	See above
Site 64	Leaking Railcar Shipment Inspection Area		✓	✓	✓	Heavy metal soil contamination. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	See above

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No./ OU No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 70	Wood Preserving Solution Spill Area		✓	✓	✓	Contaminants of concern were identified in groundwater; arsenic, and nitrate/nitrite.	See above
Site 75	Battery Acid Collection Sump		✓	✓	✓	Lead was identified as contaminant of concern in the soil. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	See above
Site 76	Photographic Chemical Solution Disposal Area		✓	✓	✓	No contaminants of concern were identified.	See above
Site 77	Paint Storage and Disposal Area		✓	✓	✓	No contaminants of concern were identified.	See above
Site 83	Leaking Drum Storage Area		✓	✓	✓	No contaminants of concern were identified.	See above
Site 61	Open Paint Spray Areas		✓	✓	✓	No contaminants of concern were identified.	See above
Site 63	Paint and Solvent Disposal Area		✓	✓	✓	Copper, lead, and zinc were identified as the contaminants of concern in the soil. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	See above
Site 65	Waste Paint and Solvent Disposal Area		✓	✓	✓	Mercury and zinc were identified as the contaminants of concern in the soil. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	See above
Site 66	Brass, Copper, and Steel Storage Area		✓	✓	✓	No contaminants of concern were identified.	See above
Site 79	Malathion Spray Area		✓	✓	✓	No contaminants of concern were identified.	See above
PCB Transformer Locations	Transformers 162, 163, 164, 197, and 198		✓	✓	✓	Risk of these sites is 7×10^{-6} due to PCB 1260 in soil, which is only slightly higher than the low end of the acceptable risk range, but still within the acceptable range. No hazard was calculated because no reference dose is available for PCB 1260.	See above
Site 2	Storage Igloos	✓	✓			Good management practices are believed to preclude environmental concerns.	ENPA recommended no further investigation.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No./ OU No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 20	Open Burning Areas	✓	✓			Exact location of these areas could not be identified and may actually burning areas associated with other ADA sites.	ENPA recommended no further investigation.
Site 28	Missile Fuel Burning Areas	✓	✓			Burning reportedly took place in a kiln, not on bare soil, and because aniline and hydrazine fuels are not persistent in the environment.	ENPA recommended no further investigation.
Site 40	Jeep Storage Areas		✓			Area is a large parking lot, minor oil leaks.	ENPA recommended no further investigation.
Site 51	Large Open Storage Areas (Vicinity of Coyote Coulee)		✓			Site reconnaissance did not reveal any significant signs of disposal activities of environmental degradation in these areas.	ENPA recommended no further investigation.
Site 54	Possible Disposal Pit Location		✓			Site was not located.	ENPA recommended no further investigation.
Site 72	Vehicle Storage Area		✓			Site is a large parking lot.	ENPA recommended no further investigation.
Site 63	Pier 386 Chemical Solution Disposal Area		✓			During SRI Work Plan preparation. Site was reevaluated and it was determined no further investigation was necessary.	Determined no further investigation was necessary, following SRI Work Plan preparation.
Site 71	Possible Fire Training Pit		✓			This site was evaluated under the UST survey.	Determined no further investigation was necessary, following SRI Work Plan preparation.
Site 73	Diesel Fuel Spill Location		✓			This site was evaluated in the UST survey.	See UST survey.
Site 74	Oil/Fuel Transfer Station (Building 23)		✓			This site was evaluated under the UST survey.	Determined no further investigation was necessary, following SRI Work Plan preparation.
Site 78	Building 608 and 615 Heat Exchange Systems		✓			During SRI Work Plan preparation. Site was reevaluated and it was determined no further investigation was necessary.	No further investigation necessary and it was determined no further investigation was necessary.

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Study Area OU (Zone/Reuse Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment	Regulatory Mechanism	NFRAP
OU 1/B	1	47	OU	Deactivation Furnace Soils	Particulates, lead	1960s to 1985	ROD/RA	2×10^{-3}	RCRA	
OU 2/M	4	23/24	OU	Explosive Washout Lagoons Soils	Explosive contaminated rinsewater	1950s to 1965	ROD/RD	4.7×10^{-3}	RCRA	
OU 3/M&L	4	23/24	OU	Explosive Washout Lagoons Groundwater	Explosive contaminants	1950s to 1965	ROD/RD	3×10^{-3}	RCRA	
OU 4/A	7	83	OU	Aniline Pit	Aniline	1950s to 1975	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	8	31	OU	Acid Pit	Rod Fuming Nitric Acids	1955 to 1962	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	13	84	OU	Smoke Canister Disposal Area	Smoke canisters	1970s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	14	85	OU	Flare and Fuse Disposal Area	Flares and fuses	1970s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	15	86	OU	TNT Sludge Burial and Burn Area	TNT Sludges	1960s to 1970s	ROD/RA	4×10^{-4} HQ = 200	RCRA	
OU 4/A	16	87	OU	Open Detonation Pits	Expired Ordnance	1950s to present	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	17	88	OU	Aboveground Open Detonation Area	Expired Ordnance	Unknown	ROD/RA	2×10^{-3} HQ = 10	RCRA	
OU 4/A	18	89	OU	Damage Pits	Damage	Unknown	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	19	90	OU	Open Burning Trenches/Pits	Waste Ordnance TNT Sludge	Unknown	ROD/RA	2×10^{-3} HQ = 3000	RCRA	
OU 4/A	21	92	OU	Missile Fuel Storage Areas	Missile Fuel Storage	1950s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	31	94	OU	Pesticide Pits	Pesticides	1950s to 1960s	ROD/RA	1×10^{-3} HQ - 22	RCRA	
OU 4/A	32	95	OU	Open Burning Trays	Solid Propellant	Present	ROD/RA	2×10^{-3} HQ - 2	RCRA	
OU 4/A	38	96	OU	Pit Field Area	Unknown	Unknown	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	41	37	OU	Chemical Agent Decontamination Solution Burial Area	Chemical Agent Decontamination Solution	1960s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	55	98	OU	Trench/Burn Field	Explosive Sludges	1950 to 1956	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	56	99	OU	Munitions Crate Burn Area	Munition Crate	1940 to 1965	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	57	100	OU	Former Pit Area Locations	Suspected Releases of Munitions	1940s to 1960s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 4/A	58	101	OU	Borrow/Burn Disposal Area	Suspected Releases of Munitions Burning Activities	1950s to 1960s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Continued

Study Area OU (Zone/Reuse Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment	Regulatory Mechanism	NFRAP
OU 4/A	59	73	OU	Chemical Agent Decontamination Solution Disposal Area	Chemical Agent Decontamination Solution		ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 4/A	60	102	OU	Active Firing Range	Small Arms Munition	Present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/B	3	103	OU	Hazardous Waste Storage Facility	Storage Area for Hazardous Waste	1983 to present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/D	6	9	OU	Sewage Treatment Plant	Sanitary Waste	1941 to present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/F	9	39	OU	Remote Munitions Disassembly GB Bomb Area	Disassembly Area	1950s to 1960s	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/I	10	104	OU	Former Agent H Storage Area	Agent H	1970s	ROD/NFA	3E-07 HQ - 1	RCRA	✓
OU 5/O	22	105	OU	DRMO Area	Storage Areas Heavy Metals	1960s to present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/B	25-I	49	OU	Metal Ore Piles - Location I	Metal Ores	1940s to present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/E	25-II	49	OU	Metal Ore Piles Location II	Metal Ores	1940s to present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/B	26	48	OU	Metal Ingot Stockpiles	Metal Ingots	1950 to present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/O	27	106	OU	Pesticide Storage Building	Storage of Pesticides	1980s to present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/Multiple Parcels	29	146	OU	Septic Tanks	Sanitary Rinsewaters	1941 to present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/D	30	107	OU	Stormwater Discharge Area	Stormwater	1941 to present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/M	33	108	OU	Gravel Pit Disposal Area	Suspected GB/VX Disposal	Unknown	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/E	34	109	OU	Paint Spray and Shot Blast Areas	Paint Overpray and Shot Blasting	1940s to 1970s	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/B	35	110	OU	Malathion Storage Leak Area	Malathion	Late 1970s	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/M	36	58	OU	Building 493 Paint Sludge Discharge Area	Paint Sludge		ROD/NFA	8E-07 HQ - 9	RCRA	✓
OU 5/B	37	60	OU	Building 131 Paint Sludge Discharge Area	Paint Sludge	1950s to 1960s	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/I	39	2	OU	QA Function Range	Small Arms, Grenades, Mines	1950s to 1980s	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/O	44-I	114	OU	Road Oil Application Disposal Sites	Road Oil	Unknown	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/B	44-II	114	OU	Road Oil Application Disposal Sites	Road Oil	Unknown	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/F	45	115	OU	Buildings 612 and 617 Boiler Discharge Areas	Boiler Discharge	Present	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/B	46	116	OU	Railcar Unloading Area	Spilled Materials	1940s to 1960s	ROD/NFA	<1x10 ⁻⁴	RCRA	✓
OU 5/M	47	117	OU	Boiler/Laundry Effluent Discharge Area	Laundry Effluent	1940s to 1960s	ROD/NFA	<1x10 ⁻⁴	RCRA	✓

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Continued

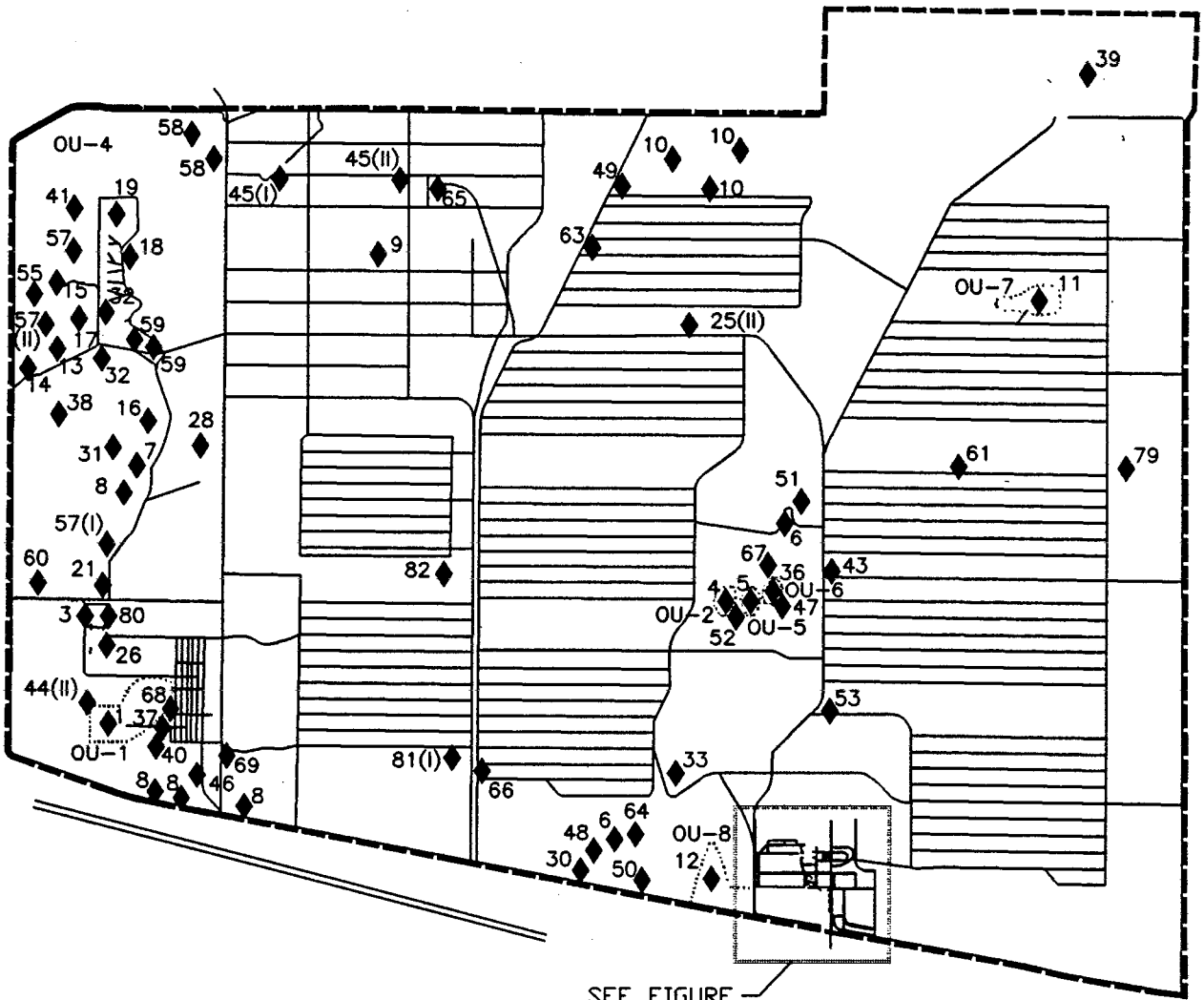
Study Area OU (Zone/Reuse Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment	Regulatory Mechanism	NERAP
OU 5/D	48	118	OU	Pipe Discharge Area	Sewage Refuse	1940s to 1960s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 5/I	49	119	OU	Drill and Transfer (DAT) Site	Explosive Residues	1984	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 5/M	50	120	OU	Railroad Landfill Areas	Unknown	1940s to 1970s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 5/M	52	122	OU	Coyote Discharge Gulches	Explosives Heavy Metals	Mid 1950s to 1965	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 5/Q	53	123	OU	Building 433 Collection Sump/Cistern and Disposal Area	Oil and Grease PCBs/BNAs (Possible) Recommend Investigation of soil for contaminants	1949 to 1988	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 5/M	67	130	OU	Building 493 Brass Cleaning Operations Area	Brass Cleaning Solutions	Mid 1960s to early 1970s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 5/B	80	143	OU	Disposal Pit and Graded Area	Unknown, Recommend Site Survey	June 1958 to 1968	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 5/B	81-I	144	OU	Former Raw Materials Storage	Storage of Raw Materials	1940s to 1960s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 5/D	81-II	144	OU	Former Raw Materials Storage	Storage of Raw Materials	1940s to 1960s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 5/E	82	145	OU	Former Gravel Pit/Disposal Location	Unknown	1949 to present	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 6/M	5	22	OU	Explosive Washout Plant	Explosive Residues		ROD/RD	2×10^{-4}	RCRA	✓
OU 7/L	11	34	OU	Active Landfill	Municipal Wastes	1960 to Present	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 8/M&N	12	35	OU	Inactive Landfills	Municipal Wastes	1950s to 1980s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/M&N	12	35	OU	Inactive Landfills (Two Areas Within Northern Active Landfills)	Drums	1950s to 1970s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/B	68	131	OU	Former Unsymmetrical Dimethyl Hydrazine Operations	Unsymmetrical Dimethyl Hydrazine	1963 to 1968	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/C	69	132	OU	Area Stump Works Area	Hydrochloric Acid Cyanide Brass/Copper Cleaning Solutions	1940s to 1968	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/M	64	127	OU	Leaking Railcar Shipment Inspection Area	Leaking munitions, pesticides	1940s to mid 1950s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/O	70	133	OU	Wood Preserving Solution Spill Area	Wood Preserving Solution	1960 to 1980	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Continued

Study Area OU (Zone/Reuse Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment	Regulatory Mechanism	NFRAP
OU 9/O	75	138	OU	Battery Acid Collection Sump	Battery Acid	1950 to 1970	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/O	76	139	OU	Photographic Chemical Solution Disposal Area	Photographic Chemicals	1940 to early 1950s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/O	77	140	OU	Paint Storage and Disposal Area	Paint Disposal	1940 to 1980s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/O	83	147	OU	Leaking Drum Storage Area	MEK, MKB	1990	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9 /L	61	124	OU	Open Paint Spray Areas	Paint Overspray	1950 to 1970	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/H	63	126	OU	Paint and Solvent Disposal Area	Paint and solvent	early 1980s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/I	65	128	OU	Waste Paint and Solvent Disposal Area	Paint and Solvent	1950 to early 1980s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/D	66	129	OU	Brass, Copper, and Steel Storage Area	Storage Area	1950s to 1970s	ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓
OU 9/K	79	142	OU	Maintenance Spray Area	Maintenance	1980				
OU 9/Multiple Parcels	PCB Transformer Locations		OU	Transformers 162, 163, 164, 197, and 198	PCB		ROD/NFA	$<1 \times 10^{-4}$	RCRA	✓

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EXPLANATION

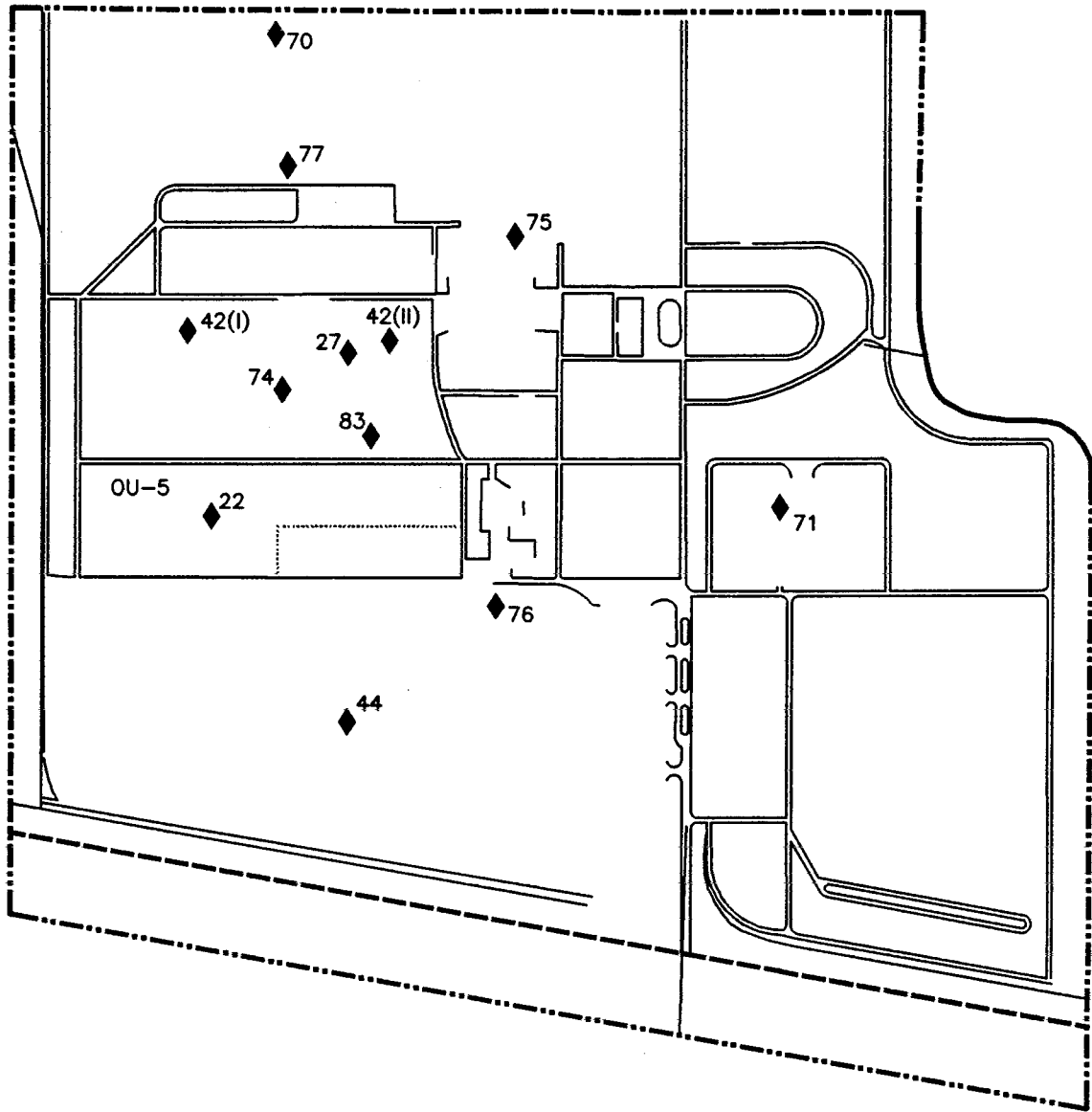
- ◆ Site
- OUs
- ◆ OUs & Site
- Installation Boundary

**Sites
and OUs
Currently Under
Investigation**



Figure 3-1A

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EXPLANATION

- ◆ Site
- OUs
- ◆ OUs & Site
- Installation Boundary
- Administration Area Boundary

**Sites
and OUs
Currently Under
Investigation**



Figure 3-1B

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uncovered to indicate actual migration of contaminants from UMDA. The report recommended that a preliminary survey be conducted.

In 1985, the U.S. Army submitted a RCRA Part B permit application to the USEPA to construct and operate an incinerator facility for demilitarizing various chemical munitions in storage at the Depot. This action was in response to the Congressional directive that all of the U.S. Army's chemical stockpile must be disposed of before 1995.

To qualify for the RCRA permit, the 1984 Hazardous and Solid Waste Amendments (HSWA) specify a facility must first implement a corrective action program for past releases of hazardous wastes and constituents. Therefore, USEPA Region X conducted a RFA to identify past, present, or potential sources for contaminant releases from various SWMUs or spill sites. USEPA determined from its studies that additional investigations were required to identify appropriate corrective measures for several SWMUs. Sites recommended for further evaluation included the ADA Area, which includes multiple waste management units; the Explosive Washout Lagoons Area, comprised of two infiltration ponds and a depression thought to have been used as an overflow pond; two inactive landfill areas; an active landfill area; septic tanks associated with several buildings; a chemical agent storage area; a deactivation furnace area; waste oil tanks, which include two 500-gallon USTs; and a tile field that is used for disposal of treated sanitary waste.

In the Final RFA Report released in July 1987, USEPA identified additional information that was needed through more studies at the Depot's SWMUs. As a response to USEPA's report, a work plan was developed to investigate the SWMUs of identified concern.

Furthermore, the Explosive Washout Lagoons Area was specifically proposed for inclusion on the NPL in 1984, and was added to the list on July 22, 1987. This listing was partially a consequence of USEPA's April 16, 1984, Uncontrolled Hazardous Waste Site Hazard Ranking System scoring for the washout lagoons, which resulted in placement/ranking of this site in a category for possible inclusion on the NPL. The score for the site was 31.36 versus the NPL cutoff score of 28.50.

An ENPA was conducted in 1990. This document addressed all documented or suspected incidents of actual or potential release of hazardous or toxic constituents to the environment. The ENPA was used as a basis for determining the need for investigation of additional site areas at UMDA.

As a result of the above developments, USATHAMA contracted the RI activities under an existing RA Technical Support and Services contract. During this assignment, SWMUs identified by USEPA were investigated. Objectives of this investigation concentrated on developing information needed to implement corrective actions at the ADA Area, the Active and Inactive Landfills, and the Explosive Washout Lagoons Area.

In August 1989, USATHAMA contracted to continue RI/FS activities at the installation under an existing RI/FS contract. The primary objective was to conduct an RI/FS of UMDA to characterize sites and evaluate RA alternatives. To accomplish this objective, comprehensive

field investigations were conducted at the Explosive Washout Lagoons and ADA areas and at over 70 other known or suspected contaminant source sites identified in the RFA or previous investigations. The purpose was to obtain sufficient data to fully characterize contamination conditions at each study site; complete baseline risk assessments for contaminated sites and environmental media (e.g., soil, groundwater); and perform feasibility studies of, and select RA alternatives for, sites/media requiring cleanup.

On October 31, 1989, a FFA under CERCLA Section 120 (Administrative Docket Number 1088-06 19-120) was put into effect upon signing by representatives of the U.S. Army, UMDA, USEPA Region X, and the ODEQ. The general purposes of the agreement are to:

- ▶ Ensure that the environmental impacts associated with past and present activities at UMDA are thoroughly investigated and appropriate removal and RAs taken as necessary to protect public health and welfare and the environment.
- ▶ Establish a procedural framework and schedule for developing, implementing, and monitoring appropriate response actions a UMDA in accordance with CERCLA, the NCP, RCRA, and applicable State laws.
- ▶ Facilitate cooperation, exchange of information, and participation of the parties in such action.

A major element in the UMDA environmental restoration process is the execution of early actions. These early actions provide the means of removing contamination sources and reducing risks posed by releases while at the same time providing critical data for the development of comprehensive conceptual models of sources, migration pathways, and receptors. Early actions can also accelerate the availability of property for economic development. Restoration site early actions at UMDA include UST, PCB transformer, and asbestos removal actions and radon screening. These early action projects are summarized in Table 3-3.

TABLE 3-3. ENVIRONMENTAL RESTORATION EARLY ACTION STATUS

IRP Site No.	Action	Purpose	Status
UST Removal Program	29 USTs removed	To comply with Oregon UST Regulations	Removed
PCB Transformer Removal	All PCB regulated transformers removed and destroyed in accordance with TSCA	To comply with the PCB migration laws	Removed and destroyed in accordance with 40 CFR 761
Asbestos Removal	Project is ongoing to be completed by Fall 1994	To remove friable or damaged asbestos	Ongoing
Radon Screening	Conducted radon screening in accordance with the 1990 final USATHAMA SOP	To identify buildings with radon concentration above the USEPA radon levels	Corrective action in accordance with USEPA guidance

3.1.2 Installation-Wide Source Discovery and Assessment Status

UMDA has undergone several environmental studies since it was listed for realignment. An ENPA identified 82 sites and included significant observations of aerial photographs. The aerial photograph observations were enhanced by field observations made during the ENPA site visits. A few of the aerial photograph sites became part of the 82 sites identified in the ENPA; the remaining aerial photograph sites were not recommended for further investigation.

The ENPA did not recommend additional investigation for seven of the 82 sites. Six sites which involved USTs were investigated under the UST survey, and three additional sites that were to be investigated under the SRI were reevaluated during the SRI work plan preparation. It was determined there was enough information on these three sites and additional sampling was not necessary. The RI investigated 58 sites and the SRI investigated the remaining 11 sites from the ENPA, in addition to PCB transformer locations, two additional areas within Site 12 (which was investigated during the RI) and a new site, Site 83, the leaking drum storage area. The RI grouped the sites into 10 OUs, which were regrouped during the RA recommendations into eight OUs. An additional OU was added following the SRI.

The Final CERFA report, April 14, 1994 identified the CERFA clean property. The CERFA report does not identify the U.S. Army Realignment Footprint, because ultimately the entire property will be disposed of during closure in approximately 2006. The U.S. Army requested the entire property be assessed within the CERFA document.

The current status of each site can be found on Table 3-1. The 16 sites which were not included in the RI and SRI are the last 16 sites to be found in Table 3-1.

3.2 Compliance Program Status

Compliance actions at UMDA can be divided into two separate categories, current mission- and operational-related compliance projects and closure-related compliance projects. Mission- and operational-related projects are those which have been or would be conducted for the normal operation of the installation and are unrelated to activities necessitated by installation realignment under BRAC. Conversely, closure-related compliance projects are those conducted specifically as a result of environmental compliance and restoration activities related to BRAC closure/realignment and property disposal.

Compliance activities at UMDA are being conducted in coordination with environmental restoration activities under the IRP. General compliance activities address the management of USTs, hazardous materials, asbestos, radon and PCBs. Compliance-related RAs at UMDA include removal of USTs, removal of PCB transformers and removal of friable asbestos. The various environmental compliance projects at UMDA are identified by mission-related and closure category on Tables 3-4 and 3-5, respectively.

TABLE 3-4. MISSION/OPERATIONAL-RELATED COMPLIANCE PROJECTS

Project	Status	Regulatory Program
Hazardous Waste Disposal	Ongoing as required	RCRA Part B
Worker Training	Training scheduled	RCRA
Air Quality Permit	Ongoing as required to conduct ammunition demolition in the ADA	State of Oregon Clean Air Quality Act
Solid Waste Disposal	Ongoing as required	State of Oregon Solid Waste Disposal Permit

TABLE 3-5. CLOSURE-RELATED COMPLIANCE PROJECTS

Project	Status	Regulatory Program
Depot-wide Asbestos Removal	Only friable ACM identified in the asbestos survey will be removed. The process is ongoing and is ongoing and is to be completed fall of 1994	Clean Air Act/OSHA 29 CFR 1910.1001
Deactivation Furnace Soils OU	Remediation of lead contaminated soil is ongoing and expected to be completed in FY 95	CERCLA/RCRA
Explosives Washout Lagoons Soil OU	Remediation of explosive contaminated soil is ongoing and expected to be completed in FY 95	CERCLA/RCRA
Explosive Washout Lagoons Groundwater OU	Remediation is to begin once Draft ROD is signed.	CERCLA/RCRA
ADA Area OU	Remediation is to begin once Draft ROD is signed.	CERCLA/RCRA
Miscellaneous Sites OU	Remediation is to begin once Draft ROD is signed.	CERCLA/RCRA
Explosive Washout Plant OU	Remediation is to begin once Draft ROD is signed.	CERCLA/RCRA

A number of compliance-related activities at UMDA have been completed as early actions. These actions which are related to UST management are identified in Table 3-6. A more detailed description of the various environmental compliance programs at UMDA is provided in the subsections below.

TABLE 3-6. COMPLIANCE EARLY ACTION STATUS

Site	UST No.	Action	Purpose	Status
NA	2	Removed	Tank Inactive	Removed
NA	5	Removed	Tank Inactive	Removed
NA	7	Removed	Tank Inactive	Removed
NA	34	Removed	Tank Inactive	Removed
NA	35	Removed	Tank Inactive	Removed
NA	36	Removed	Tank Inactive	Removed
NA	37	Removed	Tank Inactive	Removed
NA	38	Removed	Tank Inactive	Removed
NA	39	Removed	Tank Inactive	Removed
NA	40	Removed	Tank Inactive	Removed
NA	41	Removed	Tank Inactive	Removed
Site 23	44	Removed	Tank Inactive	Removed
Site 24	45	Removed	Tank Inactive	Removed
NA	46	Removed	Tank Inactive	Removed
NA	47	Removed	Tank Inactive	Removed
NA	48	Removed	Tank Inactive	Removed
NA	49	Removed	Tank Inactive	Removed
NA	50	Removed	Tank Inactive	Removed
NA	52	Removed	Tank Inactive	Removed
NA	53	Removed	Tank Inactive	Removed
NA	54	Removed	Tank Inactive	Removed
NA	55	Removed	Tank Inactive	Removed
NA	56	Removed	Tank Inactive	Removed
NA	57	Removed	Tank Inactive	Removed
NA	80	Removed	Tank Inactive	Removed
NA	87	Removed	Tank Inactive	Removed
NA	92	Removed	Tank Inactive	Removed
NA	96	Removed	Tank Inactive	Removed
NA	102	Removed	Tank Inactive	Removed

3.2.1 Storage Tanks

The USEPA has delegated the management of the UST program to the State of Oregon. The state has primary enforcement responsibility and USEPA's approval effectively suspends the applicability to certain federal regulations in favor of the state program, thereby eliminating duplicative requirements. Therefore, UST closure and investigation activities at UMDA are being conducted under the Oregon UST program.

There are currently 37 active and inactive USTs at UMDA. At this time, 29 USTs have been removed. All known existing USTs, as defined by 40 CFR 280, were investigated during the

UST survey in 1993. In addition, all heating oil USTs were investigated. Each investigation consisted of a site visit to each UST, compilation of UST data, collection of USEPA Form 7530 or state registration form for each UST, and collection of installation data such as underground water tables, installation soils data, and UST location. Based on the findings of the investigation, a compliance plan was developed for each UST. This plan addresses the actions required, the costs involved, and the compliance dates required to bring each DERA-eligible UST into compliance with the applicable provisions of the regulation.

Table 3-7 summarizes the UST investigations and Table 3-8 presents an aboveground storage tank (AST) inventory.

There are currently 38 active ASTs at UMDA. Table 3-8 shows the location, size, and contents of these ASTs. Information regarding the spill prevention and control devices for each AST was not available.

AST compliance programs at UMDA are conducted under U.S. Army Regulation (AR) 200-1 and the federal requirements including 40 CFR Parts 100, 112, and 116 and Oregon oil pollution prevention regulations.

3.2.2 Hazardous Materials/Waste Management

Hazardous Waste compliance programs at UMDA are conducted under Army Regulation (AR) 200-1, the federal requirements found in 40 CFR 260 through 269, 40 CFR 117, 49 CFR 171 et seq., Department of Transportation regulations, and Oregon Administrative Rules, Chapter 340, Division 100-120.

UMDA finalized its Hazardous Waste Management Plan in September 1992. Currently there are five hazardous waste satellite accumulation points and two accumulation points (90-day storage) located at UMDA. Satellite accumulation points at the installation consist of 55-gallon drums used to store various associated hazardous wastes. Once full, the drums are transported to one of the two designated accumulation points or to the RCRA interim status Treatment, Storage and Disposal (TSD) facility (Building 203). Storage at these accumulation points is temporary and cannot exceed 90 days from the time the waste begins to accumulate.

3.2.3 Solid Waste Management

Solid waste management compliance programs at UMDA are conducted under AR 200-1 and 420-47, and the federal requirements found in 40 CFR 240-246 and 40 CFR 257-258, Department of Transportation regulations and State of Oregon solid waste laws and regulations.

Solid waste generated by UMDA is currently transported off-post for disposal at a local landfill. The existing Depot active (Site 11) landfill is receiving only treated soils from on-going remedial activities associated with the Deactivation Furnace Soils. The landfill will continue to take the treated soils until the remediation activities at the OUs are complete.

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
1	S	1	1945	1,000	DF2	Active	None	Upgraded in FY
2	R	2	1945	1,000	DF2	Removed	None	
3	O	7	1945	1,000	DF2	Active	None	Upgraded in FY 95
4	O	10	1945	1,000	DF2	Active	None	Upgraded in FY 95
5	O	18	1945	1,000	DF2	Removed	None	
6	O	30	1945	1,000	DF2	Active	None	Upgraded in FY 95
7	R	32	1945	1,000	DF2	Removed	None	
8	R	33	1945	1,000	DF2	Active	None	Upgraded in FY 95
9	M	416	1945	3,000	DF2	Active	None	Removal in FY 95
10	M	419	1945	1,002	DF2	Active	None	Upgraded in FY 95
11	I	612	1945	15,194	HT5	Active	None	Removal in FY 95
12	I	617	1945	2,500	DF2	Active	None	Removal in FY 95
13	B	208	1945	1,001	DF2	Active	None	Removal in FY 95
14	F	622	1965	1,000	DF2	Active	None	Removal in FY 95
15	H	654	1982	4,006	DF2	Active	None	Removal in FY 95
16	H	655	1982	6,008	DF2	Active	None	Upgraded in FY 95
17	H	660	1965	10,310	DF2	Active	None	Upgraded in FY 95
18	O	28	1945	15,194	HT5	Active	None	Upgraded in FY 95
19	O	28	1945	8,000	HT5	Active	None	Upgraded in FY 95
20	O	37	1945	10,529	HT5	Active	None	Upgraded in FY 95
21	O	31	1945	15,194	HT5	Active	None	Upgraded in FY 95
22	O	31	1945	12,088	HT5	Active	None	Upgraded in FY 95
23	O	31	1945	12,088	HT5	Active	None	Upgraded in FY 95
24	B	131	1945	15,194	HT5	Active	None	Removal in FY 95
25	L	433	1945	15,194	HT5	Active	None	Removal in FY 95
26	R	15A	1945	675	DF2	Active	None	Upgraded in FY 95
27	R	15B	1945	675	DF2	Active	None	Upgraded in FY 95
28	R	16A	1945	675	DF2	Active	None	Upgraded in FY 95
29	R	16B	1945	675	DF2	Active	None	Upgraded in FY 95
30	R	35	1945	376	DF2	Active	None	Upgraded in FY 95
31	R	35	1945	1,000	DF2	Active	None	Upgraded in FY 95
32	B	116	1945	1,000	DF2	Active	None	Removal in FY 95
33	B	129	1945	1,000	DF2	Active	None	Removal in FY 95
34	R	34	1945	1,000	DF2	Removed	None	

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No., Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
35	B	105	1945	1,000	DF2	Removed	None	
36	B	106	1945	10,310	DF2	Removed	None	
37	B	115	1945	10,310	HT5	Removed	None	
38	B	117	1945	10,310	HT5	Removed	None	
39	M	486	1945	25,049	HT5	Removed	None	
40	B	130	1945	1,000	DF2	Removed	None	
41	I	Airport	1945	10,310	Gasoline	Removed	None	
42	O	Fuel Yard	1984	50,750	Gasoline	Active	None	
43	O	Fuel Yard	1984	50,750	DF2	Active	None	
44	O	5	1948	500	Waste Oil	Removed	None	
45	O	9/10	1942	500	Waste Oil	Removed	None	
46	O	24	1941	140	Gasoline	Removed	None	
47	B	91/160	1950	110	Gasoline	Removed	None	
48	B	135	1948	110	Gasoline	Removed	None	
49	B	133	1946	110	Gasoline	Removed	None	
50	B	133	1943	110	Gasoline	Removed	None	
51	O	51	1945	1,000	DF2	Active	None	Upgraded in FY 95
52	B	104	1945	1,000	DF2	Removed	None	
53	E	448/Wildlife Station	1945	1,000	DF2	Removed	None	
54	H	656	1984	Unknown	Chemical Decon	Removed	None	
55	I	617	1985	Unknown	Gasoline or DF2	Removed	None	
56	E	457	1950	Unknown	Gasoline or DF2	Removed	None	
57	M	419	1945	Unknown	DF2	Removed	None	
58	H	654	1982	Unknown	Chemical Decon	Active	None	Upgraded in FY 95
59	L	Site 43; Old Fuel Yard	1945	3,000	Gasoline or DF2	Inactive	None	
60	L	Site 43; Old Fuel Yard	1945	3,000	Gasoline or DF2	Inactive	None	
61	L	Site 43; Old Fuel Yard	1945	3,000	Gasoline or DF2	Inactive	None	
62	L	Site 43; Old Fuel Yard	1945	3,000	Gasoline or DF2	Inactive	None	
63	O	27	1980s	500	Battery Acid	Active	Treatment tank	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No., Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
64	0	84	Unknown	900	Diesel	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
65	0	Site 42E; Building 6	Unknown	800	Diesel	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
66	0	Site 42E; Building 6	1950s	550	Gasoline	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
67	0	Site 42E; Building 6	1950s	10,000	Gasoline	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
68	0	Site 42E; Building 6	1950s	8,000	Gasoline	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
69	0	Site 42E; Building 6	1950s	25,000	Gasoline	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
70	0	Site 42W; N of 23	1950s	26,000	DF2	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No., Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
71	0	Site 42W; N of 23	1950s	11,150	DF2	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
72	0	Site 42W; N of 23	1950s	11,275	DF2	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
73	0	Site 42W; N of 23	1950s	24,950	DF2	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
74	0	Site 42W; N of 23	1950s	5,104	Stove Oil	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
75	0	Site 42W; N of 23	1950s	4,011	Stove Oil	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
76	0	SE of 77	1950s	600	Diesel	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
77	0	SW of 77	1950s	800	Light Oil	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
78	0	28	1950s	500	Boiler Blowdown	Inactive	No UST confirmed at this location during UST geophysical survey; Boiler blowdown area.	None
79	0	54	1950s	1,000	HT5	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
80	0	53	1950s	1,000	HT5	Removed	None	None
81	0	52	1950s	1,000	HT5	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
82	0	36	1950s	800	HT5	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
83	0	18	1950s	1,000	DF2	Inactive	No such tank, according to base personnel	None
84	0	5	1950s	3,000	DF2	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
85	0	31	1950s	Unknown	Condensation Tank	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
86	R	F24	1950s	3,000	HT5	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
87	O	52/206	1950s	1,000	DF2	Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
88	E	Supply House 3	1950s	500	DF2	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
89	E	Supply House 3	1950s	500	DF2	Inactive	No UST confirmed at this location	None
90	E	Supply House 3	1950s	500	DF2	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
91	M	--	1950s	250	DF2	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
92	M	486	1950s	Unknown	Likely DF2	Removed		
93	M	E of 486	1950s	600	Water	Inactive		Removal in FY 95
94	L	433	1950s	500	Boiler Blowdown	Inactive		Removal in FY 95
95	H	654	1960s	Unknown	Chemical Decon	Active		Upgraded in FY 95
96	I	Airfield	Unknown	Unknown	Water	Removed		
97	L	433	Unknown	30-59	Unknown (empty)	Inactive		Removal in FY 95
98	M	486	Unknown	Unknown	Unknown (dry)	Inactive		Removal in FY 95
99	B	113	Unknown	Unknown	Unknown	Inactive	No UST confirmed at this location	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
100	O	29	Unknown	Unknown	DF2	Inactive	No UST confirmed at this location	None
101	M	419	Unknown	Unknown	Oil	Inactive	No UST confirmed at this location	None
102	Unknown	Unknown	Unknown	12,000	DF2	Removed		
Site 74, Oil/Fuel Transfer Station	O	23	Unknown	N/A	Gasoline or DF2	Inactive		

TABLE 3-8. ABOVEGROUND STORAGE TANK INVENTORY

Location	Size/Contents	Status
Building 2	1,000-gallon Diesel Tank	Active
Building 5	Approximately 280-gallon Oil Tank (OE 30 Oil)	Active
Building 5	Approximately 250-gallon Diesel Tank (Steam Cleaner)	Active
Building 18	Two Diesel Tanks, 285-gallons Each Connected Together	Active
Building 24	20-gallon Gasoline Tank (Well House)	Active
Building 24	50-gallon Propane Tank	Active
Building 27	Two Propane Tanks, 500-gallons Each	Active
Building 28	1,000-gallon Propane Tank	Active
Building 37	1,000-gallon Propane Tank	Active
Building 52	500-gallon Propane Tank	Active
Building 58	285-gallon Diesel Tank (Generator)	Active
Building 419	1,000-gallon Propane Tank	Active
Building 422	285-gallon Diesel Tank	Active
Building 433	500-gallon Propane Tank	Active
Building 612	500-gallon Propane Tank	Active
Building 621	500-gallon Propane Tank (Well House)	Active
Building 653	285-gallon Diesel Tank (Generator)	Active
POL Yard	500-gallon Propane Tank	Active
POL Yard	1,000-gallon Propane Tank	Active
5th Avenue Housing	17 Tanks, 285-gallons Diesel Each Tank	Active

3.2.4 Polychlorinated Biphenyls (PCBs)

PCB management compliance programs at UMDA are conducted under AR 200-1 and the federal requirements found in 40 CFR 761, Department of Transportation regulations, and State of Oregon PCB regulations.

An installation-wide remedial program was initiated in 1989 to remove or retrofit all PCB transformers or PCB-contaminated transformers and capacitors. A total of 66 transformers have been removed and disposed of off-post in accordance with regulatory requirements. Of these 66 transformers, 50 have been replaced by new units containing less than 50 ppm PCBs. All transformers and capacitors currently in service at UMDA contain less than 50 ppm PCBs.

3.2.5 Asbestos

Asbestos-containing material (ACM) is regulated by USEPA, the Occupational Safety and Health Administration (OSHA), and the State of Oregon. Asbestos at UMDA is being managed in compliance with the DOA guidance "Lead-Based Paint and Asbestos in U.S. Army Properties Affected by Base Realignment and Closure."

Two asbestos surveys have been conducted at UMDA. During the interim period between the was surveys asbestos removal was conducted in many buildings. The second asbestos survey in support of the BRAC Program at UMDA. The survey consisted of a detailed asbestos assessment of all UMDA buildings and structures. Survey teams inspected 285 buildings and structures. The survey did not include the storage igloos in Blocks A through K. At this time, the USACE, Seattle District is finalizing design of an abatement contract to remove ACM identified in the second survey. Removal activities are planned for Fiscal Year 1994.

3.2.6 Radon

The radon reduction program at UMDA is conducted under AR 200-1, Chapter 11, U.S. Army Radon Reduction Program.

In accordance with the 1990 final Standard Operating Procedure (SOP) (USATHAMA), a radon survey was conducted in 1991. This survey was considered to be limited in scope and, therefore, was a screening tool rather than a comprehensive survey. A follow-up radon screening was initiated in 1993 to perform the following additional tasks in 97 UMDA buildings and structures; re-survey of Buildings 122, 130, 131, 131-A1, 135, 409, 415, 431, and 605; re-survey of Building 1 basement; survey of 10 percent of Blocks A through H, and J storage igloos; visual survey and possible radon screening of Building 489 and 619; and survey of Buildings 653, 654, 655, and 656 of K Block.

3.2.7 RCRA Facilities (SWMU)

RCRA facilities and SWMUs at UMDA are managed under the installation hazardous waste management program in accordance with AR 200-1, Chapter 6, DoD Directives, RCRA Subtitle C; and State of Oregon hazardous waste regulations.

A RFA was conducted at UMDA in June 1987. The RFA identified 30 SWMUs. Five of the SWMUs are OUs and have RODs or Draft RODs associated with them; they are the Deactivation Furnace (SWMU #1 or Site 1, OU 1), the Active Landfill (SWMU #11 or Site 11, OU 7), the Inactive Landfills (SWMU #12 or Site 12, OU 8), the Explosive Washout Lagoons (SWMU #4 or Site 4, OU 2), and the Explosive Washout Plant (SWMU #5 or Site 5, OU 6). Seventeen SWMUs are part of two other OUs at UMDA: the ADA Area OU 4 and the Miscellaneous Sites OU 5. The remaining eight SWMUs have been studied under several additional investigations and it has been determined there is no risk associated with these SWMUs. Remedial activities being conducted at these OUs are currently underway at the Deactivation Furnace OU and are scheduled to begin at the Explosive Washout Lagoons Soils OU. Remedial activities are scheduled to begin at the Explosive Washout Plant OU, the ADA Area OU, and at the Miscellaneous Sites OU soon as the Draft RODs are finalized and signed.

The Open Detonation Pits (Site 16) and the Open Burning Trays (Site 32I and II) are thermal treatment units under RCRA. These sites are also operating under RCRA Part B interim status. The chemical agent incinerator or demilitarization facility, which is the driving force of UMDA's realignment will also require a RCRA Part B permit.

3.2.8 NPDES Permits

UMDA does not have any National Pollutant Discharge Elimination System (NPDES) permits for any of its current or former wastewater discharges to a leaching field. This system does not require an NPDES permit.

If UMDA has any point sources in the future, they will be regulated under the Federal Water Pollution Control Act, Clean Water Act, and the NPDES Permit Program (40 CFR Parts 122, 125, and 136), National Pretreatment Standards (40 CFR Part 403), and AR 200-1, Chapters 3 and 8.

3.2.9 Oil/Water Separators

There is one oil/water separator at UMDA. The separator collects water from both vehicles wash racks at Building 5. This oil/water separator is managed under the installation's Spill Prevention Control and Countermeasures (SPCC) program, in accordance with applicable federal regulations including Section 313(a) of the Clean Water Act and regulations 40 CFR Parts 110, 112, and 122. This oil/water separator is currently non-operational.

3.2.10 NRC Licensing

There is an U.S. Army-wide Nuclear Regulatory Commission (NRC) Materials License, Number 12-00722-13, for Model M43A1 Chemical Agent Detectors for the detection of aerosols and gases associated with chemical munitions. UMDA is included in this license. The docket or reference number for this license is 030-21073 and this is Amendment No. 14 to the original license. There are approximately 50 of these detectors or alarms at UMDA. The chemical agent detectors contain Americium-241 in a sealed cell. No alarm exceeds 300 microcuries or

25 curies total. These alarms are stored in Building 656 and used to inspect the K Block igloos where the chemical agents are stored.

3.2.11 Pollution Prevention

Pollution prevention at UMDA is managed through the installation hazardous waste management program in accordance with AR 200-1, Chapter 6, and applicable federal and state regulatory requirements. Recycling will be practiced where possible during remediation activities.

3.2.12 Mixed Waste

There is no mixed waste generated at UMDA.

3.2.13 Radiation

There is no radioactive waste generated at UMDA.

3.2.14 Lead-based Paint

A lead-based paint survey has not been conducted at the installation. In lieu of quantitative data for the CERFA investigation, lead-based paint was assumed to be present in all Depot buildings constructed prior to 1978. The 1,001 igloos at UMDA are not painted.

3.2.15 Unexploded Ordnance (UXO)

The ADA Area and the QC function Range have been identified as the only locations where UXO may be present on UMDA. The ADA Area is a 1,716-acre area in the northwest corner of the Depot and the QC Function Range is in the northeast corner of the depot.

3.2.16 Medical Waste

A small quantity of medical waste is generated at the UMDA Occupational Health. This waste is containerized and transferred to Fort Lewis, Washington, which is where the medical unit is headquartered. No medical waste has been landfilled at UMDA.

3.2.17 NEPA

UMDA was included in the Final EIS BRAC, dated August 1991, for Fort Wingate Depot Activity, Navajo Depot Activity, and Hawthorne Army Ammunition Plant. At this time, no disposal/reuse environmental assessment has been conducted.

3.2.18 Other Compliance Programs

There are no other compliance programs at UMDA.

3.3 Status of Natural and Cultural Resources Programs

Natural and cultural resources at UMDA are managed in accordance with AR 420-74 and 420-40, DoD Directive 4700.4 and 4710.1, and applicable federal and state regulations and statutes. Natural and cultural resource identification may be required prior to economic redevelopment and property reuse and is also considered during the environmental restoration remedy selection process so that accidental impacts to these resources can be prevented.

This section describes the current status of the natural and cultural resource program established at UMDA including identification and management of vegetation, wildlife, wetlands, and other preservation areas; rare, threatened and endangered species; and cultural resources.

3.3.1 Vegetation

Predominant vegetation at the Depot is made up of a large contiguous area of drought-adapted steppe and shrub-steppe types, mainly sagebrush and bunchgrass communities, of the Upper Sonoran Biotic Zone. Land in this area consists of deep excessively drained soils with rapid permeability, slow runoff characteristics and low hazard of water erosion. The native plant community on the western half of the Depot includes needle and thread grass, Sandberg bluegrass, antelope bitterbrush, big sagebrush and other perennial forbs and grasses.

There are six distinct stands of Bitterbrush (*Purshia tridentate*) on the Depot. This species is of significant interest because it has all but disappeared from the semi-arid region in which the Depot is located, due to the intensive agricultural use of the surrounding land.

Russian thistle and cheatgrass are introduced species which are found in smaller numbers on the Depot. On the eastern portion of the Depot, many of the same native plant communities are found consisting mainly of needle and thread grass, antelope bitterbrush, sagebrush and Sandberg bluegrass. Bluebunch wheatgrass, grey rabbitbrush and Indian ricegrass are found in smaller numbers.

The sagebrush-bluebunch wheatgrass association contributes to a large portion of the Depot, and is commonly encountered in areas adjacent to the Columbia River and its tributaries, generally, up to an elevation of 750 feet. Three layers are found within this association, including a shrub layer composed of sagebrush with lesser amounts of smaller shrubs such as rabbit brush; a layer of perennial grasses including needle and thread grass and bluebunch wheatgrass; and a thin layer of Sandberg bluegrass close to the soil surface. These shrubs remain active in dryer months by tapping permanent moisture in the subsoil. Sagebrush in some areas has been burned as a method of vegetation control, where overgrowth has encroached across roads.

There is no vegetation management beyond the ADA area. The vegetation within the Administration Area is composed of ornamentals which are manicured and maintained.

3.3.2 Wildlife

Wildlife occurring at the Depot includes numerous species associated with grassland and shrub-steppe environments. This habitat supports a range of species including several that are sensitive by state and federal governments. Pronghorn antelope which were introduced to the confines of the Depot in 1969, are often seen roaming the area. They are managed by the Oregon Department of Fish and Wildlife and are excluded from the administration area and the ADA area. Other mammals which are common to the region include the badger, black-tailed jackrabbit, coyote, Washington ground squirrel, pocket gopher, and several species of small rodents.

The Depot also includes a representative portion of those bird species found in the region. Many make use of the installation as year-round residents and others as spring and summer residents and migratory visitors. Because of the lack of surface water on the Depot (there are no lakes or streams) no water birds are found. UMDA has no wildlife management plans. The Oregon Department of Fish and Wildlife manage the antelope herd at the Depot.

3.3.3 Wetlands

There are no wetlands on UMDA.

3.3.4 Designated Preservation Areas

UMDA is not located on any formally designated preservation areas, although the depot does fall on the historic lands of the Umatilla Indians. The Cayuse Indians held territory to the east of the depot as well, and both tribes made trips over the lands of the depot area for hunting and gathering.

No known traditional Indian village or sites are located at UMDA. Nevertheless, the Confederated Tribes of the Umatilla Indian Reservation are very interested in any reuse of the Depot. They are concerned with the protection and conservation of Indian and non-Indian cultural resources which may be located within the area and would like to be updated on the process. A primary concern is the protection of traditional use values and resources such as fishing areas, hunting areas, root digging areas, berry picking areas, campgrounds and other resource use areas.

3.3.5 Rare, Threatened and Endangered Species

There are no threatened or endangered plant species currently recorded as being on or near the Depot. The federal Category 2 species Laurence's milk-vetch (*astragalus collinus 'laurentii'*) is found in the vicinity, but has not been documented for the Depot area.

There are two wildlife species on the Depot which are of current concern to Oregon State Fish and Wildlife. The Washington ground squirrel and the Western burrowing owl have both been highly reduced in numbers over the past years because of the conversion of native grasses to agricultural land. The Western burrowing owl is an Oregon sensitive species that is known to

frequent the Depot. Additionally, the long-billed curlew is a federal category 2 candidate species and an Oregon sensitive species. In recent years, the curlew has experienced a reduction in nesting habitat in the region, due to the conversion of sagebrush and cheatgrass type rangelands into irrigated circles for the production of wheat, potatoes, sugar beets and alfalfa. The bald eagle is a regular winter resident at the Depot and is a species listed as federally threatened and threatened in Oregon. The ferruginous hawk, a federal candidate 2 species, has been observed at the Depot in the past but does not use the Depot for nesting. Loggerhead Shrike, a federally sensitive species, has been observed nesting in the past in the Bunker block B area. Peregrine falcons, which are only occasionally sighted, are listed as endangered in Oregon. Swainson's hawk, an Oregon sensitive species, has utilized the Oregon lands seasonally for hunting.

3.3.6 Cultural Resources

Cultural resources consist of prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture or community. Much of the region's historical and archaeological significance dates back to various Indian tribes that resided in the area, and to the early passage of settlers along the Oregon Trail. During the early 1800s, the first recorded history of the area (documented by Lewis and Clark) notes that the land was being used by Cayuse and Umatilla Indians. Much of the county is within the original territory of the Umatilla Indians. Historically, Indian use of the lands in the Depot area was characterized by fishing, hunting, and foraging for food. Hunting for deer, elk and other game took place throughout the region. Salmon fishing occurred on all major rivers and streams in the area.

In 1984 a historic American Building Survey of the Depot was conducted and no highly significant or significant buildings were identified. At that time, two minimally significant buildings were identified which included the headquarters building (building 1) and the firehouse (building 2), both of which are along Cedar Street past the main entrance. The State Historic Preservation Office (SHPO), after a review of the Depot area, declared these two buildings eligible for inclusion on the NRHP in 1988.

In addition to the historic properties, there are two potentially identifiable--but not presently recorded--archaeological resources at UMDA. A limited archaeological survey in 1987 identified one historic archaeological resource and one potential prehistoric site. According to the report, the historic archaeological site is possibly associated with the Oregon Trail, as indicated from 1861 and 1875 U.S. General Land Survey plates showing an "Old Emigrant Wagon Road" crossing the northeastern corner of UMDA. An analysis of 1993 aerial photography appears to confirm the location of the trail. The potential prehistoric site is located on the west rim of Coyote Coulee. The present of the site is identified by isolated lithic flake tools scattered on the ground surface. The report concluded that the artifacts were used in conjunction with hunting at this location.

Implementation of any reuse of the Depot would have no impact on known archaeological or historic sites. In the event that any additional sites were found on the Depot, care would need

to be taken to avoid inadvertent disturbance of archaeological resources, and further studies may need to be conducted.

3.3.7 Other Resources

There are no other resources that were identified at UMDA.

3.4 Environmental Condition of Property

In October 1992, Public Law 102-426, CERFA amended Section 120(h) of CERCLA and established new requirements with respect to contamination assessment, cleanup, and regulatory agency notification/concurrence for federal facility closures. CERFA requires the federal government, before termination of federal activities on real property owned, to identify property where no hazardous substances were stored, released, or disposed of. These requirements retroactively affect the U.S. Army BRAC 88 and BRAC 91 environmental restoration activities, and are being implemented at BRAC 93 sites concurrently with their ENPAs. The primary CERFA objective is for federal agencies to identify real property offering the greatest opportunity for immediate reuse and redevelopment. Although CERFA does not mandate the U.S. Army transfer real property so identified, the first step in satisfying the objective is the requirement to identify real property where no CERCLA-regulated hazardous substances or petroleum products were stored, released, or disposed.

An investigation to identify the environmental condition of property in compliance with CERFA has been completed for UMDA. CERFA investigations included the following assessment procedures:

- ▶ Review of historical installation records;
- ▶ Interviews with current and past installation employees; and
- ▶ Visual site inspection of the installation.

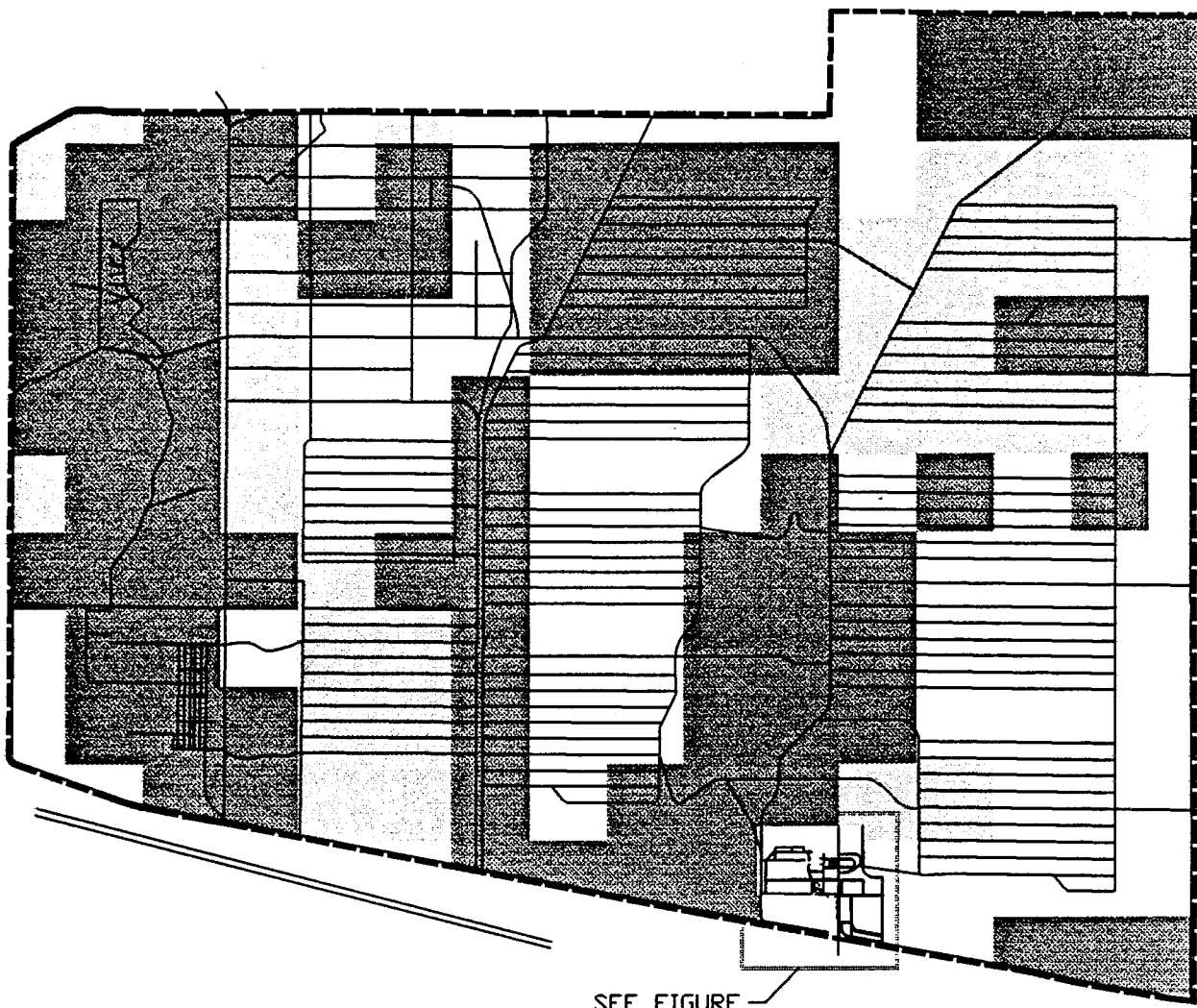
During the CERFA investigation process, evidence was gathered that screened installation property into four categories, or parcel types. These categories are CERFA parcel, CERFA parcel with qualifiers, CERFA disqualified parcels, and CERFA excluded parcels as defined below.

An environmental condition of property map provided as Figure 3-2 identifies property at the installation based on these four parcel categories. The parcels are delineated using a 1-acre square grid for boundary definition. Where CERFA disqualified parcels and CERFA parcels with qualifiers have coincided, the overlapped area has been designated CERFA disqualified.

3.4.1 CERFA Parcels






CERFA parcels are those portions of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives and no evidence of being threatened by migration of such substances. CERFA parcels also include any portion of the installation which

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SEE FIGURE
3-2B

EXPLANATION

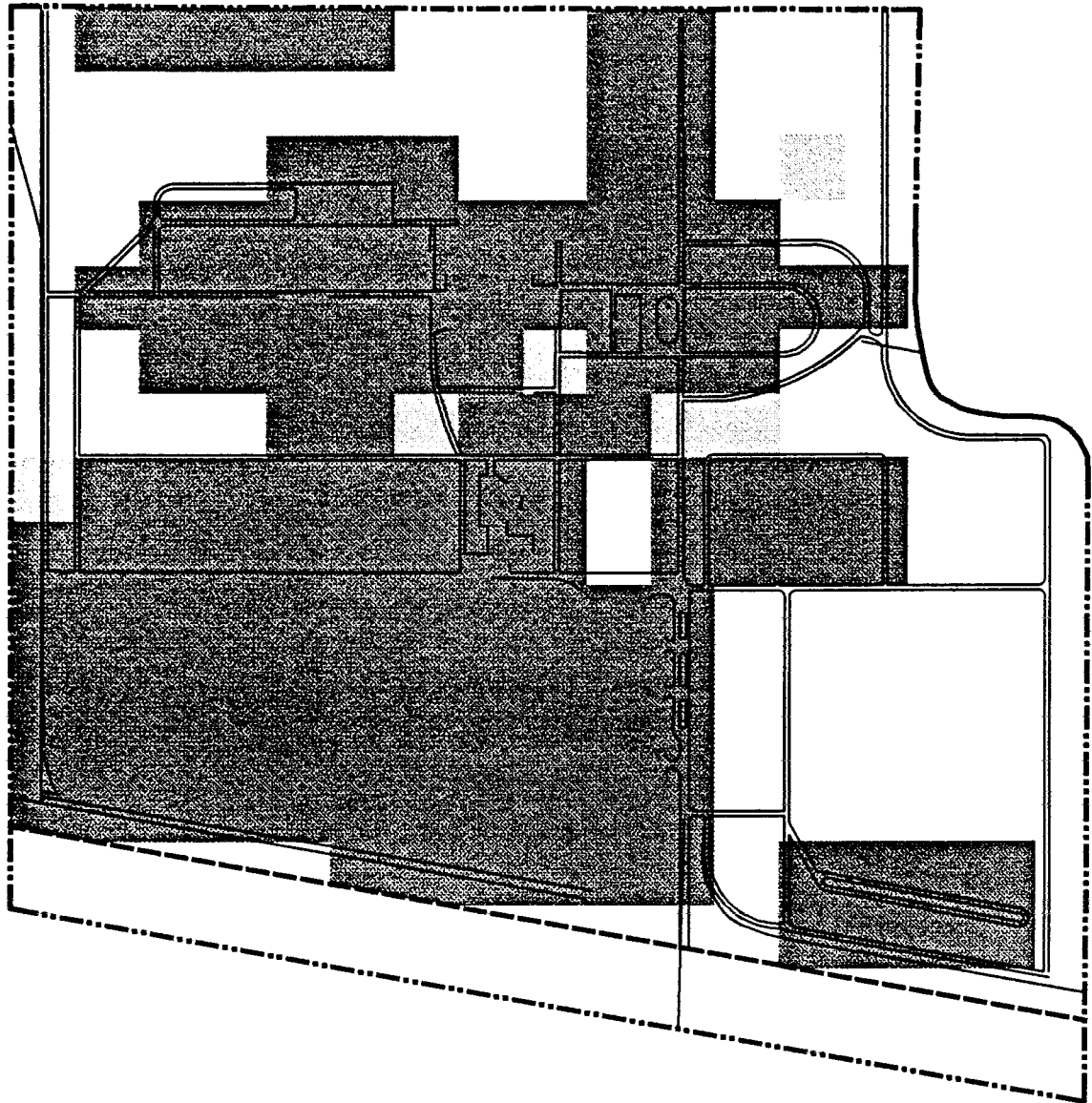
-  Installation Boundary
-  CERFA Parcel
-  CERFA Parcel with Qualifier(s)
-  CERFA Disqualified Parcel
-  CERFA Excluded Parcel

**Environmental
Condition
of Property**



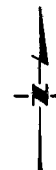
Figure 3-2A

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EXPLANATION

- Installation Boundary
- · - · - Administration Area Boundary
- CERFA Parcel
- CERFA Parcel with Qualifier(s)
- ▨ CERFA Disqualified Parcel
- CERFA Excluded Parcel



**Environmental
Condition
of Property**

Figure 3-2B

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once contained non-CERCLA hazards, including asbestos, UXO, lead-based paint, and radionuclides, but has since been fully remediated.

3.4.2 CERFA Parcels with Qualifiers

CERFA parcels with qualifiers are those portions of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives and no evidence of being threatened by migration of such substances. Parcels do, however, contain non-CERCLA related hazards including the presence of asbestos, UXO, lead-based paint, radionuclides, radon, or stored (not in use) PCB containing equipment.

3.4.3 CERFA Disqualified Parcel

CERFA disqualified parcels are those portions of the installation real property for which there is evidence of CERCLA hazardous substance, petroleum, or petroleum derivative storage for one year, release or disposal, or threatened by such release or disposal. CERFA disqualified parcels also include any portion of the installation containing a PCB release or disposal, any explosive ordnance disposal locations, any storage sites of chemical ordnance, and any areas in which CERCLA hazardous substances or petroleum products have been released or disposed and subsequently fully remediated.

3.4.4 CERFA Excluded Parcel

CERFA excluded parcels are those portions of the installation real property retained by the DoD, and therefore not explicitly investigated for CERFA. CERFA Excluded Parcels also include any portion of the installation which have already been transferred by deed to a party outside the federal government, or by transfer assembly to another federal agency.

3.4.5 Suitability of Installation Property for Transfer by Deed

SARA Title I, Section 120 to CERCLA requires that any deed for federal property being transferred on which any hazardous substance was stored for one year or more, known to have been released, or disposed of contain, to the extent such information is available on the basis of a complete search of agency files the following information:

- ▶ A notice of the type and quantity of such hazardous substances,
- ▶ Notice of the time at which such storage, release, or disposal took place,
- ▶ A description of the RA taken, if any, and
- ▶ A covenant warranting that all RA necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer, and any additional RA found to be necessary after the date of such transfer shall be conducted.

The U.S. Army has begun the identification of property suitable for transfer under CERCLA through the CERFA identification process. The CERFA process is a screening mechanism to identify those properties immediately transferable. These properties, designated CERFA parcels and CERFA parcels with qualifiers, have had no activities which could potentially preclude them from transfer under CERCLA.

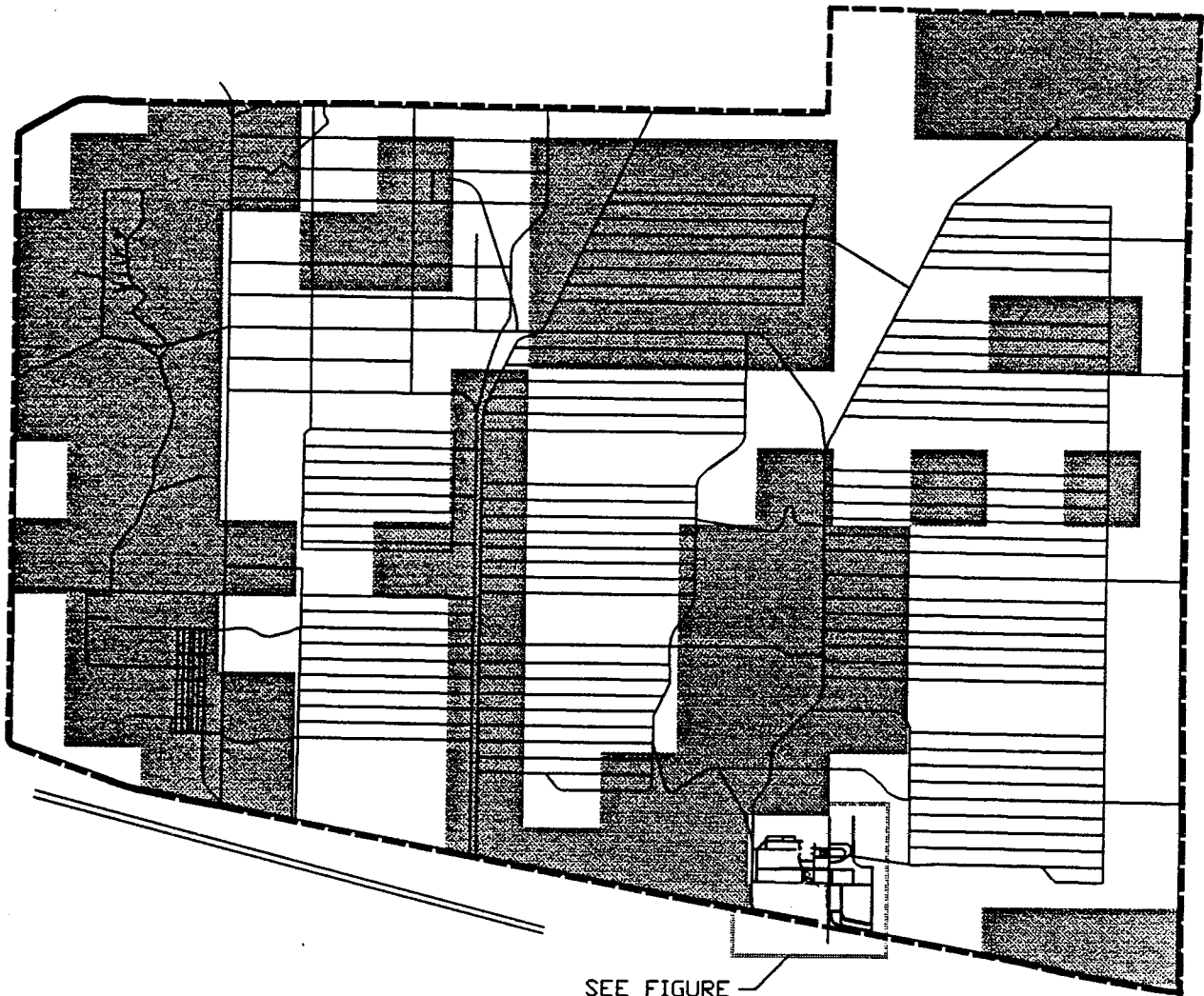
CERFA disqualified properties consist of those which have experienced CERCLA hazardous substance storage, POL storage, hazardous substance releases or POL releases. Under SARA Title I, Section 120 to CERCLA only those properties which have experienced a hazardous substance release which has not been remediated and for which there is no "remedy in place" are currently unsuitable for transfer to a non-federal entity. These properties typically represent a small portion of the CERFA disqualified property.

Figure 3-3 identifies CERFA parcels and CERFA parcels with qualifiers which are immediately transferable under CERCLA as well as CERFA disqualified parcels. The U.S. Army is continuing the suitable property for transfer identification process including the refinement of CERFA disqualified parcels into those suitable and unsuitable for transfer under CERCLA.

3.5 Status of Community Involvement

Community relations activities that have taken place at UMDA to date include the following:

- ▶ **EIS Process.** During the development of realignment EIS, numerous public scoping meetings were held. Public comments were received by the U.S. Army on draft EIS documents and were addressed in final versions of these documents.
- ▶ **FFA Process.** After preparation of UMDA FFA by the U.S. Army, USEPA, and ODEQ, the document was published for public comment, revised and finalized.
- ▶ **Information Repositories.** A public repository for information has been established in the public library in Hermiston, Oregon, and the USEPA Office in Portland, Oregon. It contains information relative to environmental activities at UMDA.
- ▶ **Administrative Record.** An Administrative Record has been established at UMDA in accordance with CERCLA requirements.
- ▶ **Public Involvement Response Plan (PIRP).** A PIRP prepared by Dames & Moore, is included in the RI/FS Work Plan as Part E. This PIRP was approved in October 1990.
- ▶ **Technical Review Committee (TRC).** The TRC has been formed, and has met quarterly, since it was officially established March 29, 1989. In addition to U.S. Army, USEPA, ODEQ, the TRC includes representatives from Morrow County Court, Umatilla County Commissioner, the Mayors of surrounding towns, the Umatilla County Emergency Management Agency, an Oregon State Department



SEE FIGURE
3-3B

EXPLANATION

- Installation Boundary
- CERFA Parcel and CERFA Parcel with Qualifier(s) *
- ▒ CERFA Disqualified Parcel **
- CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.

**Suitability of
Property for
Transfer**

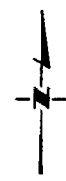
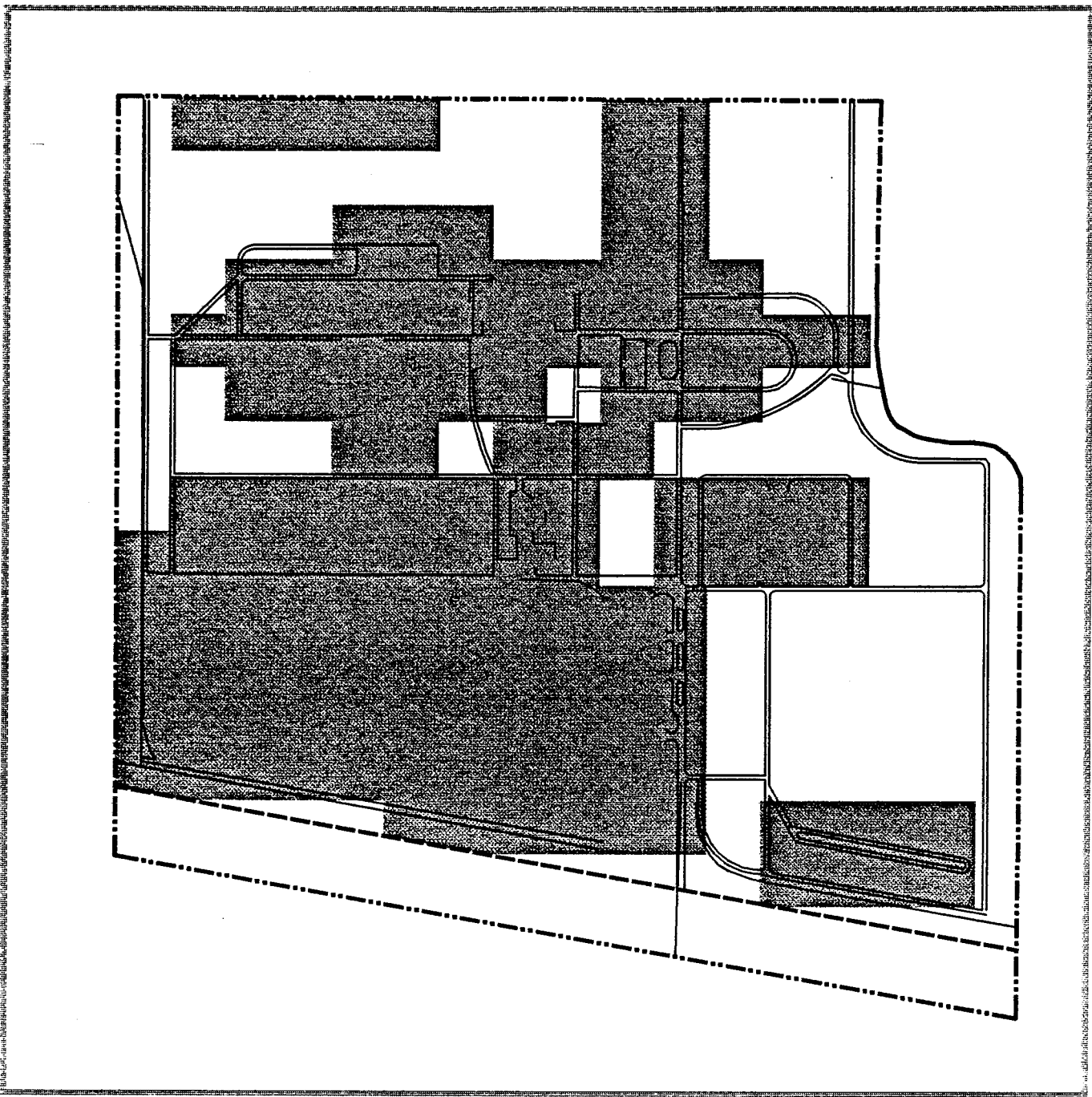


Figure 3-3A

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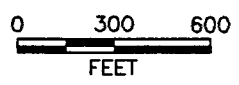


EXPLANATION

- Installation Boundary
- Administration Area Boundary
- CERFA Parcel and CERFA Parcel with Qualifier(s) *
- ▨ CERFA Disqualified Parcel **
- CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.



Suitability of Property for Transfer

Figure 3-3B

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of Human Resources representative, a representative from the State Legislator, and and several private citizens. In December 1993, the TRC was converted to a Restoration Advisory Board (RAB) in accordance with DoD guidance. The RAB has functions similar to the TRC, but expanded membership including the Chairman of the Reuse Task Force and additional private citizens.

- ▶ **Mailing List.** A mailing list of all interested parties in the community is maintained by the Depot and updated regularly.
- ▶ **Fact Sheets.** The following fact sheets describing status of the IRP and compliance activities at the depot base have been distributed to the RABs, Reuse Task Force, and anyone requesting information.
- ▶ **Open House.** Each of the quarterly TRC and RAB meetings functions as an Open House because they are advertised in the local papers and open to the public.
- ▶ **Public Hearings.** Public Hearing on Proposed Plans (PPs) for various IRP sites have been held as follows. Three public meetings in May and September 1992, and in March 1994, have been held to present PPs for cleanup of various OUs and to solicit public comment on those PPs.

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CHAPTER 4

► INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL RESTORATION ◀

This chapter describes and summarizes the installation-wide environmental restoration and compliance strategy for UMDA. Prior to the official realignment date of September 30, 1995, IRP projects were underway to identify, characterize, and remediate environmental contamination at UMDA. With the realignment announcement, the installation's strategy shifted from supporting an active U.S. Army mission to responding to disposal, reuse, and realignment considerations.

UMDA was designated for closure in 1988. From 1988 until November 1993, the installation and USAEC were responsible for determining restoration strategy. The restoration process had been completed up to and including the Decision Document outlining remediation for the OUs. At the inception of the BCT, the past strategy is reviewed and future strategy is developed by the team. The BCT has reviewed the strategy to verify that the appropriate regulatory programs applicable to the areas of contamination were considered prior to the fast track process.

4.1 Zone/OU Designation and Strategy

Zones define an installation's investigative strategy. Zones are geographically contiguous areas amenable to management as a single investigative unit. Zones are distinct from OU response actions.

OUs define an installation's remedial strategy. They are derived from an evaluation of hydrogeologic and chemical analytical data within an investigative zone, or by comparing data between zones. OU types may be based on geographic area, common media (soil, groundwater, surface water, other), common treatment technology, priorities, or schedules. OUs establish a logical sequence of discussions that address contamination releases in a comprehensive fashion.

4.1.1 Zone Designations

UMDA was well-advanced in the restoration process prior to the conception of the BCP. Zone designations were not utilized during the RI. The Depot was divided into eight areas prior to the RI, but these areas were not utilized in grouping Sites. Sites were grouped into OUs during the RA process.

4.1.2 OU Designations

Ten OUs were designated during the RI. Following the RI, the OUs were reassessed and for the RA process were regrouped into nine OUs. The following is a summary of the nine OUs:

OU 1 - Deactivation Furnace (Site 1) Soils OU. This furnace was used to incinerate unserviceable or obsolete munitions up to 50 caliber (e.g., cartridges, mines, boosters, primes, fuses, grenades, charges, and detonators). The furnace operated from the late early 1960s to November 1988. Windblown deposition of furnace stack particulates and occasional spilling and/or pumping of residual furnace ash and munitions incineration debris have contaminated soils surrounding the furnace and downwind from the furnace site. The contaminants are heavy metals. Contamination is highest in the upper few inches of soil and progressively decreases with depth at rates varying according to the specific metal. Lead and cadmium were found to be the most widespread contaminant in the soils.

OU 2 - Explosive Washout Lagoon Soils OU. The Explosive Washout Plant processed munitions to remove and recover explosives using a pressurized hot water system. The washwater was discharged via an open metal trough to the two infiltration lagoons located to the northwest of the plant. The lagoons were constructed in the 1950s and used until 1965, when plant operations and all discharges to the lagoons ended. A total of 85,000,000 gallons of effluent is estimated to have been discharged to the lagoons. Investigation of the lagoons resulted in the identification of explosives in the soils of the lagoons and what appeared to be a 45-acre plume of Royal Detonation Explosive (RDX) in the shallow groundwater beneath the lagoons. On July 22, 1987, the Explosive Washout Lagoons were formally listed on the NPL.

OU 3 - Explosive Washout Lagoons Groundwater OU. The washwater from the Explosive Washout Lagoons seeped from the unlined lagoons and contaminated the shallow groundwater beneath the lagoons. The type of contamination is explosive compounds, primarily TNT and RDX. The plume is approximately 45 acres.

OU 4 - ADA Area OU. Since 1945, the ADA Area has been utilized by the U.S. Army to dispose of ordnance and other solid wastes by burning, detonation, dumping, or burial. Activities were conducted at a number of locations throughout the ADA Area. Twenty Sites have been identified as actual or possible locations of U.S. Army activities at the ADA Area. In addition to possible chemical contamination at these 20 sites, ADA activities also resulted in the presence of unknown quantities of UXO at unknown locations across the entire ADA Area. Only two sites within the ADA Area are currently being used; they are Site 16 - the Open Detonation Pits and Site 32 - Open Burning Trays. Site 32 is comprised of two areas. The sites within OU 4 are shown on Table 3-1.

OU 5 - Miscellaneous Sites OU. The Miscellaneous Sites OU consist of 32 sites located throughout the UMDA. Most of these sites are clustered in the southwestern or southern portions of the depot. The Miscellaneous Sites have served a wide variety of specific functions, including sewage treatment and storm water discharges, munitions disassembly, Defense Reutilization Marketing Area (recycle materials stockpile), ground storage of raw materials, metal ingot storage, pesticide storage, paint spray and removal area, paint sludge discharge areas, boiler/laundry wastewater discharge areas, disposal pits, and hazardous waste storage. The Miscellaneous Sites OU cleanup strategy is considered a final action only for the soils at the Miscellaneous Sites since groundwater cleanup is considered in the ROD for OU 3. The 32 sites in this OU are shown on Table 3-1.

OU 6 - Explosive Washout Plant OU. During RI activities at UMDA, wipe samples were taken from the inside surfaces of the washout plant building. Four explosives were found to be present concentrations ranging from less than 0.02 $\mu\text{g}/\text{sg cm}$ to over 17 $\mu\text{g}/\text{sg cm}$. An additional area where larger concentrations of the explosives may possibly be found is inside the process equipment and piping. The process equipment was steam cleaned following the close of the washout operations, but some explosives, possibly at active levels, may remain in the joints, corners, etc. of this equipment. No investigation has been performed to determine the extent of contamination within the equipment. The assumption has been made that the equipment is contaminated internally.

OU 7 - Active Landfill OU. The Active Landfill OU is a five-acre disposal area located in the northeastern portion of UMDA. The landfill is a former gravel pit and is approximately fifty feet in depth. The landfill has been operated since 1968 and the ODEQ issued a landfill permit to the U.S. Army in 1979. Municipal waste from UMDA was disposed at the site and covered weekly. Currently the Active Landfill accepts only solidified soils from remediation activities in the Depot. All municipal waste is transported off-site and disposed of in a local permitted landfill. The Active Landfill is scheduled to close in 1997.

OU 8 - Inactive Landfills OU. The Inactive Landfills OU is composed of six former disposal areas. The six inactive landfills include: The Northern Inactive Landfill, the Northern Inactive Landfill Extension, the Southern Inactive Landfill, the Southern Inactive Landfill Extension, the Western Inactive Drum Site, and the Southeastern Inactive Landfill. Materials disposed of in these areas were primarily non-hazardous and included demolition debris, garbage, asbestos from brake linings, and possibly ash from the Deactivation Furnace and explosive sludges. These landfills were operated from the early 1940s into the mid-1980s. Much of the activity ceased in the mid-1960s when the Active Landfill opened.

OU 9 - SRI Study Sites and PCB Transformer Locations OUs. The SRI study sites include new partisans of Site 12 (Inactive Landfills) and 13 additional study areas, as well as 79 PCB transformer locations. These sites within OU 9 were investigated by the U.S. Army and are non-FFA Sites. The ROD for this OU will be an addendum to the ROD for OU 5. The sites which comprise this OU are shown in Table 3-1.

All OUs with the exception of OU 4 (ADA Area) OU 5 (Miscellaneous Sites), and OU 9 (SRI Study Sites and PCB Transformer Locations) are site-specific. The relationship between IRP sites, OUs, and reuse parcels is depicted in Table 4-1. Installation OUs are shown in Figure 3-1.

TABLE 4-1. RELATIONSHIP BETWEEN RESTORATION SITES, OUS, AND PARCELS

Reuse Parcel	OU	Site
B	1	Site 1
M	2	Site 4 soils
M and L	3	Site 4 groundwater

**TABLE 4-1. RELATIONSHIP BETWEEN RESTORATION
SITES, OUS, AND PARCELS**

Continued

Reuse Parcel	OU	Site
A	4	Sites 7, 8, 13, 14, 15, 16, 17, 18, 19, 21, 31, 32, 38, 41, 55, 56, 57, 58, 59, and 60
B, D, E, F, I, J, M, O, and Q	5	Sites 3, 6, 9, 10, 22, 25-I, 25-II, 26, 27, 29, 30, 33, 34, 35, 36, 37, 39, 44-I, 44-II, 45, 46, 47, 48, 49, 50, 52, 53, 67, 80, 81-I, 81-II, and 82
M	6	Site 5
L	7	Site 11
M and N	8	Site 12
B, C, D, H, I, L, M, N, O, and PCB Transformer Locations	9	Sites 12, (two additional areas); 68, 69, 64, 70, 75, 76, 77, 83, 61, 62, 65, 66, 79, and PCB Transformer Locations

4.1.3 Sequence of OUs

A comprehensive OU strategy has been developed by the UMDA BCT. Based on the results of the RI, OUs 7 and 8 do not require remedial action; of the 20 sites in OU 4, the ADA Area, only sites 15, 17, 19, 31, and 32 require remediation. The ADA Area will be surveyed on an as-needed basis, with ground-penetrating radar (GPR) to determine if UXO is present in specific locations. Only two sites within OU 5 (including OU 9) require remediation: Site 22 and 36. Remedial action for OUs 1, 2, 4, 5, and 6 will be completed by UMDA realignment date of September 30, 1996. Remedial action for OU 3 which involves extensive groundwater remediation will extend past the Depot's realignment date and possibly the Depot's closure, which is estimated to be approximately 2006.

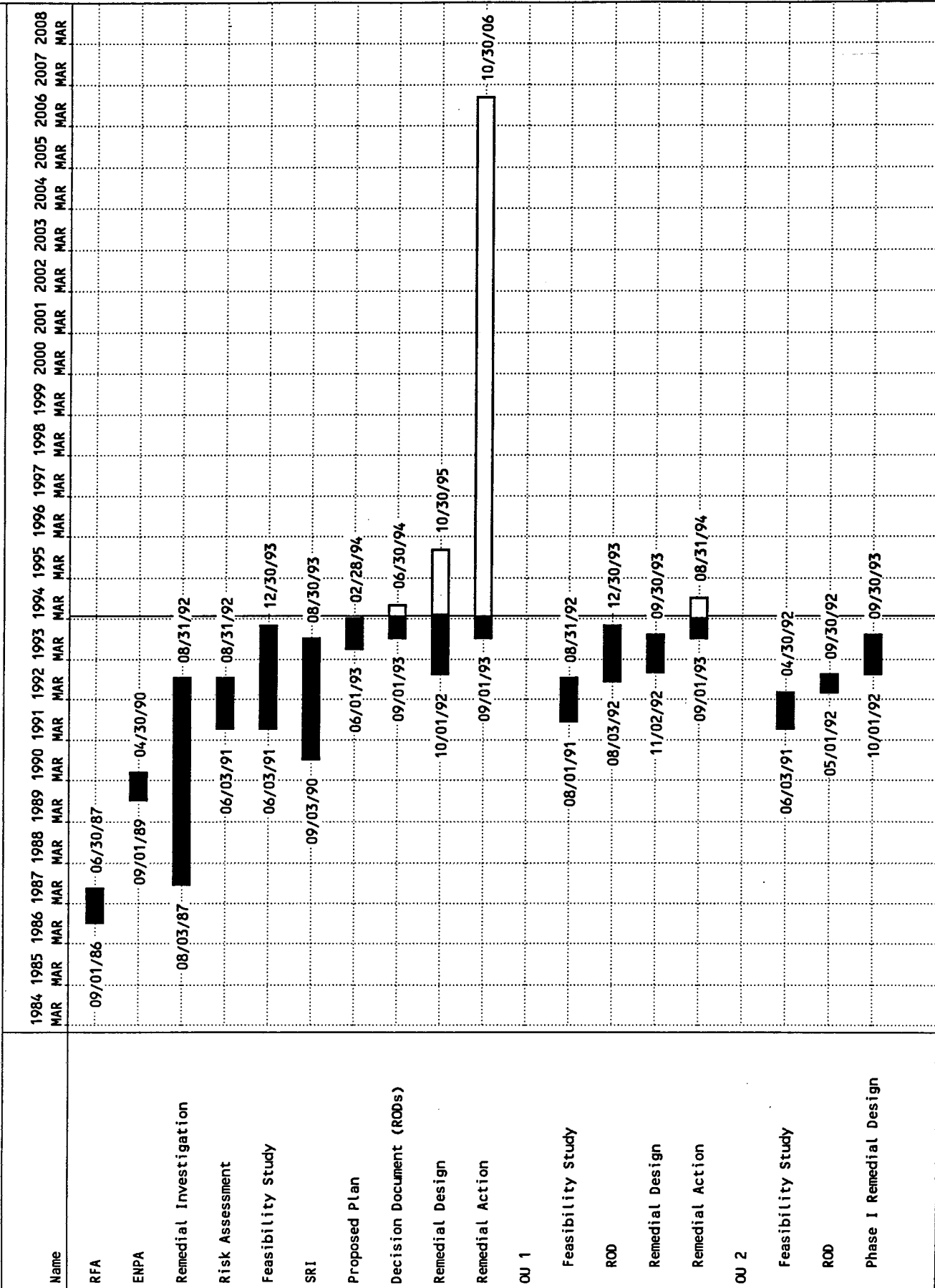
All nine OUs at UMDA were assessed at the same time. Information regarding all sites within the current nine OUs were included in the RI or SRI, although the RI had grouped the sites into ten OUs which were different from the current OUs.

Remedial design (RD) has been completed for all OUs. RA has begun for one OU, and three OUs do not require RA.

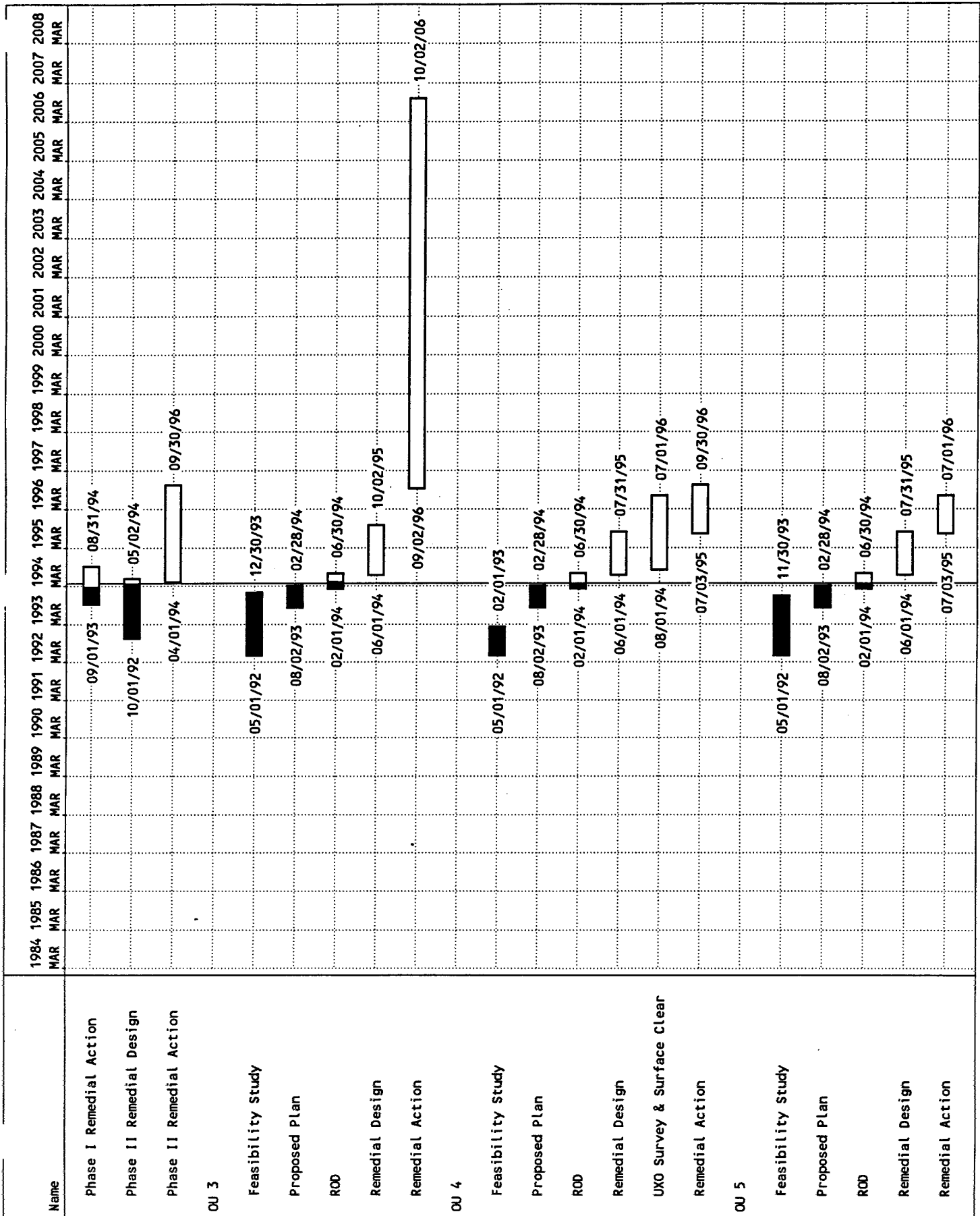
The OU cleanup sequence for the installation is summarized in Table 4-2. The OU sequence is also depicted in the schedule provided as Figure 4-1. The schedule also identifies the timeline for the generation of primary documents necessary for completion of the OU cleanup actions.

PROJECT: Comatilla
 MANAGER:
 CURRENT DATE: 04/11/94
 AS OF DATE: 04/11/94

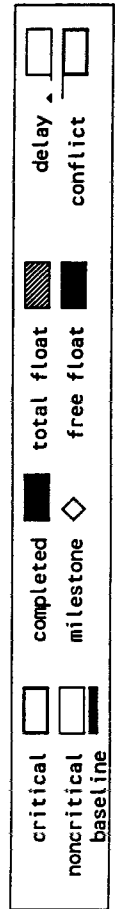
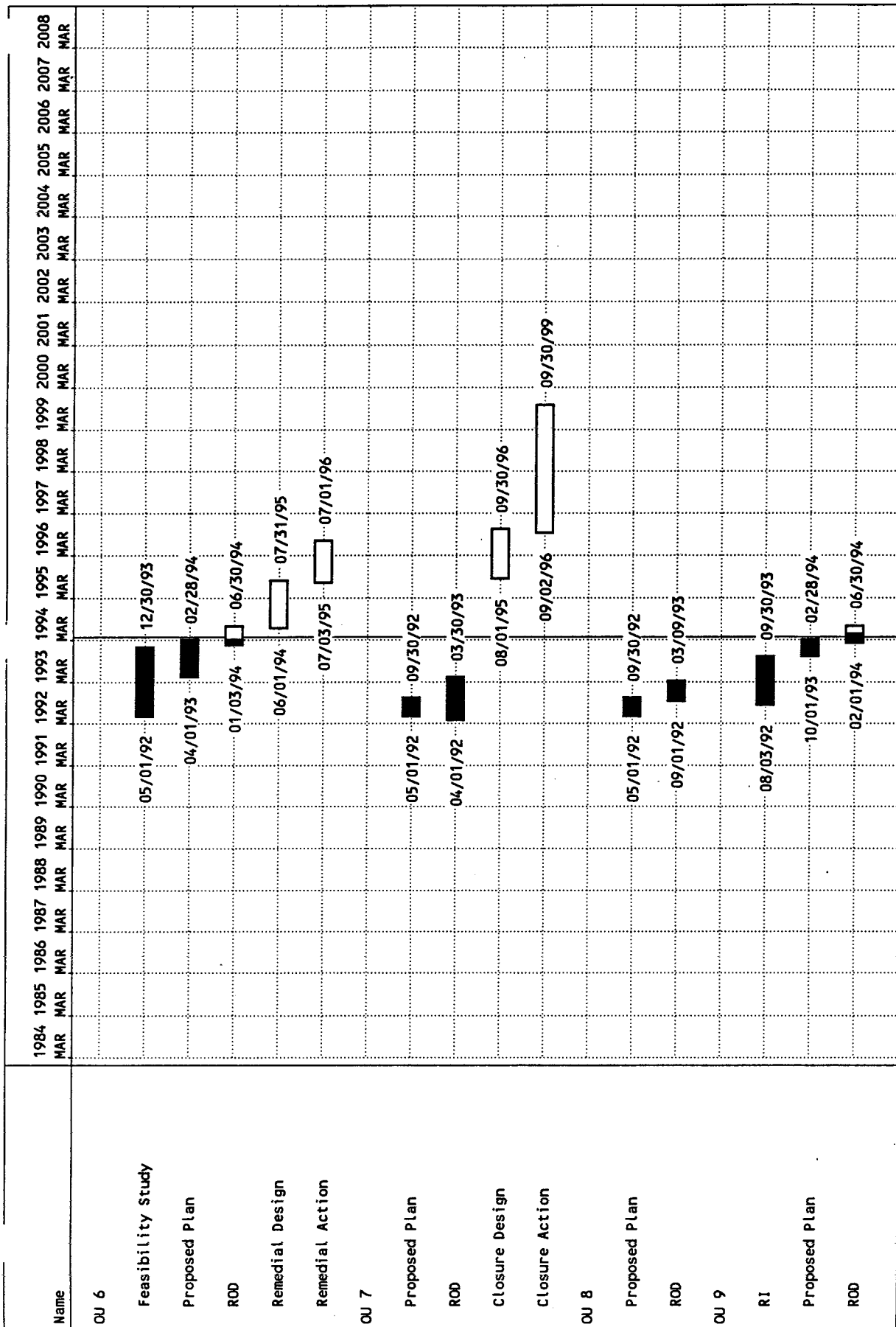
Figure 4-1



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TABLE 4-2. CLEANUP SEQUENCE

Reuse Parcel	OU	Environmental Risk	Reuse Priority	Cleanup Sequence	Reconcile Comments
B	1	None after soil remediation	Undetermined	1	NA
M	2	None after soil remediation	Undetermined	2	NA
M and L	3	Groundwater contamination	Undetermined	3	Remedial action will continue past closure
A	4	None after soil remediation and UXO clearance	Undetermined	4	NA
B, D, E, F, I, J, M, O, Q	5	None after soil remediation	Undetermined	5	NA
M	6	None after thermal treatment	Undetermined	6	NA
L	7	None	Undetermined	NFA	NA
M and N	8	None	Undetermined	NFA	NA
B, C, D, H, I, K, L, M, N, O	9	None	Undetermined	NFA	NA

The schedule was developed using the critical path analysis method with the following components:

- ▶ **Critical.** Critical jobs are those in which any extension in their duration will cause an equivalent delay in the project.
- ▶ **Noncritical.** Noncritical jobs are usually subtasks required to accomplish the critical job.
- ▶ **Baseline.** A set of "original" schedule dates that can be compared with the current schedule to determine if the project has slipped.
- ▶ **Completed Duration.** A measure in time periods of the portion of a job that is completed.
- ▶ **Milestone.** A project event that represents a checkpoint, a major accomplishment, or a deliverable result.
- ▶ **Total Float.** The total length of time that a noncritical job can be delayed before it causes the project or a critical job to slip or causes a job to not meet its target date.

- ▶ **Free Float.** The length of time a noncritical job can be delayed without affecting another job.
- ▶ **Delay.** A waiting period that prevents the job from starting at its earliest possible start time.
- ▶ **Conflict.** The amount of time a job overruns its target date.

The graphical information shown in Figure 4-1 for OUs is summarized below:

- ▶ **OU 1 (Deactivation Furnace)**
 - ENPA April 1990
 - RI/FS August 1992
 - Risk Assessment March 1992
 - Proposed Plan August 1992
 - Decision Document January 1993
 - Remedial Design September 1993
 - Remedial Action

- ▶ **OU 2 (Explosive Washout Lagoon Soils)**
 - ENPA April 1990
 - RI/FS April 1992
 - Risk Assessment March 1992
 - Proposed Plan April 1992
 - Decision Document September 1992
 - Remedial Design April 1994
 - Remedial Action September 1996

- ▶ **OU 3 (Explosive Washout Lagoons Groundwater)**
 - ENPA April 1990
 - RI/FS December 1993
 - Risk Assessment December 1993
 - Proposed Plan February 1994
 - Decision Document June 1994
 - Remedial Design September 1995
 - Remedial Action September 2006

- ▶ **OU 4 (ADA Area)**
 - ENPA April 1990
 - RI/FS November 1993
 - Risk Assessment August 1993
 - Proposed Plan February 1994
 - Decision Document June 1994
 - Remedial Design July 1995
 - Remedial Action September 1996

▶	OU 5 (Miscellaneous Sites)	
	ENPA	April 1992
	RI/FS	November 1993
	Risk Assessment	August 1993
	Proposed Plan	February 1994
	Decision Document	June 1994
	Remedial Design	July 1995
	Remedial Action	June 1996
▶	OU 6 (Washout Plant)	
	ENPA	April 1990
	RI/FS	December 1993
	Risk Assessment	August 1993
	Proposed Plan	February 1994
	Decision Document	June 1994
	Remedial Design	July 1995
	Remedial Action	June 1996
▶	OU 7 (Active Landfill)	
	ENPA	April 1990
	RI/FS	August 1992
	Risk Assessment	August 1992
	Proposed Plan	September 1992
	Decision Document	August 1993
▶	OU 8 (Inactive LF)	
	ENPA	April 1990
	RI/FS	August 1992
	Risk Assessment	August 1992
	Proposed Plan	September 1992
	Decision Document	March 1993
▶	OU 9 (Supplementary Sites)	
	ENPA	April 1990
	RI/FS	September 1993
	Risk Assessment	September 1993
	Proposed Plan	February 1994
	Decision Document	June 1994

4.1.4 Environmental Restoration Early Actions Strategy

Because UMDA was listed for realignment in 1988, early actions identified in Chapter 3.1.2 have been taken. At this time four RODs have been signed regarding four of the nine OUs. Four draft RODs are expected to be signed in June 1994 regarding five additional OUs. Two of the OUs, 5 and 9, are being combined for the ROD.

The studies at UMDA have been comprehensive; therefore it is not anticipated that any unknown contamination will be discovered.

Table 4-3 has been provided should any possible early actions occur. The strategy for developing early actions will be based on the risk posed to human health and the environment, and the impacts that the action, both negative and positive, will have on future use of the parcel.

TABLE 4-3. ENVIRONMENTAL RESTORATION PLANNED EARLY ACTIONS

Site	UST No. (or other unit identifier)	Action	Objective	Time Frame
	All early actions have been taken. No further actions planned at UMDA.			

4.1.5 Remedy Selection Approach

Remedies will be selected in accordance with statutory and NCP criteria. UMDA BCT will involve all parties who have an impact on the remedies selected at the base in the remedy selection process. Particular attention will be given to the following during the evaluation of alternatives.

- ▶ **Applicable or Relevant and Appropriate Requirements (ARARs).** Applicable requirements for anticipated remedial actions will be identified through Project Team. The effectiveness of alternatives in reducing concentrations of contaminants to chemical-specific ARARs will be evaluated. Waivers will be considered where treatment to standards is technically impractical
- ▶ **Land Use/Risk Assessment.** Risk assessment protocols will incorporate of future land use in exposure scenarios
- ▶ **Applicable Remedies.** The presumptive remedy selection approach advocated in USEPA's 30-day study will be applied in selected cases. Focused FSs will be developed where appropriate
- ▶ **POL Remedies.** Source-specific actions for POLs will be addressed under the state UST program as POL releases at UMDA have occurred mostly as a result of leaking USTs

- ▶ **Future Land Use.** Cleanup goals need to be factored into future land use and/or deed restrictions. These will be obtained from EIS analysis and Community Reuse Plan.

The RODs and Draft RODs have been released for public comment. The U.S. Army is awaiting approval of the four Draft RODs.

The UMDA BEC will hold Project Team meetings to discuss progress of the RAs to ensure appropriateness of remedy with respect to reuse.

4.2 Compliance Strategy

This section describes the strategies for addressing compliance-related environmental issues at UMDA prior to installation closure and/or property transfer. These environmental compliance strategies have been developed to ensure that installations are compliant with federal and state regulatory programs, DoD, and U.S. Army directives and regulations throughout the BRAC process.

Presently, no early actions are planned as part of the UMDA compliance program to remove contamination sources and reduce risk posed by releases or potential release. Any future early actions will be identified in Table 4-4.

TABLE 4-4. ENVIRONMENTAL COMPLIANCE PLANNED EARLY ACTIONS

Site	UST No.	Action	Objective	Time Frame
NA	1	Upgraded in FY95	Compliance	Active
NA	3	Upgraded in FY95	Compliance	Active
NA	4	Upgraded in FY95	Compliance	Active
NA	6	Upgraded in FY95	Compliance	Active
NA	8	Upgraded in FY95	Compliance	Active
NA	9	Removal in FY95	Compliance	Active
NA	10	Upgraded in FY95	Compliance	Active
NA	11	Removal in FY95	Compliance	Active
NA	12	Removal in FY95	Compliance	Active
NA	13	Removal in FY95	Compliance	Active
NA	14	Removal in FY95	Compliance	Active
NA	15	Upgraded in FY95	Compliance	Active
NA	16	Upgraded in FY95	Compliance	Active
NA	17	Upgraded in FY95	Compliance	Active
NA	18	Upgraded in FY95	Compliance	Active
NA	19	Upgraded in FY95	Compliance	Active
NA	20	Upgraded in FY95	Compliance	Active
NA	21	Upgraded in FY95	Compliance	Active

TABLE 4-4. ENVIRONMENTAL COMPLIANCE PLANNED EARLY ACTIONS**Continued**

Site	UST No.	Action	Objective	Time Frame
NA	22	Upgraded in FY95	Compliance	Active
NA	23	Upgraded in FY95	Compliance	Active
NA	24	Removal in FY95	Compliance	Active
NA	25	Removal in FY95	Compliance	Active
NA	26	Upgraded in FY95	Compliance	Active
NA	27	Upgraded in FY95	Compliance	Active
NA	28	Upgraded in FY95	Compliance	Active
NA	29	Upgraded in FY95	Compliance	Active
NA	30	Upgraded in FY95	Compliance	Active
NA	31	Removal in FY95	Compliance	Active
NA	32	Removal in FY95	Compliance	Active
NA	33	Removal in FY95	Compliance	Active
NA	51	Upgraded in FY95	Compliance	Active
NA	58	Upgraded in FY95	Compliance	Active
NA	93	Removal in FY95	Compliance	Inactive
NA	94	Removal in FY95	Compliance	Inactive
NA	95	Upgraded in FY95	Compliance	Active
NA	97	Removal in FY95	Compliance	Inactive
NA	98	Removal in FY95	Compliance	Inactive

4.2.1 Storage Tanks

UST program compliance activities will be continued at numerous locations.

Twenty-nine of the 66 USTs at UMDA have been removed. In Fiscal Year 1995, fourteen USTs will be removed and 23 will be upgraded.

At this time, there are no plans for the remaining USTs on Table 3-7 which were identified through documentation, but not confirmed with geophysical surveys during the UST survey.

Final clean-up levels for soils surrounding any leaking USTs will be determined by the ODEQ.

The 38 aboveground storage tanks at UMDA will remain active and in compliance until the Depots closure date or until it is decided the tanks are not needed on a case-by-case basis. There are currently no plans to remove these tanks.

4.2.2 Hazardous Materials/Waste Management

Hazardous materials and hazardous waste management activities will continue to be managed properly in accordance with applicable regulations. Building 203 is the Depot's hazardous waste storage facility that operates under an interim status RCRA Part B permit. As the Depot's

realignment (and ultimate closure) date approaches, the Depot will conduct a survey to ensure tenant activities have not left hazardous materials and hazardous wastes on the Depot property.

Building 203 will be closed according to RCRA requirements when hazardous waste storage is no longer necessary as part of the mission.

Contaminated soil that has been remediated as part of the ROD remediation activities will be solidified and placed in the Active Landfill.

4.2.3 Solid Waste Management

Solid waste generated at UMDA is currently being transported off-site to a local state permitted landfill. Solid waste will continue to be transported off-site until the Depot's closure.

The Inactive Landfills (OU 8, Site 12) and the Active Landfill (OU 7, Site 11) are closed and RODs which require No Further Action regarding these OUs have been finalized.

4.2.4 Polychlorinated Biphenyls (PCBs)

All PCB transformers have been removed from the Depot and there are no longer any PCB transformers in storage at the Depot. No PCB monitoring is necessary at UMDA.

4.2.5 Asbestos

U.S. Army policy on asbestos is to manage it in place. An initial asbestos survey was conducted in 1988 by the Walla Walla District. Following this survey, asbestos removal was conducted in some buildings. A second survey was conducted in 1990 by a contractor and was in support of the BRAC Program at UMDA. The survey consisted of a detailed asbestos assessment of all UMDA buildings and structures. Survey teams inspected 285 buildings and structures. The survey did not include the storage igloos in Blocks A through K. At this time, the USAEC, Seattle District is finalizing design of an abatement contracts to remove ACM identified in the second survey. Removal activities are planned for Fiscal Year 1994.

4.2.6 Radon

Radon was detected in ten igloos during the second of two radon surveys. Ten percent of the 1,001 igloos were surveyed. Radon was also detected in three buildings, 1, 5, and 415. A radon venting system will be installed in the basement of Building 1 during fiscal year 1994. Radon in the building 415 and igloos will be addressed as the buildings and igloos are identified for possible reuse. At this time, no action will be taken for the radon in Building 5 as the sample was collected from the only below-grade structure in the building, an unoccupied boiler room which is no longer in use. A second sample, from the first floor men's room had a radon gas concentration of well below the USEPA - recommended value of 4.0 picocuries.

4.2.7 RCRA Facilities (SWMUs)

Building 203 is UMDA's RCRA TSD facility which is operating under an interim status RCRA Part B Permit. This building will remain a TSD facility following realignment and will close when the Depot goes no longer needs to store hazardous waste. The closure of this facility may take place before chemical agent incineration is complete.

4.2.8 NPDES Permits

Currently, UMDA does not generate wastewater discharges that require a NPDES permit.

4.2.9 Oil/Water Separators

There is one oil/water separator at UMDA that is currently not in use. At this time, there are plans to repair the oil/water separator. The separator will be maintained in accordance with the UMDA maintenance plan. This oil/water separator will be closed according to regulatory requirements if it is not needed for the chemical agent demilitarization operation.

4.2.10 NRC Licensing

UMDA is covered under an U.S. Army-wide NRC materials license for the use of Model M43A1 Chemical Agent Detectors which contain Americium-241 in a closed-cell. These alarms are stored in Building 656 and used to inspect the K Block igloos, where chemical agents are stored. These alarms will be necessary to monitor the chemical weapons at the Depot, as the Depot goes through realignment. Following closure of the chemical agent demilitarization operation, these alarms will be handled according to the license and returned or destroyed according to the manufacturer's instructions.

4.2.11 Pollution Prevention

UMDA will continue to practice waste minimization and recycling at the installation during realignment and until closure.

4.2.12 Mixed Wastes

There is no mixed waste generated at UMDA; therefore, there are no compliance requirements or strategies under this program for the Depot.

4.2.13 Radiation

There are no radioactive wastes generated at UMDA; therefore, there are no compliance requirements or strategies under this program for the Depot.

4.2.14 National Environmental Policy Act

The USACE Fort Worth District has prepared the BRAC Final EIS for UMDA. Currently, plans are being made to produce additional NEPA documentation.

4.2.15 Lead-Based Paint

The U.S. Army is currently developing a policy on lead-based paint for closure sites. The BCT will continue to follow guidance given. Should existing building(s) be used as homeless shelters, the U.S. Army will evaluate the impacts on lead-based paint within those buildings. A lead-based paint survey is planned for fiscal year 1994.

4.2.16 Medical Waste

Medical waste generated at UMDA by the Occupational Health Clinic (from Ft. Lewis, Washington) will continue to be containerized and shipped off-site to Ft. Lewis, Washington. No medical wastes have been landfilled at the Depot.

4.2.17 Unexploded Ordnance (UXO)

UXO has been identified as existing in the ADA Area and possibly existing at the QA Function Range.

The ROD for the ADA Area (OUI) addressed UXO in a phased approach. Phase I will consist of a magnetometer survey of the entire 1,716 acres to determine where and how much UXO exists. Phase II will be subsurface clearance of UXO based on future reuse of the area and clearance will occur as needed, based on reuse and subject to regulatory concurrence.

The QA Function Range will be surveyed for UXO before being relinquished, as a safety precaution.

4.3 Natural and Cultural Resources Strategies

This section discusses the strategies for natural and cultural resource programs at UMDA developed to manage these resources throughout the BRAC realignment and closure.

4.3.1 Vegetation

UMDA will continue to maintain the ornamental vegetation in the Administration Area through realignment and until closure. The vegetation on the remainder of the Depot is in its natural state.

4.3.2 Wildlife

Varied wildlife from shrews and mice to pronghorned antelope, exist at the UMDA outside the Administration Area. The Oregon Department of Fish and Wildlife placed the original prong-

horned antelope at UMDA. Wildlife is not managed or observed in any regulatory program at the Depot. Wildlife will be allowed to continue utilizing the Depot ground as a habitat throughout realignment and closure activities. Reuse of UMDA may impact some species currently utilizing the Depot.

4.3.3 Wetlands

There are no wetlands at UMDA; therefore, no wetland strategies are planned.

4.3.4 Designated Preservation Areas

There are no designated preservation areas at UMDA; therefore, no strategies are planned.

4.3.5 Rare, Threatened and Endangered Species

No rare, threatened, or endangered species were observed during the Ecological Assessment at UMDA. Therefore, there are no rare, threatened and endangered species strategies required for the installation. During the Ecological Assessment, six state listed and one federally listed, sensitive species were observed. A sensitive species is one that has the potential of becoming threatened if specific habitats are not preserved. Swainson's hawk, the long-billed curlew, the burrowing owl, grasshopper sparrow, Lewis' woodpecker, and the bobolink are listed as state-sensitive species, and the loggerhead shrike appears on the federal sensitive bird species list.

4.3.6 Cultural Resources

UMDA does contain two buildings which were declared eligible for listing on the NRHP. At this time, these buildings have not been listed on the NRHP. According to the BEC there are no cultural resource strategies planned for UMDA.

4.3.7 Other Resources

There are no other resources that the BCT is currently reviewing.

4.4 Community Involvement/Strategy

The establishment of a RAB is a requirement of the Fast Tract Cleanup Policy at specific BRAC installations where community interest is high and property will be available for transfer to the community. UMDA, until December 15, 1993, had an active TRC. This TRC was then expanded to become a RAB, rather than create a separate committee. The expansion included additional community representatives; a community co-chairperson; and a representative from the UMDA Reuse Task Force.

The RAB will act as a forum for the exchange of cleanup information between the community and the government, to ensure that community reuse plans are adequately addressed and to ensure that RAB input is fully considered in decision making for the cleanup program. The

RAB consists of U.S. Army, USEPA, and ODEQ representatives along with members of the community. The RAB is jointly chaired by the U.S. Army and a community representative.

The Umatilla BCT has adopted the following strategy to support a proactive community relations program in accordance with the CERCLA requirements:

- ▶ Update the existing CRP
- ▶ Maintain an information repository at the Depot and in Pendleton, Oregon.
- ▶ Publish fact sheets on the progress of environmental restoration and disposal programs.
- ▶ Continue coordination with the Umatilla Reuse Task Force.

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CHAPTER 5

► ENVIRONMENTAL PROGRAM MASTER SCHEDULES ◀

This chapter presents UMDA Master Schedules of anticipated activities in the installation's environmental programs. These schedules are simplified from detailed network and operational schedules developed to support a specific work plans and compliance agreements. Environmental restoration activities are graphically summarized in Figure 5-1. Compliance activities are summarized in Figure 5-2 and Figure 5-3. Natural and cultural resource activities are summarized in Figure 5-4. Each of these schedules displays the critical path analysis for the respective installation program components in each analysis include critical and noncritical path, baseline, completed duration, milestones, float, delay, and conflict. These components are defined in Section 4.1.3.

5.1 Environmental Restoration Program

This section presents response schedules and outlines fiscal year requirements for UMDA's environmental restoration program.

5.1.1 Response Schedules

The schedule for environmental response actions for UMDA is shown in Figure 5-1. The installation's ability to meet the milestones shown on the schedule in Figure 5-1 hinges on the signing of the four remaining Draft RODs. The schedule detailed in Figure 5-1 is based upon the following general time periods between documents:

- ▶ The FS report is submitted 60 days after the end of the ISA comment period
- ▶ The Proposed Plan (PP) is submitted 15 days from the date the draft final FS submittal
- ▶ Public comment period for the PP starts at the time of submittal of the Draft Final PP
- ▶ The ROD, including the Responsiveness Summary, is submitted 45 days from the end of the public comment period.

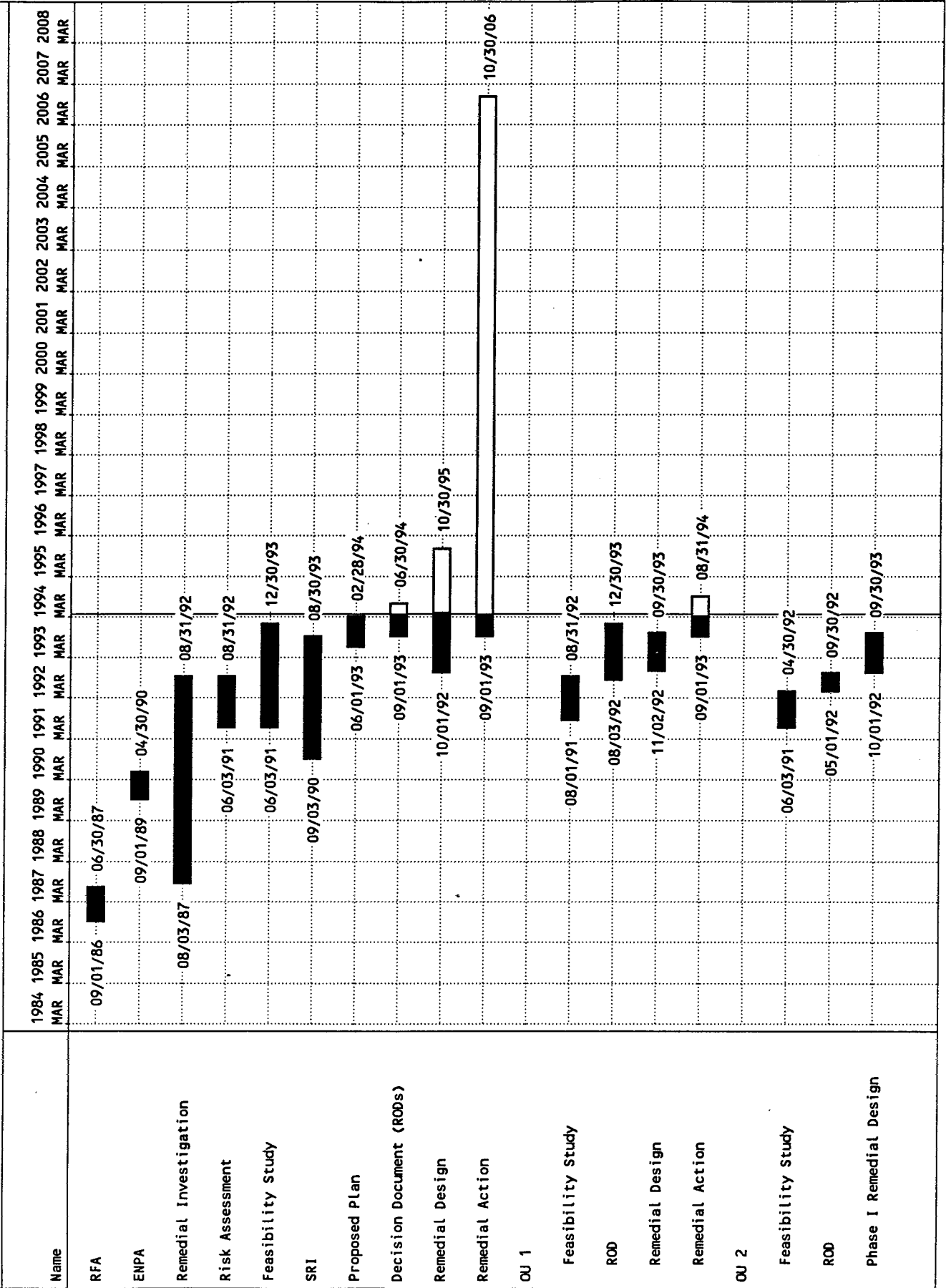
Additionally, the BCT has agreed, to the maximum extent possible, to further expedite the process between the PP and ROD signing. The type of actions to be taken to expedite this process are:

- ▶ Start preparation of the PP at the same time that the draft FS is being revised

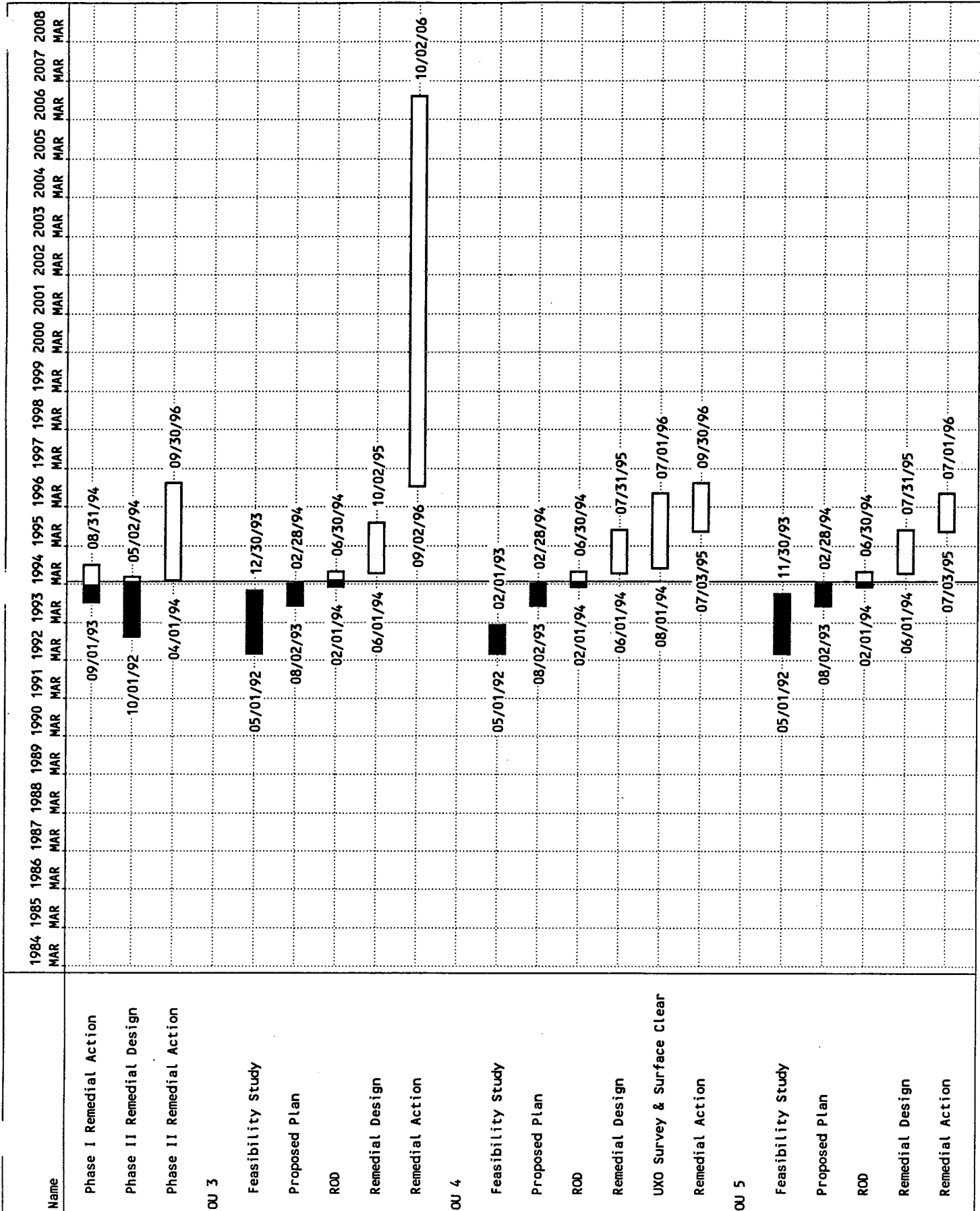
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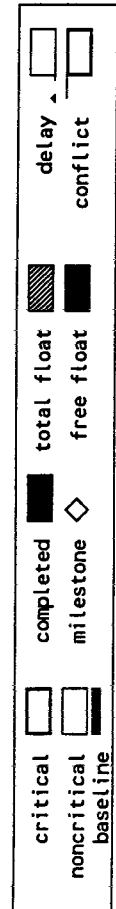
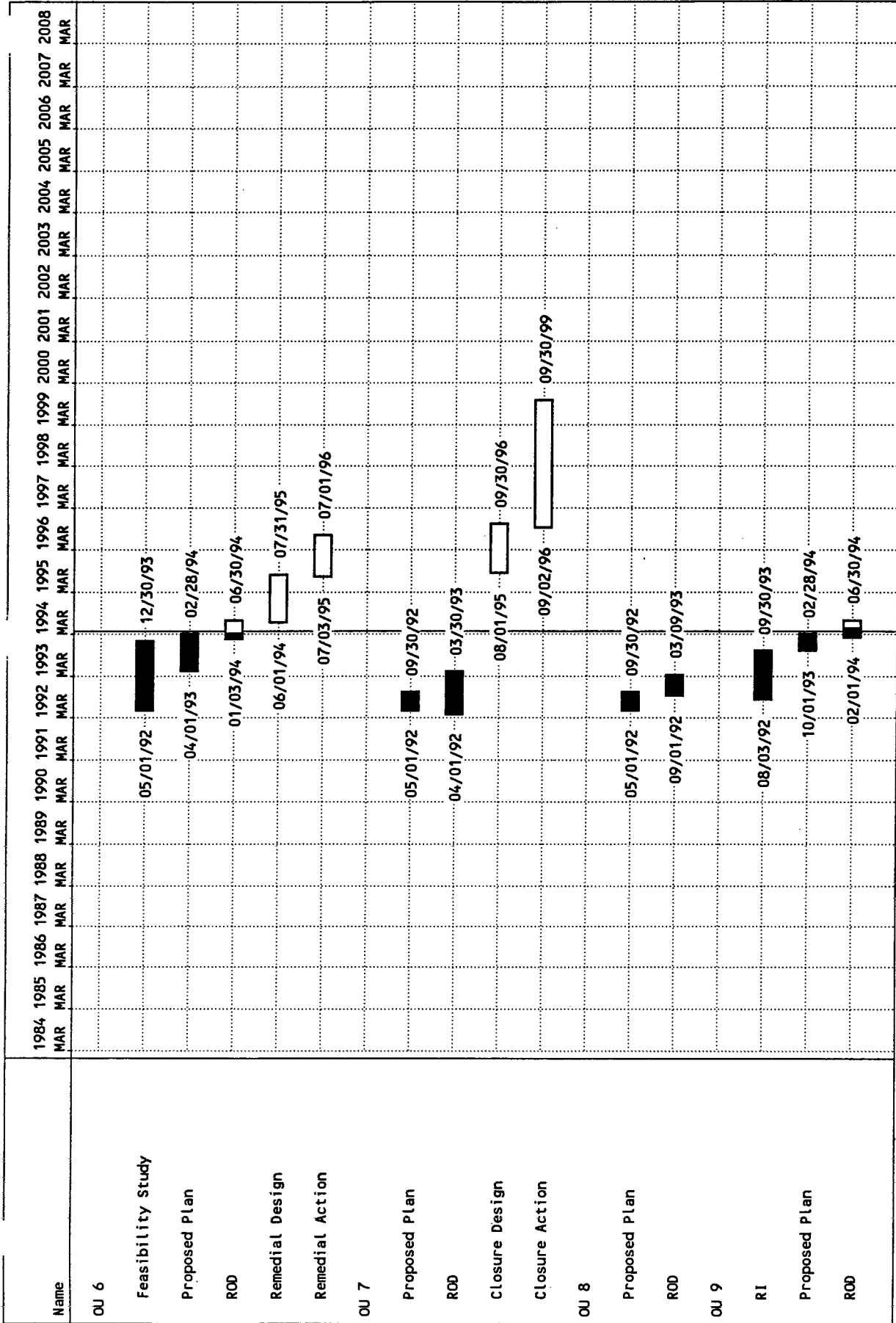
Figure 5-1



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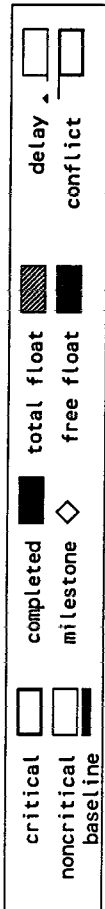
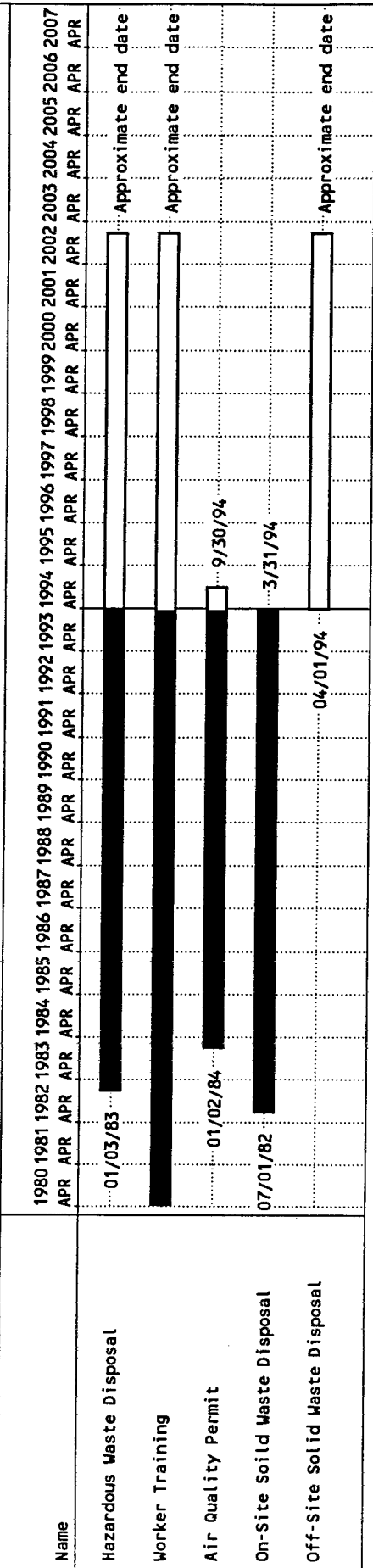
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Figure 5-2



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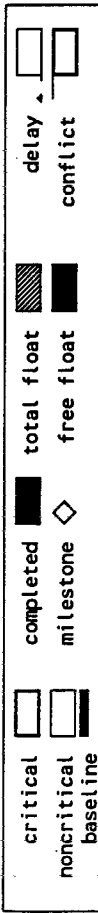
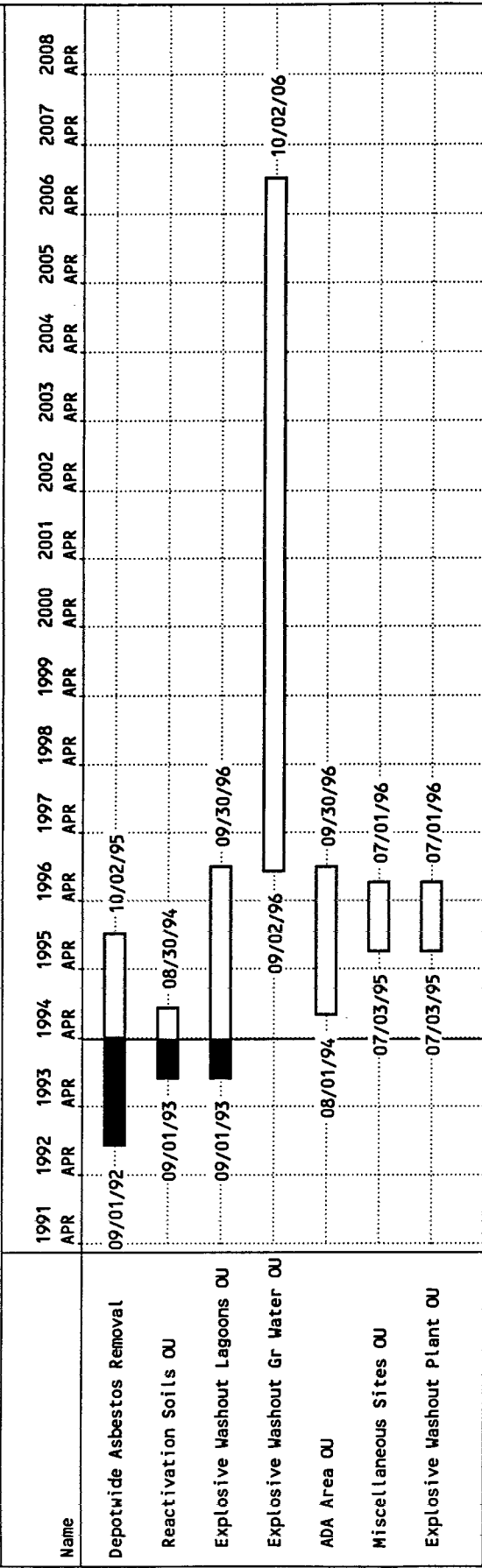
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Figure 5-3



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Figure 5-4 Projected Schedule for Natural and Cultural Resources Activities

At this time, there are no Natural and Cultural Resources activities scheduled at UMDA.

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- ▶ Reduce the review time for the draft PP from 45 days to 30 days
- ▶ Target a 30-day public comment period for the PP
- ▶ Reduce the review time for the draft ROD from 45 days to 30 days
- ▶ Reduce the revision time period for both the PP and ROD, from 45 days to 30 days

5.1.2 Requirements by Fiscal Year

The detailed requirements information by fiscal year is contained in UMDA Work Plan and is incorporated into this document by reference. The tables in Appendix A to this document are taken directly from the Work Plan and provide summary information on funding requirements.

5.2 Compliance Programs

This section presents master compliance schedules and outlines fiscal year requirements for UMDAs environmental compliance programs. Mission-related and closure-related programs are scheduled separately.

5.2.1 Master Compliance Schedules

The compliance schedule for UMDA is provided in Figure 5-2 mission/operational related compliance programs for UMDA is provided in Figure 5-2. The compliance schedule is for closure-related compliance programs is provided in Figure 5-3. Compliance activities to be completed include removal of hazardous waste ongoing worker training, Air Quality Permit and Solid Waste Disposal.

5.2.2 Requirements by Fiscal Year

The detailed requirements information by fiscal year is contained in UMDA Work Plan and is incorporated into this document by reference. The tables in Appendix A to this document are taken directly from the Work Plan and provide summary information on funding requirements.

5.3 Natural and Cultural Resources

This section presents master natural and cultural resources activity schedules and outlines fiscal year requirements for UMDA natural and cultural resource programs.

5.3.1 Natural and Cultural Resources Schedule(s)

The natural and cultural resources schedule for past projects at UMDA is provided in Figure 5-4. There are currently no natural and cultural resources projects planned at UMDA.

5.3.2 Requirements by Fiscal Year

The detailed requirements information by fiscal year is contained in UMDA Work Plan and is incorporated into this document by reference. The tables in Appendix A to this document are taken directly from the Work Plan and provide summary information on funding requirements.

5.4 Meeting Schedule

Meetings are scheduled as required by the applicable process or as mandated by the RODs or FFAs. Meetings are typically held as follows:

- ▶ Remedial Project Manager Meetings - as necessary
- ▶ Document Presentation Meetings - Within 10 days of document submittal
- ▶ Technical/Issue Resolution Meetings - As necessary to facilitate contained movement of the IRP or compliance activities
- ▶ Technical Review Committee - as necessary
- ▶ UST Program Meetings - as necessary

A listing of the past and currently scheduled BCT meetings is provided in Table 5-1.

TABLE 5-1. BCT MEETING SCHEDULE

Date	Topic
14-16 December 1993	Bottom Up Review
18-20 January 1994	Draft BCP Review
15 February 1994	Draft BCP Review
11 February 1994	Review of RA Management Plan for Deactivation Furnace Soils OU
1-3 March 1994	RAB Meeting and Public Meetings for 4 OUs
15-16 March 1994	BCP Meeting with contractor
29-31 March 1994	Remedial Design Review Meeting
April 1994	Review of Final Remedial Design Plan for Phase II (Compost Treatment) of the Explosives Washout Lagoons Soils OU
August 1994	Review of Treatability Study Report for Treatment of Contaminated Soils from Ammunition Demolition Activity Area OU; Review of Treatability Study Report for Treatment of Contaminated Soils from Miscellaneous Sites OU; Review of RA Management Plan for Phase II of the Explosives Washout Lagoons Soils OU; Review of Draft Remedial Design Plan for the Miscellaneous Sites OU; Review of Draft Remedial Design Plan for the Ammunition Demolition Activity Area OU; Review of Pilot Well Testing of the Groundwater OU; Review of Final Report for Cleanup of Deactivation Furnace Soils OU; Review of Draft Remedial Design Plan for the Groundwater OU; Review of Final Report for Cleanup of Phase I of Explosives Washout Lagoons Soils OU.

TABLE 5-1. BCT MEETING SCHEDULE**Continued**

Date	Topic
November 1994	Review of Draft Remedial Design Plan for the Groundwater OU; Review of Draft Final Remedial Design Plan for the Miscellaneous Sites OU; Review of Draft Final Remedial Design Plan for the Ammunition Demolition Activity Area OU; Review of Draft Final Remedial Design Plan for the Explosives Washout Plant OU; Review of Complete Computer Modeling of the Groundwater OU.
March 1995	Review of Draft UXO Survey and Surface Clearance Report of the Ammunition Demolition; Review of Draft Final Remedial Design Plan for the Groundwater OU.
May 1995	Review of Final Remedial Design Plan for the Ammunition Demolition Activity Area OU; Review of Final Remedial Design Plan for the Miscellaneous Sites OU; Review of Final Remedial Design Plan for the Explosives Washout Plant OU.
July 1995	Review of Final Remedial Design Plan for the Groundwater OU.
November 1995	Review of RA Management Plan for the Miscellaneous Sites OU; Review of RA Management Plan for the Explosives Washout Plant OU; Review of RA Management Plan for the Ammunition Demolition Activity Area OU; Review of Draft Remedial Design Plan for the Closure of Active Landfill OU.
January 1996	Review of Remedial Action Management Plan for the Groundwater OU.
March 1996	Review of Draft Final Remedial Design Plan for the Closure of Active Landfill OU.
June 1996	Review of Final Report for the Cleanup of the Miscellaneous Sites OU; Review of Final UXO Survey and Surface Clearance Report of the Ammunition Demolition Activity Area OU.
September 1996	Review of Final Remedial Design Plan for the Closure of Active Landfill OU; Review of Final Report for Cleanup of Phase II of the Explosives Washout Lagoons Soils OU; Review of Final Report for the Cleanup of the Ammunition Demolition Activity Area OU.
December 1996	Review of RA Management Plan for the Closure of Active Landfill OU.
September 1997	Review of Final Report for the Closure of the Active Landfill OU.
May 1998	Review of Statement of Condition for the Umatilla Depot Activity Environmental Restoration.

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CHAPTER 6

► TECHNICAL AND OTHER ISSUES TO BE RESOLVED ◀

This chapter summarizes technical and other issues that are yet to be resolved. These issues include information management; the usability of historical data; data gaps; natural (background) levels of elements and compounds in soil, groundwater, surface water, and sediments; risk assessment; state cleanup standards; and program initiatives to complete cleanup requirements as required to meet property transfer schedules.

6.1 Data Usability

This section summarizes unresolved issues pertaining to the validity of using historical data sets in the installation environmental restoration program.

6.1.1 BCT Action Items

The BCT at UMDA should continue to ensure the acceptability of data generated in order to provide improved information management during the BRAC environmental restoration process:

6.1.2 Rationale

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

Historical data was used during site characterization activities, although it was found to be insufficient to complete an entire site characterization.

6.1.3 Status/Strategy

The BCT is currently reviewing existing environmental documents. Additional site characterization studies will be contracted as necessary.

6.2 Information Management

This section identifies issues that need to be resolved with regard to managing information gathered and used in the installation environmental restoration and compliance programs. Issues include:

- ▶ Improve coordination of, access to, and management of environmental restoration and real estate-type data generated at UMDA
- ▶ Ensure all UMDA data has been loaded into the Installation Restoration Data Management Information (IRDMIS) and DENIX. These electronic data management systems are used by UMDA
- ▶ Require all contractors to submit data in electronic format that can be readily loaded into IRDMIS or DENIX
- ▶ Establish method/procedure to be able to distribute data to parties (USEPA, ODEQ, Real Property Contractors, UMDA etc.) with need for an installation perspective on activities at UMDA
- ▶ Develop provisions for real time data inputs of field decisions to expedite BRAC field work progression.

6.2.1 BCT Action Items

There is currently one BCT that action item should be addressed at UMDA in order to manage data during the environmental restoration BRAC process, the information transfer system, DENIX, should be made available to each BCT member.

6.2.2 Rationale

As the number of agencies and contractors associated with UMDA disposal and environmental restoration program grows, it is important that all parties involved be able to share data for decision making. The establishment and maintenance of an electronic data installation of sampling and analysis data and spatial (e.g., real estate maps) data are the most efficient method of sharing data among parties.

6.2.3 Status/Strategy

A summary of the current status of information management relative to BRAC cleanup activities at UMDA and strategies which have been developed to address data usability requirements is provided below:

- ▶ All historical data generated at UMDA are available at the BEC office. Data regarding environmental sampling for investigations at UMDA. It has been loaded into IRDMIS
- ▶ Future-generated data will be loaded in to IRDMIS as it is generated on a quarterly basis, subject to inclusion of this requirement being added to or included into contracts

- ▶ Necessary contract modifications will be made by the U.S. Army's Service Center/Service Agent to ensure that data from ongoing efforts are submitted electronically in accordance with IRDMIS DENIX guidance.

6.3 Data Gaps

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

6.3.1 BCT Action Items

The most significant data gap related to UMDA is the characterization of the ADA Area in regard to the amount and location of buried UXO.

6.3.2 Rationale

It is necessary to know the amount and location of UXO at the ADA Area in order to evaluate how long it will take the property to be cleared of UXO. It is crucial to ascertain how long the remedial action will take place and if the remedial action will affect other potential reuse options.

6.3.3 Status/Strategy

The ROD for the ADA Area is expected to be signed in June 1994. The Draft ROD has a phased approach for dealing with UXO. Phase I will be a magnetometer survey to identify location and Phase II will be clearance of UXO based on the reuse option, safety factors, and any regulatory requirements.

6.4 Background Levels

Nitrates/nitrites are high in off-site wells. The ODEQ has been sampling and analyzing the groundwater and has added analytical parameters of interest to the U.S. Army. In turn, the U.S. Army has allowed the ODEQ access to UMDA groundwater wells.

6.4.1 BCT Action Items

The BCT will continue to allow access of the UMDA groundwater wells to the ODEQ in exchange for off-site groundwater data.

6.4.2 Rationale

This exchange of information is invaluable to planned remediation of the contaminated groundwater at UMDA.

6.4.3 Status/Strategy

The BCT will direct ongoing exchange of information.

6.5 Risk Assessments

This section summarizes unresolved issues pertaining to the completion of risk assessments required to complete UMDA environmental restoration and compliance programs.

6.5.1 BCT Action Items

Collection of toxicity information for an explosive parameter, 1,3,5-trinitrobenzene, is ongoing.

6.5.2 Rationale

New information regarding this constituent is expected to lower uncertainty factors and raise clean-up levels at the Explosive Washout Lagoons Groundwater OU.

6.5.3 Status/Strategy

New information regarding the toxicity of hazardous constituents should be incorporated into Decision Documents as soon as possible so remedial actions/strategies can be reviewed or changed. Table 6-1 presents a summary of future land use risk for development of remedy selections. Only those sites/OUs where remediation is occurring are listed.

6.6 Installation-Wide Remedial Action Strategy

A remedial action strategy has been developed which addresses the ongoing environmental restoration efforts at UMDA.

6.6.1 BCT Action Items

The remedial action strategy for clean-up of contaminated sites at UMDA has been established and is presented in the work plan and Decision Documents for the Depot. Final reuse decisions regarding the ADA Area have not been made. Reuse options for this area will determine UXO clearance standards.

6.6.2 Rationale

The installation-wide remedial action strategy is structured to achieve expedited remedial actions while controlling costs.

6.6.3 Status/Strategy

The remedial actions outlined in the RODs are in the process of being implemented based on the schedule for these activities.

TABLE 6-1. FUTURE LAND USE RISK ASSESSMENT FOR DEVELOPMENT OF REMEDY SELECTIONS

Site ID	Risks	Contaminants			Current Use	Adjacent Uses	Anticipated Uses
		Groundwater	Soil	Surface/Sediment			
Site 1/OU 1	Lead	--	Lead contamination	Lead contamination	Remediation activities	Warehousing	Industrial Warehousing
Site 4/OU 2	Explosive contaminated soil	--	Explosive residues	Explosives residues	Remediation activities	Former Production Areas	Wildlife Reserve
Site 4/OU 3	Explosive contaminated groundwater	Explosive contaminants	--	--	Remediation activities	Former Production Areas	Wildlife Reserve
Sites 15, 17, 19, 32, 32 (II)/OU 4	Heavy metals contamination	--	Heavy metals contamination	--	Site 32 only; site active - banning propellant trays	ADA Area	Firing Range/Impact Area
Site 22 and 36/OU 5	Lead and cadmium	--	Lead and cadmium contamination	--	Site 22 only; site active - DRMO	Vehicle Maintenance Building	Education/ Training Area
Site 5/OU 6	Explosives risks	--	--	Building contains explosive residues	Not active	Former Production Area	House Groundwater Remediation Equipment

6.7 Interim Monitoring of Groundwater and Surface Water

Interim monitoring of groundwater will be conducted as requested for specific remedial activities. No surface water exists at UMDA.

6.7.1 BCT Action Items

At the present time, no interim monitoring of groundwater has been requested in conjunction with any remedial activities or closed landfills.

6.7.2 Rationale

When groundwater interim monitoring is requested, the monitoring will be conducted as a required task under the Decision Document.

6.7.3 Status/Strategy

The BCT will develop a plan to monitor groundwater in conjunction with the Decision Document requiring the monitoring.

6.8 Excavation of Contaminated Materials

Excavation of contaminated materials at UMDA will occur during the remediation of several OUs.

6.8.1 BCT Action Items

The BCT will ensure that the excavated contaminated soils will be disposed of properly, as specified in the Decision Document.

6.8.2 Rationale

Excavation of contaminated materials will be required as part of the UMDA remedial actions.

6.8.3 Status/Strategy

If additional areas are found to contain contaminated materials, plans for excavation of these materials will be reflected in future updates to the BCP.

6.9 Protocols for Remedial Design Reviews

UMDA has developed remedial design based on protocols established in the FFA for remedial design.

6.9.1 BCT Action Items

UMDA will continue to follow these protocols for remedial design and review of the remedial designs.

6.9.2 Rationale

Review of remedial design and the protocols which ensure the design has been conducted accordingly, having been established in the FFA.

6.9.3 Status/Strategy

The protocols for remedial design reviews established in the FFA will continue to be followed.

6.10 Conceptual Models

Conceptual site models have not been prepared for sites/OUs at UMDA. Conceptual site models will be developed as necessary for sites/OUs at UMDA. When prepared, the conceptual site model summaries will be provided in Appendix E.

6.10.1 BCT Action Items

The BCT will develop conceptual site models as necessary for sites/OUs where remedial action is being completed.

6.10.2 Rationale

As necessary, conceptual site models will be developed based on the results of past, current, and future restoration activities.

6.10.3 Status/Strategy

Past investigation results will be reviewed, evaluated, and integrated with current data to develop conceptual models. The models will focus on source areas, potential extent of contamination, potential contaminant migration pathways, and identification of potential receptors.

6.11 Cleanup Standards

UMDA has established cleanup standards with the regulatory agencies as per regulatory requirements and the FFA.

6.11.1 BCT Action Items

The BCT will continue to meet the cleanup standards established in the Decision Documents as per the FFA.

6.11.2 *Rationale*

UMDA entered into a FFA with the USEPA and the ODEQ. Under the FFA, regulatory obligations, such as remediating sites to established cleanup standards, are to be completed.

6.11.3 *Status/Strategy*

The BCT will continue to ensure that the cleanup standards established in the Decision Documents are met.

6.12 **Initiatives for Accelerating Cleanup**

Initiatives for accelerating cleanup will continue at the Depot. The Depot will be realigning and its new mission will be chemical demilitarization. Following the conclusion of the chemical demilitarization, which is expected to take 5 years after completion of the deactivation incinerator, the Depot will close.

6.12.1 *BCT Action Items*

The BCT will continue to implement and oversee remediation activities so that the activities are complete or well underway at closure. Groundwater remediation at the Explosive Washout Lagoons Groundwater OU is expected to be completed in approximately 10 to 20 years.

6.12.2 *Rationale*

It is desirable to accelerate remedial activities at UMDA, even though most of the property cannot be transferred prior to closure or during chemical demilitarization activities.

6.12.3 *Status/Strategy*

Remedial activities will continue at the established schedules. It is desirable that remedial activities be completed prior to closure (Completion of groundwater remediation may not be possible).

6.13 **Remedial Action**

Currently, the major issues regarding remedial actions are technical issues and contracting issues.

6.13.1 *BCT Action Items*

The BCT will ensure that technical issues that affect remedial activities are addressed in a timely manner. Contracting issues regarding remedial activities will also be addressed as they arise.

6.13.2 *Rationale*

Technical issues must be addressed in a timely manner to ensure that remedial activity schedules are not adversely affected.

6.13.3 *Status/Strategy*

At this time, there are no unresolved technical issues affecting remedial activities at UMDA.

6.14 **Review of Selected Technologies for Application of Expedited Solutions**

Selected technologies for expedited remedial action will be reviewed on an as-needed basis for OUs at UMDA.

Remedial solutions have already been proposed at the UMDA, as of April 1994, so that no other selections remain to be expedited. Previously, the Explosives Washout Lagoons Soils OU was separated out from the site-wide RI/FS to expedite for composting of explosives-contaminated soils. At the time the only technology proven for explosives was incineration, and success of the test at UMDA led UMDA and the regulators to consider that composting would be the best technology for an expedited cleanup of the lagoons. A separate risk assessment, FS, and ROD was conducted for the lagoons soils. The ROD was signed in September 1992, approximately one year and 9 months earlier than the expected RODs for most of the other UMDA sites.

For metals-contaminated soil at the UMDA deactivation furnace, solidification was considered the most likely choice for remedial action. Because the site was fairly well-defined, and the cleanup technology was known, this site was also broken out as a separate operable unit, with a separate FS and ROD. The ROD was signed in January 1993, approximately one and a half years ahead of the expected RODs for most of the other sites.

6.14.1 *BCT Action Items*

As selected technologies for application of expedited solutions are developed they will be reviewed and assessed for appropriateness.

6.14.2 *Rationale*

It is desirable to expedite evaluation of remedial technologies at UMDA in order to facilitate the property transfer process.

6.14.3 *Status/Strategy*

The BCT will continue to evaluate technologies for expedited cleanups as these technologies become known and available.

6.15 Hot Spot Removals

There have been no hot spot removals at UMDA.

6.15.1 BCT Action Items

If any hot spots are identified at UMDA, the BCT will review the situation to determine if removal of the hot spots will expedite cleanup and property transfer efforts. If these efforts will be expedited by a hot spot removal, the BCT may elect to incorporate this approach into the remedial action strategy for the depot.

6.15.2 Rationale

Hot spot removals may expedite any required clean up effort and facilitate property transfer. If appropriate, and if hot spot removals are identified, they will be used to achieve these goals.

6.15.3 Status/Strategy

Should information arise which would suggest the need for immediate action in order to protect human health and the environment, the BCT in conjunction with USEPA Region X and the ODEQ will make a decision regarding the hot spot removals.

6.16 Identification of Clean Properties

The identification of clean properties has been completed at UMDA.

A record search and site visit was conducted at UMDA in 1993-1994 to prepare a report to comply with the CERFA. The intent of CERFA is to identify clean properties, those which have had no release or storage of CERCLA hazardous substances, or petroleum-related products.

This draft report was issued in December 1993, and will be finalized in April 1994. The report contains a map of CERFA uncontaminated parcels.

6.16.1 BCT Action Items

As OUs at UMDA are remediated, the BCP and CERFA report will be updated to reflect the changes.

6.16.2 Rationale

It is necessary to identify clean properties as part of the property transfer effort.

6.16.3 Status/Strategy

Section 3.4.5 of this BCP describes the suitability of property for transfer. CERFA process is being used as a screening mechanism to identify properties that are immediately transferable.

The properties have been designated CERFA parcels and CERFA parcels with qualifiers. Figure 3-3A and Figure 3-3B illustrate these parcels which are immediately transferable. As areas at UMDA are remediated, the BCP will be updated to reflect the changes.

6.17 Overlapping Phases of the Cleanup Process

The RI and FS phases overlapped significantly because of the need to conduct a second phase of the RI. The overall RI was completed to define the groundwater contamination at the washout lagoons, or the extent of soil contamination at some sites. A second phase of the RI was conducted from the fall of 1992 until the fall of 1993 to collect more information, and the information was added to the ongoing draft and draft final FSs in early and late 1993.

For the Washout Lagoons Soils OU, the ROD was signed in September 1992 with the specification that composting would be conducted using either a mechanically agitated vessel or windrow method. Costs for windrows were specified in the ROD, and although it was expected that windrows would be successful, only the agitated vessel method had been demonstrated. A windrow treatability study was initiated in the fall 1992 and completed in 1993, concurrent with the remedial design. Windrow composting was shown to be successful, and was retained in the final remedial design.

During April-June 1994, as the RODs for the ADA area, Miscellaneous Sites, the Explosive Washout Plant, the Explosive Washout Lagoons Groundwater, and the SRI Study Sites OUs are being finalized. Limited remedial design is expected. No significant change is expected in the remedies prior to ROD signature, so an early start on remedial design will expedite completion of the remedial actions.

6.17.1 *BCT Action Items*

The BCT will review the remedial designs to evaluate where opportunities exist for combining remedial actions in order to eliminate duplication of effort.

6.17.2 *Rationale*

Overlapping remedial actions can eliminate redundant efforts and facilitate property transfer.

6.17.3 *Status/Strategy*

Some remedial actions planned at UMDA could be combined. For example, UXO removal and site remediation could occur at several sites concurrently.

6.18 Improved Contracting Procedures

Improved contracting procedures include pre-placed indefinite delivery contracts. Pre-placed indefinite delivery contracts are being utilized for UST removal and petroleum contaminated soil remediation. These contracts help to expedite the BRAC cleanup. These contracts include pre-

negotiated unit pricing, scope of work for analytical data acquisition, remedial action management plans, and regulatory reporting requirements.

To expedite the removal of the contamination from the washout lagoon soils, the action was separated into two phases. In the first phase, the soil was excavated and stockpiled. This effort was well defined and standard materials handling equipment and procedures were used. An invitation for bid was used to select the contractor.

A request for proposal was used for the more complex second phase composting of the stockpiled soil. Technical requirements were advertised and distributed to the remediation industry for proposals. The contractor was selected based on technical merit and price. The request for proposal solicitation allows the evaluation of different and often innovative technical approaches to achieve the remediation goals.

6.18.1 *BCT Action Items*

The BCT will continue to investigate approaches for expediting contract procedures for the cleanup work.

6.18.2 *Rationale*

Timeliness in the contracting process is important for completing restoration work.

6.18.3 *Status/Strategy*

UMDA's use of the pre-placed indefinite delivery contracts and the phased approach using invitations for bids and requests for proposals will allow the depot to complete restoration work in a timely manner.

6.19 **Interfacing with the Community Reuse Plan**

The Community Reuse Plan was drafted in late 1993, and was considered in the preparation of this BCP. The reuse plan is still being revised, as the limitation on future property use are incorporated into the planned use of the different parts of UMDA. The ADA Area with the remaining UXO is especially affected. The reuse map included in this BCP is the latest version available.

Reuse is also affected by the "footprint" of the UMDA, which is the property that UMDA must retain in order to continue its chemical munitions storage mission and chemical stockpile demilitarization effort. This footprint is also evolving and the latest draft version is included in this BCP.

6.19.1 *BCT Action Items*

The BCT needs to update the Community Reuse Plan as necessary to reflect changes in the reuse parcels.

6.19.2 *Rationale*

Coordination with the Community Reuse Plan contributes to the selection of appropriate cleanup standards and facilitates implementation of remedial alternatives, ultimately resulting in a successful transfer of property.

6.19.3 *Status/Strategy*

The BCT will identify sections of the Community Reuse Plan that need to be revised to reflect meeting requirements and approaches to distributing information.

6.20 **Bias for Cleanup Instead of Studies**

At this time, all investigations of the sites/OU's at UMDA has been completed. During the investigations at UMDA, several of the most contaminated sites were broken out of the overall investigation so that cleanup of these sites could be expedited. This action allowed the cleanup of these sites to be started approximately 1-2 years prior to the cleanup of the other sites.

6.20.1 *BCT Action Items*

The BCT will make every effort to implement any necessary RAs as soon as possible to facilitate transfer of UMDA. Investigations which identify and delineate the contamination will be completed expeditiously, so cleanup can commence.

6.20.2 *Rationale*

Although cleanup is preferred in lieu of extensive studies, extensive studies at UMDA provided sufficient justification for no action decisions at 72 of the 83 sites identified in the RI/FS.

6.20.3 *Status/Strategy*

Where applicable for any future sites that are identified, the BCT will promote studies instead of cleanup to expedite the transfer property.

6.21 **Expert Input on Contamination and Potential Remedial Actions**

The UMDA has utilized the services of and consulted with various contractors and expert agencies in conducting the environmental work. The USAEC has conducted most of the RI/FS work and other surveys for asbestos, radon, and USTs. The UMDA has used the services of the USACE to conduct all of the RA work. During the RI/FS, the USAEC has consulted with the following agencies:

- ▶ The U.S. Army Corps of Engineers-Seattle District
- ▶ The U.S. Army Corps of Engineers-Waterways Experiment Station
- ▶ The Oregon Water Resources Department
- ▶ The University of Washington
- ▶ The National Audubon Society.

6.21.1 *BCT Action Items*

The BCT is currently utilizing several resources to be evaluated potential remedial actions and technologies.

6.21.2 *Rationale*

The use of several entities involved in the restoration of UMDA will promote the expected property transfer process.

6.21.3 *Status/Strategy*

The BCT will continue to ensure that the proper resources are used to evaluate contamination and potential remedial actions.

6.22 Presumptive Remedies

Presumptive remedies were not used for the operable units at UMDA. Where remedial actions were needed, an FS was conducted which included screening of technologies and remedial alternatives.

The USEPA has issued guidance on presumptive remedies for a few specific contamination scenarios, e.g., one of the presumptive remedies for vadose zone volatile organic compound contamination is soil vapor extraction.

6.22.1 *BCT Action Items*

The BCT does not need to consider presumptive remedies to expedite implementation of the installation's remedial action strategy.

6.22.2 *Rationale*

FSs for remedial action have been conducted for all the OUs at UMDA.

6.22.3 *Status/Strategy*

Presumptive remedies will not be used, as FSs were conducted.

6.23 Partnering

The FFA between the UMDA, USEPA, and ODEQ sets out the framework for all three parties to work together to be in accordance with CERCLA and State of Oregon laws.

6.23.1 *BCT Action Items*

At the present time, the BCT is actively fostering partnerships with USAEC, USEPA, ODEQ, and the community through scheduled meetings and the document review process.

6.23.2 *Rationale*

Close cooperation/coordination between UMDA, USAEC, the community, and regulators helps foster good working relationships, and can accelerate implementation of the installation's remedial action strategy by keeping "key players" informed of the status of environmental efforts, soliciting their input, and addressing potential concerns in the remediation process.

6.23.3 *Status/Strategy*

The BCT plans to continue its activities and to encourage information transfer between UMDA, USAEC, the community and regulators.

6.24 Updating the CERFA Report and Natural Cultural Resources Documentation

Natural and cultural resource information has been documented at UMDA. The CERFA report, including parcel classifications, will be updated as necessary based on the results of ongoing restoration at UMDA.

6.24.1 *BCT Action Items*

The BCT will update the CERFA report, including parcel classifications, as necessary when remedial actions at UMDA are complete.

6.24.2 *Rationale*

Updates of the CERFA report are necessary to reflect changes in parcel classification based on completion of remedial actions.

6.24.3 *Status/Strategy*

The BCP will periodically review the CERFA report in conjunction with new data from remedial actions to determine if parcels can be reclassified to allow property transfer.

6.25 Implementing the Policy for Onsite Decision Making

Most decisions for cleanup actions have been made as of April 1994. No impediments to quick decision making are expected in the future.

Formal U.S. Army approval of RODs has remained at the installation Commander and Deputy Assistant Secretary, Installation, Logistic, and Environmental level.

6.25.1 *BCT Action Items*

If additional decisions for cleanup actions are necessary, the BCT will consult the appropriate U.S. Army representatives.

6.25.2 *Rationale*

Close cooperation/coordination between the decision making groups has helped to foster good working relationships, and has helped to accelerate implementation of the installation-wide remedial action strategy by keeping the "key players" informed of the status of environmental efforts soliciting their input, allowing effective onsite decision making, and addressing potential concerns in the remediation process.

6.25.3 *Status/Strategy*

The BCT plans to continue its activities and to encourage information transfer between the UMDA, USEPA, ODEQ, and the community.

6.26 Structural and Infrastructure Constraints to Reuse

The most significant constraint on future reuse is a limitation on the use of groundwater wells at UMDA. The State of Oregon grants UMDA the right to use the existing UMDA water supply wells in order to operate the Depot; however, it is unknown whether future owners would be permitted to access groundwater at these wells.

6.26.1 *BCT Action Items*

As new information regarding this significant constraint becomes available, the BCT will evaluate approaches for overcoming this constraint or new constraints that may be identified in the future.

6.26.2 *Rationale*

Potential structural and infrastructure constraints must be overcome, or alternative reuses must be identified, to allow transfer of UMDA property.

6.26.3 *Status/Strategy*

BCT will continue to pursue information leads as to the status of future property owners being permitted to access groundwater from the existing UMDA water supply wells.

6.27 **Other Technical Issues to be Resolved**

There are no other technical issues to be resolved at UMDA.

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CHAPTER 7

► PRIMARY REFERENCES ◀

Final Interim RCRA Facility Assessment, Umatilla Depot Activity, NUS Corporation, June 1987.

Enhanced Preliminary Assessment for Umatilla Depot Activity, Dames and Moore, April 1990.

Risk Assessment for the Explosive Washout Lagoons, Dames and Moore, March 1992.

Feasibility Study for the Explosive Washout Lagoons Soils Operable Unit, Dames and Moore, April 1992.

Remedial Investigation Report for the Umatilla Depot Activity, Dames and Moore, August 1992.

Human Health Baseline Risk Assessment, Umatilla Depot Activity, Dames and Moore, August 1992.

Record of Decision for the Explosive Washout Lagoons Soils Operable Unit, September 1992.

Record of Decision for Deactivation Furnace Soils Operable Unit, USACE, Seattle District, December 1992.

Ecological Assessment Report for the Umatilla Depot Activity, Dames and Moore, January 1993.

Record of Decision for the Active Landfill Operable Unit, March 1993.

Record of Decision for the Inactive Landfills Operable Unit, March 1993.

Supplementary Remedial Investigation Report for Umatilla Depot Activity, Dames and Moore, September 1993.

Supplementary Human Health Baseline Risk Assessment Depot for the Umatilla Depot Activity, Dames and Moore, September 1993.

Draft Record of Decision for the Explosives Washout Plant Operable Unit, January 1994.

Draft Record of Decision for the Explosive Washout Lagoons Groundwater Operable Unit, February 1994.

Draft Record of Decision for the Ammunition Demolition Activity Area Operable Unit, February 1994.

Draft Record of Decision for the Miscellaneous Sites Operable Unit, February 1994.

Internal Draft Record of Decision for the Supplementary Remedial Investigation Study Sites and PCB Transformer Locations, February 1994.

APPENDIX A

► FISCAL YEAR FUNDING REQUIREMENTS/COSTS ◀

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TABLE A-1. TOTAL ENVIRONMENTAL PROGRAM SUMMARY

FUND REQUIREMENTS (\$000)								
Program	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	Total
IRP DERA	0	0	0	0	0	0	0	0
IRP BRAC	4530	8735	7340	6310	3400	0	0	30315
EC-CR	282	174	400	0	0	0	0	856
EC-MR	0	0	0	0	0	0	0	0
NAT/CULT	0	0	0	0	0	0	0	0
Total	4812	8909	7740	6310	3400	0	0	31171

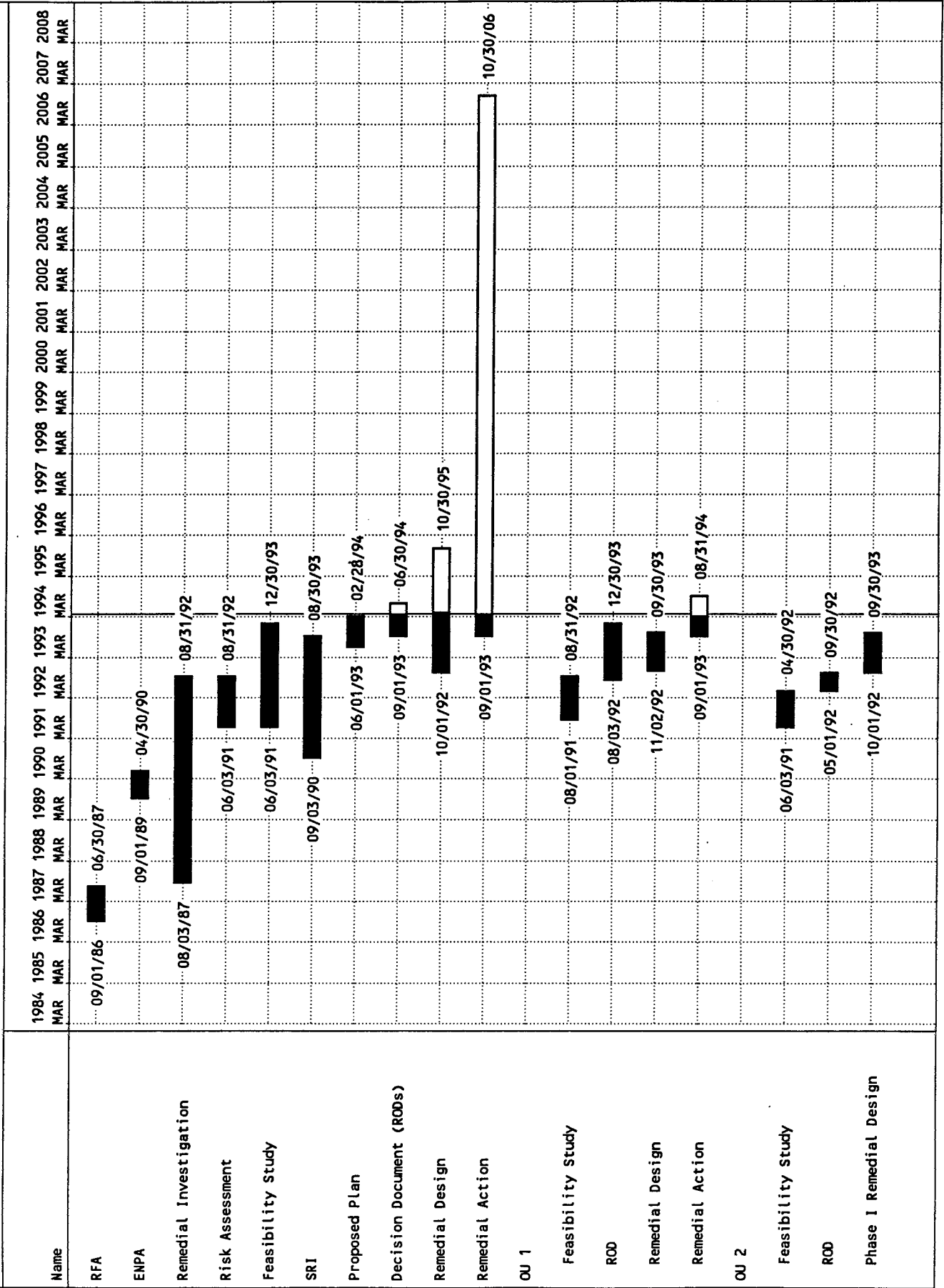
TABLE A-2. HISTORICAL ENVIRONMENTAL PROGRAM EXPENDITURES SUMMARY

FUND REQUIREMENTS (\$000)								
Program	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	Total
IRP DERA	609	998	165	4891	3744	6041	178	16626
IRP BRAC	0	0	0	0	0	400	7115	7515
EC-CR	0	10	50	310	196	167	0	733
EC-MR	0	0	0	0	0	0	0	0
NAT/CULT	0	0	0	0	0	0	0	0
Total	609	1008	215	5201	3940	6608	7293	24874

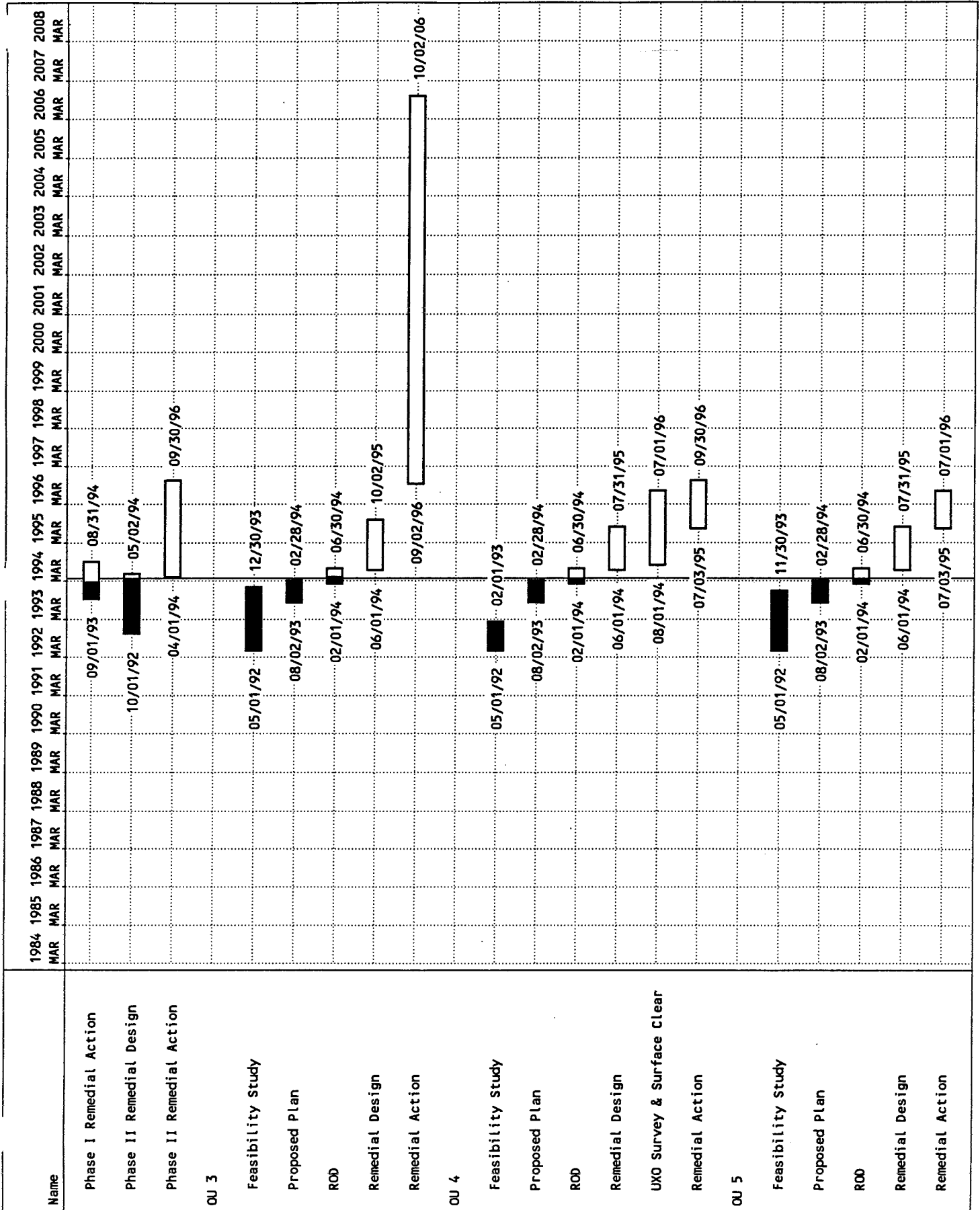
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PROJECT: Matilla
 MANAGER:
 CURRENT DATE: 04/11/94
 AS OF DATE: 04/11/94

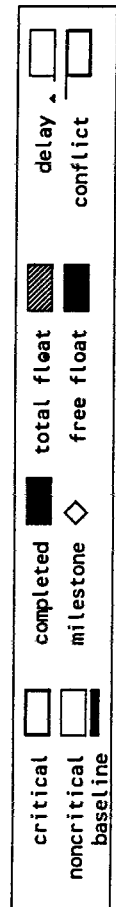
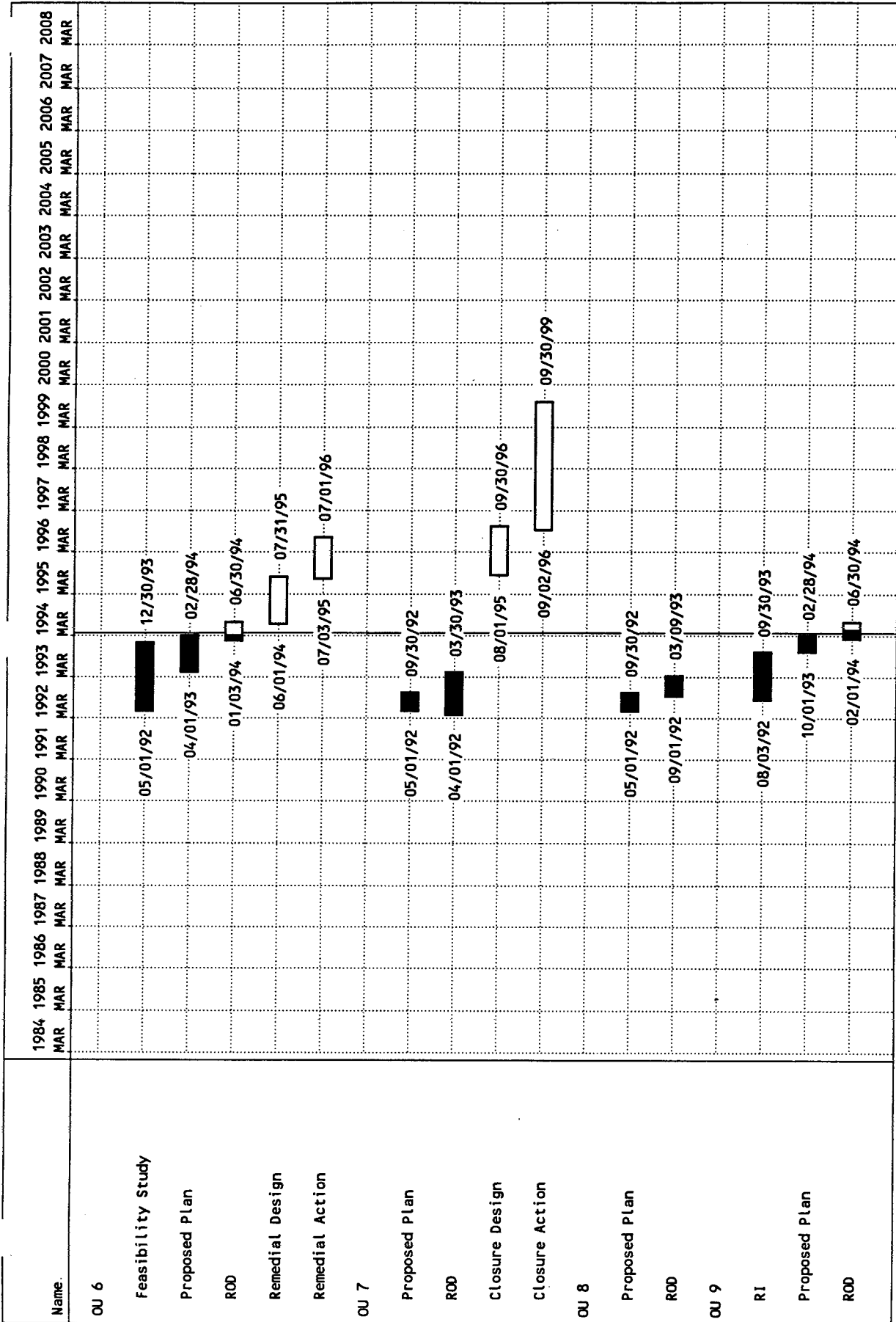
Figure A-1



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APPENDIX B

► INSTALLATION ENVIRONMENTAL RESTORATION DOCUMENTS SUMMARY TABLES ◀

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TABLE B-1. PROJECT DELIVERABLES

Year	Phase	Project Title	Report No.	Sites Examined	Delivery Date/By Whom
1981	PA	RFA	1	1-30	NUS Corporation, June 1987
1990	ENPA	Records Search/Site Investigation	2	1-82	Dames & Moore, April 1990
1992	Risk Assessment	Risk Assessment for Explosive Washout Lagoons	3	4	Dames & Moore, April 1992
1992	RI	Remedial Alternatives	4	4	Dames & Moore, April 1992
1992	FS	Site Characterization	5	58 sites	Dames & Moore, August 1992
1992	Risk Assessment	Human Health Baseline Risk Assessment	6	58 sites	Dames & Moore, August 1992
1993	SRI	SRI	12	13 sites	Dames & Moore, September 1993
1993	Risk Assessment	Supplementary Human Health Baseline Risk Assessment	13	13 sites	Dames & Moore, September 1993

TABLE B-2. SITE DELIVERABLES

Site ID	ENPA/SI	RI/FS	RD/RA	Close Out	IRA	LTM	NFRAP
OU 1	2	5					
OU 2	2	4,5					
OU 3	2	5					
OU 4	2	5					
OU 5	2	5					
OU 6	2	5					
OU 7	2	5					10
OU 8	2	5					11
OU 9	2	5					12

**TABLE B-3. TECHNICAL DOCUMENTS/
DATA LOADING STATUS SUMMARY**

Date	IRP Title	Site/OU	Contractor	Service Center	IRDMIS Status/Other

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APPENDIX C

▶ DECISION DOCUMENT/ROD SUMMARIES ◀

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APPENDIX C

► DECISION DOCUMENT/ROD SUMMARIES ◀

As of February 1994, UMDA has pared nine RODs for OUs 1 through 9. The RODs summarize the findings of the RI/FS and Risk Assessments and the remedial alternatives selected to address the contamination found at the sites. Three of the RODs are "No Action" remedies. These will also be addressed in this section because they went through the formal ROD process.

For OU 1 (Deactivation Furnace Soils), the selected remedy is excavation of all soils with lead concentrations exceeding the cleanup level of 500 mg/kg. These soils will be solidified and disposed of in the UMDA state permitted Active Landfill.

For OU 2 (Explosive Washout Lagoons Soils), the selected remedy is excavation of lagoon soils having 2,4-trinitrotoluene (TNT) or hexahydro-1,3,5-trinitro-1,3,5-triazine (commonly referred to as Royal Demolition Explosive or RDX) concentrations greater than 30 ppm each (initially estimated to be 6,800 tons of soil); onsite biological treatment of excavated soils, via composting, to TNT and RDX concentrations of 30 ppm or less; and replacement of composted soils in the excavation, covering the area with two feet of clean soil, and revegetating.

For OU 3 (Explosive Washout Lagoons Groundwater), the selected remedy is a 10-year on-site treatment using granular activation carbon (GAC) followed by reinfiltration of the treated groundwater. The major components include: extraction from a series of three wells over a 10-year period, pretreatment by metals precipitation, treatment by GAC to meet proposed cleanup levels, and reinfiltration into an aquifer.

For OU 4 (Ammunition Demolition Activity (ADA) Area), the selected remedy is on-site treatment of all contaminated soil by solidification/stabilization and on-site disposal. The specific steps include: excavation of approximately 14,000 cubic yards of contaminated soil and ADA sites 15, 17, 19, 31, and 32 (Area II). UXO would be removed from these sites during excavation as necessary to permit safe excavation and access, treatment by a mobile solidification/stabilization system, disposal of treated soil from the solidification (stabilization) system into the on-site Active Landfill, and restoration of excavated areas with clean backfill and vegetation.

For OU 5 (Miscellaneous Sites), the selected remedy is excavation of contaminated soils at Sites 22 and 36, solidification/stabilization of the soils, followed by on-site disposal of the treated materials and replacement of excavated soil with clean soil.

For OU 6 (Explosive Washout Plant, Building 489), the selected remedy is the washout water sump would be remediated by cleanout and disposal of the standing water and sludge followed by remote flaming of the sump. The Washout Plant and process equipment would be decontaminated by the hot gas process before removal of the process equipment from the Washout Plant Building. The major components of the selected remedy include the following:

pumping out wet explosive sludge from the washout water sump and moving it to the burn trays in the ADA area to dry and be burned; pumping out contaminated water from the washout water sump and moving it to the burn trays in the ADA Area to dry and be burned; excavated and flame (by remote operation) the empty washout water sump; and landfill the decontaminated concrete sump.

For OU 7 (Active Landfill), the selected remedy is the No Action Alternative. Following remedial activities at other sites/OUs on the Depot, the Active Landfill will be capped and closed in accordance of Oregon State solid waste regulations. Groundwater monitoring will be performed for five years to ensure the landfill does not constitute a source of contamination.

For OU 8 (Inactive Landfill), the selected remedy is the No Action Alternative. A five-year review of the Inactive Landfills is not required because the physical site conditions are not expected to be altered and no site access restrictions, risk-based or otherwise, are needed.

For OU 9 (Supplementary Remedial Investigation (SRI) Study Sites and PCB Transformer Locations), the selected remedy is the No Action Alternative. Because this remedy will not result in hazardous substances remaining onsite above health-based levels, the 5-year review will not apply to the no action remedy.

APPENDIX D

▶ NO FURTHER RESPONSE ACTION PLANNED (NFRAP) SUMMARIES ◀

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APPENDIX D

▶ NO FURTHER RESPONSE ACTION PLANNED (NFRAP) SUMMARIES ◀

The No Action RODs are described in Appendix C.

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APPENDIX E

► CONCEPTUAL SITE MODEL DATA SUMMARIES ◀

There are no conceptual site models for UMDA. If they are developed in the future they will be presented here.

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APPENDIX F

▶ ANCILLARY BCP MATERIALS ◀

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