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M.D.



# THE MEMPHIS DEPOT TENNESSEE

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## ADMINISTRATIVE RECORD COVER SHEET

AR File Number 863

# BRAC CLEANUP PLAN VERSION 9

Defense Depot Memphis, Tennessee



Defense Logistics Agency



MACTEC Engineering  
and Consulting, Inc.



Air Force Center for  
Environmental Excellence  
Contract No. F41624-03-D-8606  
Task Order No. 0080

July 2006  
Revision 1

**DEFENSE LOGISTICS AGENCY**

DEFENSE DISTRIBUTION CENTER  
2001 MISSION DRIVE  
NEW CUMBERLAND, PA 17070-5000

IN REPLY  
REFER TO

DES-DDC-EE

July 6, 2006

MEMORANDUM FOR: TURPIN BALLARD (USEPA-Region 4) and  
EVAN SPANN (TDEC)

SUBJECT: Base Realignment and Closure (BRAC) Cleanup Plan, Version 9,  
Revision 1, Former Defense Depot Memphis, Tennessee

The BRAC Cleanup Plan, Version 9, Revision 1 (BCP) is hereby submitted. The BCP has been revised to incorporate the responses to comments received from USEPA and TDEC.

For more information, please contact David Price, Project Manager for MACTEC at (770) 421-7022.

A handwritten signature in black ink, appearing to read "Michael A. Dobbs".

MICHAEL A. DOBBS  
Environmental Program Manager

Attachment via CD:  
BRAC Cleanup Plan, Version 9, Revision 1

Distribution:

Turpin Ballard, EPA (3 copies)  
Evan Spann, TDEC (3 copies)  
Michael Dobbs, DES-DDC (1 copy)  
Roy Shrove, AFCEE (1 copy)  
David Nelson, CH2M Hill (1 copy)  
John Miller, Mitretek (1 copy)

## **EXECUTIVE SUMMARY**

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### **EXECUTIVE SUMMARY**

The Secretary of Defense, in cooperation with Congress, proposed a law to close bases and bring base structure in line with force structure. Public Law 100-526, enacted in 1988, created the Commission on Base Realignment and Closure (BRAC). The law charged the Commission with recommending installations for closure or realignment, based on independent study of the domestic military base structure. With subsequent passage of Public Law 101-510 under Title XXIX, enacted in 1990, Congress created the Defense BRAC Commission to provide a fair process for the timely closure and realignment of military installations. Public Law 101-510 provided for the BRAC Commission to meet in 1991, 1993, and 1995. The BRAC process identifies installations based on eight criteria, including military value, cost savings and return-on-investment, and the economic and environmental impacts of closure. In July 1993, the President of the United States announced his base closure community reinvestment program to help speed the economic recovery of communities affected by the U.S. Department of Defense's BRAC program. The BRAC 95 program has been developed in response to the President's program to limit delays in property reuse and transfer by changing the way cleanup is conducted (i.e., from a slow-paced, structured process to an accelerated, fluid process).

This BRAC Cleanup Plan (BCP) for the former Defense Distribution Depot Memphis, Tennessee, is being prepared under the BRAC 95 program. The BRAC process includes preparing an environmental baseline survey, Community Environmental Response Facilitation Act reports, sampling and analysis recommendations, and a BCP. The BCP process under the BRAC 95 program centers on a single goal: *expediting and improving environmental response actions in order to facilitate disposal and reuse of the Depot while protecting human health and the environment.*

The BCP provides the status, management and response strategy, and action items related to the ongoing environmental restoration and associated compliance programs at the Depot. These programs support full restoration of the base property, where feasible, to meet the requirements for property transfer and reuse activities associated with closure of the installation.

The BCP is a planning document based on the best available, current information and is used to fulfill the Site Management Plan requirements of the Federal Facility Agreement signed by the Depot, U.S. Environmental Protection Agency, and State of Tennessee Department of Environment and Conservation. The information and assumptions presented may not necessarily have final approval from the base authorities and/or federal and state regulatory agencies. The BCP is a

## **EXECUTIVE SUMMARY**

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dynamic document that will be updated periodically to reflect the current status and strategies of remedial actions. This document represents conditions and strategies as of 1 November 2005.

The following BCP abstract (Table ES-1) provides a summary of essential information contained in the BCP for the Depot. It includes summaries of the installation description, environmental condition of the property, reuse planning status, restoration program, compliance program, conservation program, issues for execution of the program, and projected fiscal year funding.

# TABLE ES-1

## BRAC CLEANUP PLAN ABSTRACT FOR FY05

### Department of Defense Component Defense Logistics Agency

**Installation Name:** Defense Distribution Center (Memphis) **Date Prepared:** 200601  
**FFID:** TN-9715020570 **BRAC Round:** IV  
**Location:** Memphis, Tennessee **BRAC Type:** C

#### INSTALLATION SUMMARY

**Scheduled Operational Closure Date:** \_\_\_\_\_ **Date CERFA EBS Submitted:** 199611  
**Actual Operational Closure Date:** 199709 **Number of CERFA Acres Proposed:** 57.43  
**Total Number of Installation Acres:** 642 **Number of CERFA Acres Concurred:** 57.43  
**Acres Retained by Component:** 0 **Date CERFA Concurrence Received:** 199703/1998  
**Acres to be Transferred to another Component:** 0 **Date BCT Formed:** 199512  
**Acres Planned for non-DoD Federal Transfer:** 0 **Date Initial BCP Completed:** 199611  
**Acres Planned for Non-Federal Transfer:** 642 **Date of Last BCP Update:** 200503  
**Actual Acres Leased to non-DoD Federal Entity:** 0 **Date RAB Established:** 199402  
**Actual Acres Transferred to non-DoD Federal Entity:** 64.40  
**Actual Acres Leased to Non-Federal Entity:** 578 **Actual Acres Transferred to Non-Federal Entity:** 26.12

| Types of Acres            | Environmental Condition of Property |   |       |        |   |        |   |
|---------------------------|-------------------------------------|---|-------|--------|---|--------|---|
|                           | 1                                   | 2 | 3     | 4      | 5 | 6      | 7 |
| Acres according to CERCLA | 0.93                                | 0 | 58.60 | 412.73 | 0 | 169.74 | 0 |

| Additional Environmental Considerations  | Number of Acres |
|--|-----------------|
| Petroleum, oils, and lubricants  | 8.01            |
| Unexploded ordnance/Ordnance or explosives   | 0               |
| Areas that require protection because of the presence of natural or cultural resources | 56.03           |

**Total Number of Acres Available for Transfer:** 370.19  
**Total Number of Acres Eligible for Disposal:** 642

| Activity     | Installation Budget (\$000) |             |             |             |             |             |             |             |                 |
|--------------|-----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|
|              | FY04                        | FY05        | FY06        | FY07        | FY08        | FY09        | FY10        | FY11        | FY12-Completion |
| Restoration  | 4589                        | 3087        | 4470        | 9099        | 5603        | 1152        | 1405        | 1107        | 5625            |
| Compliance   | 0                           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0               |
| Planning     | 95                          | 125         | 0           | 0           | 0           | 0           | 0           | 0           | 0               |
| Management   | 625                         | 645         | 110         | 682         | 420         | 86          | 63          | 50          | 253             |
| <b>TOTAL</b> | <b>5309</b>                 | <b>3857</b> | <b>4580</b> | <b>9781</b> | <b>6023</b> | <b>1238</b> | <b>1468</b> | <b>1157</b> | <b>5878</b>     |

#### REUSE PLANNING STATUS

**Name of LRA:** Depot Redevelopment Corporation of Memphis and Shelby County  
**Status of the Redevelopment Plan:** Completed and approved by LRA board, city and county  
**Projected Date of Installation-Wide Disposal and Reuse EA/EIS:** \_\_\_\_\_ **Type of NEPA:** \_\_\_\_\_  
**Actual Date of Installation-Wide Disposal and Reuse EA/EIS:** 199803 **Type of NEPA:** EA  
**Final Property Disposal Date:** 201105 **Actual/Projected:** Projected

**TABLE ES-1**  
**BRAC CLEANUP PLAN ABSTRACT FOR FY05**

|   | <b>FOST</b> | <b>FOSL</b> |
|---|-------------|-------------|
| Cumulative <b>NUMBER</b> Completed          | 4           | 8           |
| Cumulative <b>ACRES</b> Completed           | 422.22      | 578         |
| <b>NUMBER</b> Projected in Next Fiscal Year | 0           |             |
| <b>ACRES</b> Projected in Next Fiscal Year  | 0           |             |

#### RESTORATION PROGRAM

**Summary:**

The EPA placed the Defense Depot Memphis, Tennessee (DDMT) on the National Priorities List on October 14, 1992. Contaminated media include soil, pond and lake sediment, and groundwater. EPA and TDEC recognize 89 sites at the Memphis Depot including former landfill areas, former hazardous material/waste storage areas, former hazardous material recoup area, former wood treatment dip vat area, and former spray paint and sandblast facilities. In 1997, the Depot completed initial RI, Screening and BRAC site sampling, and in 2001 completed additional RI sampling to fill data gaps. Contaminants include benzene, PAHs, CT, CF, 1,1-DCE, 1,2-DCE, 1,1,2,2-PCA, 1,1,2-TCA, TCE, PCE, dieldrin, arsenic, lead, and copper and heavy metals. In 1998, the Depot completed a dieldrin contaminated soil removal action at the military family housing units and a PCB contaminated soil removal action at Bldg 274. Phase 1 of the Interim Remedial Action for Groundwater at Dunn Field was completed in 1998 with the installation of 7 recovery wells and the discharge piping system; the system was expanded in 2001, with 4 additional recovery wells. In 1999, the Depot completed a lead contaminated soil removal project at the old paint shop and maintenance area (Parcels 35 and 28). In 2001, the Depot completed the CWM removal action at Dunn Field and the Main Installation RI/FS reports. The Depot also completed the public comment period for the Main Installation Proposed Plan in 2001. DLA signed the Main Installation ROD on February 22, 2001; TDEC signed it on March 1, 2001; and EPA signed it on September 6, 2001. Prior to final execution of the ROD, DLA exercised its removal authority under CERCLA Section 104, as delegated in EO 12580, and removed lead contaminated soil at the south end of Bldg 949. The Main Installation ROD includes enhanced bioremediation of fluvial aquifer groundwater and land use controls in the form of deed restrictions. The Depot completed pre-design groundwater fieldwork including an enhanced bioremediation treatment treatability study at the Main Installation in 2003. The Depot completed Dunn Field RI fieldwork in 1999. The Depot completed the Dunn Field RI report in 2002 and the FS in May 2003. The Depot completed the early removal of lead in soil at the former pistol range on Dunn Field in 2002. The Depot completed a soil vapor extraction (SVE) treatability study at Dunn Field in 2002, disposal site confirmation sampling in 2003, and a zero-valent iron (ZVI) injection pilot test in 2004. The Depot hosted a public comment meeting for the Dunn Field Proposed Plan in 2003. DLA signed the Dunn Field ROD on March 22, 2004; TDEC signed it on April 6, 2004; and EPA signed it on April 12, 2004. The Dunn Field ROD includes excavation of select disposal sites, SVE for VOCs in the vadose zone, ZVI injection for groundwater contaminant source areas, PRB for off-site groundwater, and land use controls in the form of deed restrictions. In September 2004, the BCT concurred to initiate an early implementation of selected remedy to reduce groundwater contamination levels identified in monitoring wells northwest of Dunn Field until implementation of the final groundwater remedial action. The Depot completed the early implementation in January 2005 and completed associated groundwater sampling in March 2005. EPA approved the Early Implementation of Selected Remedy Interim Remedial Action Completion Report in September 2005. On behalf of DDC, the CESAM filed the Main Installation Notice of Land Use Restrictions with Shelby County Registrar on January 26, 2005. The Depot completed the Main Installation Remedial Action Work Plan in September 2005 and anticipates implementing the enhanced bioremediation treatment remedial action in May 2006. The Depot also began the Source Areas Remedial Design Investigation in October 2005 and anticipates beginning the PRB Installation field trial in April 2006.

|  | Site Name                        | Date                 |
|--|----------------------------------|----------------------|
| Final Remedy in Place/Response Complete: | <u>Site 4 - POL Burial Sites</u> | <u>201008/202001</u> |
| Long-Term Monitoring:                    | <u>Site 4 - POL Burial Sites</u> | <u>201907</u>        |

#### COMPLIANCE PROGRAM

**Summary:**

The following have been completed: Radon survey, Lead-Based Paint survey, Radiological survey, Natural/Cultural Resources survey and Asbestos re-inspection. All air permits were closed in 1996. The Depot removed the two remaining permitted underground storage tanks in July 1998 and closed the permits. TDEC terminated the hazardous waste container storage portion of the facility's RCRA Part B permit effective October 22, 1998. The Nuclear Regulatory Commission deleted this facility from the DDC's permit in 1999. TDEC terminated the facility's NPDES permit in June 2001. Discussions in 2004 between DLA, TDEC and EPA Region 4 indicated that the HSWA portion of the RCRA permit, which was issued by EPA and which expired on September 28, 2001, remained in effect. Based on direction from EPA and TDEC, DLA submitted a permit application for corrective action on March 29, 2004. A public meeting was held on September 21, 2004 to accept comments on the application.

## TABLE ES-1 BRAC CLEANUP PLAN ABSTRACT FOR FY05

Based on further discussion with EPA, DLA and DA (permittee) withdrew the application on September 24, 2004. On January 19, 2005, TDEC issued a Denial To Reissue the Hazardous Waste Corrective Action Permit, which terminated the requirement for the Depot to continue corrective action under the hazardous waste management regulations and noted that all corrective action activities would continue under CERCLA authority.

### CONSERVATION PROGRAM

**Summary:**

No threatened or endangered species, protected habitats, wetlands, archeological, or Native American sites have been identified at the facility. Twenty warehouses and three guard buildings built in 1942 are eligible for placement on the National Register of Historic Places. The Army Materiel Command, Tennessee Historic Preservation Office and the Advisory Council for Historic Places signed the Memorandum of Agreement regarding preservation of these buildings.

### FAST TRACK CLEANUP SUMMARY

**Summary:**

The BCT works very closely with the DRC to include reuse priorities in the decision-making process. The BCT also works very closely with each other and the contractors in determining appropriate investigation and remediation strategies. BRAC sampling was completed in 1997. Additional BRAC sampling requested by the BCT was completed in 1998. The BCT reviewed the data, determined future actions and made several parcel category changes. Although EPA concurred with the CERFA uncontaminated parcels letter reports dated March 1997 and July 1998, additional data collected since then regarding areas of groundwater contamination beneath the MI and Institutional Controls (ICs) required by the MI ROD for subparcels within FUs 1 through 6 (excluding Parcels 1 and 2) have resulted in subparcels reverting from ECP categories 1 through 4 to either Category 6 (above groundwater contamination) or Category 4 (ICs) (See Table 3-6 for more information). ATSDR completed the 1999 Public Health Assessment for the Defense Depot Memphis, Tennessee. DA signed FOST 1 for Parcel 2 on February 23, 2001. DA signed the deed for Parcel 2 (6.52 acres) on September 18, 2001. DA signed FOST 2 for Parcel 1 on September 27, 2001. DA signed the deed to the City of Memphis Police Department for 4.67 acres of Parcel 1 on February 6, 2002. DA signed the deed to the DRC for 13.36 acres of Parcel 1 on May 6, 2002. DA signed FOST 3 for all of Parcels 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 and portions of Parcels 23, 24, 29 and 33 on July 1, 2004. DA transferred the MI golf course (46.74 acres) to DOI/NPS via Letter of Assignment dated September 29, 2005. DOI/NPS will deed the MI golf course to the City of Memphis Parks Department. CESAM anticipates executing the deed for the remainder of the FOST 3 property (302.48 acres) to the DRC in early 2006. DA signed FOST 4 for the eastern half of Dunn Field identified in the Dunn Field ROD as available for unrestricted reuse on March 4, 2005. On September 2, 2005, DA signed the deed to the City of Memphis for 1.57 acres of Dunn Field for the Hays Road expansion project. DA transferred 17.66 acres of Dunn Field to DOI/NPS via Letter of Assignment dated September 27, 2005. The City of Memphis has requested a public benefit conveyance through the DOI/NPS for the remaining FOST 4 property (21.76 acres). In December 2005, the City of Memphis declined the deed for the 17.66 acres of Dunn Field transferred to DOI/NPS and cancelled their request for the remaining FOST 4 property.

|                                     | Acres                     | Date             |
|-------------------------------------|---------------------------|------------------|
| Cumulative CERFA Concurrence Acres: | 57.43 (see above summary) | 1998/10          |
|                                     | Date                      | Actual/Projected |
| BCT Adjournment:                    | _____                     | _____            |
| RAB Adjournment:                    | _____                     | _____            |
| Early Transfer Authority:           | _____                     | _____            |

### BCT REVIEW

|  |                | Reviewed<br>YES                     | NO                       |
|--|----------------|-------------------------------------|--------------------------|
| The BCP Abstract has been reviewed by the BCT: |                |                                     |                          |
| DoD BEC:                                       | Michael Dobbs  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|  | Name           |                                     |                          |
| US EPA BCT Member:                             | Turpin Ballard | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|  | Name           |                                     |                          |
| State BCT Member:                              | Evan Spann     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|  | Name           |                                     |                          |

**ACRONYMS**

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| <b><u>ACRONYM</u></b> | <b><u>DEFINITION</u></b>  |
|-----------------------|---|
| ACM                   | Asbestos-Containing Material  |
| AFCEE                 | U.S. Air Force Center for Environmental Excellence                                |
| AMC                   | Army Materiel Command   |
| AOC                   | Area of Concern   |
| AR                    | Army Regulation   |
| ARAR                  | Applicable or Relevant and Appropriate Requirement                                |
| AST                   | Aboveground Storage Tank  |
| BCP                   | BRAC Cleanup Plan   |
| BCT                   | BRAC Cleanup Team   |
| bgs                   | Below Ground Surface  |
| BRAC                  | Base Realignment and Closure  |
| CEHNC                 | U.S. Army Engineering and Support Center, Huntsville                              |
| CERCLA                | Comprehensive Environmental Response, Compensation, and Liability Act, as amended |
| CERFA                 | Community Environmental Response Facilitation Act                                 |
| CESAM                 | U.S. Army Corps of Engineers South Atlantic Division, Mobile                      |
| COC                   | Chemical of Concern   |
| CSM                   | Conceptual Site Model   |
| CT                    | Carbon Tetrachloride  |
| CVOC                  | Chlorinated VOC   |
| CWM                   | Chemical Warfare Materiel   |
| DA                    | Department of the Army  |
| DCE                   | Dichloroethene  |
| DDC                   | Defense Distribution Center   |
| DDMT                  | Defense Depot Memphis, Tennessee  |
| DLA                   | Defense Logistics Agency  |
| DOD                   | U.S. Department of Defense  |
| DOI/NPS               | U.S. Department of the Interior/National Park Service                             |
| DRC                   | Depot Redevelopment Corporation   |
| DRMO                  | Defense Reutilization and Marketing Office  |
| DSERTS                | Defense Site Environmental Restoration Tracking System                            |
| EA                    | Environmental Assessment  |
| EBS                   | Environmental Baseline Survey   |

## ACRONYMS

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|          |  |
|----------|--|
| EBT      | Enhanced Bioremediation Treatment                                |
| EDC      | Economic Development Conveyance                                  |
| EISR     | Early Implementation of Selected Remedy                          |
| °F       | Degrees Fahrenheit   |
| feet/day | Feet per Day   |
| FFA      | Federal Facility Agreement                                       |
| FOSL     | Finding of Suitability to Lease                                  |
| FOST     | Finding of Suitability to Transfer                               |
| FS       | Feasibility Study  |
| FSP      | Field Sampling Plan  |
| FU       | Functional Unit  |
| HR       | Hazardous Substance Release or Disposal                          |
| HRS      | Hazard Ranking System  |
| HS       | Hazardous Substance Storage                                      |
| HSWA     | Hazardous and Solid Waste Amendments of 1984                     |
| HUD      | U.S. Department of Housing and Urban Development                 |
| IC       | Institutional Control  |
| IRA      | Interim Remedial Action  |
| IRACR    | Interim Remedial Action Completion Report                        |
| LBP      | Lead-Based Paint   |
| LIFC     | Lease in Furtherance of Conveyance                               |
| LRA      | Local Reuse Authority  |
| LTM      | Long-Term Monitoring   |
| LUC      | Land Use Control   |
| µg/L     | Micrograms per Liter   |
| MCL      | Maximum Contaminant Level  |
| MDRA     | Memphis Depot Redevelopment Agency                               |
| MI       | Main Installation  |
| MNA      | Monitored Natural Attenuation                                    |
| MOA      | Memorandum of Agreement  |
| msl      | Mean Sea Level   |
| NCP      | National Oil and Hazardous Substances Pollution Contingency Plan |
| NEPA     | National Environmental Policy Act                                |
| NPDES    | National Pollutant Discharge Elimination System                  |

## ACRONYMS

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|        |  |
|--------|--|
| NPL    | National Priorities List                             |
| NRHP   | National Register of Historic Places                 |
| OPS    | Operating Properly and Successfully                  |
| OU     | Operable Unit  |
| PCB    | Polychlorinated Biphenyl                             |
| PCE    | Tetrachloroethene                                    |
| PL     | Public Law   |
| POL    | Petroleum, Oil, and Lubricant                        |
| PP     | Proposed Plan  |
| PR     | Petroleum Release or Disposal                        |
| PRB    | Permeable Reactive Barrier                           |
| PS     | Petroleum Storage                                    |
| RA     | Remedial Action                                      |
| RAB    | Restoration Advisory Board                           |
| RAWP   | Remedial Action Work Plan                            |
| RCRA   | Resource Conservation and Recovery Act               |
| RD     | Remedial Design                                      |
| RDI    | Remedial Design Investigation                        |
| RFA    | RCRA Facility Assessment                             |
| RG     | Remedial Goals                                       |
| RI     | Remedial Investigation                               |
| ROD    | Record of Decision                                   |
| SARA   | Superfund Amendments and Reauthorization Act         |
| SDWA   | Safe Drinking Water Act                              |
| SMP    | Site Management Plan                                 |
| SVE    | Soil Vapor Extraction                                |
| SWMU   | Solid Waste Management Unit                          |
| TCE    | Trichloroethene                                      |
| TDEC   | Tennessee Department of Environment and Conservation |
| TNSHPO | Tennessee State Historic Preservation Officer        |
| TRC    | Technical Review Committee                           |
| USACE  | U.S. Army Corps of Engineers                         |
| USC    | U.S. Code  |
| USEPA  | U.S. Environmental Protection Agency                 |

**ACRONYMS**

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|     |                           |
|-----|---------------------------|
| UST | Underground Storage Tank  |
| UXO | Unexploded Ordnance       |
| VOC | Volatile Organic Compound |
| ZVI | Zero-Valent Iron          |

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**SECTION ONE****INTRODUCTION AND SUMMARY****1.0 INTRODUCTION AND SUMMARY**

This Base Realignment and Closure (BRAC) Cleanup Plan (BCP) for the former Defense Distribution Depot Memphis, Tennessee, (DDMT) was updated for the Defense Distribution Center (Memphis) as of 1 November 2005. This BCP will be used to fulfill requirements for a Site Management Plan (SMP) under the Federal Facility Agreement (FFA) dated 6 March 1995.

Located in Memphis, Tennessee (Shelby County), the Depot is in the south-central section of the city and encompasses approximately 642 acres. In March 1995, the BRAC Commission recommended the mission at the Depot end by 30 September 1997 and called for the assumption of its responsibilities by other installations. All 642 acres have been identified for transfer.

Past waste and resource management practices at the Depot contaminated some areas of the facility. Federal law requires federal agencies to investigate and clean up environmental contamination to a level that protects human health and the environment as part of the release and reuse of the property. The cleanup at the Depot is on track and addresses these past practices.

This BCP is a planning document that presents the status, strategy, and schedule for environmental restoration and compliance activities at the Depot. The BCP is based on the best information currently available. The information and schedules presented in this BCP were obtained from the BRAC Cleanup Team (BCT), which consists of representatives from the Defense Logistics Agency (DLA)/Defense Distribution Center (DDC), the U.S. Environmental Protection Agency (USEPA) Region 4, and the State of Tennessee Department of Environment and Conservation (TDEC) Division of Superfund. Because it was necessary to make certain assumptions in preparing this BCP, implementation programs and cost estimates could be significantly altered if environmental conditions and/or administrative decisions change from those assumed. Such changes, if they occur, will be reflected in updates to the BCP.

The BCP is organized into the following sections and appendices in accordance with the BRAC Cleanup Plan Guidebook (U.S. Department of Defense [DOD] 1996):

- Section 1 describes environmental restoration program objectives, explains the purpose of the BCP, introduces the BCT and project team formed to review the program, provides a brief installation history, and summarizes the site environmental setting.

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- Section 2 summarizes the current status of the Depot property disposal planning process, describes the relationship of the disposal process to other environmental programs, and summarizes potential and anticipated property transfer mechanisms.
- Section 3 summarizes the current status and past history of the Depot environmental restoration program, community relations activities that have occurred to date, and the environmental condition of the Depot property.
- Section 4 describes the Depot-wide strategy for environmental restoration and community involvement.
- Section 5 provides the master schedule of planned and anticipated activities to be performed throughout the duration of the environmental restoration program.
- Section 6 describes specific technical and/or administrative issues to be resolved and presents a strategy for resolving those issues.
- Section 7 lists the primary references used in preparation of the BCP.

The following appendices are included in this document:

- Appendix A contains Table A-1, presenting funding requirements.
- Appendix B contains Table B-1, summarizing environmental restoration program and other associated technical documents in chronological order.
- Appendix C contains summaries of removal action and interim remedial and remedial action (RA) decision documents.
- Appendix D contains summaries of Finding of Suitability to Lease (FOSL) and Finding of Suitability to Transfer (FOST) documents produced during this period.
- Appendix E contains Table E-1 – Asbestos Identification Survey Results, the Administrative Record Site File Index, DLA Compliance with Executive Order 12898 on Environmental Justice, letters of regulatory concurrence on the Community Environmental Response Facilitation Act (CERFA) report, permit closure approval from the Nuclear Regulatory Commission, summaries of radiological surveys, radon survey test results, a transformer inventory and test results, a wetlands determination,

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a Section 106 notification letter, subparcel designation letters to the BCT, termination of the National Pollutant Discharge Elimination System (NPDES) permit, termination of the hazardous waste container storage portion of the Resource Conservation and Recovery Act (RCRA) Part B permit from TDEC, and denial to reissue the hazardous waste corrective action permit from TDEC.

**1.1 ENVIRONMENTAL RESPONSE OBJECTIVES**

DDC is responsible for the management and overall implementation of environmental restoration programs at the Depot. The U.S. Army Corps of Engineers (USACE) Engineering and Support Center, Huntsville, (CEHNC) supports removal and remedial design (RD) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The U.S. Army Southern Region Environmental Office provides legal counsel support. The U.S. Air Force Center for Environmental Excellence (AFCEE) supports RAs at the facility through the Final Closeout Report.

DDC conducts the environmental restoration program in compliance with DLA, the Department of the Army (DA), DOD, local, state, and federal statutes and regulations, and in accordance with the FFA. Upon termination of material handling operations at the Depot in 1997 and completion of the Memphis Depot Caretaker operations in 2001, the operations-related environmental compliance program ended.

The combined objectives of the BCT, CEHNC, AFCEE and other supporting agencies for the environmental restoration program at the Depot are as follows:

- Protect human health and the environment;
- Continue compliance with existing statutes and regulations;
- Conduct ongoing environmental restoration program activities in accordance with CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA), RCRA, the State of Tennessee regulations, and other applicable regulations;
- Meet FFA schedules and deadlines;
- Continue efforts to identify all potentially contaminated areas and incorporate any new sites into the BCP, as appropriate;

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- Establish priorities for environmental restoration and restoration-related compliance activities so that property disposal and reuse goals can be met;
- Complete the environmental restoration process as soon as practicable for each site, in an order of priority that takes into account both environmental concerns and redevelopment plans;
- Identify opportunities for selected removal actions to control, eliminate, or reduce risks to manageable levels;
- Continue to consider future land use when characterizing risks associated with releases of hazardous substance wastes;
- Conduct long-term RAs for groundwater and any necessary reviews to evaluate the progress of remediation;
- Establish interim and long-term monitoring plans for other RAs, as appropriate;
- Continue to identify and map the environmental condition of installation property with the intent of identifying areas suitable for transfer by deed;
- Conduct site-specific environmental baseline surveys (EBSs) as necessary to support transfer and lease of property;
- Meet requirements of the National Environmental Policy Act (NEPA) related to environmental restoration, property disposal, and reuse of the Depot; and
- Advise DA 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.

**1.2 BCP PURPOSE, UPDATES, AND DISTRIBUTIONS**

This BCP is intended to:

- Summarize the current status of the Depot's environmental restoration programs;

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- Present a comprehensive strategy for implementing response actions necessary to protect human health and the environment;
- Present schedules for restoration and compliance activities; and
- Function as the annual update to the SMP, as required under the FFA dated 6 March 1995.

The strategy integrates activities being performed under the environmental restoration program to support full restoration of the Depot.

This BCP was prepared with information available as of 1 November 2005. Documents used to update the BCP can be found in Section 7. Additional information on the site history and environmental setting can be found in the 1996 EBS.

The BCP is a dynamic document that will be updated as needed to incorporate newly obtained information and reflect the completion or change in status of any cleanup actions. Updates of the BCP will be distributed to each member of the BCT, as well as to additional parties identified in Table 1-1.

**1.3 BCT/PROJECT TEAM**

The Depot BCT was established in December 1995 and usually meets on a monthly basis. BCT meetings are the means of conducting periodic program reviews and reaching consensus on decisions with federal and state regulators. A project team consisting of technical, operational, reuse, and administrative specialists, as needed, supports the BCT. Table 1-1 provides a list of the BCT and project team members and their roles and responsibilities.

**1.4 SITE DESCRIPTION AND HISTORY OF INSTALLATION**

This section describes the site and operations history of the Depot.

**1.4.1 Site Description**

The Depot is located in the south-central section of Memphis in Shelby County, Tennessee (Figure 1-1). It comprises 642 acres, and can be divided into two geographical areas: the Main Installation (MI) and Dunn Field. The MI consists of 578 acres, and Dunn Field consists of 64 acres.

The Depot was placed on the National Priorities List (NPL) in October 1992. The Depot has conducted environmental investigations and plans to conduct further environmental investigations under the requirements of CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). To assist further investigations at the Depot, representatives of the Depot, CEHNC, USEPA, and TDEC divided the facility into four potential Operable Units (OUs). Dunn Field, located north of the MI and identified as OU-1, is the only known and documented burial area on the Depot. The MI is divided into three OUs (2 through 4). OU-2 is located in the southwestern quadrant of the MI area of the Depot and is characterized as an industrial area where maintenance and repair activities took place. OU-3 is located in the southeastern quadrant of the MI area and contains the entire southeastern watershed and golf course. OU-4 is located in the north-central section of the MI area where material storage took place. The MI was divided into seven Functional Units (FUs) based on similar historical use for conducting baseline risk assessments (FUs 1 through 6, with groundwater being FU-7; Figure 1-2a). To assist investigations at Dunn Field, the Depot's contractors divided it into three Areas (Figure 1-2b) based on similar historical use and proposed reuse. The local reuse authority (LRA), originally known as the Memphis Depot Redevelopment Agency and now the Depot Redevelopment Corporation (DRC), assisted the Depot in further subdividing the Depot property into parcels and then parcels into subparcels to delineate buildings and CERCLA sites.

### **1.4.2 Installation History and Mission**

The 642 acres on which the Depot is located were originally used for producing cotton until purchased by the U.S. Army in 1940. The initial mission and function of the Depot were to provide stock control, storage, and maintenance services for the Army Engineer, Chemical and Quartermaster Corps. The installation was originally named Memphis General Depot, but has also been known as Memphis Quartermaster Depot, Memphis Army Service Forces Depot, and Memphis Army Depot.

During World War II, the Depot served as an internment center for 800 prisoners of war and performed supply missions for the Signal and Ordnance Corps. From 1963 until closure on 30 September 1997, the Depot was a principal distribution center for DLA (formerly the Defense Supply Agency) for shipping and receiving a variety of materials including hazardous substances (pesticides, swimming pool chemicals, and firearm cleaning and rust preventative chemicals); textile products; food products; electronic equipment; construction materials; and industrial, medical, and general supplies. The Depot received, warehoused, and distributed supplies common to all U.S.

military services in the southeastern United States, Puerto Rico, and Panama. Approximately 4 million line items were received and shipped by the Depot annually. The Depot shipped approximately 107,000 tons of goods a year.

### **1.5 OFF-BASE PROPERTY/TENANTS**

There are no off-base properties or tenants associated with the Depot. For the EBS, an electronic record search of federal and state environmental databases was conducted for properties adjacent to the Depot. In addition, visual inspections by automobile were performed on properties and facilities adjacent to the Depot.

There are groundwater contaminant plumes moving onto the facility, and there is a plume of groundwater contamination moving off Dunn Field to the west. In 2002, groundwater samples collected in monitoring wells upgradient of the southwest corner of the MI and from the northeast corner of Dunn Field contained detectable levels of chlorinated solvents. In 2003, the Depot installed additional monitoring wells upgradient of Dunn Field to document contaminant migration onto the site. USEPA and TDEC have initiated a preliminary assessment to determine the source of this contamination. In 2004, groundwater sampling results from monitoring wells downgradient of Dunn Field indicated a plume of volatile organic compounds (VOCs) at levels that prompted the BCT to initiate additional groundwater investigation. In September 2004, the BCT concurred to begin early implementation of the selected remedy to reduce contamination levels downgradient of Dunn Field. Injection of zero-valent iron was performed within the high-concentration portion of the plume to enhance effectiveness of the final soil and groundwater remedies.

### **1.6 ENVIRONMENTAL SETTING**

This section describes the environmental setting of the Depot, including the physical setting, demographics, climatology, hydrology, geology, soils, and hydrogeology.

#### **1.6.1 Physical Setting**

The Depot encompasses 642 acres in the south-central section of Memphis, 4 miles southeast of the Central Business District and 1 mile north of Memphis International Airport (Figure 1-1). The facility is located in a mixed residential, commercial, and industrial land use area.

Generally, the Depot is described as consisting of two geographic areas — the MI and Dunn Field. The MI consists of 578 acres bordered by Airways Boulevard to the east, Perry Road to the west,

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Ball Road to the south, and Dunn Avenue to the north. The MI is highly developed and contains most of the buildings and material storage yards for the facility. At the time of closure, there were approximately 118 buildings, 26 miles of railroad tracks, and 28 miles of paved streets at the Depot. Approximately 126 acres were used for covered storage space, and approximately 138 acres were used for open storage space. Dunn Field is located to the north, across Dunn Avenue from the northwest quadrant of the MI. Dunn Field consists of 64 acres of mostly undeveloped land that was historically used for storage of bauxite and fluorspar and for waste disposal.

**1.6.2 Demographics**

The Depot is located in an area of varying uses. Formerly a residential and agricultural area, the surrounding area is characterized by small commercial and manufacturing uses north and east of the Depot and single-family residences south and west of the Depot. Numerous small church buildings are scattered throughout the residential neighborhoods. Several schools and childcare facilities are located in the neighborhoods, as well as two neighborhood parks.

Airways Boulevard, located on the east border of the MI, is the most heavily traveled thoroughfare in the vicinity. It is developed with numerous small, commercial establishments, particularly in the area from the Depot south to the Airways Boulevard interchange with Interstate 240. Businesses along Airways Boulevard are typical of highway commercial districts and include convenience stores, liquor stores, restaurants, used car dealers, and service stations. Other commercial establishments are located north, south, and west of the Depot. Most are small groceries or convenience stores that serve their immediate neighborhoods. Memphis Light, Gas, and Water operates a large substation located northwest of the Depot along Person Avenue.

The Frisco Railroad and Illinois Central Gulf Railroad rail lines are north of the Depot. A number of large industrial and warehousing operations are located along the rail lines in this area, including the Kellogg Company; Laramie Tires; Lanigan Storage and Van Company; the Kroger Company; and the National Manufacturing Company, Incorporated. A triangular area located immediately north of the Depot along Dunn Road also contains several industrial firms.

Most of the land surrounding the Depot is highly developed; however, three relatively large, undeveloped sites exist in the general area. The largest site is located north of the Depot at Person Avenue and Kyle Street. The other undeveloped areas are located south of the Depot along Ball Road and Ketchum Road in the vicinity of the Orchid Manor Apartments, and east of the Depot along Dwight Street.

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In Memphis, zoning controls and subdivision requirements are under the jurisdiction of the Memphis and Shelby County Office of Planning and Development. The Depot property is zoned Light Industrial. This designation extends to several contiguous land parcels located east of the Depot along Airways Boulevard, in the vicinity of the Kellogg plant west past Rozelle Street. Several smaller areas adjacent to those mentioned above are zoned Heavy Industrial. Most of the remaining land in the vicinity of the Depot is zoned for residential use.

The 2000 census data for Memphis and for Shelby County are listed below (National Census Report, 2000).

| <b>Location</b> | <b>2000 Census Data</b> |
|-----------------|-------------------------|
| City of Memphis | 606,109                 |
| Shelby County   | 873,000                 |

**1.6.3 Climatology**

The Depot is located in the West Tennessee Climatic Division of the United States. This division experiences a typical continental climate with warm, humid summers and cold winters. The average temperatures are 40 degrees Fahrenheit (°F) in the winter and 80°F in the summer. The Memphis area has a 30-year annual precipitation average of 50 inches. Normally, precipitation is heaviest during the winter and early spring. A second, less significant rainfall period occurs as thundershowers during late spring and early summer. The one-year, 24-hour average rainfall for the area surrounding the Depot is 3.4 inches. Prevailing winds are from the southwest.

**1.6.4 Hydrology**

Surface drainage at the Depot is accomplished by overland flow to swales, ditches, concrete-lined channels, and a storm drainage system. The majority of surface drainage at Dunn Field is achieved by overland flow to a storm drainage system that flows west of the facility (Figure 1-3). The northeast quadrant of Dunn Field drains to a concrete-lined channel that flows north. The MI's surface drainage is by overland flow to a storm drainage system. The concrete-lined channels and storm drainage system are directed to Nonconnah Creek or to either Tarrant Branch or Cane Creek, tributaries of Nonconnah Creek. Nonconnah Creek drains into Lake McKellar, a tributary of the Mississippi River. Where exposed, undisturbed surface soils are predominantly grassed, fine-

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grained, semi-cohesive materials that tend to promote rapid runoff. Paved and built-up sections of the facility also tend to generate significant runoff.

Topographically, most of the Depot is generally level with or above the surrounding terrain; therefore, the Depot receives little or no run-on from adjacent areas.

Two permanent surface water bodies exist at the Depot. The larger, Lake Danielson, is approximately 4 acres in size. Lake Danielson receives a significant amount of the facility's stormwater runoff, primarily from the area around the "20 Typicals" (Buildings 229, 230, 250, 329, 330, 349, 350, 429, 430, 449, 450, 529, 530, 549, 550, 629, 630, 649, and 650). Lake overflow is channeled through a drop inlet at the dam through a concrete-lined channel to a culvert extending beneath N Street and Ball Road. The smaller surface water body, the golf course pond, receives runoff from the surrounding golf course; the area around Buildings 249, 450, 251, 265, 270, and 271; and the south parking lot. Lake and pond overflow is directed to culverts extending beneath N Street and Ball Road and is then directed to Nonconnah Creek via unnamed tributaries.

**1.6.5 Geology and Soils**

Topographically, the Depot is situated in an area of gently rolling loess hills. Most of the Depot terrain is fairly uniform, with elevations ranging from 282 to 300 feet above mean sea level (msl). Five distinct surface soil units have been mapped at the Depot: Falaya Silt Loam, Filled Land-Silty, Graded Land, Memphis Silt Loam, and Memphis Silt Loam 2. Surface soils at the developed portion of the MI primarily consist of filled land.

Geologically, the area around the Depot is located in the north-central part of the Mississippi embayment that is a broad, trough-like geologic structure that plunges to the south. The geologic units of interest at the Depot are (from youngest to oldest) loess deposits, fluvial deposits, Jackson Formation/Upper Claiborne Group, Cockfield and Cook Mountain Formations, and Memphis Sand.

The Quaternary-aged loess consists of brown to reddish brown low-plasticity clayey silt or low-plasticity silty clay and is continuous throughout the entire area. The loess deposits are generally 20 to 30 feet thick.

The Quaternary- and possibly Pliocene-aged fluvial deposits underlie the loess and consist of two general layers. The upper layer is a silty, sandy clay that transitions to a clayey sand. This layer ranges from about 10 to 36 feet thick. The lower layer, consisting of layers of sand, sandy gravel, and gravelly sand, has an average thickness of approximately 40 feet. A thick clay unit of the

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Jackson Formation/Upper Claiborne Group commonly underlies the fluvial deposits. The fluvial deposits represent the upper aquifer at the Depot, herein termed the "fluvial aquifer."

The Late Eocene-aged Jackson Formation/Upper Claiborne Group consists primarily of clays, silts, and sands. The upper clay unit of the Jackson Formation/Upper Claiborne Group occurs at variable elevations (224 feet at MW-126 to 164 feet at DR1-2) and is highly variable in thickness.

This clay layer does not appear to be present at the base of the fluvial deposits in the northwestern part of the MI and the southwestern part of Dunn Field. Water level data indicate that there may be gaps in the clay west and northwest of Dunn Field. Where present, these gaps create connections to the underlying intermediate aquifer from the fluvial deposits.

The Early to Middle Eocene-aged Memphis Sand consists primarily of thick-bedded, white to brown or gray, very fine-grained to gravelly, partly argillaceous and micaceous sand. Lignitic clay beds constitute a small percentage of total thickness. The Memphis Sand ranges from 500 to 890 feet in thickness, and the depth to the top of the Memphis aquifer in the Memphis area ranges from approximately 120 to 300 feet below ground surface (bgs). The City of Memphis obtains its drinking water from this unit; the Allen Well Field is located approximately 1 to 2 miles west of Dunn Field. The elevation of the Memphis Sand at the Allen Well Field is at approximately mean sea level. Only one monitoring well installed at the Depot, MW-67, is screened in the Memphis Sand; the upper surface of the Memphis Sand was identified at an elevation of 20.5 feet above msl.

**1.6.6 Hydrogeology**

There are only two surface water bodies on the Depot, Lake Danielson and the golf course pond. No perennial streams, flood-prone areas, or wetlands occur within the Depot. The lake and pond are fed by stormwater runoff and are too shallow to intercept the fluvial aquifer.

The Memphis area includes several aquifers of local and regional importance. In descending order, they are:

- Alluvial aquifer;
- Fluvial (terrace) aquifer;
- Intermediate aquifer; and
- Memphis aquifer.

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The alluvial aquifer's distribution is limited to the channels of primary streams; therefore, it does not occur at the Depot. The uppermost aquifer at the Depot is the unconfined fluvial aquifer, consisting of saturated sands and gravelly sands in the lower portion of the fluvial deposits. Recharge to this unit is primarily from the infiltration of rainfall. Discharge from the fluvial aquifer is generally directed toward underlying units in hydraulic communication with the fluvial deposits, or laterally into adjacent stream channels. The fluvial aquifer provides water for domestic and farm wells in rural areas, but is not used as a drinking water source within the area surrounding the Depot.

The low-permeability uppermost clay of the Jackson Formation/Upper Claiborne Group serves as the base of the fluvial aquifer at most locations. This clay has very low permeability, with an average hydraulic conductivity of  $6.4 \times 10^{-8}$  centimeters per second. Where present, the clay constitutes a hydraulic barrier to downward migration of groundwater. Groundwater also exists in the vadose zone of the fluvial aquifer deposits usually above small clay lenses. These perched water zones are isolated, are probably ephemeral, and are not considered part of the fluvial aquifer.

The saturated thickness of the fluvial aquifer is variable across the Depot and is controlled by the configuration of the uppermost clay in the Jackson Formation/Upper Claiborne Group. The saturated thickness averages 10 to 20 feet, but ranges from 0 feet (dry) to 57 feet (in the central portion of the MI). Groundwater elevations in the fluvial aquifer in June 2004 ranged from 257.71 to 193.95 feet. In areas near gaps in the uppermost clay, groundwater appears to flow from the fluvial aquifer into the underlying intermediate aquifer, causing the fluvial aquifer to "pinch out". Areas of unsaturated conditions in the fluvial aquifer are created in these areas, with groundwater flow in the fluvial aquifer toward the low point(s) in the uppermost clay at the window.

Slug tests performed in the fluvial aquifer at the MI indicate that hydraulic conductivity values for the fluvial aquifer range from approximately 1 to 60 feet per day (feet/day). Assuming an effective porosity of 30 percent, flow velocities throughout the MI average 0.6 foot/day. The hydraulic conductivities for the fluvial aquifer measured at Dunn Field average 8 to 17 feet/day based on slug tests. Results from a 1992 pumping test at Dunn Field (MW-3) indicate an average hydraulic conductivity of 100 feet/day. In the fluvial aquifer, groundwater flow is roughly toward the east-northeast in the southwestern portion of the MI, to the southwest in the eastern portion of the MI, and to the west at Dunn Field.

The intermediate aquifer underlying the Depot is locally developed in permeable deposits of the Jackson Formation/Upper Claiborne Group, which also contain laterally extensive, thick deposits of

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clay. The lithologic logs of MWs 18, 40, 67, 82, and 83 show that the intermediate aquifer consists of interbedded sand, silt, and clay.

Aquifer tests conducted in August 1997 indicate that the hydraulic conductivity for the intermediate aquifer is similar to the fluvial aquifer with conductivities of 3.7 (MW-34) and 1.5 (MW-40) feet/day. Away from the influence of recharge from the fluvial aquifer, water level elevations in the intermediate aquifer are approximately 160 feet msl.

The Memphis aquifer contains groundwater under strong artesian (confined) conditions regionally. The City of Memphis obtains most of its drinking water from this unit. It receives most of its recharge from outcrop areas several miles east of Memphis. Some recharge is derived from overlying or hydraulically communicating units. Locally, extensive pumping has lowered water levels considerably. The Memphis aquifer is confined by overlying clays and silts in the Cook Mountain Formation (part of the Jackson/Upper Claiborne Group). Clays and silts of the Cook Mountain Formation were observed above the Memphis Sand in MW-67, which encountered the upper surface of the Memphis Sand at a depth of approximately 255 feet bgs (20.5 feet above msl). The potentiometric surface of the Memphis aquifer at MW-67 is approximately 160 feet above msl.

**1.7 HAZARDOUS SUBSTANCES AND WASTE MANAGEMENT PRACTICES**

Past activities conducted at the Depot include a wide range of storage, distribution, and maintenance practices. Historically, Dunn Field was used as a landfill; as a pistol range; for storage of mineral stockpiles; and for periodic testing of flamethrowers, smoke generators, and smoke pots using diesel fuel and fog oil. The pistol range building also was used for pesticide and herbicide storage. Mineral stockpiles were maintained for many years as part of the Defense National Stockpile. These stockpiles have been sold to private industry and removed. The primary activities conducted at the MI included material storage and shipping. Other activities conducted at the MI included hazardous substance repackaging for storage or shipment, sandblasting and painting, vehicle maintenance, polychlorinated biphenyl (PCB) transformer storage, pesticide and herbicide storage and use, and treatment of wood products with pentachlorophenol. During the 1940s and 1950s, a pistol range was located in the present golf course area.

**SECTION ONE****INTRODUCTION AND SUMMARY****1.7.1 Hazardous Substance Activities**

As a result of the Depot's past operations, large quantities of industrial chemicals or hazardous substances were received, stored, repackaged, and shipped. Some of these items were spilled or leaked at the MI or were buried at Dunn Field.

The following types of hazardous substances were received, stored, and shipped at the Depot:

- Flammable liquids
- Flammable solids
- Corrosives (acids and bases)
- Poisons (including insecticides)
- Compressed gases (nonflammable and flammable)
- Class C explosives
- Oxidizers
- Low-level radioactive materials (watch dials, compasses, smoke detectors, etc.)
- Other regulated substances

These substances were received as packaged commodities from manufacturers in containers that varied in size up to 55-gallon drums. While in storage, these substances were segregated by hazardous storage compatibility groups to ensure that optimum safety conditions were met (Harland Bartholomew & Associates, Inc. 1988).

Until 1985, mission chemical stock items in packages smaller than 55-gallon drums were stored in Building 629, which was constructed on a concrete foundation with seven bays separated by concrete walls and fire doors. Mission chemical stock items in 55-gallon drums were stored at open storage areas X02, X03, X11, X12, X13, X15, X17, X19, X21, X23, X25, and X27. Some mission chemical stock items also were stored in Building 319. In 1994, Building 319, Bays 1 and 2, became the hazardous waste storage area for the Defense Reutilization and Marketing Office (DRMO). Building 319 had a concrete berm and was situated on a concrete foundation with no floor drains. In the past, cyanide compounds were stored in a mechanically ventilated, separately bermed room, located in Bay 6 at the west end of the building. The building was equipped with explosion-proof lighting and spill booths of similar construction to those in Building 629. Hazardous substances requiring temperature-controlled environments and medical items classified

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as hazardous substances were stored in Building 359. Security control at Buildings 319 and 359 was stringent.

Beginning in 1985 and continuing until closure, the majority of mission chemical stock items in packages smaller than 55-gallon drums were stored in Building 835. This building was constructed on a concrete foundation without floor drains and contained five bays separated by concrete walls and fire doors. Spill booths containing absorbent materials and cleanup equipment were located in each bay area. The bays were marked to preclude incompatible chemicals being placed in the same bay.

The X25 area, located on the northwest side of the facility, was an open storage area with an earthen berm until a concrete bermed, concrete pad was built in approximately July 1976. The X25 area was used to store Class 1 flammable liquids. These liquids were usually stored in 55-gallon drums and included a wide range of industrial-grade organic solvents. A tension-fabric roof structure was constructed over the bermed, concrete pad in 1986 and stored flammable liquids in 55-gallon drums. Building 925 was built in 1994 over this area and was used for the storage of flammable liquids in 55-gallon drums.

Nonflammable petroleum, oil, and lubricant (POL) mission chemical stock items were stored in 55-gallon drums at open storage areas X11, X12, X13, and X15 and X17. Flammable mission chemical products such as chlorinated solvents and fuels in 55-gallon drums were stored at open storage areas X13, X15, X23, and X25. POL products for operations use (i.e., transformers and motor oil) were stored at open storage area X07 and at vehicle maintenance Buildings 253 and 770. Building 873 was an open-sided shed used for storage of mission POL products, acids, and corrosives, and for overflow mission chemical stock items. Until construction in 1985 of Building 865, the hazardous substance recoupment facility, hazardous substances in damaged containers were stored and repackaged at the south end of Building 873. Records also indicate that hazardous substances were historically repackaged under a lean-to at the corner of E Street and 21st Street in open storage area X21, as well as at the southern end of open storage area X02 adjacent to Building 873.

**1.7.2 Waste Management Activities**

From 1940 until 1948, an area at the southwest section of Dunn Field was used to landfill outdated or damaged food stocks and super tropical bleach. The northwest section of the Dunn Field area was used as the landfill site for unusable, nonhazardous subsistence stocks from the late 1940s to mid-

**SECTION ONE****INTRODUCTION AND SUMMARY**

1960s. Additionally, small quantities of hazardous substances (e.g., acids, mixed chemicals, and chemical agent identification sets) were buried in the northwest section Dunn Field. The Depot used municipal landfills for sanitary solid waste disposal. Small quantities of nonhazardous mission stock items such as sterile water, isotonic saline, and liquid soap were discharged to the sanitary sewer. The Depot normally obtained permission from the City of Memphis Public Works Department before discharging items into the sanitary sewer.

The Depot was a RCRA generator of hazardous wastes in Tennessee under generator No. TN 4210020570. The majority of hazardous wastes generated by the Depot consisted of hazardous substances that reached shelf-life expiration dates and could no longer be used by the military services, and from vehicle maintenance. The Depot also generated hazardous wastes from the cleanup of small hazardous substance spills. Of the approximately 100,000 hazardous substances transfers conducted per year at the Depot, only an estimated 50 transfers per year resulted in a spill or release. More than 90 percent of these events resulted from packaging failures during transport. The remaining events were attributed to accidents during handling at the Depot (Harland Bartholomew & Associates, Inc. 1988).

The former Defense Property Disposal Office was redesignated as DRMO. The DRMO was a tenant of the Depot and provided property disposal services for hazardous substances and hazardous wastes generated by the Depot, the Naval Air Station Millington, and the Air Force Air National Guard. The DRMO maintained 90-day storage in Building 308 under interim status with the intention of constructing a Conforming Storage Facility; however, construction did not occur prior to closure. Hazardous substances in the DRMO's possession were stored in Building 308 until 1994, when TDEC approved two bays of Building 319 for hazardous waste storage and DRMO moved their operations. The original Part B RCRA permit issued by TDEC on 28 October 1990 for a hazardous waste storage facility was terminated by TDEC on 22 October 22 1998 upon request of the Depot because the unit was not constructed or operated. The Hazardous and Solid Waste Amendments of 1984 (HSWA) portion of the RCRA permit was issued by USEPA Region 4 on 28 October 1990 for the purpose of RCRA corrective action for releases from solid waste management units (SWMUs). Based on requirements of TDEC and USEPA, the Depot submitted a corrective action permit renewal application on 29 March 2004. On 19 January 2005, TDEC issued DDC a Denial to Reissue the Hazardous Waste Corrective Action Permit, which terminated the Depot's requirement to continue corrective action under the hazardous waste management regulations and noted that all corrective action activities shall continue to be performed under CERCLA authority.

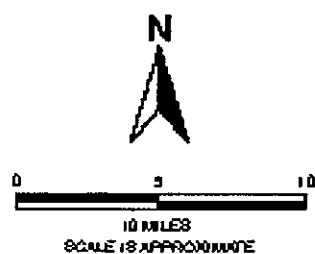
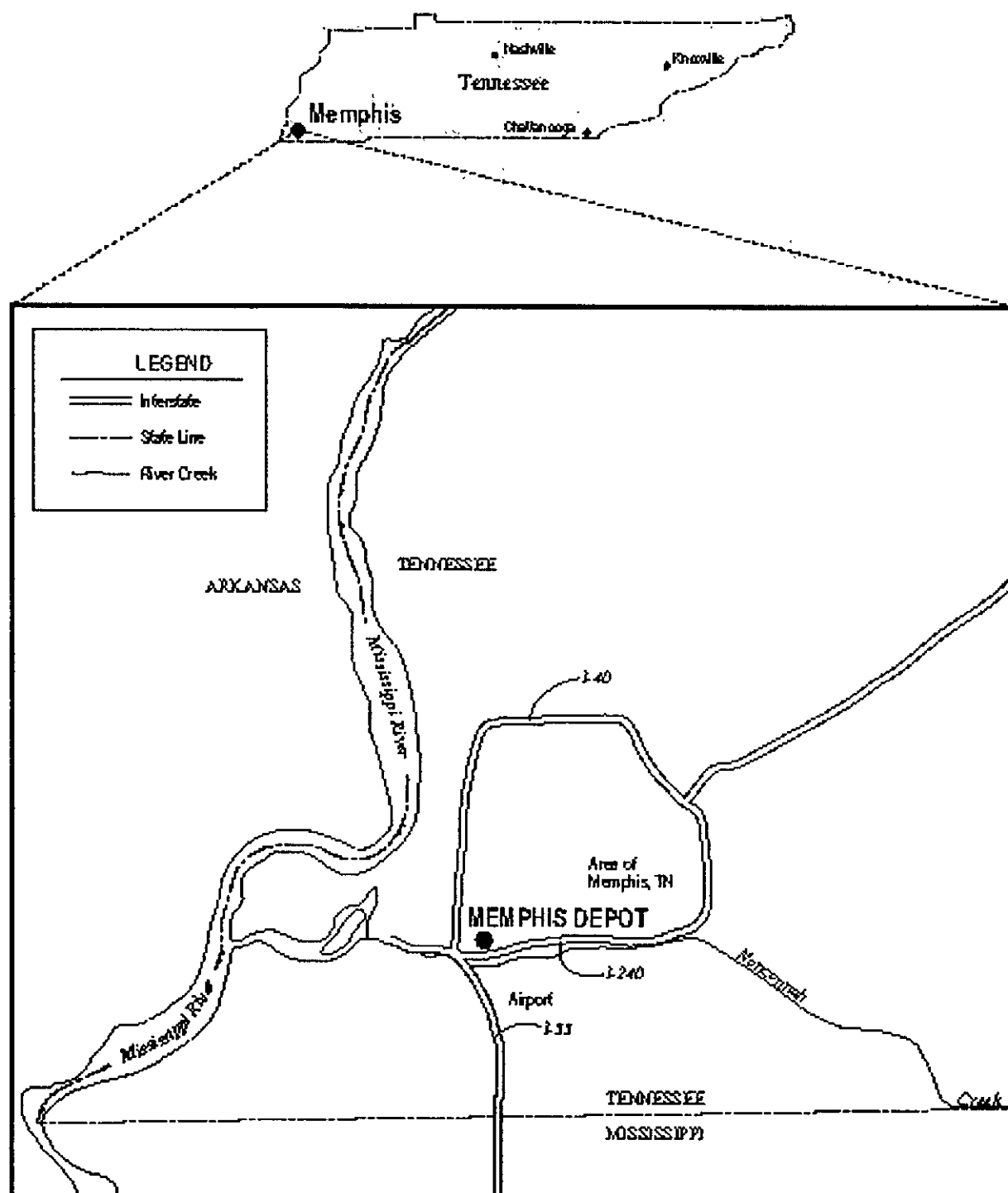
**TABLE 1-1**  
**BRAC CLEANUP TEAM/PROJECT TEAM MEMBERS**

**863 31**

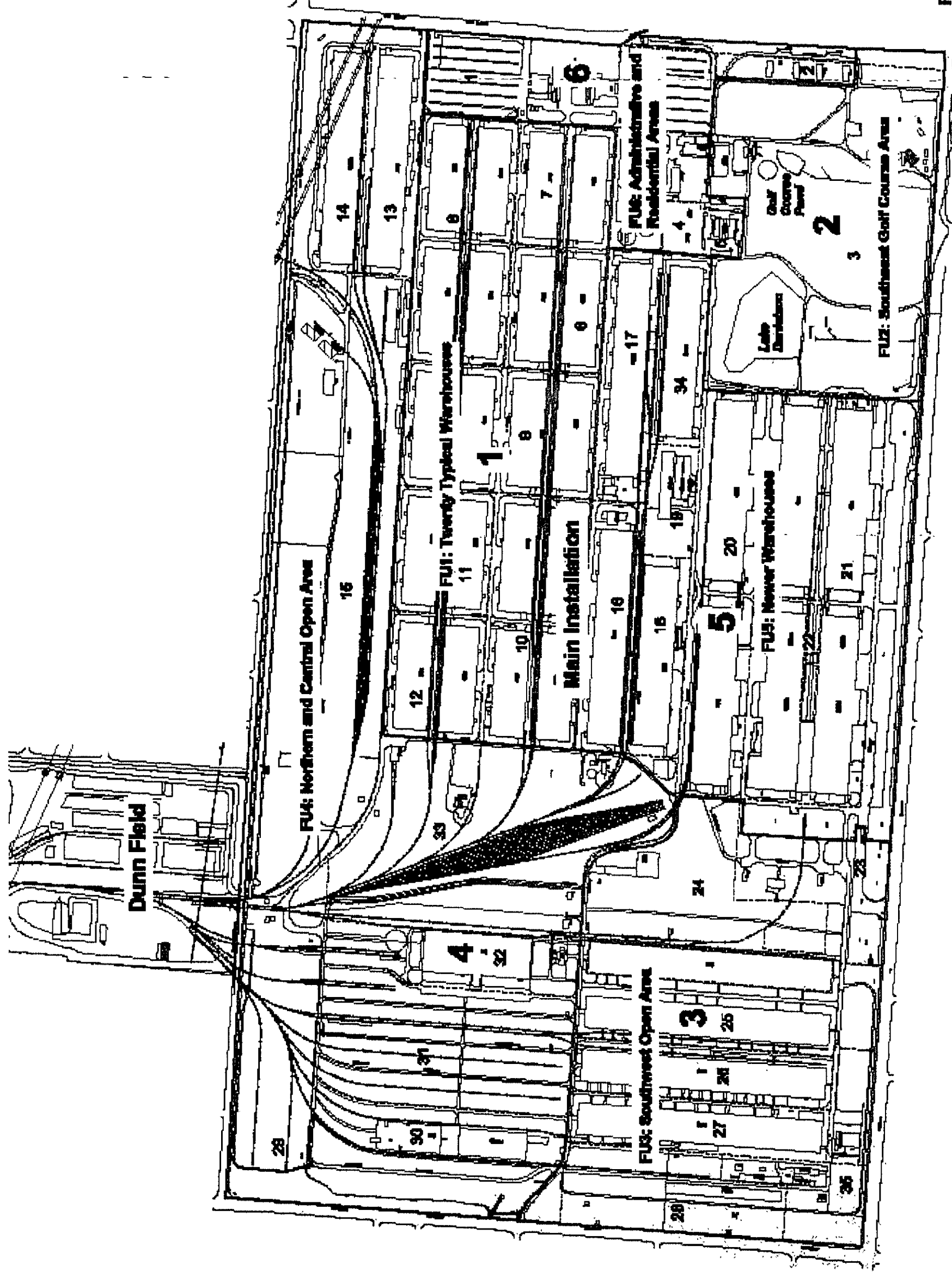
| NAME   | AFFILIATION                       | TELEPHONE NUMBER    | ROLE RESPONSIBILITY  |
|--|-----------------------------------|---------------------|--|
| <b>BRAC Cleanup Team Members</b>   |                                   |                     |  |
| Michael Dobbs  | DES-DDC-EE                        | (717) 770-6950      | BEC/DLA Representative, DDC Environmental Division Manager |
| Evan Spann   | TDEC DoR                          | (901) 368-7916      | TDEC Representative  |
| Turpin Ballard   | EPA Region IV                     | (404) 562-8553      | EPA Representative   |
| <b>Project Team Members (* indicates people on BRAC Cleanup Plan distribution list)</b>    |                                   |                     |  |
| * Bruce Railey   | CEHNC                             | (205) 895-1638      | RD Program Manager   |
| * Roy Shrove   | AFCEE/IWA                         | (210) 536-2409      | RA Program Manager   |
| * Tom Holmes   | MACTEC Engineering and Consulting | (770) 421-3373      | RA Contractor Project Principal                            |
| Steve Youngs   | MACTEC Engineering and Consulting | (770) 421-3377      | RA Contractor Program Manager                              |
| *David Nelson  | CH2M Hill                         | (770) 604-9182 *394 | RD Contractor Program Manager                              |
| Trevor Diggins   | Frontline                         | (888) 848-9898      | Corporate Communications PM                                |
| Alma Moore   | Frontline                         | (901) 544-0613      | Community Relations Specialist                             |
| <b>BRAC Cleanup Plan distribution list (in addition to BRAC Cleanup Team/Project Team)</b> |                                   |                     |  |
| Richard Isaac  | AEC                               | (410) 436-6823      | AEC Representative   |
| Tom Lederle  | DA                                | (757) 788-4350      | DA BRAC Office   |
| David Buxbaum  | AEC                               | (404) 524-5061      | AEC Regional Counsel                                       |
| Jeanne Masters   | DLA                               | (703) 767-2672      | DLA BRAC Office  |
| Dennis Lillo   | DLA                               | (703) 767-6241      | DLA Environmental Office                                   |
| Ron Marichak   | DDC                               | (717) 770-7760      | DDC BRAC Office  |
| Jackie Noble   | DDC                               | (717) 770-6223      | DDC Public Affairs Officer                                 |
| Jim Covington  | DRC                               | (901) 942-4939      | President  |

**Notes:**

|        |  |       |  |
|--------|--|-------|--|
| AEC:   | U.S. Army Environmental Center                     | DoR:  | Division of Remediation                              |
| AFCEE: | U.S. Air Force Center for Environmental Excellence | DRC:  | Depot Redevelopment Corporation                      |
| BEC:   | BRAC Environmental Coordinator                     | EPA:  | Environmental Protection Agency                      |
| BRAC:  | Base Realignment and Closure                       | TDEC: | Tennessee Department of Environment and Conservation |
| CEHNC: | U.S. Army Corps of Engineers, Huntsville           | PM:   | Program Manager                                      |
| DA:    | Department of Army                                 | RA:   | Remedial Action                                      |
| DDC:   | Defense Distribution Center                        | RD:   | Remedial Design                                      |
| DLA:   | Defense Logistics Agency                           |       |  |

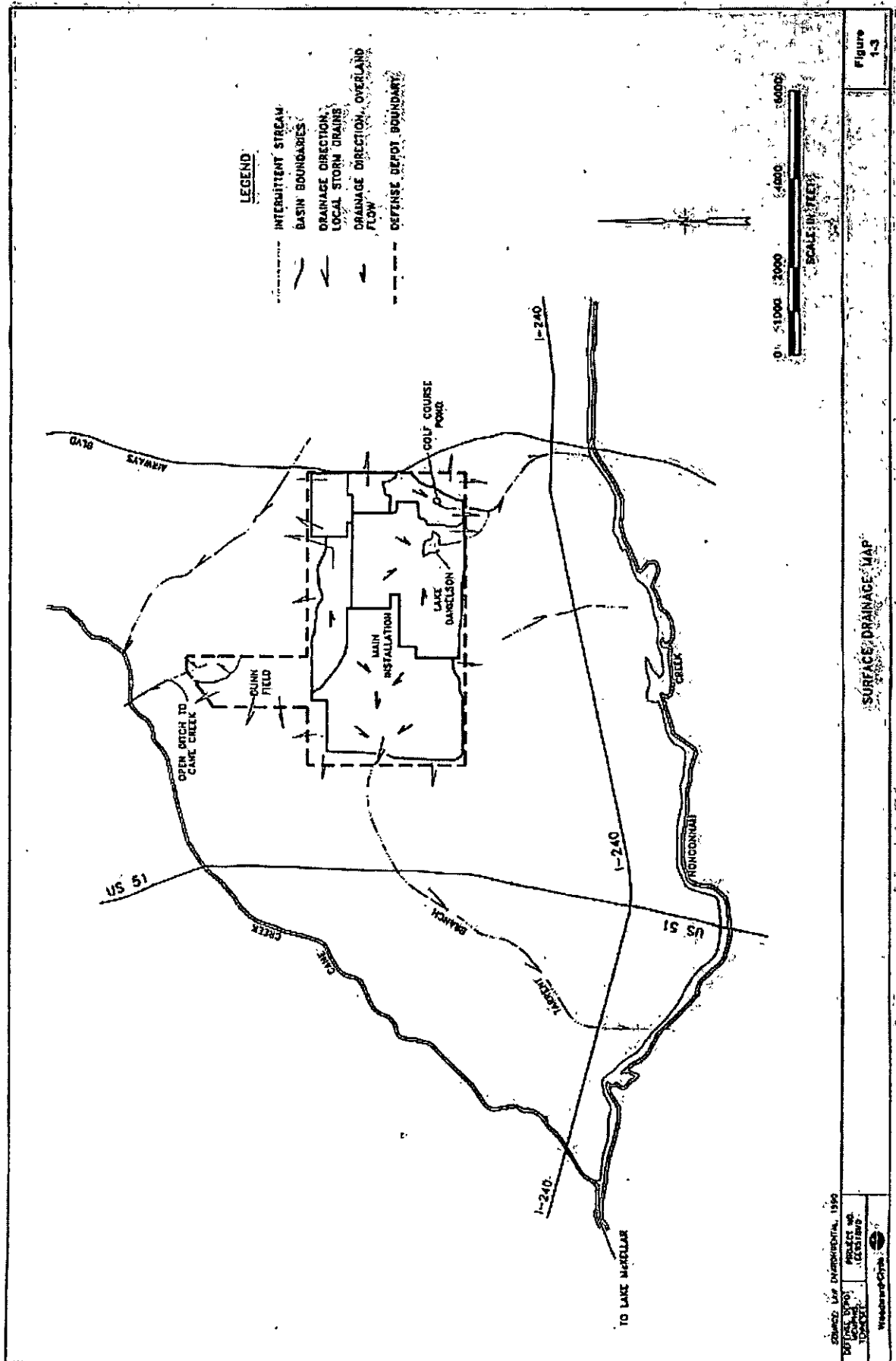


**Figure 1-1**  
**Memphis Depot location within**  
**the Memphis Metropolitan Area**  
**BRAC Cleanup Plan Version 9**

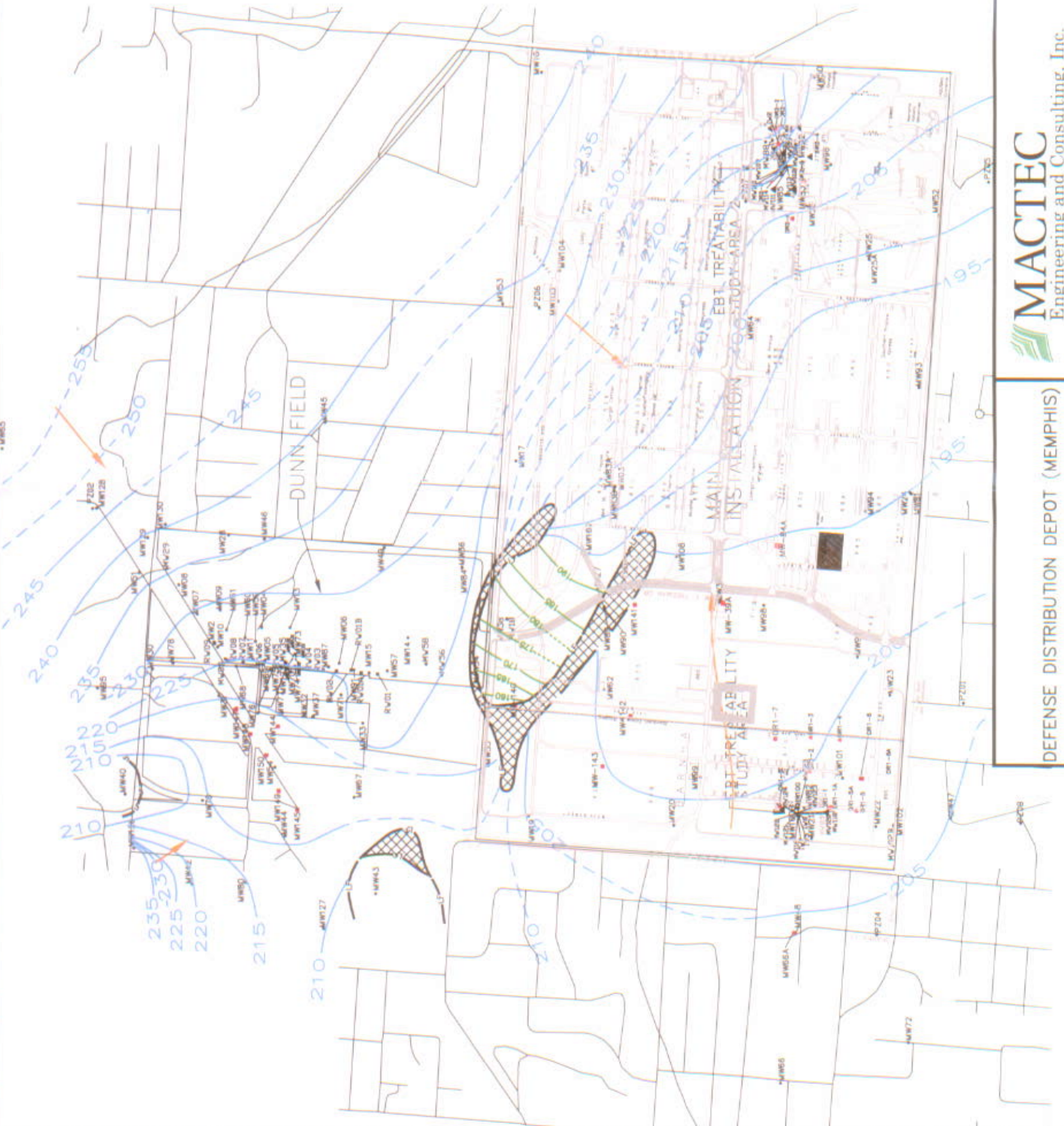


**Figure 1-2a**  
**Functional Units at Main Installation**  
**BRAC Cleanup Plan Version 9**





| Well ID | Water Level Elevation (ft. MSL) |
|---------|---------------------------------|
| MW-02   | 264.06                          |
| MW-03   | 225.27                          |
| MW-04   | 227.06                          |
| MW-05   | Dry                             |
| MW-06   | 225.66                          |
| MW-07   | 229.53                          |
| MW-08   | 231.74                          |
| MW-09   | 229.30                          |
| MW-10   | 226.66                          |
| MW-11   | 225.05                          |
| MW-12   | 225.06                          |
| MW-13   | 227.13                          |
| MW-14   | 228.22                          |
| MW-15   | 226.06                          |
| MW-16   | 243.14                          |
| MW-17   | Abandoned                       |
| MW-18   | 177.36                          |
| MW-19   | 204.09                          |
| MW-20   | 201.62                          |
| MW-21   | 202.36                          |
| MW-22   | 202.56                          |
| MW-23   | 201.29                          |
| MW-24   | 195.20                          |
| MW-25   | Abandoned                       |
| MW-26   | 199.57                          |
| MW-27   | 205.40                          |
| MW-28   | Dry                             |
| MW-29   | 237.31                          |
| MW-30   | 238.33                          |
| MW-31   | 229.70                          |
| MW-32   | 221.04                          |
| MW-33   | 222.09                          |
| MW-34   | 226.96                          |
| MW-35   | 225.12                          |
| MW-36   | 196.86                          |
| MW-37   | 156.33                          |
| MW-38   | 177.44                          |
| MW-39   | 163.95                          |
| MW-39A  | 195.81                          |
| MW-40   | 182.79                          |
| MW-41   | Abandoned                       |
| MW-42   | 221.83                          |
| MW-43   | 190.45                          |
| MW-44   | 215.40                          |
| MW-45   | 238.67                          |
| MW-46   | 235.22                          |
| MW-47   | 205.04                          |
| MW-48   | Abandoned                       |
| MW-49   | 230.54                          |
| MW-50   | 214.10                          |
| MW-51   | 236.46                          |
| MW-52   | 201.00                          |
| MW-53   | 233.69                          |
| MW-54   | 215.99                          |
| MW-55   | 220.27                          |
| MW-56   | 220.77                          |
| MW-57   | 227.52                          |
| MW-58   | 227.55                          |
| MW-59   | 226.34                          |
| MW-60   | 226.77                          |
| MW-61   | 227.00                          |
| MW-62   | 199.07                          |
| MW-63   | Abandoned                       |
| MW-63A  | 202.93                          |
| MW-63B  | 202.9                           |
| MW-64   | 197.80                          |
| MW-65   | 257.71                          |
| MW-66   | MM                              |
| MW-66A  | 205.76                          |
| MW-67   | 158.40                          |
| MW-68   | 224.54                          |
| MW-69   | 224.49                          |
| MW-70   | 224.80                          |
| MW-71   | 224.44                          |
| MW-72   | 207.40                          |
| MW-73   | 225.66                          |
| MW-74   | 225.02                          |
| MW-75   | 224.92                          |
| MW-76   | 219.38                          |
| MW-77   | 222.83                          |
| MW-78   | MM                              |
| MW-79   | 214.66                          |
| MW-80   | 215.19                          |
| MW-81   | 162.14                          |
| MW-82   | 158.57                          |
| MW-83   | 264.48                          |
| MW-84   | 229.92                          |



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DEFENSE DISTRIBUTION DEPOT (MEMPHIS)

POTENTIOMETRIC SURFACE MAP  
OF THE FLUVIAL AQUIFER, INCLUDING  
INTERMEDIATE AQUIFER  
JUNE 24-25, 2004

JOB NO. 6301-04-0002

FIGURE 1-4

PREPARED BY/DATE  
JF 07/18/04  
CHECKED BY/DATE  
AMC 09/01/04

**SECTION TWO****PROPERTY DISPOSAL AND REUSE****2.0 PROPERTY DISPOSAL AND REUSE**

This section describes the status and strategy for real property disposal, as well as the relationship between environmental cleanup efforts and anticipated or known reuse activity and property transfer methods.

**2.1 STATUS OF DISPOSAL PLANNING PROCESS**

In March 1995, the BRAC Commission recommended the following closure action at the Depot:

- Disestablish DDMT of DLA and relocate the Depot's functions and material to other defense distribution depots.

Pursuant to Public Law (PL) 101-510 and BRAC 95, DA identified 642 acres at the Depot that would be excess to its needs following closure. The Depot ceased mission operations on 30 September 1997.

DA and DLA initiated the BRAC parcel transfer process for the Depot and coordinated actions with the LRA. This process involves three interrelated activities: (1) preparing a redevelopment plan; (2) developing a disposal process; and (3) meeting requirements of the NEPA process. The design of this three-part disposal process integrates goals held by DA, DLA, the City of Memphis, and Shelby County to provide for the efficient transfer of the Depot mission within DLA, and to minimize the impact of closure on the community.

**2.1.1 Redevelopment Plan**

The reuse process began in 1995 when DOD and the Office of Economic Adjustment approached Memphis to form a reuse committee. Memphis and Shelby County created the Memphis Depot Redevelopment Agency (MDRA) under the auspices of the Memphis/Shelby County Office of Planning and Development. MDRA with its board of directors acted as the LRA, representing a broad spectrum of community interests in the reuse of the Depot. MDRA completed the redevelopment planning process in April 1997 with completion and approval of the Memphis Depot Redevelopment Plan (Figure 2-1).

In April 1997, DRC formed as a public corporation to implement the plan developed by MDRA. DRC is chartered under Tennessee law and recognized by the federal government as the LRA to enter into agreements with the federal government for lease or conveyance of the Depot property.

**SECTION TWO****PROPERTY DISPOSAL AND REUSE**

Memphis and Shelby County authorities approved the Memphis Depot Redevelopment Plan in March 1997. The BCT reviewed this plan and incorporated it in plans for site restoration. The U.S. Department of Housing and Urban Development (HUD) completed a review and approved the redevelopment plan for homeless consideration in September 1997. In addition to identifying the general land use for the future of the property, the Memphis Depot Redevelopment Plan provides an implementing strategy for DRC.

MDRA set the following goals for redevelopment, and DRC continues to support these goals:

- Maintain overall community public health as the first priority in environmental remediation work;
- Maximize community employment, wages, and capital investment through redevelopment of the Depot and the surrounding area, commencing immediately;
- Place highest priority on attracting new or expanding businesses to the Memphis market area rather than on relocating existing businesses already in the Memphis market area;
- Encourage new businesses at the Memphis Depot Business Park to hire Depot employees and local community residents;
- Improve the local quality of life by using Depot facilities to meet community needs and by ensuring that redevelopment is compatible with the surrounding areas; and
- Generate early cash flow through interim leases and other means of support maintenance, improvements, and marketing efforts.

**2.1.2 Disposal Process**

The disposal process for the Depot considers BRAC requirements and environmental cleanup schedules, DA transfer goals, and the redevelopment planning goals of the local community. The process incorporates relevant DA BRAC transfer hierarchy requirements established by PL 100-526 and the Federal Property and Administration Services Act, the Surplus Property Act, the Federal Property Management Regulations, and the 1994 Defense Authorization Act as amended.

The process includes the following actions:

**SECTION TWO****PROPERTY DISPOSAL AND REUSE**

- Offer facility to DOD agencies for use.
- Offer facility to other federal agencies.
- Offer facility under the 1994 Redevelopment Act (excluding property taken by DOD agencies) to sponsoring organizations and qualified homeless assistance providers.
- Offer facility to state and local government agencies through public benefit discount conveyance.
- Offer facility to a redevelopment agency at or below fair market value through an economic development conveyance.
- Offer the property for negotiated or competitive bid sale to the private sector.

The Base Closure Community Redevelopment and Homeless Assistance Act of 1994, signed into law on 25 October 1994, and Title XXIX of the 1994 Defense Authorization Act amended this process as it pertains to homeless, state, and local screening. These pieces of legislation exempt BRAC properties from screening under McKinney Act provisions. They do, however, require that the needs of the homeless be considered during the reuse planning process and that these needs be balanced with the need for further economic redevelopment. Approval of the Memphis Depot Redevelopment Plan by HUD in September 1997 concluded this requirement for homeless consideration.

In September 1997, prior to property transfer, DA provided DRC with a Master Interim Lease for the MI. Properties became available for sublease by DRC through a series of FOSL documents prepared by DLA and approved by DA. FOSL 8 included all property on the MI that had not been included on a previous FOSL and was approved in August 1999. In March 2003, DA signed a supplemental agreement converting the Master Interim Lease to a Lease in Furtherance of Conveyance (LIFC) granting DRC immediate, exclusive, possessory interest in the leased properties and extending the term to a period of 50 years beginning 1 September 2002 and ending 31 August 2052. Since October 1997, DRC has completed 29 subleases accounting for the reuse of more than 3.8 million square feet of covered and uncovered facilities (89.6% of the MI) and the production of approximately 1,069 jobs.

On 23 February 2001, DA signed FOST 1 to transfer Parcel 2 to a veteran service organization sponsored by HUD. This parcel, consisting of 6.52 acres of land and seven buildings on the MI, will

**SECTION TWO****PROPERTY DISPOSAL AND REUSE**

provide housing for veterans. The deed for this parcel was signed on 18 September 2001. On 27 September 2001, DA signed FOST 2 for Parcel 1 consisting of 18.03 acres of land and six buildings, including the main administration building on the MI. The deed to the City of Memphis Police Department for 4.67 acres of Parcel 1 was signed on 6 February 2002. The deed to DRC for 13.36 acres of Parcel 1 was signed on 6 May 2002.

On 1 July 2004, DA signed FOST 3 for all of Parcels 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22, and portions of Parcels 23, 24, 29, and 33, consisting of approximately 356.68 acres of land and 65 buildings on the MI. Two property transfer actions will result from this FOST. In October 2005, the USACE South Atlantic Division, Mobile, (CESAM) prepared the deed to transfer approximately 302.48 acres to DRC for light industrial/commercial reuse. Following signature by DRC, it will be sent to USACE for review and processing, and then to DA for execution. On 29 September 2005, DA signed the Letter of Assignment transferring the golf course (46.74 acres) to the U.S. Department of the Interior/National Park Service (DOI/NPS). DOI/NPS will deed the golf course to the City of Memphis for recreational reuse via public benefit conveyance.

On 4 March 2005, DA signed FOST 4 for approximately 41.17 acres of Dunn Field, the area identified in the Dunn Field Record of Decision (ROD), effective 12 April 2004, as available for unrestricted reuse. This FOST will result in three property transfer actions. On 2 September 2005, DA signed the deed transferring 1.57 acres to the City of Memphis for the Hayes Road expansion project. On 27 September 2005, DA signed a Letter of Assignment transferring the northeast portion of Dunn Field (17.66 acres) to DOI/NPS. The final parcel of FOST 4 (21.76 acres on the eastern side of Dunn Field) was originally to be transferred to the City of Memphis/Memphis Area Transportation Authority; however, on 16 September 2005, the City of Memphis requested that DOI/NPS transfer the property via public benefit conveyance for recreational reuse. On 20 December 2005, the City of Memphis notified DOI/NPS that they had declined the deed for the 17.66-acre parcel and would not submit an amendment to their approved application to acquire the adjacent 21.76-acre parcel. DOI/NPS proposes to return the property to DA because DOI does not have legal authority to retain accountability for property rejected by the end recipient. Plans for disposal of the remaining FOST 4 property are being developed.

**2.1.3 National Environmental Policy Act (NEPA) Documentation**

To comply with NEPA, a disposal and reuse environmental assessment (EA) for the Depot was prepared by CESAM. The EA process began in April 1996 with a scoping meeting conducted on 23

**SECTION TWO****PROPERTY DISPOSAL AND REUSE**

July 1996. A scoping report was completed in October 1996. The final EA for the Master Interim Lease, which included a description of the proposed disposal action and alternatives, was completed in October 1996. In March 1997, DRC submitted the final Memphis Depot Redevelopment Plan to CESAM for consideration of the impacts of proposed reuse actions. The final EA for Disposal and Reuse was completed in February 1998, and DA signed a Finding of No Significant Impact on 13 March 1998. A 30-day public comment period began in March 1998. The public comment period was extended in response to a request by public comment. This extension period concluded in October 1998.

The EAs evaluated several disposal and reuse alternatives following DA policy on the preparation of DA disposal and reuse documents. The EA for Disposal and Reuse considered three disposal alternatives: Unencumbered Disposal, Encumbered Disposal, and Caretaker (No Action Alternative). The EA for Disposal and Reuse addressed three reuse scenarios identified in the Memphis Depot Redevelopment Plan: High Intensity Reuse, Medium Intensity Reuse (best reflected the goals of the Memphis Depot Redevelopment Plan), and Low Intensity Reuse.

**2.1.4 Disposal/Reuse Progress**

Consistent with proposed community reuse goals, the disposal process at the Depot is underway. The following actions have occurred:

- Closure actions at the Depot began immediately after the BRAC 95 decision and culminated with the cessation of mission operations on 30 September 1997.
- A government caretaker force retained several facilities until June 2001.
- DA prepared and published a report of excess.
- Federal screening to identify facility uses by other non-DOD entities was completed in March 1996.
- Homeless assistance screening was completed, and HUD approved the redevelopment plan in September 1997. This included four military housing units to be used by a local homeless provider and one warehouse (Building 972) to be used by a homeless assistance provider.
- On 23 February 2001, DA signed a FOST document sponsored by HUD to transfer Parcel 2 to a veteran service organization. This parcel, consisting of 6.52

**SECTION TWO****PROPERTY DISPOSAL AND REUSE**

acres of land and seven buildings, provides housing for veterans. DA signed the deed for this parcel on 18 September 2001.

- On 27 September 2001, DA signed a FOST for Parcel 1. This parcel consisted of 18.03 acres of land and six buildings, including the main administration building. DA signed the deed to the City of Memphis Police Department for 4.67 acres of Parcel 1 on 6 February 2002. DA signed the deed to DRC for 13.36 acres of Parcel 1 on 6 May 2002.
- On 4 March 2003, DA signed an LIFC giving DRC sole proprietary interest in the property on the MI pending transfer by deed.
- On 1 July 2004, DA signed a FOST for approximately 356.68 acres of land and 65 buildings on the MI. DA signed a Letter of Assignment to DOI/NPS for 46.74 acres (MI golf course) on 2 September 2005.
- On 4 March 2005, DA signed a FOST for approximately 41.17 acres of land on Dunn Field. DA signed a Letter of Assignment to DOI/NPS for 17.66 acres on 27 September 2005.

## **2.2 RELATIONSHIP TO ENVIRONMENTAL PROGRAMS**

Disposal and reuse activities at the Depot are linked to environmental investigation, restoration, and compliance activities for two reasons:

- Federal property transfers to non-federal parties are governed by CERCLA, Section 120(h)(3)(B)(i), Contents of Certain Deeds; and
- Residual contamination may remain on certain properties after RAs have been completed or put into place, thereby restricting or placing encumbrances on the future use of those properties.

Section 120(h)(3)(B)(i) of CERCLA requires deeds for federal transfer of previously contaminated property to contain a covenant that all RAs necessary to protect human health and the environment have been taken. The 1992 CERFA amendment to CERCLA provided clarification to the phrase “has been taken”. This clarification stated that all RA has been taken if the construction and installation of an approved RD has been completed, and the remedy has been demonstrated to the Administrator to be operating properly and successfully. It further stated that the carrying out of long-term actions (e.g., groundwater pumping and treating) or operation and maintenance after the

**SECTION TWO****PROPERTY DISPOSAL AND REUSE**

remedy has been demonstrated to the Administrator to be operating properly and successfully does not preclude the transfer of the property. Thus, any required remedial and/or removal response actions must be selected and implemented for such contaminated properties before transfers to private parties can occur. Also, CERCLA requires that deeds for property on which a hazardous substance was stored for more than one year, released, or disposed include disclosure information on the type, quantity, and the time at which the storage or release occurred.

The requirement for complying with CERCLA, Section 120(h); the possibility of residual contamination at the Depot; and the remediation of the site according to future use are factored into the property disposal and reuse process at the Depot. This is accomplished in the following manner:

- Because the Depot experienced releases of CERCLA hazardous substances, it is subject to CERCLA transfer restrictions as described above.
- The environmental restoration program at the Depot uses the investigative and restoration processes of the CERCLA RA program. These processes include the completion of a remedial investigation (RI) and risk assessment according to future land use (industrial and recreational). The Memphis Depot Redevelopment Plan and the description of proposed action and alternatives in the final EA for Disposal and Reuse provide the best estimation of the future land use scenarios at the Depot.
- The Depot completed the MI RI in January 2000, and the MI ROD became effective on 6 September 2001. The Depot completed the Dunn Field RI in July 2002, and the Dunn Field ROD became effective on 12 April 2004. The risk assessment portions of each RI evaluated impacts on human health and the environment for current and potential on-site and off-site receptors based on the planned reuse. The RODs provide cleanup decisions that reflect the planned reuse.
- DLA solicited input from the community on proposed reuse scenarios and redevelopment plan implementation through communication with DRC and participation in the Restoration Advisory Board (RAB) process (see Section 3.5). Risk assessments considered the most current reuse plans and activities.
- The presence of residual contamination at the Depot after closure will be considered in the development of real estate transfer documentation. Remediation

**SECTION TWO****PROPERTY DISPOSAL AND REUSE**

of contaminated groundwater at the Depot will continue well beyond the Depot's closure date of 30 September 1997. DOD will not transfer land until the CERCLA requirements are met. DOD and regulator access to leased or conveyed property for RAs and long-term monitoring (LTM) will be ensured through the establishment of easements and conditions or covenants in the real estate documents.

- The strategy and schedule for the Depot presented in this BCP are based upon the document review cycle timeframes provided in the FFA. Because of the need to differentiate between areas suitable for transfer and those that are not, DDC has developed maps showing the environmental condition of property using data from the base wide EBS (see text and figures in Section 3.4) and subsequent sampling results. DDC will continue to update and refine the maps showing the environmental condition of property and property suitable for transfer as data become available and site restorations are completed.

DDC considers a parcel available for transfer on the date when DA has signed the associated FOST. In order for a FOST to receive USEPA, TDEC, and DA approval, restoration activities must be complete and operating properly as determined by the USEPA Administrator.

On 4 March 2003, DA signed an LIFC for the MI property giving DRC sole proprietary interest pending transfer by deed. Because this method of transfer is not from one federal agency to another, the transfer is governed by CERCLA. Section 120(h)(3)(B)(i) of CERCLA requires deeds for federal transfer of previously contaminated property to contain a covenant stating that all RAs necessary to protect human health and the environment have been taken. This deed requirement applies only to property on which a hazardous substance was stored for one year or more or where hazardous substances were disposed or released on the property. Thus, any required RAs and/or removal response actions must be selected, implemented, and shown to be operating properly and successfully for such contaminated properties before transfer to a non-federal agency can occur.

### **2.3 PROPERTY TRANSFER METHODS**

This section contains a brief description of planned or final transfer decisions in the EA for Disposal and Reuse as well as the Memphis Depot Redevelopment Plan accepted by DA in September 1997. The various transfer methods being used or considered in the transfer process at the Depot are described in the sections below. These transfer methods were identified from DA BRAC disposal protocols established by PL 100-526, the Federal Property and Administration Services Act, the

**SECTION TWO****PROPERTY DISPOSAL AND REUSE**

Surplus Property Act, the Federal Property Management Regulations, and the 1994 Defense Authorization Act. The status of each of the transfer methods is identified. Transfer methods that are not currently being considered but that could be used in future disposal-planning actions at the Depot are also identified.

**2.3.1 Federal Transfer of Property**

Screening of the Depot property for use by other federal agencies was completed in March 1996. As of 1 November 2005, no other federal agencies identified a need for the Depot property.

**2.3.2 No-Cost Public Benefit Conveyance**

State or local government entities may obtain property at no cost or less than fair market value when sponsored by a federal agency for uses that would benefit the public (e.g., health and education, parks and recreation, wildlife conservation, or public health). As of October 1998, DA screened the Depot properties for eligible state and local interests. Formal requests were received from the Department of Education, the Department of Justice, the Department of Transportation, and DOI/NPS.

On 1 July 2004, DA signed FOST 3. On 29 September 2005, DA signed a Letter of Assignment transferring 46.74 acres (MI golf course) to DOI/NPS. DOI/NPS will complete the public benefit conveyance transfer to the City of Memphis.

On 4 March 2005, DA signed FOST 4 that was to result in three public benefit conveyances. On 2 September 2005, DA signed the deed transferring 1.57 acres on Dunn Field to the City of Memphis for the Hays Road expansion project. On 27 September 2005, DA signed a Letter of Assignment transferring 17.66 acres of Dunn Field to DOI/NPS. On 20 December 2005, the City of Memphis notified DOI/NPS that they had declined the deed for the 17.66-acre parcel and would not submit an amendment to their approved application to acquire the adjacent 21.76-acre parcel. DOI/NPS proposes to return the property to DA because DOI does not have legal authority to retain accountability for property rejected by the end recipient. Plans for disposal of the remaining FOST 4 property are being developed.

**SECTION TWO****PROPERTY DISPOSAL AND REUSE****2.3.3 Negotiated Sale**

DA may sell the property by negotiation to state or local agencies at fair market value. A sale could also be negotiated with private entities. As of 1 November 2005, there are no negotiated sales planned for Depot properties.

**2.3.4 Widening of Public Highways**

One property transfer was performed in association with a road-widening project. On 2 September 2005, DA transferred 1.57 acres to the City of Memphis for the Hayes Road expansion (adjacent to Dunn Field) between Dunn Avenue and Person Road.

**2.3.5 Donated Property**

In October 1998, DA screened excess properties for state and local interests. As of 1 November 2005, no property donations have been initiated on any Depot properties.

**2.3.6 Interim Leases**

Pre-disposal use of facilities by a non-DA entity can be accomplished through the execution of leases, licenses, or permits. The Military Leasing Act of 1956 (10 U.S. Code [USC] §2667), as amended, permits DA to implement interim leasing of excess facilities if it is in the public interest. Prior to any leasing or permitting, DA must complete a FOSL documenting that the property is safe for the intended use. Leased properties may be transferred by deed to future owners after disposal decisions are made. To facilitate the reuse of surplus property, and in accordance with DA policy and the Memphis Depot Redevelopment Plan goals, DA entered into an interim master lease for the MI with DRC in September 1997. By August 1999, DA had signed FOSLs for all 578 acres of the MI.

**2.3.7 Competitive Public Sale**

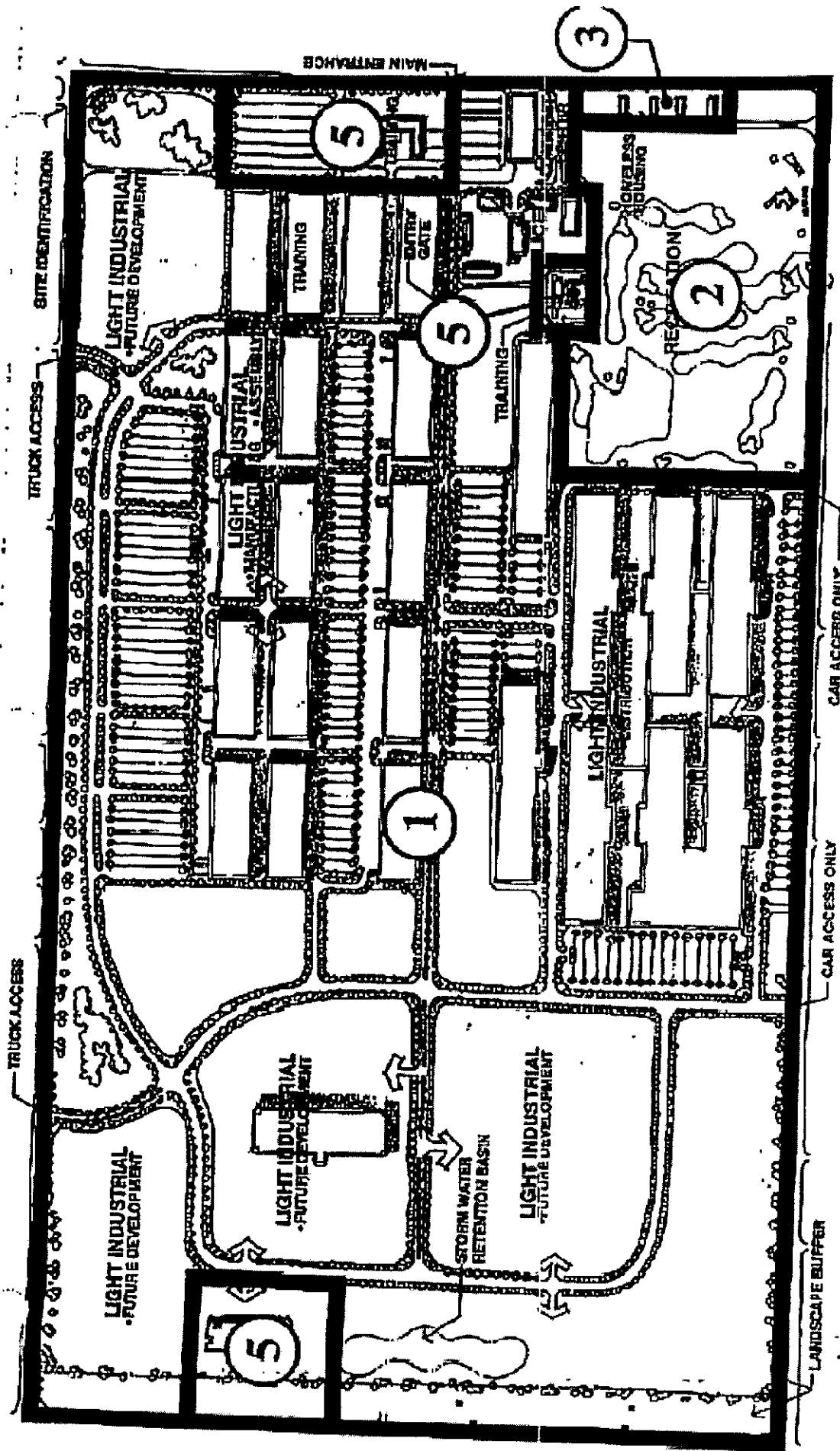
Sale to the public would occur through either an invitation for bids or an auction. As of 1 November 2005, no competitive public sale of facilities or property has been initiated at the Depot. However, a competitive public sale of the Dunn Field property declined by the City of Memphis is under consideration.

**SECTION TWO****PROPERTY DISPOSAL AND REUSE****2.3.8 Economic Development Conveyance**

The 1994 Defense Authorization Act provides for the conveyance of property to an LRA at or below fair market value using flexible payment terms. The economic development conveyance (EDC) is intended to promote economic development and job creation in the local community. To qualify for this conveyance, an LRA must submit a request to DA describing its proposed economic development and job creation program. DOD has recognized DRC as the LRA for the Depot. DRC submitted an EDC application to DA in March 1998. DA accepted this application in September 1998. Acceptance of a memorandum of agreement (MOA) for implementation of the terms of the EDC was completed on 3 January 2001. DA plans to transfer approximately 530 acres of Depot property to DRC through an EDC. On 27 September 2001, DA signed FOST 2 consisting of 18.03 acres of land, including the main administration building on the MI. The deed transferring 13.36 acres through an EDC to DRC was signed on 6 May 2002. On 1 July 2004, DA signed FOST 3 for property on the MI that will result in a deed transferring 302.48 acres through an EDC to DRC.

**2.3.9 Caretaker of Property until Disposal**

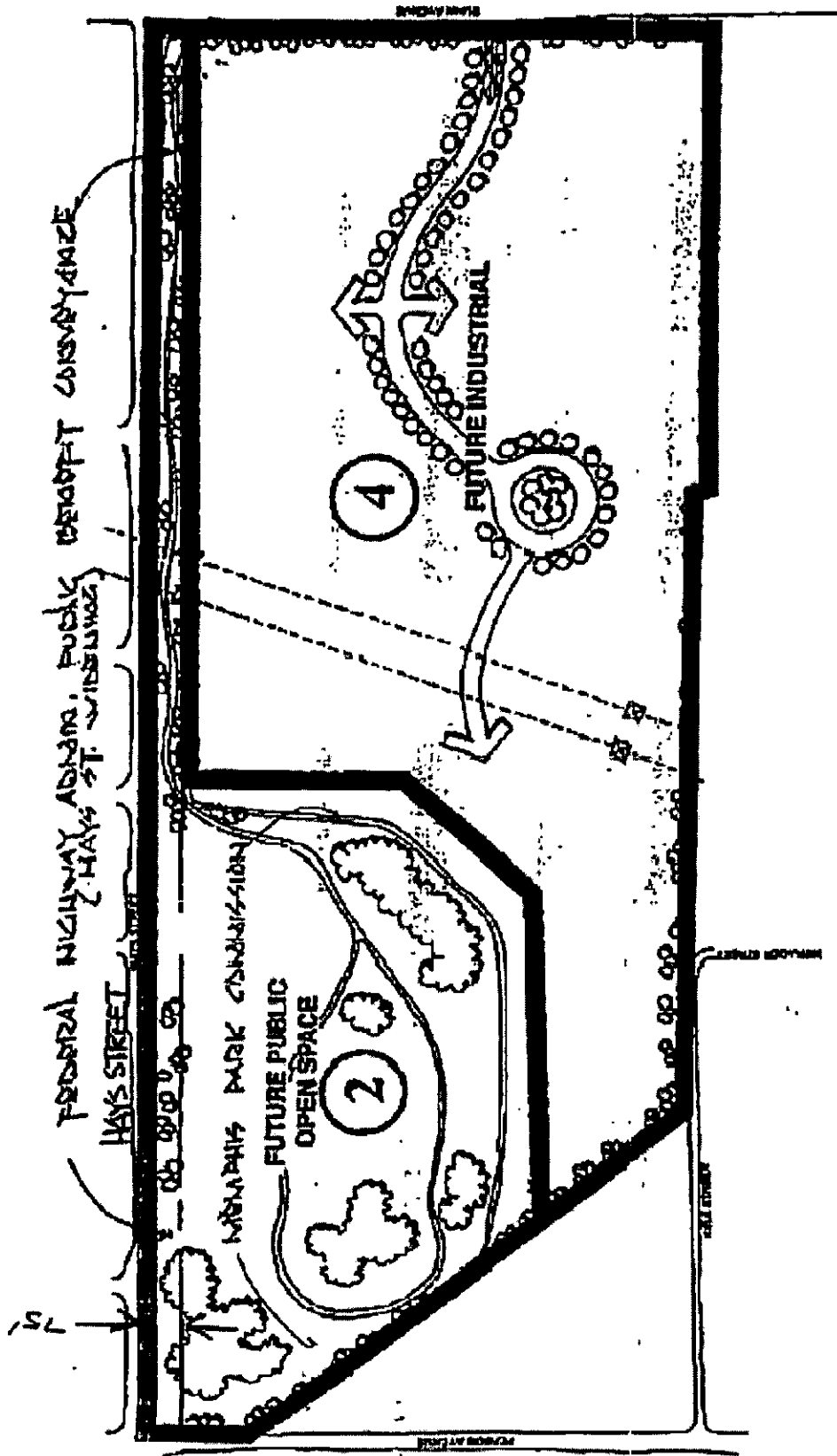
Utility systems not required for continued Depot operations or interim lessees will be privatized or placed in an inactive caretaker status until the property is transferred to new owners. Army Regulation (AR) 210-17, "Inactivation of Installations," requires that "Inactive facilities and areas will be maintained to the extent necessary to ensure, as applicable, weather-tightness, structural soundness, protection against fire and erosion, conservation of natural resources, and the prevention of major deterioration...." with "...the minimum required staffing to maintain an installation in a state of repair that maintains safety, security and health standards." Upon closure, a caretaker cadre of 56 personnel remained at the Depot to meet the requirements of AR 210-17 and PL 500-126 pending transfer of the properties. The caretaker cadre was eliminated effective 30 June 2001.



- 1 Economic Development Conveyance
- 2 Parks & Rec. Public Benefit Transfer
- 3 Homeless Assistance Conveyance
- 4 Public Competitive Sale
- 5 Education Public Benefit Conveyance

**Figure 2-1**  
**Memphis Depot Redevelopment Plan**  
 BRAC Cleanup Plan Version 9  
 Page 1 of 2





**Figure 2-1**  
**Memphis Depot Redevelopment Plan**  
 BRAC Cleanup Plan Version 9  
 Page 2 of 2

- 1 Economic Development Conveyance
- 2 Parks & Rec. Public Benefit Transfer
- 3 Homeless Assistance Conveyance
- 4 Public Competitive Sale
- 5 Education Public Benefit Conveyance

## **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

### **3.0 INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

This section summarizes the current status of the environmental restoration program, the compliance program, the natural and cultural resources at the Depot, the environmental condition of property and suitability for transfer of the Depot facility, and the status of the community involvement program.

### **3.1 ENVIRONMENTAL PROGRAM STATUS**

The environmental restoration program has been in place at the Depot since 1981. An overview of some of the major milestones in the program and for the Depot is provided below:

- Several EAs were conducted at the Depot, beginning with an initial Installation Assessment completed in 1981. During the 1980s, the Depot instituted environmental programs to ensure compliance with applicable DA and DOD regulations and local, state, and federal regulatory programs including the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act (SDWA), RCRA, and the Toxic Substances Control Act.
- A RCRA Facility Assessment (RFA) completed in 1990 identified 49 SWMUs and 8 areas of concern (AOCs).
- On 28 September 1990, USEPA Region 4 and TDEC issued the Depot a RCRA Part B permit for the storage of hazardous waste (No. TN4 210-020-570). The HSWA portion of the permit issued by USEPA included requirements for the identification and, if necessary, corrective action of SWMUs and AOCs. Subsequent to issuing the permit, and in accordance with Section 120(d)(2) of CERCLA, and Title 42, Section 9620(d)(2), of the USC, USEPA prepared a final Hazard Ranking System (HRS) Scoring Package for the facility.
- On 14 October 1992, based on the final HRS score of 58.06, USEPA added the Depot to the NPL (57 Federal Register 47180 No. 199).
- On 6 March 1995, USEPA, TDEC, and the Depot entered into an FFA under CERCLA, Section 120, and RCRA, Sections 3008(h) and 3004(u) and (v). The FFA outlines the process for investigation and cleanup of the Depot sites under CERCLA. The parties agreed that investigation and cleanup of releases from the sites (including

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

formerly identified SWMUs/AOCs) would satisfy any RCRA corrective action obligation under the USEPA HSWA permit and Tennessee Code -Annotated, Section 68-212-101 *et seq.* In 1995, the Generic RI/Feasibility Study (FS) Work Plan was prepared to indicate how the RI and FS would be accomplished. USEPA and TDEC approved RI/FS Field Sampling Plans (FSPs) for each OU and screening site.

- In July 1995, the Depot was identified for closure under the BRAC process, which requires environmental restoration to comply with the requirements for property transfer under PL 101-510 of Title XXIX, Defense Base Closure and Realignment. The City of Memphis and DRC were given the responsibility of planning and coordinating the reuse of the Depot.
- In 1996, USEPA and TDEC approved a ROD for an Interim Remedial Action (IRA) for Groundwater at Dunn Field.
- In 1997, sampling of RI, screening, and BRAC sites was conducted on the MI. The BCT changed the environmental condition of property categories for subparcels, where appropriate, based on a review of the sample results.
- During 1997 and 1998, the Depot requested and received closure of its air permits, underground storage tank (UST) permits, stormwater discharge permit, and Nuclear Regulatory Agency storage permit. On 22 October 1998, TDEC terminated the RCRA Part B permit because the proposed storage unit was never constructed or operated.
- In 1998, the Depot completed construction of the first phase of the IRA pump and discharge system and the system became operational. Addendums to the 1995 FSPs were completed for OUs 2, 3, and 4, as well as for groundwater at the MI. Soil and groundwater sampling for chemical warfare materiel (CWM) at Dunn Field was completed. The Depot also completed removal actions at Subparcel 2.7 (family housing area) and at Site 48/Subparcel 5.2 (cafeteria area).
- In 1999, action memorandums were prepared and signed for removal actions at the old paint shop and maintenance area (Parcels 25 and 38), as well as for CWM disposal locations at Dunn Field. Additional monitoring wells were installed west of

**SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

Dunn Field to provide more information regarding the hydrogeology of the area.

Additional recovery wells for the IRA pump and discharge system were approved by the BCT and installed by the end of 1999. The Depot also completed RI fieldwork at the MI and started fieldwork for Dunn Field.

- In 2000, the Depot completed the removal action at the old paint shop and maintenance area and began the removal action for CWM disposal locations at Dunn Field. The Depot also completed and provided to the public the MI RI Report, FSs for Soil and Groundwater, and MI Proposed Plan (PP). The Depot completed the public comment period for the MI PP. The BCT approved a groundwater sampling addendum for Dunn Field.
- In 2001, DDC, USEPA, and TDEC signed the MI ROD, effective 6 September 2001. The Depot completed the CWM removal action and RI fieldwork at Dunn Field. The Depot also completed the additional groundwater sampling at Dunn Field. The BCT began its review of the Dunn Field RI Report. Subsequent to completion of the MI ROD, the Depot completed a removal action at Site 83, the south end of Building 949. The Depot began preparing the MI RD.
- In 2002, the BCT completed its review of the Dunn Field RI Report. The Depot began the Enhanced Bioremediation Treatability Study at the MI for use in the MI RD. The Depot also completed a removal action at Site 60, the former pistol range on Dunn Field.
- In 2003, the BCT completed its review of the Dunn Field FS. The Depot provided the Dunn Field RI Report, FS, and PP to the public and completed the public comment period.
- In 2004, DDC, USEPA, and TDEC signed the Dunn Field ROD, effective 12 April 2004. The BCT reviewed data gathered during MI groundwater RD activities and refined conceptual site models (CSMs) of the site hydrogeology. DDC submitted the final MI RD and the final Dunn Field Disposal Sites RD. In 2004, identification of contaminant levels exceeding 500 micrograms per liter ( $\mu\text{g/L}$ ) in downgradient monitoring wells northwest of Dunn Field prompted the BCT to conduct early implementation of selected remedy to reduce contamination levels in groundwater downgradient of Dunn Field.

## **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

- In 2005, DDC implemented the Dunn Field Disposal Sites RA, and obtained USEPA and TDEC approval on the final Early Implementation of Selected Remedy (EISR) Interim Remedial Action Completion Report (IRACR) and the final MI RA Work Plan (RAWP). DDC submitted the draft (30%) Dunn Field Source Areas RD. DDC also obtained USEPA and TDEC approval on the Source Areas RD Investigation (RDI) Work Plan and implemented the RDI. DDC received from TDEC a notice to deny renewal of the Depot's Hazardous Waste Corrective Action Permit terminating DDC's requirement to continue corrective action under the hazardous waste regulations, as all correction action activities shall continue to be performed under CERCLA authority. On behalf of DDC, CESAM recorded the Notice of Land Use Restrictions for the MI with the City of Memphis/Shelby County Register of Deeds.

### **3.1.1 Restoration Sites**

Past operations at the Depot have included the storage of various hazardous substances as well as the generation of various types of wastes from maintenance operations and their disposal and/or release across the installation. Efforts related to these sites under the environmental restoration program are described in this section. Table 3-1 provides the current status of the 93 restoration sites identified in the FFA. Table 3-2 summarizes the spill sites identified through a review of the Depot's Spill Response Checklists and in the 1996 EBS database search.

In 1998, the U.S Army Topographic Engineering Center's review of historical aerial photographs spanning 1945 to 1990 identified four areas on the MI as potential sources of contamination (Old Pond Area, Former Container Storage Strip, Former Magazines, and Mallory Avenue Ground Scar). These areas were investigated and included in the MI RI Report. No releases were identified from these potential sources.

To assist investigations, the BCT divided the facility into four OUs: OU-1, Dunn Field; OU-2, Southwest Quadrant, MI; OU-3, Southeastern Watershed and Golf Course, MI; and OU-4, North-Central Area, MI. Figures 3-1 through 3-4 show the restoration sites in relation to the OUs.

RODs documenting the selected RAs for the MI and Dunn Field have been signed. The BCT is working to implement the selected remedies.

Several sites underwent removal actions prior to the RODs. These actions are described in Table 3-3, "Removal Actions Summary."

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

#### ***Dunn Field***

Dunn Field, OU-1, an open, unpaved area located north of and across Dunn Road from the MI, is the only known burial area on the Depot. The potential contamination sites at OU-1 are listed in Table 3-1 and shown Figure 3-1.

Beginning in 1982, the Depot installed groundwater monitoring wells to evaluate the impact of the burial sites and past hazardous substance handling operations at Dunn Field on groundwater. RI fieldwork conducted from 1989 through 1990 did not fully define the nature and extent of contamination, resulting in subsequent RI fieldwork and reports.

Between 1993 and 1996, the Depot collected additional geological and groundwater data to support an Interim ROD for groundwater at Dunn Field. USEPA and TDEC concurred with the Interim ROD, and it became effective on 7 May 1996. In 1997, the Depot began design of the IRA, which included installation of a system of groundwater recovery wells to create a hydraulic barrier to prevent further migration and to remove contaminated groundwater, and a discharge system connected to the City of Memphis sanitary sewer. During 1997 and 1998, the BCT reviewed the IRA designs. Construction of the recovery well system along the western fence line of Dunn Field was completed in September 1998, and the system was fully operational in October 1998. Four additional recovery wells installed in 1999 to enhance system performance became operational in 2001.

As of 1 November 2005, the Depot has 98 monitoring wells on and off the Depot to define the extent of the Dunn Field groundwater plume and to better define the hydrogeology of the area. As part of the IRA, the Depot also obtained a discharge permit for disposal of recovered groundwater to the T.E. Maxon Wastewater Treatment Plant.

For the Dunn Field RI Report, the Depot divided Dunn Field into the following three areas based on past use and anticipated future use: Northeast Open Area, Stockpile Area, and Disposal Area (see Figure 1-2b).

The BCT evaluated all of Dunn Field for future industrial/commercial reuse and the Northeast Open Area for recreational reuse. The risk assessment evaluated potential exposures to maintenance, industrial, and utility workers, and off-site residents and future on-site residents (if risks are acceptable for residents, risks are acceptable for recreational reuse).

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

Results of the Dunn Field RI indicated that lead levels at the former pistol range site required remediation to reduce potential risks to acceptable levels for unrestricted reuse of the Northeast Open Area. In March 2003, the Depot completed the removal action of lead in soil at the former pistol range. The Dunn Field ROD indicated that the Northeast Open Area and the eastern portion of the Stockpile Area are suitable for unrestricted reuse.

The Dunn Field RI report indicated that VOCs in subsurface soil beneath the disposal sites are migrating to the fluvial aquifer groundwater. The risk assessment for the Disposal Area indicated that combined risks from surface soil, sediment, surface water, and VOCs in subsurface soil impacting ambient air do not present unacceptable risks to maintenance or industrial workers. Potential risks from VOCs in subsurface soil impacting indoor air slightly exceed acceptable levels for industrial workers in the northwest corner of the Disposal Area. Risks from surface soil and indoor air to future on-site residents were unacceptable. Disposal Area sites are not suited for utility workers because of possible disturbance of buried wastes. The Depot conducted a soil vapor extraction (SVE) treatability study to determine the effectiveness of this USEPA presumptive remedy to reduce subsurface soil VOC levels in the Disposal Area and used the data in the Dunn Field FS.

Groundwater in the fluvial aquifer under portions of the site, and off-site near the property boundary in downgradient locations, contains VOCs at levels exceeding SDWA maximum contaminant levels (MCLs) and is unfit for potable use. Groundwater in the fluvial aquifer is not used for potable water in the Depot area.

There are no unacceptable risks or hazards to future on-site workers or residents due to exposure of VOCs volatilizing from groundwater to indoor air. Since contamination has been detected in selected off-site wells, the risk assessment evaluated indoor air exposures to off-site residents and determined that risks are within acceptable limits.

Contaminants identified in the northern portion of Dunn Field appear to be migrating on-site from an off-site, upgradient source. USEPA and TDEC have implemented an investigation to identify the source of this groundwater contamination.

In 1999, the Depot completed RI fieldwork at Dunn Field and drafted the report, but the BCT determined that further investigation was necessary because of additional groundwater concerns from a newly installed well to the immediate west of Dunn Field. The Depot prepared an addendum

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

to the Dunn Field sampling plan because of this new well to further characterize and monitor the groundwater plume and to provide additional information regarding the hydrogeology of the area.

This fieldwork was completed in 2001, and the Dunn Field RI Report was drafted. In 2002, the Depot completed the removal action of lead in soil at the former pistol range (Site 60) and removed the old pistol range building (Site 85). The Depot finalized the Dunn Field RI Report in August 2002 and the Dunn Field FS in May 2003. The Depot provided the PP for public comment in May 2003 and conducted a public comment meeting on 15 May 2003. The public comment period was extended until 15 July 2003. DDC signed the Dunn Field ROD on 22 March 2004; TDEC signed the ROD on 6 April 2004; and USEPA signed the ROD on 12 April 2004. The contaminants of concern (COCs) for Dunn Field include benzene; carbon tetrachloride (CT); chloroform; copper; 1,1-dichloroethene (DCE); 1,2-DCE; lead; polycyclic aromatic hydrocarbons; 1,1,2,2-tetrachloroethane; tetrachloroethene (PCE); 1,1,2-trichloroethane; trichloroethene (TCE); and vinyl chloride. The major components of the selected remedy for Dunn Field include:

- Excavation, transport, and disposal of soil and material contained within disposal sites located in the western half of Dunn Field based upon results from a pre-design investigation into these sites.
- Use of SVE to reduce VOC concentrations in subsurface soils to levels that are protective of the intended land use and groundwater.
- Injection of zero-valent iron (ZVI) within Dunn Field to treat chlorinated volatile organic compounds (CVOCs) in the most contaminated part of the groundwater plume, and installation of a permeable reactive barrier (PRB) to remediate CVOCs within the off-site areas of the groundwater plume.
- Monitored natural attenuation (MNA) and long-term groundwater monitoring to document changes in plume concentrations, to detect potential plume migration to off-site areas or into deeper aquifers, and to track progress toward remediation goals.
- Implementation of land use controls (LUCs), which consist of the following institutional controls: deed and/or land restrictions, Notice of Land Use Restrictions, City of Memphis/Shelby County zoning restrictions, and the Memphis and Shelby County Health Department groundwater well restrictions.

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

The Depot conducted pre-design investigations at Dunn Field in 2003 and 2004, disposal sites confirmation sampling, and a ZVI pilot test. The data from these pre-design investigations will be used in the RDs for Dunn Field. DDC submitted the final Disposal Sites RD in April 2004. DDC implemented the Dunn Field Disposal Sites RA in 2005. The Source Areas (SVE and ZVI) RD and the Off-Depot Groundwater RD are scheduled for completion in 2007.

In 2004, samples from monitoring wells downgradient of Dunn Field indicated concentrations of PCE and TCE exceeding 500 µg/L in the area proposed for installation of the PRB in the Dunn Field ROD. The levels prompted DDC to implement the ZVI portion of the Dunn Field remedy prior to installation of the PRB to reduce concentrations and to enhance the PRB's effectiveness. DDC distributed the Early Implementation Technical Memorandum and obtained BCT concurrence to the early implementation RA in September 2004. DDC completed the EISR action in January 2005 and obtained USEPA and TDEC approval of the EISR IRACR in September 2005.

#### ***Main Installation (OUs 2, 3, and 4)***

The MI was divided into OUs, 2, 3, and 4, and then into six FUs based on historical past use and anticipated future reuse. Groundwater under the MI is FU-7. Figures 3-2 through 3-4 show the individual sites within each OU on the MI. Figures 1-2a and 1-2b show the OUs and the FUs.

Beginning in 1982, the Depot installed groundwater monitoring wells to evaluate the impact of past hazardous substance handling operations on groundwater at the MI. As of 1 November 2005, the Depot has 86 monitoring wells on and off the Depot to define the extent of groundwater contamination at the MI and to better define the hydrogeology of the area.

In 1999, the Depot completed MI RI fieldwork. In January 2000, the Depot distributed the final MI RI Report, which included the risk assessment. The COCs in groundwater identified at the MI are CT, PCE, and TCE. Although CT, PCE, and TCE occur in groundwater above the SDWA MCLs, they do not present significant current health risks because the fluvial aquifer is not a source of drinking water in the Depot area and the water table depth of approximately 80 feet below land surface prevents surface impacts. The COCs in soil at the MI are lead, arsenic, and dieldrin. Lead, dieldrin, and arsenic levels in surface soil in some areas present unacceptable risks for hypothetical future residents. Lead was above the industrial health protective level in one area (adjacent to the south end of Building 949).

The Depot distributed final MI FSs for Soil and Groundwater in July 2000. The MI PP public comment period ended on 13 October 2000. In 2000, the Depot completed a removal action at the

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

old paint shop and maintenance area (Buildings 1084, 1085, 1086, 1087, 1088, 1089, 1090, and 1091) to bring lead levels in soil to within USEPA's acceptable risk-based concentrations for industrial land use.

During development of the ROD, DDC elected to conduct a removal action of lead-contaminated soil around the south end of Building 949 prior to finalization of the ROD. The ROD contains an explanation of significant difference regarding the removal action.

DDC, TDEC, and USEPA signed the MI ROD, and it became effective on 6 September 2001. The selected remedy for the MI includes the following:

- Restrict future residential land use and daycare operations in FUs 1 through 6 (except at Parcels 1 and 2), and casual access to FU-2 from adjacent off-site residents, through LUCs.
- Prevent future groundwater use on the MI while concentrations of the COCs are above MCLs.
- Reduce concentrations of COCs in groundwater migrating away from the MI to MCLs through enhanced bioremediation treatment (EBT) in the groundwater with the highest concentrations and natural attenuation in other areas of the plumes.
- Conduct 5-year reviews of the RA according to Section 121(c) of CERCLA and the NCP §300.430(f)(5)(iii)(c) if there are any hazardous substances, pollutants, or contaminants remaining at the site above levels that would allow for unlimited use and unrestricted exposure. The review will be conducted no less often than every 5 years after the initiation of such RA to ensure that human health and the environment are being protected by the RA being implemented.

The Depot completed the MI RD Work Plan in July 2002 and began RD fieldwork to determine the locations for EBT. DDC submitted the final MI RD in July 2004. DDC submitted the final MI RAWP and obtained USEPA and TDEC approval in September 2005. DDC anticipates implementing the MI RA in 2006.

#### **3.1.2 Installation-wide Source Discovery and Assessment Status**

The source discovery and assessment phases at the Depot are complete. RODs for the MI and Dunn Field are complete and have been signed by DDC, TDEC, and USEPA.

## **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

Several installation-wide assessments have been conducted to identify the presence of contamination and contamination sources at the Depot, as discussed in Section 3.1.1. Table 3-2 summarizes the spill sites that were identified through a review of the Spill Response Checklists provided by Depot personnel and in the database search report.

Several other installation-wide surveys related to environmental compliance programs have also been conducted at the Depot. These include asbestos, PCB, radon, and radiological surveys. The results of these surveys and the current status of these environmental programs are described in Section 3.2.

### **3.2 COMPLIANCE PROGRAM STATUS**

Upon termination of material handling operations at the Depot in 1997 and completion of the Memphis Depot Caretaker operations in 2001, the operations-related environmental compliance program ended. A description of the various environmental compliance programs once managed at the Depot is provided in the following subsections.

#### **3.2.1 Storage Tanks**

DDC no longer maintains USTs or aboveground storage tanks (ASTs) at the Depot. Both USTs and ASTs at the Depot were historically used to store petroleum products for heating, vehicle and equipment fueling, and maintenance operations.

##### ***USTs***

A complete inventory of USTs is provided in Table 3-4. The table includes information regarding the location, size, contents, and status of each UST. DDC no longer maintains USTs.

##### ***ASTs***

An inventory of the ASTs, including tank size, contents, and status, is provided in Table 3-5. The remaining ASTs were transferred to DRC. DDC no longer maintains ASTs.

#### **3.2.2 Hazardous Substance Management**

DDC no longer manages operations-related hazardous substances. Use and storage of operations-related hazardous substances ended in 1997 with closure of the Depot. Contractors conducting environmental restoration activities are required to comply with the applicable or relevant and appropriate requirements (ARARs).

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

A description of hazardous substance management activities at the Depot is provided in Section 1.7.

#### **3.2.3 Lead-Based Paint**

DDC no longer manages the lead-based paint (LBP) program at the Depot. A comprehensive LBP survey was conducted at the Depot in 1995 (Barge, Waggoner, Sumner, and Cannon 1996). LBP abatement occurred at the former military family housing area in 1997, 1998, and 1999.

#### **3.2.4 Hazardous Waste Management**

DDC no longer manages hazardous waste at the Depot and has terminated all portions of the Depot's RCRA permit. Contractors are required to conduct hazardous waste management in accordance with the waste management portions of sampling, removal, or RA plans and are required to comply with the ARARs. For the purpose of disposal of restoration-derived hazardous waste, the Depot operates under USEPA identification No. TN4210020570.

The original Part B RCRA permit issued by TDEC on 28 October 1990 for a hazardous waste storage facility was terminated by TDEC on 22 October 1998 upon request of the Depot because the unit was not constructed or operated. The HSWA portion of the RCRA permit was issued by USEPA Region 4 on 28 October 1990 for the purpose of RCRA corrective action for releases from SWMUs. Based on requirements of TDEC and USEPA, the Depot submitted a corrective action permit renewal application on 29 March 2004.

On 24 September 2004, DDC correspondence to TDEC withdrew the corrective action permit application for the Depot. On 19 January 2005, TDEC issued DDC a Denial to Reissue the Hazardous Waste Corrective Action Permit, which terminated the Depot's requirement to continue corrective action under the hazardous waste management regulations and noted that all corrective action activities shall continue to be performed under CERCLA authority. A description of RCRA hazardous waste management activities at the Depot is provided in Section 1.7.

#### **3.2.5 Solid Waste Management**

DDC no longer manages solid waste at the Depot.

#### **3.2.6 Polychlorinated Biphenyls**

DDC no longer manages the PCB program at the Depot. The results of the 1993 PCB survey are provided in Appendix E.

## **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

### **3.2.7 Asbestos**

DDC no longer manages asbestos-containing material (ACM) at the Depot. An asbestos survey (The Pickering Firm, Incorporated 1993a, 1993b, 1993c, 1994a, 1994b, 1994c, 1994d, 1994e, 1994f, 1994g, 1994h, 1994i, 1994j, 1994k) was performed at the Depot, and the results of this survey are summarized in Appendix E.

### **3.2.8 Radon**

DDC no longer manages radon at the Depot. The results of the 1995 radon survey are provided in Appendix E.

### **3.2.9 RCRA Facilities**

DDC no longer manages RCRA facilities at the Depot. Specific investigation and restoration requirements for SWMUs at the Depot are included in the CERCLA environmental restoration process.

A complete description of the status of these environmental restoration activities is provided in Section 3.1. A description of RCRA hazardous waste management activities at the Depot is provided in Sections 1.7 and 3.2.4.

### **3.2.10 Wastewater Discharges**

DDC no longer manages stormwater at the Depot. Contractors conducting environmental restoration activities are required to comply with the City of Memphis industrial wastewater discharge agreement for the IRA for groundwater at Dunn Field and with the ARARs. Point source wastewater is discharged via the City's sanitary sewer to the City's treatment facilities. The Depot requested and received from TDEC termination of the NPDES permit effective 29 June 2001.

### **3.2.11 Oil/Water Separators**

DDC no longer manages oil/water separators at the Depot.

### **3.2.12 Pollution Prevention**

DDC no longer manages pollution prevention at the Depot.

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

#### **3.2.13 Medical Waste**

DDC no longer manages medical waste at the Depot.

#### **3.2.14 Unexploded Ordnance**

The Archives Search Report and investigation indicated no unexploded ordnance (UXO) at the Depot.

#### **3.2.15 NEPA**

DDC has no further NEPA responsibilities at the Depot. A more complete description of the NEPA process and documentation is provided in Section 2.1.3.

#### **3.2.16 Air Emissions**

DDC no longer manages operations-related air emissions at the Depot. Air emission permits were terminated in May 1997. Contractors conducting environmental restoration activities are required to manage air emissions in accordance with the emission management portions of sampling, removal, or RA plans and are required to comply with the ARARs.

### **3.3 STATUS OF NATURAL AND CULTURAL RESOURCES**

DDC no longer manages natural or cultural resources at the Depot. For more information about the natural and cultural resources at the Depot, refer to the EA for Disposal and Reuse for the Depot completed in February 1998.

#### **3.3.1 Vegetation**

The Depot is highly developed. Very little native vegetation exists except as associated with Lake Danielson, the golf course pond, or undisturbed areas at Dunn Field. In addition, landscaping programs have concentrated decorative plantings around Lake Danielson, the golf course, and the former military family housing area.

#### **3.3.2 Wildlife**

Because the Depot is in a highly developed area, it offers limited habitat. Ducks, geese, frogs, goldfish, and Arkansas shiners have been observed at the golf course pond and Lake Danielson.

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

Dunn Field is the only undisturbed open area on the site. Animals that have been observed at Dunn Field include squirrels, red foxes, quail, mourning doves, and turtles.

#### **3.3.3 Wetlands**

A wetland survey of the Depot was completed by USACE, Memphis District, in July 1996. Survey results indicated that there are no regulated wetlands on the Depot.

#### **3.3.4 Designated Preservation Areas**

There are no designated preservation areas at the Depot.

#### **3.3.5 Rare, Threatened, and Endangered Species**

No federally listed or proposed threatened or endangered species have been observed on the Depot.

#### **3.3.6 Cultural and Historical Resources**

##### ***Archaeological Resources***

No archaeological sites are known to be located within the immediate vicinity of the Depot, although the area was occupied by a variety of Native American groups. In May 1997, USACE, Fort Worth District, conducted an archaeological survey of the golf course area and Dunn Field and found no archaeological resources (Prewitt & Associates, Inc. 1997).

##### ***Historical Resources***

There are currently no sites or structures located on the Depot property that are listed on the National Register of Historic Places (NRHP). In April 1997, USACE, Fort Worth District, conducted a cultural resources survey. The final report, titled, "A Cultural Resources Inventory and Assessment at the Defense Distribution Depot Memphis, Tennessee," dated 6 June 1997, indicated that the World War II-era warehouses known as the 20 Typicals were eligible for inclusion on the NRHP. The Tennessee State Historic Preservation Officer (TNSHPO) agreed with the report's assessment of the 20 Typicals and also determined that three World War II-era guard stations were eligible for inclusion on the NRHP. No nominations to the NRHP have been made.

In June 1998, the Army Materiel Command (AMC), the TNSHPO, and the Advisory Council on Historic Places signed an MOA regarding these NRHP-eligible buildings and received DRC concurrence.

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### **3.4 ENVIRONMENTAL CONDITION OF PROPERTY**

During the EBS, the Depot was divided into subparcels to facilitate decision making regarding the environmental condition of specific areas. As defined in the EBS, a subparcel is an area of BRAC property that can be segregated from its surrounding areas, based on the environmental condition of the property. The subparcels and corresponding categorizations are identified in Figure 3-5, "Environmental Condition of Property Map, Main Installation," and Figure 3-6, "Environmental Condition of Property Map, Dunn Field." Table 3-6, "Subparcel Descriptions," describes each subparcel. Areas containing or potentially containing non-CERCLA substances are identified and delineated separately with the letter "Q" as qualified subparcels. Qualified subparcels may be precluded from transfer or lease for unrestricted use and overlay all "environmental condition of property" categories (Categories 1 through 7).

The seven standard "environmental condition of property" categories, as defined in the CERFA guidance and the Revised DOD BCP Guidebook (September 1996), are as follows:

**Category 1.** Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).

**Category 2.** Areas where only release or disposal of petroleum products has occurred.

**Category 3.** Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or RA.

**Category 4.** Areas where release, disposal, and/or migration of hazardous substances has occurred, and all RAs necessary to protect human health and the environment have been taken.

**Category 5.** Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or RAs are underway, but all required RAs have not yet been taken.

**Category 6.** Areas where release, disposal, and/or migration of hazardous substances have occurred, but required actions have not yet been implemented.

**Category 7.** Areas that are not evaluated or require additional evaluation.

Each subparcel was given a number to which appropriate descriptive labels are attached. The numbers consist of a unique subparcel identification number and an environmental condition of property category number. The labels consist of a designation describing the type of release or

## **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

storage, if applicable. The following designations are used to indicate the type of release or storage present in a subparcel:

PS = Petroleum storage

PR = Petroleum release or disposal

HS = Hazardous substance storage

HR = Hazardous substance release or disposal

A 1-acre grid coordinate system is overlaid to facilitate the following subparcel discussion by geographically locating the various subparcels. Subparcel boundaries were drawn using the best available information regarding the extent of contamination and do not follow map grid lines. Circular 0.25-acre subparcels centered on the area, as stipulated in DOD guidance, delineated small areas of release or storage, such as USTs. For consistency and to facilitate the summation of acreages, subparcel acreages were calculated to two decimal places using the digitized map and AutoCAD Release 13. This method is not meant to imply accuracy to one one-hundredth of an acre.

New land surveys performed in support of property transfers may result in subparcel acres different from those based on the AutoCAD calculations and presented in the FOSTs. Actual acres transferred are noted in Table 3-6.

### **3.4.1 Areas Where No Release or Disposal Has Occurred**

A total of 13 subparcels encompassing approximately 0.93 acre are currently designated Category 1. These subparcels are areas where there has been no documented release or disposal, or migration of hazardous substances or petroleum products from an adjacent property. Table 3-6 describes the designated Category 1 subparcels.

Woodward-Clyde's survey and subsequent parcelization of the Depot in 1996 identified 38 subparcels, totaling 6.2 acres, as uncontaminated, Category 1 subparcels. A review by the BCT in 1997 and 1998 identified several additional Category 1 subparcels, bringing the total to 56 subparcels and 57.43 acres of Category 1 subparcels, as shown in Table 3-7, "Uncontaminated Category 1 Subparcels." Although USEPA concurred with the CERFA uncontaminated parcels letter reports dated March 1997 and July 1998, additional data collected since then, regarding areas of groundwater contamination beneath the MI and institutional controls (ICs) required by the MI

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

ROD at parcels within FUs 1 through 6 (excluding Parcels 1 and 2), have resulted in subparcels reverting from Category 1 to either Category 4 (ICs implemented via the Master Lease and the Environmental Protection Provisions contained in subsequent FOSLs) or Category 6 (groundwater beneath the subparcel contains VOC levels exceeding SDWA MCLs).

#### **3.4.2 Areas Where Only Petroleum Release or Disposal Has Occurred**

Category 2 subparcels are areas where only release or disposal of petroleum products has occurred. No subparcels are designated Category 2.

#### **3.4.3 Areas Where Release, Disposal, and/or Migration Has Occurred, but No Remedial Action Is Required**

A total of 10 subparcels encompassing approximately 58.6 acres are designated Category 3. The Category 3 subparcels are areas where release, disposal, and/or migration of hazardous substances have occurred, but at concentrations that do not require removal or RA. Information regarding releases was obtained from the Depot's Spill Response Checklists maintained by DDC (Memphis). Table 3-6 describes the designated Category 3 subparcels.

#### **3.4.4 Areas Where Release, Disposal, and/or Migration Has Occurred and All Remedial Actions Have Been Taken**

A total of 116 subparcels, encompassing approximately 412.73 acres, are designated Category 4. The Category 4 subparcels are areas where release, disposal, and/or migration of hazardous substances have occurred, and all removal or RAs necessary to protect human health and the environment have been taken. Information regarding releases was obtained from the Depot's Spill Response Checklists maintained by DDC (Memphis). Of the Category 4 subparcels, 31 subparcels encompassing approximately 35.03 acres reverted from Category 1 to Category 4 in 2002 (see Table 3-6 for descriptions of these subparcels) because of the ICs called for in the MI ROD and implemented by the Master Lease and subsequent MI FOSLs. Of the Category 4 subparcels, nine subparcels encompassing approximately 40.9 acres that reverted from Category 1 to Category 6 in 2002 were changed to Category 4 in 2003 because subsequent groundwater sampling data indicated that the selected groundwater RA would not be implemented at these subparcels. USEPA does not consider available for transfer three Category 4 subparcels in Parcel 4 encompassing approximately 0.47 acre because they are situated over groundwater contamination that will be treated by the MI RA. Table 3-6 describes the designated Category 4 subparcels.

### **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

#### **3.4.5 Areas Where Release, Disposal, and/or Migration Has Occurred and Action Is Underway but Not Final**

No subparcels are designated Category 5. Category 5 subparcels are areas where release, disposal, and/or migration of hazardous substances has occurred and removal or RAs are underway, but all required actions have not yet been implemented.

#### **3.4.6 Areas Where Release, Disposal, and/or Migration Has Occurred, but Required Response Actions Have Not Been Taken**

A total of 49 subparcels encompassing approximately 169.74 acres are designated Category 6. The Category 6 subparcels are areas where release, disposal, and/or migration of hazardous substances have occurred, but the required removal or RAs have not yet been taken. Information regarding releases was obtained from the Depot's Spill Response Checklists maintained by DDC (Memphis). Of these subparcels, 3 subparcels encompassing approximately 0.57 acre reverted from Category 1 to Category 6 because of groundwater beneath these subparcels containing VOC levels exceeding MCLs. Table 3-6 describes the designated Category 6 subparcels.

#### **3.4.7 Unevaluated Areas or Areas Requiring Additional Evaluation**

No subparcels are designated Category 7. Category 7 subparcels are areas that have not been evaluated or require additional evaluation.

#### **3.4.8 Qualified Parcels**

In determining the qualified subparcels, the Depot observed the following guidelines:

- If a building was not included in the 1993 asbestos survey, but was constructed prior to 1985, it was assumed to contain ACM. An "A(P)" for the possible presence of asbestos was used to qualify the subparcel.
- Since an LBP survey for non-residential reuse buildings has not been conducted, buildings constructed prior to 1978 were assumed to contain LBP. An "L(P)" for the possible presence of LBP was used to qualify the subparcel.
- Parcels were qualified for ACM, LBP, PCBs, radon, and radiological sources based on information gathered through record reviews, interviews, and visual inspections.

## **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

- Areas used as firing ranges and impact areas have the potential to contain UXO and ammunition components (e.g., metal casings from small arms). An "X(P)" for the possible presence of UXO and ammunition components was used to qualify these areas.

There are 85 subparcels, totaling approximately 110.38 acres, identified as qualified subparcels, as described in Table 3-8. Buildings or areas within 12 subparcels totaling approximately 20.95 acres have been either demolished or found not to contain UXO since first identified as qualified subparcels in 1996, and have been removed from Table 3-8. When a qualified subparcel is associated with a building/facility, the acreage presented corresponds to the footprint of the building/facility. The qualified subparcels are labeled as follows on Table 3-8:

Subparcel - Building Number or Area Q - Qualifier

For example, 1.1-1Q-A/L(P) represents Subparcel 1.1, Building 1, and asbestos and possible LBP qualifiers.

### **3.4.9 Suitability of Installation Property for Transfer by Deed**

SARA, Title 1, Section 120, to CERCLA addresses the transfer of federal property on which any hazardous substance was stored during any one-year period or was released or disposed of.

Section 120 also requires any deed for the transfer of such federal property to contain, to the extent that such information is available from a complete search of agency files, the following information:

- A notice of the type and quantity of any hazardous substance storage, release, or disposal;
- Notice of the time at which such storage, release, or disposal took place;
- A description of what, if any, RA has occurred; and
- A covenant warranting that appropriate RA will be taken.

Under SARA, Title 1, Section 120, to CERCLA, those subparcels that are Category 1, 2, 3, 4, or 5 (if the remedy in place has been approved by the Administrator) meet the CERCLA criterion of being suitable for transfer to a non-federal entity. Category 6 and 7 properties, which may have unknown environmental impacts or may involve releases of hazardous substances as defined by CERCLA, cannot be transferred to a non-federal entity under CERCLA.

## **SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

The Depot has subparcels totaling approximately 472.26 acres classified as CERFA Categories 1 through 4. These subparcels, as discussed in Sections 3.4.1 through 3.4.4 and described in Table 3-6, are suitable for immediate transfer to a non-federal entity according to CERCLA, except for three Category 4 subparcels (0.47 acre) in Parcel 4, as USEPA does not consider them available for transfer because the subparcels are situated above groundwater contamination to be treated during the MI RA. Based on actual land surveys, 422.22 acres have been approved for transfer through FOSTs 1 through 4. In 2001, USEPA approved and DA signed FOST 1 for Parcel 2 consisting of 6.52 acres on the MI. In 2002, USEPA approved and DA signed the FOST 2 for Parcel 1 consisting of 18.03 acres on the MI. In 2004, USEPA approved and DA signed FOST 3 for all of Parcels 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22, and portions of Parcels 23, 24, 29, and 33, consisting of 356.68 acres on the MI. In 2005, USEPA approved and DA signed FOST 4 for 41.17 acres of Dunn Field, consisting of the eastern portion identified in the Dunn Field ROD as available for unrestricted reuse.

The Depot has subparcels totaling approximately 169.74 acres classified as CERFA Categories 5 through 7, as discussed in Sections 3.4.5 through 3.4.7 and described in Table 3-6. Category 6 and 7 subparcels cannot be transferred to a non-federal entity under CERCLA until environmental restoration is initiated. Category 5 subparcels may be transferred but not until the remedy is in place and determined to be operating properly and successfully.

Although not regulated by SARA, Title 1, Section 120, non-CERCLA substances delineating qualified subparcels also affect the suitability of BRAC property for transfer. DOD has prepared guidance for dealing with the transfer of qualified subparcels, stating that issues relating to the presence of non-CERCLA substances, such as asbestos, LBP, and UXO, will be fully addressed prior to transfer of the property.

### **3.5 STATUS OF COMMUNITY INVOLVEMENT**

Community involvement activities occurring at the Depot include activities relating to BRAC, the environmental restoration program, and the environmental compliance program. These activities include:

- **Information Repositories.** Information repositories are places where documents and information pertaining to the facility are stored and made available for public inspection. DDC maintains information repositories at the Community Outreach Room at the Memphis Depot Business Park and at the Memphis/Shelby County

### SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS

Public Library Cherokee Branch. The repositories contain information about environmental activities at the Depot.

- **Administrative Record.** An Administrative Record has been established for the Depot in accordance with CERCLA requirements. AFCEE contractors maintain the Administrative Record for DDC. Documents included in the Administrative Record have also been scanned; the images have been placed on compact diskettes and are available at the information repositories.
- **Technical Review Committee.** A technical review committee (TRC) was formed in February 1994 to review and comment on the Depot's actions related to releases or threatened releases of hazardous substances at the installation. The TRC meetings served as working sessions of the involved Depot, CEHNC, USEPA, and TDEC remedial project managers to discuss progress and scheduling of investigations and cleanup actions with City and County officials; local health department officials; and Memphis Light, Gas, and Water officials. The TRC evolved into the RAB.
- **Restoration Advisory Board.** On 21 July 1994, the Depot hosted the first RAB meeting. The Depot created the RAB to promote increased public involvement and enable continued flow of information, concerns, and needs between the community and the Depot. At the Depot, the RAB includes representatives of the Memphis City Council; the Shelby County Commission; the Memphis/Shelby County Health Department; Memphis Light, Gas, and Water; USEPA; TDEC; a local environmental group; concerned citizens; and the Depot. The RAB conducts meetings to discuss environmental restoration and reuse issues. The frequency of the meetings has decreased following completion of the RODs. In 2004, meetings were conducted in May and October to provide updates regarding restoration activities. The public is encouraged to attend RAB meetings through published announcements.
- **Community Relations Plan.** The Depot prepared a Community Relations Plan (Frontline Corporate Communications 1999), which identified issues of community concern and proposed site-specific activities to address the concerns. The Depot updated the plan following approval of the Dunn Field ROD. The post-ROD Community Involvement Plan was approved in January 2005.

**SECTION THREE INSTALLATIONWIDE ENVIRONMENTAL PROGRAM STATUS**

- **Community Information Sessions/Public Briefings.** The Depot conducts additional public meetings separate from the RAB in order to inform the public. In 2000, the BCT hosted an Availability Session in conjunction with the MI PP public comment meeting. This provided an opportunity for the public to communicate with representatives of the Depot; USEPA; TDEC; the Memphis/Shelby County Health Department; USACE; contractors; the Agency for Toxic Substances and Disease Registry; Memphis Light, Gas, and Water; and other agencies involved with specific aspects of the Depot's environmental restoration program. The Depot conducted a community information session and two public briefings in 2005. The briefings were conducted to present the RDs for the Dunn Field Disposal Sites and the MI, and the community information session was conducted to provide information about use of ZVI in RAs.

## POTENTIAL CONTAMINATION SITES ASSOCIATED WITH OPERABLE UNITS

| OPERABLE<br>SITE<br>NUMBER         | UNITS<br>SITE<br>NUMBER | UNITS<br>PARCELS<br>NUMBER | DESCRIPTION   | CURRENT DISPOSITION<br>OF SITE <sup>b</sup>   |
|------------------------------------|-------------------------|----------------------------|---|---|
| <b>Operable Unit 1: Dunn Field</b> |                         |                            |   |   |
| 1                                  | 1                       | 36.16                      | Mustard and Lewisite Training Sets (9 sets) Burial Site (1955)                  | A CERCLA Removal Action took place for this area in 2000-2001. No further remedial action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls.  |
| 2                                  | 2                       | 36.1                       | Ammonia Hydroxide (7 pounds) and Acetic Acid (1 gallon) Burial (1955)           | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls.  |
| 3                                  | 3                       | 36.2                       | Mixed Chemical Burial Site (orthotoluidine dihydrochloride) (1955)              | The selected CERCLA remedy includes excavation of contaminated soils/waste materials and off-site disposal. This unit is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy. Excavation of this site began in March 2005 and is anticipated to be completed in February 2006.   |
| 4                                  | 4                       | 36.3                       | POL Burial Site (thirteen 55-gallon drums of oil, grease, and paint)            | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy. Releases from this unit are addressed by the selected groundwater remedy.   |
| 4.1                                | 90                      | 36.3                       | POL Burial Site (thirty-two 55-gallon drums of oil, grease, and thinner) (1955) | The selected CERCLA remedy includes excavation of contaminated soils/waste materials and off-site disposal. This unit is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy. Releases from this unit are addressed by the selected groundwater remedy. Excavation and off-site disposal of this site was completed in March 2005. |
| 5                                  | 5                       | 36.4                       | Methyl Bromide Burial Site A (3 cubic feet) (1955)                              | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 6                                  | 6                       | 36.20                      | 40,037 units ointment (eye) Burial Site (1955)                                  | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 7                                  | 7                       | 36.5                       | Nitric Acid Burial Site (1,700 quart bottles) (1954)                            | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |

## POTENTIAL CONTAMINATION SITES ASSOCIATED WITH OPERABLE UNITS

| IRPS/WMU SITE NUMBER | DSERTS SITE NUMBER | UBRA PARCE NUMBER | DESCRIPTION  | CURRENT DISPOSITION OF SITE   |
|----------------------|--------------------|-------------------|--|---|
| 8                    | 8                  | 36.6              | Methyl Bromide Burial Site B (3,768 1-gallon cans) (1954)              | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 9                    | 9                  | 36.17             | Ashes and Metal Burial Site (burning pit refuse) (1955)                | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 10                   | 10                 | 36.21             | Solid Waste Burial Site (near MW-10) (metal, glass, trash, etc.)       | The selected CERCLA remedy includes excavation of contaminated soils/waste materials and off-site disposal. This unit is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy. Excavation of this site began in March 2005 and is anticipated to be completed in February 2006. |
| 11                   | 11                 | 36.7              | Trichloroacetic Acid Burial (1,433 1-ounce bottles) (1965)             | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. Releases from this unit are addressed by the selected groundwater remedy.  |
| 12 & 12.1            | 12                 | 36.8              | Sulfuric and Hydrochloric Acid Burial (1965)                           | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy. Releases from this unit are addressed by the selected groundwater remedy.   |
| 13                   | 13                 | 36.9              | Mixed Chemical Burial (Acid, 900 pounds; unnamed solids, 8,100 pounds) | The selected CERCLA remedy includes excavation of contaminated soils/waste materials and off-site disposal. This unit is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy. Excavation of this site was completed in March 2005.   |
| 14                   | 14                 | 36.22             | Municipal Waste Burial Site B (near MW-12) (food, paper products)      | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 15                   | 15                 | 36.23             | Sodium Burial Sites (1968)   | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |

**TABLE 3-1**  
**POTENTIAL CONTAMINATION SITES ASSOCIATED WITH OPERABLE UNITS**

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| IRP/SWMU<br>SITE<br>NUMBER | DSERTS<br>SITE<br>NUMBER | MDRA<br>PARCEL<br>NUMBER | DESCRIPTION   | CURRENT DISPOSITION<br>OF SITE  |
|----------------------------|--------------------------|--------------------------|---|---|
| 15.1                       | 91                       | 36.23                    | Sodium Phosphate Burial (1968)  | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 15.2                       | 92                       | 36.23                    | 14 Burial Pits: Na <sub>2</sub> PO <sub>4</sub> , sodium, acid, medical supplies, and chlorinated lime (1969) | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 16                         | 16                       | 36.10                    | Unknown Acid Burial Site (1969)   | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 16.1                       | 93                       | 36.10                    | Acid Burial Site  | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 17                         | 17                       | 36.11                    | Mixed Chemical Burial Site C (1969)   | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy. Releases from this unit are addressed by the selected groundwater remedy. |
| 18                         | 18                       | 36.15                    | Plane Crash Residue (Dunn Field)  | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 19                         | 19                       | 36.24                    | Former Tear Gas Canister Burn Site (Dunn Field)   | No further action is required at this site.   |
| 20                         | 20                       | 36.25                    | Probable Asphalt Burial Site (Dunn Field)   | No further action is required at this site.   |
| 21                         | 21                       | 36.26                    | XXCC-3 Burial Site (Dunn Field)   | No further action is required at this site.   |
| 22                         | 22                       | 36.15                    | Hardware Burial Site (nuts and bolts) (Dunn Field)  | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls.  |
| 23                         | 23                       | 36.29                    | Construction Debris and Food Burial Site (Dunn Field)   | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |

**TABLE 3-1**  
**POTENTIAL CONTAMINATION SITES ASSOCIATED WITH OPERABLE UNITS**

| IRP/ISWL<br>SITE<br>NUMBER                        | DSERTS<br>SITE<br>NUMBER | MDR<br>PARCEL<br>NUMBER | DESCRIPTION  | CURRENT DISPOSITION<br>OF SITE  |
|---|--------------------------|-------------------------|--|---|
| 24  | 24                       | 36.29                   | Former Burial/Burn Site and Neutralization Pit   | Beginning in August 2000 all 29 bomb casings were recovered from the burial site and 900 cubic yards of soil contaminated with mustard degradation by-products were excavated and disposed offsite. Beginning in November 2000, 33 cubic yards of soil contaminated with mustard and degradation by-products were excavated from the neutralization pit and disposed offsite. In March 2001, the CERCLA Removal Action was complete. No further action is required for this site; however it is located in a section of the Dunn Field stockpile area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy. |
| 50 (AOC A)  | 50                       | 36.27                   | Dunn Field Northeastern Quadrant Drainage Ditch  | No further action is required for this site; however, a portion of this area is located in a section of Dunn Field area where the selected CERCLA remedy includes land use controls.  |
| 60  | 60                       | 36.14                   | Pistol Range Impact Area/Bullet Stop   | A CERCLA Removal Action for lead in surface soil was conducted in 2003. No further action is required at this site.   |
| 61  | 61                       | 36.28                   | Buried Drain Pipe (Northwestern Quadrant of Dunn Field)  | No further action is required for the site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls.   |
| 62  | 62                       | 36.12/36.13             | Bauxite Storage (Northeastern Quadrant of Dunn Field)  | No further action is required at this site.   |
| 63  | 63                       | 36.29/36.30             | Fluorspar Storage ( 10 mounds in Southeastern Quadrant of Dunn Field, 1 mound in Southwestern Quadrant of Dunn Field) All mounds removed by 1999 | No further action is required for the portions of this site in Subparcel 36.30; however, Subparcel 36.29 is located in an area of Dunn Field where the selected CERCLA remedy includes land use controls. A portion of this unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| 64  | 64                       | 36.29                   | Bauxite Storage (Southwestern Quadrant of Dunn Field Removed in 1972), CC-2 Burial Site, IA Site 31 (smoke pot burn/disposal area)               | The selected CERCLA remedy for IA Site 31 includes excavation of contaminated soils/waste materials and off-site disposal. For the remaining portions of the site no further action is required. All of Site 64 is located in an area of Dunn Field where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy. Excavation of this site was completed in March 2005.  |
| 85  | 85                       | 36.14                   | Old Pistol Range Building 1184/Temporary Pesticide Storage   | A CERCLA Removal Action for lead in surface soil was conducted in 2003. No further action is required at this site.   |
| 86  | 86                       | 36.18/36.19             | Food Supplies (Dunn Field)   | No further action is required for this site; however, it is located in the Dunn Field disposal area where the selected CERCLA remedy includes land use controls. This unit overlies the subsurface soil remediation area where soil vapor extraction was selected as part of the CERCLA remedy.   |
| <b>Operable Unit 2: Southwestern Quadrant, MI</b> |                          |                         |  |   |

## POTENTIAL CONTAMINATION SITES ASSOCIATED WITH OPERABLE UNITS

| IRIS/WHI<br>SITE<br>NUMBER | DSERTS<br>SITE<br>NUMBER | INDRA<br>PARCE<br>NUMBER | DESCRIPTION  | CURRENT DISPOSITION<br>OF SITE   |
|----------------------------|--------------------------|--------------------------|--|--|
| 27                         | 27                       | 24.1                     | Former Recoupment Area<br>(Building 873)                                       | Contaminated soil removed in 1985 as part of pre-Remedial Investigation activities. No further action is required for this site; however, it is located in FU 2 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 29                         | 29                       | 35.2                     | Former Underground Waste Oil<br>Storage Tank                                   | The tank was located and removed during a CERCLA Removal Action in 2000; the contaminated soils were disposed as special waste and the tank contents were disposed as RCRA hazardous waste. This unit is located in FU 3 on the MI for which the selected CERCLA remedy includes land use controls. This unit overlies the groundwater treatment area of FU 7, Groundwater at the MI, where enhanced bioremediation was selected as the CERCLA remedy.   |
| 30                         | 30                       | 24.3/35.3                | Paint Spray Booths (2 of 3 total;<br>Buildings 770 and 1086)                   | No further action is required for this unit; however, it is located in FUs 3 & 6 on MI for which the selected CERCLA remedy includes land use controls.  |
| 31                         | 31                       | 35.4                     | Former Paint Spray Booth<br>(Building 1087)                                    | Building 1087 was decontaminated by vacuuming to remove free dust and pressure washing. The surface soil outside the building was excavated to a depth of one foot and replaced with clean backfill. The excavated soil was disposed off-site as special waste. This CERCLA Removal Action was completed in 2000. No further action is required for this site; however, it is located in FU 3 on the MI for which the selected CERCLA remedy includes land use controls. This unit overlies the groundwater treatment area of FU 7, Groundwater at the MI, where enhanced bioremediation was selected as the CERCLA remedy.  |
| 32                         | 32                       | 35.5                     | Sandblasting Waste<br>Accumulation Area  | Building 1088 was decontaminated by vacuuming to remove free dust and pressure washing. The surface soil outside the building was excavated to a depth of one foot and replaced with clean backfill. The excavated soil was disposed off-site as special waste. This CERCLA Removal Action was completed in 2000. No further action is required for this site; however, it is located in FU 3 on the MI for which the selected CERCLA remedy includes land use controls. This unit overlies the groundwater treatment area of FU 7, Groundwater at the MI, where enhanced bio-remediation was selected as the CERCLA remedy. |
| 33                         | 33                       | 35.4                     | Sandblasting Waste Drum<br>Storage Area (metal shed south<br>of Building 1088) | The surface soil in this area was excavated to a depth of one foot and replaced with clean backfill. The excavated soil was disposed off-site as special waste. This CERCLA Removal Action was completed in 2000. No further action is required for this site; however, it is located in FU 3 on the MI for which the selected CERCLA remedy includes land use controls. This unit overlies the groundwater treatment area of FU 7, Groundwater at the MI, where enhanced bioremediation was selected as the CERCLA remedy.  |
| 34                         | 34                       | 24.3                     | Building 770 Underground Oil<br>Storage Tanks                                  | The underground storage tanks were removed in 1989. This unit is located in FU 3 on the MI for which the selected CERCLA remedy includes land use controls.  |

TABLE 3-1

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## POTENTIAL CONTAMINATION SITES ASSOCIATED WITH OPERABLE UNITS

| OPERABLE<br>SITE<br>NUMBER   | UNITS<br>SITE<br>NUMBER | REMEDIATION<br>RANGE<br>NUMBER | DESCRIPTION  | CURRENT DISPOSITION<br>OF SITE   |
|--|-------------------------|--------------------------------|--|--|
| 40   | 40                      | 24.3                           | Safety Kleen Units - 5 of 9 total<br>(all located in Building 770)             | No further action is required for these units; however, they were located in FUs 3, 5 and 6 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 41   | 41                      | 24.3                           | Satellite Drum Accumulation<br>Areas - 1 of 4 total (vicinity<br>Building 770) | The units were located in FUs 1, 3, 5 and 6 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 71   | 71                      | Multiple                       | Herbicide (All railroad tracks)<br>(used to clear tracks)                      | This area is located throughout the MI for which the selected CERCLA remedy includes land use controls.  |
| 82   | 82                      | 23.7/23.8                      | Flammables (Buildings 783 and<br>793)  | This area is located in FU 3 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 84   | 84                      | 27.2                           | Flammables, Solvents, Waste<br>Oil, etc. (Building 972)                        | This area is located in FU 3 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 87   | 87                      | 35.2                           | DDT, banned pesticides<br>(Building 1084)                                      | Building 1084 was demolished and the debris was disposed off-site at a solid waste landfill. A concrete sump beneath the building was excavated; the contaminated soil was disposed off-site as special waste. This CERCLA Removal Action was completed in 2000. This area is located in FU 3 on the MI for which the selected CERCLA remedy includes land use controls. This area overlies the groundwater treatment area of FU 7, Groundwater at the MI, where enhanced bioremediation was selected as the CERCLA remedy.  |
| 88   | 88                      | 35.2                           | POL (Building 1085)  | The concrete slab and hydraulic lift were removed during a CERCLA Removal Action in 2000; the contaminated soils were disposed offsite as special waste and the lift and cylinders were cleaned and disposed as scrap metal. The concrete debris was disposed offsite as construction debris. This area is located in FU 3 on the MI for which the selected CERCLA remedy includes land use controls. This area overlies the groundwater treatment area of FU 7, Groundwater at the MI, where enhanced bioremediation was selected as the CERCLA remedy.   |
| 89   | 89                      | 28.2                           | Acids (Building 1089)  | Building 1089 was decontaminated by vacuuming to remove free dust and pressure washing. The surface soil in areas outside the southern end of the building were excavated to a depth of one foot and replaced with clean backfill. The excavated soil was disposed off-site as special waste. This CERCLA Removal Action was completed in 2000. This area is located in FU 3 on the MI for which the selected CERCLA remedy includes land use controls. This area overlies the groundwater treatment area of FU 7, Groundwater at the MI, where enhanced bioremediation was selected as the CERCLA remedy. |
| <b>Operable Unit 3: Southeastern Watershed And Golf Course, MI</b> |                         |                                |  |  |
| 25   | 25                      | 3.8                            | Golf Course Pond   | This unit is in FU 2 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 26   | 26                      | 3.6                            | Lake Danielson   | This unit is located in FU 2 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 30   | 30                      | 4.4                            | Paint Spray Booths (1 of 3 total<br>- Building 260)                            | No further action is required for this unit; however, it is located in FUs 3 & 6 on MI for which the selected CERCLA remedy includes land use controls.  |

**TABLE 3-1**  
**POTENTIAL CONTAMINATION SITES ASSOCIATED WITH OPERABLE UNITS**

| UNITS<br>SITE<br>NUMBER | UNITS<br>SITE<br>NUMBER | UNITS<br>SITE<br>NUMBER | DESCRIPTION  | CURRENT DISPOSITION<br>OF SITE  |
|-------------------------|-------------------------|-------------------------|--|---|
| 40                      | 40                      | 4, 19,<br>and 21        | Safety Kleen Units - 4 of 9 total<br>units (Buildings 253, 469, 490,<br>and 689)     | No further action is required for these units; however,<br>they were located in FUs 3, 5 and 6 on the MI for which<br>the selected CERCLA remedy includes land use<br>controls.   |
| 41                      | 41                      | 4 and 19                | Satellite Drum Accumulation<br>Areas - 2 of 4 total areas<br>(Buildings 260 and 469) | The units were located in FUs 1, 3, 5 and 6 on the MI for<br>which the selected CERCLA remedy includes land use<br>controls.  |
| 48                      | 48                      | 5.2                     | Former PCB Transformer<br>Storage Area   | Site remediation by removal of surface soil was<br>completed in 1998. This unit is located in FU 6 on the MI<br>for which the selected CERCLA remedy includes land<br>use controls. This unit overlies the groundwater<br>treatment area of FU 7, Groundwater at the MI, where<br>enhanced bioremediation was selected as the CERCLA<br>remedy. |
| 49                      | 49                      | 17.3                    | Medical Waste Storage Area   | No further action is required for this unit; however, it is<br>located in FU 5 on the MI for which the selected<br>CERCLA remedy includes land use controls.  |
| 51 (AOC<br>B)           | 51                      | 3.7                     | Lake Danielson Outlet Ditch  | No further action is required for this area; however, it is<br>located in FU 2 on the MI for which the selected<br>CERCLA remedy includes land use controls.  |
| 52 (AOC<br>C)           | 52                      | 3.9                     | Golf Course Pond Outlet Ditch  | No further action is required for this area; however, it is<br>located in FU 2 on the MI for which the selected<br>CERCLA remedy includes land use controls.  |
| 58                      | 58                      | 4.9                     | Pesticides, Herbicides (Pad<br>267)  | This area is located in FU 6 on the MI for which the<br>selected CERCLA remedy includes land use controls.<br>This area overlies a groundwater treatment area of FU 7,<br>Groundwater at the MI, where enhanced bioremediation<br>was selected as the CERCLA remedy.  |
| 59                      | 59                      | 4.10                    | Pesticides, Cleaners (Building<br>273)   | This unit is located in FU 2 on the MI for which the<br>selected CERCLA remedy includes land use controls.<br>This site overlies the groundwater treatment area of FU<br>7, Groundwater at the MI, where enhanced<br>bioremediation was selected as the CERCLA remedy.  |
| 65                      | 65                      | 7.2                     | XXCC-3 (Building 249)  | No further action is required for this unit; however, it is<br>located in FU 1 on the MI for which the selected<br>CERCLA remedy includes land use controls.  |
| 66                      | 66                      | 4.11                    | POL (Building 253)   | This unit is located in FU 6 on the MI for which the<br>selected CERCLA remedy includes land use controls.<br>The unit overlies the groundwater treatment area of FU<br>7, Groundwater at the MI, where enhanced<br>bioremediation was selected as the CERCLA remedy.   |
| 67                      | 67                      | 4.7                     | MOGAS (Building 257)   | This area is located in FU 6 on the MI for which the<br>selected CERCLA remedy includes land use controls.<br>This area overlies the groundwater treatment area of FU<br>7, Groundwater at the MI, where enhanced<br>bioremediation was selected as the CERCLA remedy.  |
| 68                      | 68                      | 4.8                     | POL (Building 263) (20 by 40<br>feet)  | This area is located in FU 6 on the MI for which the<br>selected CERCLA remedy includes land use controls.<br>This area overlies the groundwater treatment area of FU<br>7, Groundwater at the MI, where enhanced<br>bioremediation was selected as the CERCLA remedy.  |
| 69                      | 69                      | 3.11                    | 2,4-D, M2A1, and M4<br>Flamethrower Liquid Fuels<br>(surface application)            | This area is located in FU 2 on the MI for which the<br>selected CERCLA remedy includes land use controls.  |
| 73                      | 73                      | Multiple                | 2,4-Dichlorophenoxyacetic Acid<br>(all grassed areas)                                | This area is located throughout the MI for which the<br>selected CERCLA remedy includes land use controls   |

## POTENTIAL CONTAMINATION SITES ASSOCIATED WITH OPERABLE UNITS

| ROD/SOIL<br>SITE<br>NUMBER              | ISERT'S<br>SITE<br>NUMBER | ADIR<br>PARCE<br>NUMBER | DESCRIPTION  | CURRENT DISPOSITION<br>OF SITE <sup>(a)</sup>  |
|---|---------------------------|-------------------------|--|--|
| 75                                      | 75                        | 21.5                    | Unknown Wastes near Building 689                               | This area is located in FU 5 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 76                                      | 76                        | 21.5                    | Unknown Wastes near Building 690                               | This area is located in FU 5 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 77                                      | 77                        | 22.2                    | Unknown Wastes near Buildings 689 and 690                      | This area is located in FU 5 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 78                                      | 78                        | 21.3                    | Alcohol, Acetone, Toluene, Naphtha; Hydrofluoric Acid Spill    | This area is located in FU 5 on the MI for which the selected CERCLA remedy includes land use controls.  |
| Operable Unit 4: North-Central Area, MI |                           |                         |  |  |
| 28                                      | 28                        | 32.3                    | Recoupment Area (Building 865)                                 | No further action is required for this site; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 35                                      | 35                        | 15.2                    | DRMO Building S308 - Hazardous Waste Storage                   | Unit was decontaminated and certified clean November 2001 in accordance with the RCRA Closure Plan (Permit TNH-W-053). No further action is required for this unit; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 36                                      | 36                        | 15.5                    | DRMO Hazardous Waste Concrete Storage Pad                      | This unit is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 37                                      | 37                        | 15.5                    | DRMO Hazardous Waste Gravel Storage Pad                        | This unit is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 38                                      | 38                        | 15.5                    | DRMO Damaged/Empty Hazardous Materials Drum Storage Area       | This unit is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 39                                      | 39                        | 15.5                    | DRMO Damaged/Empty Lubricant Container Area                    | This unit is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 41                                      | 41                        | 13.4                    | Satellite Drum Accumulation Area (1 of 4 total - Building 210) | The units were located in FUs 1, 3, 5 and 6 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 42                                      | 42                        | 33.9                    | Former pentachlorophenol Dip Vat Area                          | In 1986, the dip vat was removed and the soil was excavated to a depth of 10 feet. Soil with PCP concentrations greater than 200 ppb remained beneath the excavated area. The excavation was backfilled with clean soil and with gravel or concrete placed on top of the fill. No further remedial action is required for this unit. This unit is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 43                                      | 43                        | 33.9                    | Former Underground pentachlorophenol Tank Area                 | The tank was brought above ground in 1986 and drained into drums. The soil around the unit was excavated to a depth of 10 to 15 feet, 20 feet wide and 22 feet long. The pumps and lines were also removed. The excavation was backfilled with clean soil and with gravel or concrete placed on top of the clean fill. No further remedial action is required for this unit. This unit is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls. |
| 44                                      | 44                        | 33.6                    | Former Wastewater Treatment Unit Area                          | No further action is required for this site; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 45                                      | 45                        | 33.9                    | Former Contaminated Soil Staging Area                          | No further action is required for this site; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 46                                      | 46                        | 33.9                    | Former pentachlorophenol Pallet Drying Area                    | This unit is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.  |

## POTENTIAL CONTAMINATION SITES ASSOCIATED WITH OPERABLE UNITS

| TRISOME SITE NUMBER | ISERTS SITE NUMBER | AREA NUMBER | DESCRIPTION  | CURRENT DISPOSITION OF SITE  |
|---------------------|--------------------|-------------|--|--|
| 47                  | 47                 | 33.9        | Former Contaminated Soil Drum Storage Area (removed 1988)          | No further action is required for this unit; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 53 (AOC D)          | 53                 | 30.2        | X-25 Flammable Solvents Storage Area (near Building 925)           | No further action is required for this area; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 54 (AOC E)          | 54                 | 15.6        | MI - DRMO East Stormwater Runoff Canal                             | No further action is required for this area; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 55 (AOC F)          | 55                 | 15.6        | MI - DRMO North Stormwater Runoff Canal                            | No further action is required for this area; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 56 (AOC G)          | 56                 | 29.3        | MI - West Stormwater Drainage Canal                                | No further action is required for this area; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 57 (AOC H)          | 57                 | 12.1        | Building 629 Spill Area  | This area is located in FU 1 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 70                  | 70                 | Multiple    | POL, Various Chemical Leaks (railroad tracks 1, 2, 3, 4, 5, and 6) | This area is located throughout the MI for which the selected CERCLA remedy includes land use controls.  |
| 71                  | 71                 | Multiple    | Herbicide (all railroad tracks) (used to clear tracks)             | This area is located throughout the MI for which the selected CERCLA remedy includes land use controls.  |
| 72                  | 72                 | 15.5/15.6   | Waste Oil (DRMO yard) (surface application for dust control)       | This area is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 73                  | 73                 | Multiple    | 2,4-Dichlorophenoxyacetic Acid (all grassed areas)                 | This area is located throughout the MI for which the selected CERCLA remedy includes land use controls.  |
| 74                  | 74                 | 15.3        | Flammables, Toxics (West End - Building 319)                       | No further action is required for this area; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 79                  | 79                 | 15.6        | Fuels, Miscellaneous Liquids, Wood, and Paper (Vicinity S702)      | No further action is required for this area; however, it is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.   |
| 80                  | 80                 | 33.13       | Fuel and Cleaners Dispensing (Building 720)                        | This area is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 81                  | 81                 | 33.7        | Fuel Oil AST (Building 765 - removed in 1994)                      | This area is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls.  |
| 83                  | 83                 | 30.5        | Disposal of Dried Paint Residues - South of Building 949           | Lead contaminated soil was removed from an area of approximately 7,200 square feet. The CERCLA Removal Action was completed in 2001. This area is located in FU 4 on the MI for which the selected CERCLA remedy includes land use controls. |

## Notes:

AOC: Area of Concern  
 AST: Aboveground Storage Tank  
 CWM: Chemical Warfare material  
 CWMP: Chemical Warfare Management Plan  
 DDT: 4,4'-Dichlorodiphenyltrichloroethane  
 DRMO: Defense and Reutilization Marketing Office  
 FU: Functional Unit  
 MI: Main Installation  
 MOGAS: Motor gasoline  
 Na: Sodium  
 PCB: Polychlorinated biphenyl  
 PO<sub>4</sub>: Phosphate  
 POL: Petroleum, oil, and lubricants

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**TABLE 3-1**  
**POTENTIAL CONTAMINATION SITES ASSOCIATED WITH OPERABLE UNITS**

- a. Defense Site Environmental Restoration Tracking System (DoD Database)
- b. Source: DLA correspondence dated September 24, 2004, RE: Corrective Action Permit Application and Attachment 1 Summary of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) Defense Depot Memphis, Tennessee

TABLE 3-2  
SPILL RESPONSE SUMMARY

| UNLONO | DATE     | SPILED MATERIAL                 | QUANTITY    | INSIDE/OUTSIDE | LOCATION/COMMENTS   | ACTION TAKEN  |
|--------|----------|---------------------------------|-------------|----------------|---|---|
| 209    | 4/14/94  | Microbicide                     | 1 quart     | Inside         | Boiler room   | Absorbent applied. Product taken to DRMO for disposal.  |
| 251    | 1/30/93  | Oil                             | 0.5 gallon  | Outside        | West end  | Absorbent applied. Product taken to DRMO for disposal.  |
| 254    | 3/20/93  | Diesel                          | 5 gallons   | Outside        | Southwest corner (tank)   | Absorbent applied. Product taken to DRMO for disposal.  |
| 257    | 4/20/90  | Gasoline                        | 1-2 gallons | Outside        | Gas station. Product overflowed from tank vent while being filled.                              | Soil was excavated and taken to Dunn Field to be incinerated.                                 |
| 257    | 8/11/93  | Gasoline                        | 4 gallons   | Outside        | Gas station. UST overflowed through vent pipe while being filled.                               | Absorbent applied. Soil excavated and taken to DRMO for disposal.                             |
| 257    | 8/31/93  | Gasoline                        | 4 gallons   | Outside        | Main tank spewed gas out of pressure tube   | Absorbent applied. Product taken to DRMO for disposal.  |
| 309    | 3/26/91  | Dielectric fluid (non-PCB)      | <1 gallon   | Outside        | Leaking transformer West of Building 309 in DRMO yard   | Absorbed by soak-up pads. Products to DRMO for disposal.                                      |
| 309    | 12/2/91  | Cleaning compound solvent       | 30 gallons  | Outside        | On B Street, Southwest of Building 309  | Absorbent applied. Contaminated material excavated, contained and taken to DRMO for disposal. |
| 349    | 3/5/93   | Hydraulic fluid                 | 6 gallons   | Outside        | Section 3 - North dock  | Absorbent applied. Product taken to DRMO for disposal.  |
| 359    | 8/27/93  | Sulfuric acid                   | 1 pint      | Inside         | Section 2 - Charging station, battery boiled over   | Product neutralized, contained and taken to DRMO for disposal.                                |
| 449    | 7/27/93  | Lube oil                        | 55 gallons  | Outside        | North dock  | Absorbent applied. Product taken to DRMO for disposal.  |
| 449    | 4/7/93   | Hydraulic fluid                 | 1 gallons   | Outside        | Section 3 - West side dock  | Absorbent applied. Product taken to DRMO for disposal.  |
| 469    | 12/16/93 | Transformer oil containing PCBs | .5 pint     | Inside         | South side door on wall down to floor. Some product was absorbed by concrete on wall and floor. | Absorbent applied. Product taken to DRMO for disposal.  |
| 489    | 6/10/93  | Sulfuric acid                   | 2 gallons   | Outside        | Section 5 - outside between Buildings 489 and 490, stock selector turned over on gravel drive   | Product neutralized, contained and taken to DRMO for disposal.                                |
| 489    | 11/2/93  | 30w90 oil                       | 2 gallons   | Outside        | Section 4 - North dock  | Absorbent applied. Product taken to DRMO for disposal.  |
| 490    | 6/1/94   | Sulfuric acid                   | 1 quart     | Inside         | Section 5   | Product neutralized, contained and taken to DRMO for disposal.                                |
| 490    | 9/27/94  | Cleaner/degreaser               | 1 gallon    | Inside         | South dock - Leaking containers inside truck  | Absorbent applied. Product taken to DRMO for disposal.  |

TABLE 3-2  
SPILL RESPONSE SUMMARY

| BUILDING | DATE     | SPILED MATERIAL                         | QUANTITY   | INSIDE/OUTSIDE | LOCATION/COMMENTS                                   | ACTION TAKEN   |
|----------|----------|---|------------|----------------|---|--|
| 490      | 12/15/93 | Sulfuric acid                           | 1 gallon   | Inside         | Section 5 - Southwest side                          | Product neutralized, contained and taken to DRMO for disposal. |
| 529      | 8/10/93  | Hydraulic fluid                         | 1 gallon   | Inside         | South dock, Section 2, Door 2 - forklift hose burst | Absorbent applied. Product taken to DRMO for disposal.         |
| 529      | 8/11/93  | Hydraulic fluid                         | 2 quarts   | Outside        | North dock - Loose hose on forklift                 | Absorbent applied. Product taken to DRMO for disposal.         |
| 549      | 2/25/94  | Hydraulic fluid                         | 1 gallon   | Outside        | South side at Door 8 on road.                       | Absorbent applied. Product taken to DRMO for disposal.         |
| 549      | 4/7/94   | Hydraulic fluid                         | 5 gallons  | Outside        | Section 3 - Loading dock                            | Absorbent applied. Product taken to DRMO for disposal.         |
| 560      | 12/10/93 | Sulfuric acid                           | <1 gallon  | Inside         | Section 3 - battery fell off charger                | Product neutralized, contained and taken to DRMO for disposal. |
| 560      | 10/17/95 | Aqueous film forming foam               | 5 gallons  | Inside         | Section 3 - West side wall                          | Absorbent applied. Product taken to DRMO for disposal.         |
| 560      | 11/14/95 | Aqueous film forming foam               | 15 gallons | Inside         | Section 3 - Cargo Door 10                           | Absorbent applied. Product taken to DRMO for disposal.         |
| 629      | 4/23/90  | Nitric acid                             | 6 gallons  | Inside         | Section 1   | Product neutralized, contained and taken to DRMO for disposal. |
| 629      | 6/24/94  | Formaldehyde                            | 2 pints    | Outside        | North side on C Street                              | Absorbent applied. Product taken to DRMO for disposal.         |
| 649      | 5/16/90  | Paint, tube oil, insecticide, other oil | 3 quarts   | Outside        | Loading containers near the east end dumpster       | Absorbent applied. Product (to rework for disposal).           |
| 649      | 8/11/93  | Hydraulic fluid                         | 1 gallon   | Inside         | Section 5 - Southwest and Northwest corner          | Absorbent applied. Product taken to DRMO for disposal.         |
| 650      | 3/18/93  | Battery acid, hydraulic fluid           | <1 gallon  | Outside        | South corner in street                              | Product neutralized, contained and taken to DRMO for disposal. |
| 670      | 5/4/90   | Battery electrolyte                     | 10 gallons | Outside        | 6th Street and Building 670                         | Product neutralized, contained and taken to DRMO for disposal. |
| 670      | 8/30/93  | Hydraulic fluid                         | 1 gallon   | Inside         | Section 1 - North side aisle                        | Absorbent applied. Product taken to DRMO for disposal.         |
| 683      | 4/16/92  | Sulfuric acid and water                 | 3 gallons  | Inside         | Battery charging station                            | Product neutralized, contained and taken to DRMO for disposal. |
| 689      | 5/8/90   | Nitric acid                             | 1 pint     | Inside         | Section 5 - "Hot House"                             | Product neutralized, contained and taken to DRMO for disposal. |
| 689      | 1/6/91   | Corrosion removing compound             | 2 gallons  | Outside        | Section 5 - door 8                                  | Absorbent applied. Product taken to DRMO for disposal.         |

TABLE 3-2  
SPILL RESPONSE SUMMARY

| BUILDING | DATE     | SPIILLED MATERIAL                               | QUANTITY     | INSIDE<br>OUTSIDE | LOCATION/REMARKS  | ACTION TAKEN  |
|----------|----------|---|--------------|-------------------|---|---|
| 689      | 2/13/92  | Hydraulic fluid                                 | 2 gallons    | Inside            | Section 4 - North dock  | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 689      | 1/2/93   | Carbon removing compound                        | 1 gallon     | Inside            | Section 5 - loading drum inside trailer   | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 689      | 9/30/93  | Corrosion removing compound                     | <55 gallons  | Inside            | Bay 6 - Leaking containers  | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 689      | 6/13/94  | Deicer  | 40 gallons   | Outside           | Section 4, Northwest end, Door 31, on street  | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 689      | 1/17/95  | Oil   | 2.5 gallons  | Outside           | Section 3 - Back door   | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 689      | 8/15/95  | Hydraulic fluid                                 | 2 gallons    | Outside           | Section 5 - Door 8  | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 689      | 10/12/95 | Sulfuric acid                                   | 1 gallon     | Inside            | Section 5 - Southwest side at Door 34   | Product neutralized, contained and taken to DRMO for disposal.                            |
| 689      | 11/6/95  | Hydraulic fluid                                 | 2 gallons    | Outside           | Section 5 - West dock, Door 8   | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 689      | 11/15/95 | Hydraulic fluid                                 | 1.25 gallons | Inside            | Section 3 - Southwest corner  | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 689      | 11/16/95 | Hydraulic fluid                                 | 0.3 gallon   | Inside            | Northeast corner  | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 690      | 2/17/94  | Turbine engine oil                              | 10 gallons   | Outside           | West side loading dock  | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 690      | 3/31/94  | Sulfuric acid                                   | .5 quart     | Outside           | West side loading dock  | Product neutralized, contained and taken to DRMO for disposal.                            |
| 737      | 11/8/95  | Mineral oil <1 ppm PCB                          | 50 gallons   | Outside           | West side   | Absorbent applied. Soil excavated, contained and all products taken to DRMO for disposal. |
| 770      | 7/9/90   | Mineral oil containing PCBs (>50 ppm, <500 ppm) | 50 gallons   | Outside           | West side, 14.5 cubic yards of contaminated soil excavated. Confirmatory samples taken. | Absorbent applied. Soil excavated, contained and all products taken to DRMO for disposal. |
| 770      | 11/8/91  | Petroleum                                       | <55 gallons  | Outside           | 55-gallons drum ruptured on the West side   | Absorbent applied. Soil excavated, contained and all products taken to DRMO for disposal. |
| 835      | 3/9/91   | Battery acid                                    | 9 gallons    | Inside            | Section 3   | Product neutralized, contained and taken to DRMO for disposal.                            |

TABLE 3-2  
SPILL RESPONSE SUMMARY

| UNIDING | DATE     | SPILED MATERIAL               | QUANTITY       | INSIDE/OUTSIDE | LOCATION/COMMENTS                                      | ACTION TAKEN   |
|---------|----------|-------------------------------|----------------|----------------|--|--|
| 835     | 6/25/91  | Hydrochloric acid             | 5 gallons      | Inside         | Section 4 - R84 dock area                              | Product neutralized, contained and taken to DRMO for disposal.   |
| 835     | 7/1/91   | Ammonium hydroxide            | 6 gallons      | Inside         | Section 2  | Neutralized spill with gradual acid and Absorbent applied. Product contained and taken to DRMO for disposal. |
| 835     | 10/2/91  | Sulfuric acid                 | 15 gallons     | Inside         | Section 3 - Corrosive section                          | Product neutralized, contained and taken to DRMO for disposal.   |
| 835     | 11/19/91 | Battery fluid acid            | 6 gallons      | Inside         | Section 3  | Product neutralized, contained and taken to DRMO for disposal.   |
| 835     | 11/19/91 | Sulfuric acid                 | 5 gallons      | Inside         | Section 4  | Product neutralized, contained and taken to DRMO for disposal.   |
| 835     | 3/7/92   | Muriatic acid                 | 1.5 gallon     | Inside         | Section 3  | Product neutralized, contained and taken to DRMO for disposal.   |
| 835     | 1/15/93  | Hydraulic fluid               | .5 gallon      | Inside         | R87 location - Line on stock selector broke            | Absorbent applied. Product taken to DRMO for disposal.   |
| 835     | 2/22/93  | Orthodontic resin             | 1 pint         | Inside         | Section 3 - Picking area. Glass bottle fell and broke. | Absorbent applied. Product taken to DRMO for disposal.   |
| 835     | 6/28/93  | Calcium Hypochlorite          | 5 pounds       | Inside         | Section 2 - Oxidizer section                           | Product swept, contained and taken to DRMO for disposal.   |
| 835     | 7/22/93  | Herbicide (Beneftb), granular | Several pounds | Inside         | Section 5. 25 each damaged 40-lb bags                  | Product swept, contained and taken to DRMO for disposal.   |
| 835     | 8/31/93  | Cleaning compound solvent     | 2.5 gallons    | Inside         | Section 3  | Product neutralized, contained and taken to DRMO for disposal.   |
| 835     | 10/1/93  | Hydrofluoric acid             | 1 gallon       | Inside         | Section 3 - Corrosive section                          | Product neutralized, contained and taken to DRMO for disposal.   |
| 835     | 11/12/93 | Xylene                        | 1 gallon       | Inside         | Section 5  | Absorbent applied. Product taken to DRMO for disposal.   |
| 835     | 3/1/94   | Sulfuric acid                 | 10 gallons     | Inside         | Section 3 - Corrosive section                          | Product neutralized, contained and taken to DRMO for disposal.   |
| 835     | 4/5/94   | Sterilizer solution           | .5 gallon      | Inside         | Section 1. Caps ruptured on 4 1-liter bottles.         | Product neutralized, contained and taken to DRMO for disposal.   |
| 835     | 4/5/94   | Ethanol                       | .5 gallon      | Inside         | Section 1  | Absorbent applied. Product taken to DRMO for disposal.   |
| 835     | 4/15/94  | Ethanol                       | 2 gallons      | Inside         | 4 each 1-gallon jugs spilled about 12 gallons each.    | Absorbent applied. Product taken to DRMO for disposal.   |

TABLE 3-2  
SPILL RESPONSE SUMMARY

| INCIDENT NO. | DATE     | SPILLED MATERIAL          | QUANTITY       | INSIDE/OUTSIDE | LOCATION/COMMENTS                       | ACTION TAKEN  |
|--------------|----------|---------------------------|----------------|----------------|---|---|
| 835          | 6/9/94   | Microbicide               | 1 quart        | Inside         | Section 3                               | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 835          | 8/18/94  | Cleaning compound solvent | 2.5 gallons    | Outside        | West loading dock                       | Product neutralized, contained and taken to DRMO for disposal.                            |
| 835          | 11/23/94 | Phosphoric acid           | 2 quarts       | Inside         | Section 5                               | Product neutralized, contained and taken to DRMO for disposal.                            |
| 835          | 3/5/95   | Sulfuric acid             | 2.5 gallons    | Inside         | Section 3                               | Product neutralized, contained and taken to DRMO for disposal.                            |
| 835          | 5/26/95  | Transmission fluid        | 10 gallons     | Outside        | Section 4 - West side                   | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 860          | 3/17/92  | Lube oil                  | Several quarts | Inside         | North side                              | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 860          | 1/13/94  | Lube oil                  | 3 gallons      | Inside         | North side                              | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 873          | 3/10/90  | Tetrachloroethylene       | 60 gallons     | Inside/Outside | Section 2 and outside - West end gravel | Absorbent applied. Soil excavated, contained and all products taken to DRMO for disposal. |
| 873          | 12/7/90  | Cleaning compound solvent | 55 gallons     | Inside         | Section 1 - East side                   | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 873          | 3/9/91   | Lube oil                  | 25 gallons     | Inside         | Section 2                               | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 873          | 8/16/91  | Hydraulic fluid           | 2 gallons      | Outside        | Section 1                               | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 873          | 11/18/91 | Cleaning compound solvent | 10 gallons     | Inside         | Section 1                               | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 873          | 11/18/91 | Cleaning compound solvent | 20 gallons     | Inside         | Section 1                               | Absorbent applied. Product taken to DRMO for disposal.                                    |
| 873          | 11/26/91 | Fog oil                   | 55 gallons     | Outside        | Section 7 - West side                   | Absorbent applied. Soil excavated, contained and all products taken to DRMO for disposal. |
| 873          | 11/26/91 | Cleaning compound solvent | 18 gallons     | Outside        | Section 3                               | Absorbent applied. Soil excavated, contained and all products taken to DRMO for disposal. |
| 873          | 2/13/92  | Descaling compound        | 10 gallons     | Inside         | Section 6 - loading dock                | Absorbent applied. Product taken to DRMO for disposal.                                    |

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TABLE 3-2  
SPILL RESPONSE SUMMARY

| BUILDING | DATE     | SPIILLED MATERIAL           | QUANTITY   | INSIDE/OUTSIDE | LOCATION/COMMENTS  | ACTION TAKEN  |
|----------|----------|-----------------------------|------------|----------------|--|---|
| 873      | 3/2/92   | Lube oil                    | 55 gallons | Outside        | Southwest corner   | Absorbent applied. Soil excavated, containerized and all products taken to DRMO for disposal. |
| 873      | 7/12/93  | Lube oil                    | 25 gallons | Outside        | G Street at 15th Street, Northwest of Building 873.  | Absorbent applied. Product taken to DRMO for disposal.  |
| 873      | 7/21/93  | Corrosion removing compound | 1.5 gallon | Inside         | Section 6 - drums corroded   | Product neutralized, containerized and taken to DRMO for disposal.                            |
| 873      | 8/6/93   | Corrosion removing compound | .75 gallon | Inside         | Section 5 - Leaking drum   | Product neutralized, containerized and taken to DRMO for disposal.                            |
| 873      | 10/25/93 | Sulfuric acid               | 2 gallons  | Inside         | Section 2 - West side.   | Product neutralized, containerized and taken to DRMO for disposal.                            |
| 873      | 11/29/93 | Hydrofluoric acid           | 3 gallons  | Inside         | Section 6 - leaking bottles  | Product neutralized, containerized and taken to DRMO for disposal.                            |
| 873      | 4/7/94   | Hydrochloric acid           | .5 gallon  | Inside         | Section 5  | Product neutralized, containerized and taken to DRMO for disposal.                            |
| 873      | 6/8/94   | Tincture benzoin            | 3 pints    | Inside         | Section 2  | Absorbent applied. Product taken to DRMO for disposal.  |
| 873      | 7/11/94  | Diethylene glycol           | 55 gallons | Outside        | Northwest end  | Absorbent applied. Soil excavated, containerized and all products taken to DRMO for disposal. |
| 873      | 8/11/94  | Mechanical                  | 3 pints    | Inside         | Section 2 - Most of spill evaporated.  | Absorbent applied. Product taken to DRMO for disposal.  |
| 873      | 8/29/94  | Transmission fluid          | 5 gallons  | Outside/inside | Forklift line broke in Building 873 Section 3. Forklift driven through Section 2 across X03 to Building 770. | Absorbent applied. Product taken to DRMO for disposal.  |
| 875      | 3/6/93   | Malachite                   | 2 gallons  | Outside/inside | Inside Roadway under 2 drums fell and leaked   | Absorbent applied. Product taken to DRMO for disposal.  |
| 875      | 12/6/93  | Oil/fuel/oil                | 2 quarts   | Outside        | East side on 15th Street   | Absorbent applied. Product taken to DRMO for disposal.  |
| 972      | 10/5/93  | Hydraulic fluid             | 34 gallons | Outside        | On the road to Building 770.   | Absorbent applied. Product taken to DRMO for disposal.  |
| 972      | 3/14/95  | Diesel                      | 3 gallons  | Outside        | West side  | Absorbent applied. Product taken to DRMO for disposal.  |
| 995      | 9/13/93  | Gasoline                    | 10 gallons | Outside        | Northwest of Building 995 on road. Trunk tank punctured.   | Absorbent applied. Product taken to DRMO for disposal.  |

TABLE 3-2  
SPILL RESPONSE SUMMARY

| BUILDING | DATE     | SPILLED MATERIAL               | QUANTITY  | INSIDE/OUTSIDE | LOCATION/COMMENTS  | ACTION TAKEN  |
|----------|----------|--------------------------------|---|----------------|--|---|
| B Street | 5/23/94  | Sulfuric Acid                  | 30 gallons  | Outside        | South of Gate 20 - West of 309/308                             | Product neutralized. Soil excavated, containerized and all products taken to DRMO for disposal. |
| Gate 1   | 10/28/93 | Diesel fuel                    | 2 gallons   | Outside        | Gate 1 in street   | Absorbent applied. Product taken to DRMO for disposal.  |
| Gate 1   | 1/14/94  | Diesel fuel                    | 5 gallons   | Outside        | Gate 1 in street   | Absorbent applied. Product taken to DRMO for disposal.  |
| Gate 1   | 3/22/95  | Motor oil                      | 4 gallons   | Outside        | Gate 1 parking lot   | Absorbent applied. Product taken to DRMO for disposal.  |
| Gate 15  | 9/12/95  | Hydraulic fluid                | 1.25 gallon   | Outside        | A Street and 11th Street - North through Gate 15 to Dunn Field | Absorbent applied. Product taken to DRMO for disposal.  |
| X02      | 6/8/94   | Mineral oil <.1 ppm PCB        | 10 gallons  | Outside        | Between 771 and 873 - transformer fell off truck.              | Absorbent applied. Product taken to DRMO for disposal.  |
| X10      | 7/26/93  | Ethyl acetate/Naphtha aromatic | <1 gallon of each   | Outside        | Damaged, leaking 55-gallons drums                              | Absorbent applied. Soil excavated, containerized and all products taken to DRMO for disposal.   |
| X20      | 5/7/90   | Cleaning compound solvent      | Unknown - Small amount of product leaked from each of 12 drums. | Outside        | Leaking 55-gallons drums                                       | Absorbent applied. Soil excavated, containerized and all products taken to DRMO for disposal.   |
| X27      | 5/13/94  | Hydraulic fluid                | 25 gallons  | Outside        | On 27th Street from 925 to 972                                 | Absorbent applied. Soil excavated, containerized and all products taken to DRMO for disposal.   |
| X30      | 4/15/94  | Hydraulic fluid                | 5 gallons   | Outside        | G Street from 1089 to Gate 15.                                 | Absorbent applied. Product taken to DRMO for disposal.  |

**TABLE 3-3  
REMOVAL ACTIONS SUMMARY**

| IRP/SWML<br>SITE<br>NUMBER(S)       | DSERTS<br>SITE<br>NUMBER(S)         | MDRA<br>PARCE<br>NUMBER(S)         | DESCRIPTION   | REMOVAL ACTION DESCRIPTION  |
|-------------------------------------|-------------------------------------|------------------------------------|---|---|
| 42, 43, 44,<br>45 and 46            | 42, 43, 44,<br>45 and 46            | 33.9                               | Former PCP Dip Vat Area,<br>Former Underground PCP<br>Tank Area, Former<br>Wastewater Treatment Unit<br>Area, Former<br>Contaminated Soil Staging<br>Area, and Former PCP<br>Pallet Drying Area   | Approximately 602 cy <sup>3</sup> of surface and subsurface soil<br>was removed from the PCP dip vat area because of<br>elevated levels of PCP. Action completed in 1985.   |
| 73                                  | 73                                  | 2.7                                | 2,4-Dichlorophenoxyacetic<br>Acid (grassed area in<br>Parcel 2, only)   | Approximately 3,700 cy <sup>3</sup> of surface soil in the former<br>family housing area of FU6 was removed because of<br>the presence of dieldrin. Removal was necessary to<br>allow for the planned residential reuse. Action<br>completed in October 1998.   |
| 48                                  | 48                                  | 5.2                                |   | Approximately 400 cy <sup>3</sup> of surface soil surrounding the<br>cafeteria, Building 274, was removed because of<br>elevated levels of PCBs. Action completed in<br>November 1998.  |
| 29, 31, 32,<br>33, 87, 88<br>and 89 | 29, 31, 32,<br>33, 87, 88<br>and 89 | 35.2, 35.5,<br>35.4, 35.2,<br>28.2 | Former Underground<br>Waste Oil Storage Tank,<br>Former Paint Spray Booth<br>(Building 1087),<br>Sandblasting Waste<br>Accumulation Area,<br>Sandblasting Waste Drum<br>Storage Area (metal shed<br>south of Building 1088),<br>DDT/ banned pesticides<br>(Building 1084), POL<br>(Building 1085), Acids<br>(Building 1089) | Approximately 980 cy <sup>3</sup> of surface and subsurface soil<br>from near Buildings 1084, 1085, 1087, 1088, 1089 and<br>1090 was removed because metals and PAH levels<br>exceeded industrial standards. Action competed in<br>August 2000.   |
| 83                                  | 83                                  | 30.5                               | Disposal of Dried Paint<br>Residues - South of<br>Building 949  | Approximately 200 cy <sup>3</sup> of surface and subsurface soil<br>from near Building 949 was removed because lead<br>levels exceeded industrial standards. Action competed<br>in October 2001.  |
| 60 and 85                           | 60 and 85                           | 36.14                              | Pistol Range Impact<br>Area/Bullet Stop and Old<br>Pistol Range Building<br>1184/Temporary Pesticide<br>Storage   | Approximately 930 cy <sup>3</sup> of surface soil from the former<br>pistol range at Dunn Field was removed because lead<br>levels exceeded residential standards. The old pistol<br>range house was also removed during this project.<br>Action completed in March 2003.   |
| 1                                   | 1                                   | 36.16                              | Mustard and Lewisite<br>Training Sets (9 sets)<br>Burial Site (1955)  | Approximately 180 cy <sup>3</sup> of surface and subsurface soil<br>from the suspected Chemical Agent Identification Sets<br>burial site was removed because of suspected CWM.<br>The soil removed contained foreign debris and sample<br>results indicated it must be disposed of as hazardous<br>waste, but no CWM was identified. Action completed<br>in March 2001. |

**TABLE 3-3  
REMOVAL ACTIONS SUMMARY**

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| IRP/SWMU<br>SITE<br>NUMBER(S) | DSERTS<br>SITE<br>NUMBER(S) | MDRA<br>PARCE<br>NUMBER(S) | DESCRIPTION                                    | REMOVAL ACTION DESCRIPTION   |
|-------------------------------|-----------------------------|----------------------------|--|--|
| 24 (A and B)                  | 24                          | 36.29                      | Former Burial/Burn Site and Neutralization Pit | <p>Approximately 29 bomb casings, 2 burster tubes and 1,220 cy<sup>3</sup> of surface and subsurface soil from the suspected bomb casing burial location (24A) were removed because of suspected CWM (mustard agent). Approximately 900 cy<sup>3</sup> of the removed soil contained mustard degradation products.</p> <p>Approximately 581 cy<sup>3</sup> of surface and subsurface soil from the suspected neutralization pit (24B) was removed because of suspected CWM. Approximately 33 cy<sup>3</sup> of the removed soil contained mustard or mustard degradation products. Action completed in March 2001.</p> |

**Notes:**

PCP: Pentachlorophenol  
PAH: Polycyclic aromatic hydrocarbon  
CWM: Chemical warfare materiel

- a. Defense Site Environmental Restoration Tracking System (DoD Database)

**TABLE 3-4  
UNDERGROUND STORAGE TANK SUMMARY**

| SUBPARCEL NO. | LOCATION                     | YEAR INSTALLED | SIZE (gals) | SUBSTANCE STORED       | STATUS                         | FUTURE ACTIONS |
|---------------|------------------------------|----------------|-------------|------------------------|--------------------------------|----------------|
| 4.11          | Building 253, north side     | 1952           | 5,000       | Heating oil            | Removed July 1996              | NA             |
| 4.6           | Building 254, northwest side | NA             | 1,100       | Gasoline               | Removed December 1989          | NA             |
| 4.7           | Building 257                 | 1942           | 12,000      | Gasoline               | Removed 1986                   | NA             |
| 4.7           | Building 257                 | 1942           | 12,000      | Gasoline               | Removed 1986                   | NA             |
| 4.7           | Building 257                 | 1951           | 20,000      | Gasoline               | Removed 1986                   | NA             |
| 4.6           | Building 257, south side     | 1984           | 18,000      | Gasoline               | Removed 1998                   | NA             |
| 4.6           | Building 257, south side     | 1984           | 20,000      | Gasoline               | Removed 1998                   | NA             |
| 4.7           | Building 257, west side      | 1951           | 2,580       | Gasoline               | Removed December 1989          | NA             |
| 14.2          | Building 209, north side     | 1942           | 12,000      | Heating oil            | Removed July 1994              | NA             |
| 14.2          | Building 209, north side     | 1942           | 500         | Heating oil            | Removed July 1995              | NA             |
| 14.2          | Building 209, north side     | 1942           | 500         | Blower blow-down water | Removed July 1995              | NA             |
| 15.6          | Building 319, north side     | 1988           | 4,000       | Heating oil            | Removed July 1994              | NA             |
| 17.2          | Building 359, north side     | 1942           | 12,000      | Heating oil            | Closed in place July 1994      | NA             |
| 17.2          | Building 359, north side     | 1942           | 500         | Heating oil            | Closed in place September 1995 | NA             |
| 17.2          | Building 359, north side     | 1942           | 500         | Blower blow-down water | Closed in place July 1994      | NA             |
| 17.2          | Building 359/4               | 1979           | 1,000       | Heating oil            | Removed 1993                   | NA             |
| 17.2          | Building 359/4               | 1942           | 500         | Diesel Fuel            | Removed 1993                   | NA             |
| 24.3          | Building 770, east side      | 1951           | 10,000      | Heating oil            | Removed July 1994              | NA             |
| 24.3          | Building 770, west side      | NA             | 440         | Gasoline               | Removed December 1989          | NA             |
| 24.3          | Building 770, west side      | 1951           | 1,000       | Used motor oil         | Removed December 1989          | NA             |

**TABLE 3-4  
UNDERGROUND STORAGE TANK SUMMARY**

| SUBPARCEL NO. | LOCATION                 | YEAR INSTALLED | SIZE (gals) | SUBSTANCE STORED                                    | STATUS   | FUTURE ACTIONS |
|---------------|--------------------------|----------------|-------------|---|--|----------------|
| 24.3          | Building 770, west side  | 1951           | 1,000       | Used motor oil                                      | Removed December 1989  | NA             |
| 25.2          | Building 875, east side  | 1950           | 1,000       | Heating oil   | Closed in place July 1994  | NA             |
| 33.9          | Building 737, south side | 1942           | 12,000      | Pentachlorophenol and dioxin                        | Removed September 1985   | NA             |
| 33.9          | Building 737, west side  | 1986           | 1,000       | Rodenticide pesticide/herbicide insecticide rinsate | Closed in place September 1995                                       | NA             |
| 33.9          | Building 754             | 1956           | 200         | Gasoline  | Removed January 1986   | NA             |
| 33.11         | Building 756, west side  | 1987           | 1,000       | Diesel fuel   | Removed July 1994  | NA             |
| 35.2          | Building 1085, east side | 1942           | 1,000       | Waste oil   | Removed December 1989 (found and removed during 2000 Removal Action) | NA             |
| 35.2          | Building 1085            | 1950           | 100         | Hydraulic fluid                                     | Closed in place July 1995  | NA             |

**Notes:**

EBS: Environmental baseline survey

NA: Not applicable

UST: Underground storage tank

**TABLE 3-5  
ABOVEGROUND STORAGE TANK SUMMARY**

| STUDY<br>AREA<br>NO. | LOCATION     | YEAR<br>INSTALLED | SIZE<br>(gals)<br>TYPE | SUBSTANCE<br>STORED | STATUS                         | FUTURE<br>ACTIONS |
|----------------------|--------------|-------------------|------------------------|---------------------|--------------------------------|-------------------|
| 4                    | Building 257 | 1992              | 1,000/NA               | Gasoline            | Building<br>demolished<br>1999 | NA                |
| 4                    | Building 257 | 1992              | 1,000/NA               | Diesel fuel         | Building<br>demolished<br>1999 | NA                |
| 24                   | Building 770 | 1951              | 11,155/NA              | Diesel fuel         | Removed<br>July 1994           | NA                |
| 24                   | Building 770 | 1951              | 11,155/NA              | Fuel oil            | Removed<br>July 1994           | NA                |
| 33                   | Building 720 | 1942              | 12,000/NA              | Diesel              | Removed<br>1997                | NA                |
| 33                   | Building 756 | 1994              | 1,000/NA               | Diesel fuel         | Active                         | DRC maintains     |

**Notes:**

NA: Not applicable  
TBD: To be determined

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL*  | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY                         | BASIS*   | REMEDIATION/<br>MITIGATION  |
|------------------------------------|-----------------------------------|--------------------------------|----------------------------------|--|---|
| Environmental Condition Category 1 |                                   |                                |                                  |  |   |
| 1.1(1)                             | 32,10                             | 0.01                           | Sentry<br>Station/Gate 1         | This subparcel is associated with the Sentry Station at Gate 1. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in September 2001. The deed to the City of Memphis Police Department for 4.67 acres was signed on February 6, 2002. The deed to the DRC for 13.36 acres was signed on May 6, 2002. This property has been transferred. | Per MI ROD effective September 9, 2001, no further action required. |
| 1.2(1)                             | 32,13                             | 0.01                           | Sentry<br>Station/Gate 2         | This subparcel is associated with Sentry Station at Gate 2. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in September 2001. The deed to the City of Memphis Police Department for 4.67 acres was signed on February 6, 2002. The deed to the DRC for 13.36 acres was signed on May 6, 2002. This property has been transferred.     | Per MI ROD effective September 9, 2002, no further action required. |
| 1.3(1)                             | 32,16                             | <0.01                          | Waiting Shelter/<br>Building 129 | This subparcel is associated with Building 129. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in September 2001. The deed to the City of Memphis Police Department for 4.67 acres was signed on February 6, 2002. The deed to the DRC for 13.36 acres was signed on May 6, 2002. This property has been transferred.                 | Per MI ROD effective September 9, 2002, no further action required. |
| 1.4(1)                             | 31,13                             | <0.01                          | Waiting Shelter/<br>Building 139 | This subparcel is associated with Building 139. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in September 2001. The deed to the City of Memphis Police Department for 4.67 acres was signed on February 6, 2002. The deed to the DRC for 13.36 acres was signed on May 6, 2002. This property has been transferred.                 | Per MI ROD effective September 9, 2002, no further action required. |

**TABLE 3-6**  
**SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY                         | BASIS*   | REMEDIAL<br>MITIGATION  |
|-----------------------------------|-----------------------------------|--------------------------------|----------------------------------|--|---|
| 1.5(1)                            | 34,12                             | 0.31                           | Building 144                     | This subparcel is associated with Building 144. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in September 2001. The deed to the City of Memphis Police Department for 4.67 acres was signed on February 6, 2002. The deed to the DRC for 13.36 acres was signed on May 6, 2002. This property has been transferred. | Per MI ROD effective September 6, 2001, no further action required. |
| 1.6(1)                            | 32,13                             | 0.02                           | Building 145                     | This subparcel is associated with Building 145. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in September 2001. The deed to the City of Memphis Police Department for 4.67 acres was signed on February 6, 2002. The deed to the DRC for 13.36 acres was signed on May 6, 2002. This property has been transferred. | Per MI ROD effective September 6, 2001, no further action required. |
| 1.7(1)<br>Demolished<br>1999      | 31,10                             | <0.01                          | Waiting Shelter/<br>Building 155 | This subparcel is associated with Building 155. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in September 2001. The deed to the City of Memphis Police Department for 4.67 acres was signed on February 6, 2002. The deed to the DRC for 13.36 acres was signed on May 6, 2002. This property has been transferred. | Per MI ROD effective September 6, 2001, no further action required. |
| 2.1(1)                            | 34,6                              | 0.11                           | Building 176                     | This subparcel is associated with Building 176. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in February 2001. The deed to Alpha Omega Veterans Services for 6.52 acres was signed on October 22, 2001. This property has been transferred.   | Per MI ROD effective September 6, 2001, no further action required. |
| 2.2(1)                            | 34,6                              | 0.03                           | Building 178                     | This subparcel is associated with Building 178. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in February 2001. The deed to Alpha Omega Veterans Services for 6.52 acres was signed on October 22, 2001. This property has been transferred.   | Per MI ROD effective September 6, 2001, no further action required. |

**TABLE 3-6**  
**SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL   | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY     | BASIS  | REMEDIAL/<br>MITIGATION   |
|--|-----------------------------------|--------------------------------|--------------|--|---|
| 2.3(1)   | 34.5                              | 0.11                           | Building 179 | This subparcel is associated with Building 179. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in February 2001. The deed to Alpha Omega Veterans Services for 6.52 acres was signed on October 22, 2001. This property has been transferred. | Per MI ROD effective September 6, 2001, no further action required. |
| 2.4(1)   | 34.5                              | 0.11                           | Building 181 | This subparcel is associated with Building 181. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in February 2001. The deed to Alpha Omega Veterans Services for 6.52 acres was signed on October 22, 2001. This property has been transferred. | Per MI ROD effective September 6, 2001, no further action required. |
| 2.5(1)   | 34.4                              | 0.11                           | Building 183 | This subparcel is associated with Building 183. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in February 2001. The deed to Alpha Omega Veterans Services for 6.52 acres was signed on October 22, 2001. This property has been transferred. | Per MI ROD effective September 6, 2001, no further action required. |
| 2.6(1)   | 34.4                              | 0.11                           | Building 184 | This subparcel is associated with Building 184. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The EPA concurred via letter dated March 13, 1997, with the CERFA letter report Category 1 designation for this subparcel. A FOST for this subparcel was signed in February 2001. The deed to Alpha Omega Veterans Services for 6.52 acres was signed on October 22, 2001. This property has been transferred. | Per MI ROD effective September 6, 2001, no further action required. |
| Please see Category 4 descriptions for the following subparcels that reverted from Category 1 to Category 4 based on LUCs: 3.1, 3.2, 3.3, 3.4, 4.1, 4.3, 6.3, 8.2, 8.3, 8.5, 9.4, 10.4, 13.1, 13.2, 13.3, 13.4, 14.1, 15.1, 16.2, 21.1, 23.1, 23.2, 23.3, 23.4, 23.5, 29.1, 30.4, 33.1, 33.2, 33.4 and 33.10.  |                                   |                                |              |  |   |
| Please see Category 6 descriptions for the following subparcels that reverted from Category 1 to Category 6 based on groundwater contamination beneath the subparcel: 4.2, 4.11 and 33.5.  |                                   |                                |              |  |   |
| Please see Category 4 descriptions for the following subparcels that reverted in 2002 from Category 1 to Category 6 and in 2003 changed from Category 6 to Category 4 based on LUCs only because groundwater pre-design data indicated the groundwater remedial action would not be implemented at these subparcels: 8.4, 9.2, 9.5, 10.6, 11.3, 11.4, 17.1, 33.3 and 34.1. |                                   |                                |              |  |   |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL  | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY   | BASIS  | REMEDIAL ACTION/<br>MITIGATION  |
|---|-----------------------------------|--------------------------------|--|--|---|
| <b>Environmental Condition Category 2: No subparcels designated Category 2.</b> |                                   |                                |  |  |   |
| <b>Environmental Condition Category 3</b>                                       |                                   |                                |  |  |   |
| 1.8(3)  | 33,12                             | 17.68                          | Buildings 143, 146 and 147, north and south parking lots and surrounding open land area<br><br>Site 73 (2,4-dichlorophenoxyacetic acid, all grassed areas) | This subparcel is associated with the parking lots and open land area surrounding Building 144 as well as Buildings 143, 146 and 147. Both the north and south parking lots in this subparcel are the location of former housing units. These housing units were demolished. This subparcel includes grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. A 4-gallon motor oil spill was reported in 1995 for the Gate 1 parking lot. In addition, a diesel spill was reported in 1993 at Gate 1. The Spill Team responded, took the appropriate action and disposed of all residues in accordance with federal, state and local regulations. The MI RI baseline risk assessment concluded that FU 6, which contains Parcels 1, 4 and 5, was suitable for industrial reuse. The residential surrogate site that indicated restricted use was located in Parcel 4. Parcel 1 was used in the past for administrative and employee parking purposes and does not contain any long-term operational areas. The MI RI Report indicated levels that are not inconsistent with unrestricted use. The BCT concurred that a hazardous substance release occurred as a result of pesticide application during routine grounds maintenance, but not at concentrations that require remediation. On January 17, 2001, the BCT concurred that Parcel 1.8 change from Category 7 to Category 3. The MI ROD indicates this subparcel is not included in the area requiring remedial action. A FOST for this subparcel was signed in September 2001. The deed to the City of Memphis Police Department for 4.67 acres was signed on February 6, 2002. The deed to the DRC for 13.36 acres was signed on May 6, 2002. This property has been transferred. | No further remediation necessary. The MI ROD effective September 6, 2001, indicates this subparcel is not included in the area requiring remedial action. |
| 36.12(3)  | 23,11                             | 0.92                           | Site 62 (Bauxite Storage)<br><br>DF  | This subparcel is associated with Site 62 (Bauxite Storage), one above-grade covered bauxite pile. DNSP removed the pile in 1998. The DF RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential or industrial reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 3. The DF ROD indicates no further action required at this site. A FOST for this subparcel was signed in March 2005. On September 27, 2005 DA signed the Letter of Assignment transferring 17.66 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred.  | Per DF ROD effective April 12, 2004, no further action required.  |
| 36.13(3)  | 27,11                             | 3.3                            | Site 62 (Bauxite Storage)<br><br>DF  | This subparcel is associated with Site 62 (Bauxite Storage), two above-grade covered bauxite piles. DNSP removed the piles in 1998. The DF RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential or industrial reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 3. The DF ROD indicates no further action required at this site. A FOST for this subparcel was signed in March 2005. On September 27, 2005 DA signed the Letter of Assignment transferring 17.66 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred.  | Per DF ROD effective April 12, 2004, no further action required.  |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>   | REMEDIATION/<br>MITIGATION                                       |
|-----------------------------------|-----------------------------------|---|---|--|--|
| 36.24(3)                          | 28,11                             | 0.08  | Site 19 (Former<br>Tear Gas<br>Canister Burn<br>Site)<br><br>DF | This subparcel is associated with Site 19 (Former Tear Gas Canister Burn Site) where sanitary wastes, construction debris, smoke pots, and tear gas canisters were disposed of from 1955 to 1960. The DF RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential or industrial reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 3. The DF ROD indicates no further action required at this site. A FOST for this subparcel was signed in March 2005. On September 27, 2005 DA signed the Letter of Assignment transferring 17.66 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred.  | Per DF ROD effective April 12, 2004, no further action required. |
| 36.25(3)                          | 30,10                             | 0.34  | Site 20 (Probable<br>Asphalt Burial<br>Site)<br><br>DF          | This subparcel is associated with Site 20 (Probable Asphalt Burial Site) where asphalt and roofing gravel were dumped in a surface fill, but were reportedly removed in 1981. The DF RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential, recreational or industrial reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 3. The DF ROD indicates no further action required at this site. A FOST for this subparcel was signed in March 2005. On September 27, 2005 DA signed the Letter of Assignment transferring 17.66 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred.  | Per DF ROD effective April 12, 2004, no further action required. |
| 36.26(3)                          | 31,13                             | 0.51  | Site 21 (XXCC-3<br>Burial Site)<br><br>DF                       | This subparcel is associated with Site 21 (XXCC-3 Burial Site) that consists of two trenches of unknown depths where an unknown amount of XXCC-3 impregnite (used to make clothing less susceptible to the effects of chemical warfare agents) and clothing treated with XXCC-3 impregnite was buried. The DF RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential, recreational or industrial reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 3. The DF ROD indicates no further action required at this site. A FOST for this subparcel was signed in March 2005. On September 2, 2005, DA signed the deed to the City of Memphis for 1.57 acres. This property was used in the Hays Road expansion project. This property has been transferred. | Per DF ROD effective April 12, 2004, no further action required. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres)   | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION                                   |
|---|-----------------------------------|---|--|---|--|
| 36.27(3)                                      | 31.12                             | .15   | Site 50 (AOC A/<br>DF Northeast<br>Quadrant<br>Drainage Ditch)<br><br>DF   | This subparcel is associated with Site 50 (AOC A/DF Northeast Quadrant Drainage Ditch), a concrete-lined drainage ditch collects stormwater runoff from surrounding areas. In 2004, the BCT concurred to change the subparcel boundary to eliminate the area situated above groundwater contamination along the northern fence line (north subparcel boundary now ends about 225 feet south of the northern fence line). The DF RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential, recreational and industrial reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for groundwater remedial actions along the northern fence line. The DF ROD indicates no further action required for the portion of this site included in this subparcel. In 2004, the BCT concurred to change this subparcel from Category 6 to Category 3. A FOST for this subparcel was signed in March 2005. On September 27, 2005 DA signed the Letter of Assignment transferring 17.66 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred.  | Per DF ROD effective April 12, 2004, no further action required. |
| 36.30(3)                                      | 28.12                             | 22.58<br><br>(based on the<br>survey performed<br>for the transfer the<br>area is 21.76<br>acres) | Open land area<br>east of railroad<br>tracks, excluding<br>existing<br>subparcels<br><br>Site 63<br>(Fluorspar<br>Storage)<br><br>Site 71<br>(Herbicide, all<br>railroad tracks)<br><br>Site 73 (2,4-<br>dichlorophen-<br>oxyacetic acid,<br>all grassed<br>areas) | This subparcel is associated with the open land area east of the railroad tracks of DF excluding Subparcels 36.12 and 36.13 and includes Site 63 (Fluorspar Storage). Of the 11 fluorspar mounds included in Site 63, ten were situated in this subparcel. DNSP removed the all 11 mounds by 1999. In 2004, the BCT concurred to change the subparcel boundary to eliminate the area situated above groundwater contamination along the northern fence line (north subparcel boundary now ends about 225 feet south of the northern fence line). The BCT also changed the western boundary to coincide with the area identified in the DF ROD as available for unrestricted reuse. This subparcel contains railroad tracks (Site 71) that were historically sprayed with pesticides, herbicides, and waste oil containing PCP. This subparcel also contains grassed (Site 73) and gravel areas that were historically sprayed with pesticides and herbicides. The DF RI Report indicated several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial or residential reuse, except for arsenic levels that presented unacceptable risks for residential reuse, but were similar to levels identified throughout Shelby County and will not require remedial action. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for groundwater remedial actions along the northern fence line. The DF ROD indicates no further action required for the portion of this site included in this subparcel. In 2004, the BCT concurred to change this subparcel from Category 6 to Category 3. A FOST for this subparcel was signed in March 2005. CESAM anticipates DA will sign a Letter of Assignment transferring 21.76 acres to DOI/NPS in 2005, which will deed the property to the City of Memphis. | Per DF ROD effective April 12, 2004, no further action required. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres)  | FACILITY   | BASIS <sup>c</sup>  | REMEDIACTION/<br>MITIGATION                                      |
|---|-----------------------------------|--|--|---|--|
| 36.31(3)                                      | 28.13                             | 5.22<br>(based on the<br>survey performed<br>for the transfer the<br>area is 1.06<br>acres)  | 75-foot strip<br>along Hays Rd.<br>from Person Ave.<br>to Dunn Ave. for<br>road widening<br>project<br><br>Site 73 (2,4-<br>dichlorophen-<br>oxyacetic acid,<br>all grassed<br>areas)  | This subparcel is associated with an open land area of DF along Hays Street from Person Avenue to Dunn Avenue excluding Subparcel 36.26. The DRC requested this subparcel due to a Memphis road works project to expand Hays Street. In 2004, the BCT concurred to change the subparcel boundary eliminating the area situated above groundwater contamination along the northern fence line (northeast corner of subparcel boundary now ends about 116 feet south of the northern fence line and northwest corner of subparcel boundary now ends about 163.37 south of the northern fence line). This subparcel contains grassy areas (Site 73) that were historically sprayed with pesticides and herbicides. The DF RI Report indicated levels of several constituents exceeding BCT screening criteria <sup>2</sup> that did not present unacceptable risks for residential or industrial reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for groundwater remedial actions along the northern fence line. The DF ROD indicates no further action required for the portion of this site included in this subparcel. In 2004, the BCT concurred to change this subparcel from Category 6 to Category 3. A FOST for this subparcel was signed in March 2005. On September 2, 2005, DA signed the deed to the City of Memphis for 1.57 acres. This property was used in the Hays Road expansion project. This property has been transferred. | Per DF ROD effective April 12, 2004, no further action required. |
| 36.32(3)                                      | 36.13                             | 7.82<br>(based on the<br>survey performed<br>for the transfer the<br>area is 12.54<br>acres) | Open land area<br>in northeast<br>corner<br>(recreation area)<br>excluding<br>existing<br>subparcels<br><br>Site 73 (2,4-<br>dichlorophen-<br>oxyacetic acid,<br>all grassed<br>areas) | This subparcel is associated with the open land area in the northeast corner of DF, excluding Subparcels 36.14, 36.25, 36.26 and 36.27. The Depot created this subparcel due to interest in the area as a future recreation/park area. In 2004, the BCT concurred to change the subparcel boundary eliminating the area situated above groundwater contamination along the northern fence line (north subparcel boundary now ends about 225 feet south of the northern fence line). This subparcel contains grassy areas (Site 73) that were historically sprayed with pesticides and herbicides. The DF RI Report indicated several constituents exceeding BCT screening criteria <sup>2</sup> that did not present unacceptable risks for residential, recreational or industrial reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for groundwater remedial actions along the northern fence line. The DF ROD indicates no further action required for the portion of this site included in this subparcel. In 2004, the BCT concurred to change this subparcel from Category 6 to Category 3. A FOST for this subparcel was signed in March 2005. On September 27, 2005 DA signed the Letter of Assignment transferring 17.66 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred.   | Per DF ROD effective April 12, 2004, no further action required. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| <b>Environmental Condition Category 4</b>     |                                   |   |   |   |  |
| 2.7(4)  | 33.6                              | 5.94  | Open land area surrounding the military family housing units and garages<br><br>Site 73 (2,4-dichlorophenoxyacetic acid, all grassed areas) | This subparcel is associated with the open land area surrounding the former military family housing units and garages in Parcel 2. Four BRAC soil samples were collected and sample results indicated levels of chlorinated hydrocarbon pesticides (dieldrin, DDE, DDT and gamma-chlordane) above BCT screening criteria. The Depot elected to conduct a removal action at this subparcel to allow for unrestricted reuse. In September 1997, the BCT changed this subparcel to a Category 6 due to the presence of dieldrin and the DRC's high priority for reuse of this subparcel. The Depot completed the removal action in 1998. In May 1999, the BCT concurred that the removal action was complete and to change this subparcel from Category 6 to Category 4 based on the successful completion of this removal action. The MI ROD indicates this subparcel is not included in the area requiring remedial action. A FOST for this subparcel was signed in February 2001. The deed to Alpha Omega Veterans Services for 6.52 acres was signed on October 22, 2001. This property has been transferred.  | Removal action completed in 1998. Per MI ROD effective September 6, 2001, no further remediation necessary.  |
| 3.1(4)  | 32.2                              | 0.01  | Building 193  | This subparcel is associated with Building 193. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for recreational or industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD called for remedial action in the form of LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--------------|---|--|
| 3.2(4)  | 31,2                              | 0.10  | Building 195 | This subparcel is associated with Building 195. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for recreational or industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD called for remedial action in the form of LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 3.3(4)  | 31,2                              | 0.02  | Building 196 | This subparcel is associated with Building 196. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for recreational or industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD called for remedial action in the form of LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres)   | FACILITY   | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 3.4(4)  | 31.2                              | 0.01  | Building 198   | This subparcel is associated with Building 198. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for recreational or industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD called for remedial action in the form of LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 3.5(4)  | 29.4                              | 32.17<br>(based on the<br>survey performed<br>for the transfer the<br>area is 41.46<br>acres) | Recreational<br>area including<br>the golf course,<br>playground,<br>softball field,<br>volleyball and<br>tennis courts,<br>wading pool,<br>Buildings 194,<br>197 and 398,<br>and open land<br>area surrounding<br>the community<br>club complex<br>extending to Ball<br>Road<br><br>Site 73 (2.4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with Buildings 188, 189, 192, 194, 197 and 398, open land area surrounding these buildings, the golf course, the baseball field and the playground area. This subparcel contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for recreational or industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Site 73 is located throughout the MI and this subparcel is in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY                                    | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| 3.6(4)  | 26,6                              | 3.4   | Site 26 (Lake Danielson)                    | This subparcel is associated with Lake Danielson (Site 26), which is located in the northwest corner of the Golf Course and receives stormwater runoff from the central portion of the MI. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for recreational or industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Site 26 in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 3.7(4)  | 26,4                              | 0.30  | Site 51 (AOC B/Lake Danielson Outlet Ditch) | This subparcel is associated with the Lake Danielson outlet ditch (Site 51) that receives stormwater flow from surrounding areas and intermittent flow from the lake. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for recreational or industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Site 51 is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred                   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>   | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|--|--|--|
| 3.8(4)  | 32.5                              | 0.23  | Site 25 (Golf<br>Course Pond)  | This subparcel is associated with the Golf Course Pond (Site 25) that receives surface water runoff from the golf course and southeast portion of the MI. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for recreational or industrial reuse, but did present unacceptable risk for residential reuse. Site 25 is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred                                  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 3.9(4)  | 30.3                              | 0.19  | Site 52 (AOC<br>C/Golf Course<br>Pond Outlet<br>Ditch)   | Golf Course Pond outlet ditch (Site 52) receives stormwater flow from surrounding areas and intermittent flow from the pond. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for recreational or industrial reuse, but did present unacceptable risk for residential reuse. Site 51 is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 3.10(4)                                       | 30.6                              | 0.25  | Former pistol<br>range near Hole<br>9<br><br>Site 73 (2.4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | A 1947 installation map shows a pistol range directly behind where Building 271 now stands, near the 9th hole of the golf course. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for recreational or industrial reuse, but did present unacceptable risk for residential reuse. Site 73 is located throughout the MI and this subparcel is in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|---|
| 3.11(4)                                       | 30,6                              | 0.77  | Former<br>flamethrower test<br>site west of Hole<br>9<br><br>Site 69 (2.4-D,<br>M2A1, and M4<br>Flame-thrower<br>liquid fuels,<br>surface<br>application)<br><br>Site 73 (2.4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with Site 69 (2.4-D, M2A1, and M4 Flamethrower liquid fuels, surface application), an area on the golf course that was used to test flame-thrower fuels. Firefighting techniques were also practiced at this site after ignition of the fuel. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential recreational or industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Site 73 is located throughout the MI and Site 69 is located in the area for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to maintain a boundary fence around Parcel 3, to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. On September 29, 2005, DA signed the Letter of Assignment transferring 46.74 acres to DOI/NPS, which will deed the property to the City of Memphis. This property has been transferred. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005.  |
| 4.1(4)<br><br>Demolished<br>1999              | 30,10                             | 0.19  | Building 252   | This subparcel is associated with Building 252. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. Although this building is designated Category 4, it overrules the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy and EPA does not consider it available for transfer. Anticipate completing a FOST for this subparcel in 2008.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overrules the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy and EPA does not consider it available for transfer. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION  |
|-----------------------------------|-----------------------------------|---|---|---|---|
| 4.3(4)                            | 31.7                              | 0.03  | Building 271  | This subparcel is associated with Building 271. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. Although this building is designated Category 4, it overrules the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy and EPA does not consider it available for transfer. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overrules the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy and EPA does not consider it available for transfer.   |
| 4.7(4)<br>Demolished<br>1999      | 28.10                             | 0.25  | Buildings 256<br>and 257<br>Site 67 (MOGAS<br>Building 257) | This subparcel is associated with Buildings 256 and 257 and Site 67 (MOGAS, Building 257). The DRC demolished both buildings in 1999 during construction of the entrance boulevard. Building 257 was fumigated in the past. Air sampling conducted during the BRAC sampling effort in the winter of 1997 indicated no human health hazards from fumigation. Several spills were reported for this building, including: one 2-gallon gasoline spill reported on April 20, 1990; leaking tank at gasoline station reported on August 11, 1993; and gasoline release from tank pressure tube reported on August 31, 1993. The Spill Team responded, took the appropriate action and disposed of all residues in accordance with federal, state and local regulations. In addition, fuel dispensing and storage have been ongoing at Building 257 since 1942 (two 1,000-gallon ASTs are located at this building and a 2,580-gallon gasoline tank was removed December 1989). Two USTs (18,000 and 20,000 gallons) were removed in 1998 from the open land area south of Bldg. 257. In September 1997, the BCT changed this subparcel to a Category 6 due to the scheduled UST removal project. Upon receipt of UST closure approval from TDEC-UST in December 1998, The BCT concurred to change this subparcel from Category 6 to Category 2 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Site 67 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 2 to Category 4 based on implementation of the LUCs. Although these buildings are designated Category 4, they overrule the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy and EPA does not consider them available for transfer. Anticipate completing a FOST for this subparcel in 2008. | UST closure approval from TDEC-UST received in December 1998. Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overrules the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy and EPA does not consider it available for transfer. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL NUMBER AND LABEL <sup>a</sup> | LOCATION (x, y coordinates) | APPROXIMATE SIZE <sup>b</sup> (acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDATION/ MITIGATION <sup>d</sup>  |
|---|-----------------------------|---------------------------------------|--|---|--|
| 6.1(4)                                  | 28,11                       | 4.4                                   | Open land area surrounding Buildings 250, 349 and 350<br><br>Site 70 (POL, Various Chemical Leaks, railroad tracks 1,2,3,4,5 and 6)<br><br>Site 71 (Herbicides, all railroad tracks)<br><br>Site 73 (2,4 dichlorophenoxy acetic acid, all grassed areas) | This subparcel is associated with the open land area surrounding Buildings 349, 350 and 250. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Sites 70, 71 and 73 are located throughout the MI and this subparcel is in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 6.2(4)                                  | 29,11                       | 2.8                                   | Building 250   | This subparcel is associated with Building 250 and may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. Staining due to acid leaks from batteries in the forklift area was observed during the EBS visual inspection. After the December 1997 BCT decision to change fumigated buildings to Category 1, the BCT concurred and concurred via telephone calls that this subparcel would become a Category 3 based on the cleanup of battery acid. In June 1998, the BCT again concurred to change this subparcel from Category 7 to Category 3 believing no remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--------------|--|--|
| 6.3(4)  | 27,12                             | 2.8   | Building 349 | This subparcel is associated with Building 349, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 6.4(4)  | 26,11                             | 2.8   | Building 350 | This subparcel is associated with Building 350, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. Staining due to acid leaks from batteries in the forklift area was observed during the EBS visual inspection. After the December 1997 BCT decision to change fumigated buildings to Category 1, the BCT conferred and concurred via telephone calls that this subparcel would become a Category 3 based on the cleanup of battery acid. In June 1998, the BCT again concurred to change this subparcel from Category 7 to Category 3 believing no remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION <sup>d</sup>  |
|---|-----------------------------------|---|--|---|--|
| 7.1(4)  | 29,13                             | 1.5   | Open land area<br>surrounding<br>Building 249<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks) | This subparcel is associated with the open land area surrounding Building 249. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. The Preliminary Risk Evaluation identified this subparcel as exceeding BCT screening criteria. The BCT identified the subparcel for potential removal action and changed the Category 7 to Category 6. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Therefore, no removal action occurred. Sites 70 and 71 are located throughout the MI and this subparcel is in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 7.2(4)  | 29,12                             | 2.8   | Building 249<br><br>Site 65 (XXCC3)  | This subparcel is associated with Building 249 that was formerly used as a storage facility for clothing treated with impregnate (Site 65 - XXCC-3), a chemical used as a preventive to the effects of chemical warfare agents on skin. A battery acid spill was reported on April 15, 1993, at Building 249, north dock. The Spill Team responded, applied sodium bicarbonate and disposed of all residues in accordance with federal, state and local regulations. This building may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. After the December 1997 BCT decision to change fumigated buildings to Category 1, the BCT conferred and concurred that this subparcel would become a Category 4 based on the cleanup of the battery acid. In June 1998, the BCT again concurred to change this subparcel from Category 7 to Category 4 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Site 65 requires no active remediation, but Site 65 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY   | BASIS*   | REMEDATION/<br>MITIGATION  |
|-----------------------------------|-----------------------------------|--------------------------------|--|--|--|
| 8.1(4)                            | 28,14                             | 6.4                            | Open land area<br>surrounding<br>Buildings 229,<br>230, 329 and<br>330<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)<br><br>Site 73 (2,4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with the open land area surrounding Buildings 229, 230, 329 and 330. This subparcel contains railroad tracks (Sites 70 and 71) that were historically sprayed with pesticides, herbicides, and waste oil containing PCP and grassed areas (Site 73) that were historically sprayed with herbicides and pesticides. The railroad tracks and ballasts were removed in 1999/2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 8.2(4)                            | 29,15                             | 2.8                            | Building 229   | This subparcel is associated with Building 229, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>  | REMEDATION/<br>MITIGATION  |
|---|-----------------------------------|---|--------------|---|--|
| 8.3(4)  | 29,14                             | 2.8   | Building 230 | This subparcel is associated with Building 230, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 8.4(4)  | 26,15                             | 2.8   | Building 329 | This subparcel is associated with Building 329, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on potential for groundwater remedial action at this subparcel. Subsequent groundwater sampling data indicated groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 8.5(4)  | 26,13                             | 2.8   | Building 330 | This subparcel is associated with Building 330, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 9.1(4)  | 23.13                             | 6.3   | Open land area<br>surrounding<br>Buildings 429,<br>430, 449 and<br>450<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)<br><br>Site 73 (2,4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with the open land area surrounding Buildings 429, 430, 449 and 450. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 9.2(4)  | 23.15                             | 2.8   | Building 429   | This subparcel is associated with Building 429, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on potential for groundwater remedial action at this subparcel. Subsequent groundwater sampling data indicated groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION <sup>d</sup>  |
|---|-----------------------------------|---|--------------|--|--|
| 9.3(4)  | 23,13                             | 2.8   | Building 430 | This subparcel is associated with Building 430 and may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. Staining due to acid leaks from batteries in the forklift area was observed during the EBS visual inspection. After the December 1997 BCT decision to change fumigated buildings to Category 1, the BCT concurred to change this subparcel to Category 3 based on the cleanup of battery acid. In June 1998, the BCT again concurred to change this subparcel from Category 7 to Category 3 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 3 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 9.4(4)  | 23,12                             | 2.8   | Building 449 | This subparcel is associated with Building 449, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|--------------|---|--|
| 9.5(4)  | 23.11                             | 2.8   | Building 450 | This subparcel is associated with Building 450, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on potential for groundwater remedial action at this subparcel. Subsequent groundwater sampling data indicated groundwater remedial action would not be implemented at this subparcel. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 10.1(4)HR                                     | 16.12                             | 2.8   | Building 649 | This subparcel is associated with Building 649. A 1-gallon hydraulic fluid spill was reported on August 11, 1995, inside Building 649, Section 5. The Spill Team responded, applied absorbent and disposed of all residues in accordance with federal, state and local regulations. The 1996 Final Environmental Baseline Survey determined this subparcel to be Category 3 and the BCT concurred based on the cleanup of the spills and believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 3 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 10.2(4)                                       | 18,11                             | 8.7   | Open land area<br>surrounding<br>Buildings 549,<br>550, 649 and<br>650<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)<br><br>Site 73 (2,4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with the open land area surrounding Buildings 549, 649, 550 and 650 and contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 10.3(4)                                       | 17,10                             | 0.25  | Spill location<br>between the<br>southern corners<br>of Buildings 550<br>and 650   | This subparcel is associated with a spill location between the southern corners of Buildings 550 and 650. A battery acid and hydraulic fluid spill was reported on March 18, 1993. The Spill Team responded, applied sodium bicarbonate and absorbent and disposed of all residues in accordance with federal, state and local regulations. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|--------------|---|--|
| 10.4(4)                                       | 20,12                             | 2.8   | Building 549 | This subparcel is associated with Building 549, which may have been fumigated. Also, the west side of the building contains a fumigation chamber. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 10.5(4)                                       | 19,11                             | 2.8   | Building 550 | This subparcel is associated with Building 550, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. Staining due to acid leaks from batteries in the forklift area was observed during the EBS visual inspection. After the December 1997 BCT decision to change fumigated buildings to Category 1, the BCT concurred to change this subparcel to Category 3 based on the cleanup of battery acid. In June 1998, the BCT again concurred to change this subparcel from Category 7 to Category 3 believing no remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6**  
**SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION  |
|---|-----------------------------------|---|--|--|---|
| 10.6(4)                                       | 17,11                             | 2.8   | Building 650   | This subparcel is associated with Building 650, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on potential for groundwater remedial action at this subparcel. Subsequent groundwater sampling data indicated groundwater remedial action would not be implemented at this subparcel. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUC/IP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 11.1(4)                                       | 18,14                             | 4.6   | Open land area surrounding Buildings 529, 530 and 630<br>Site 70 (POL, Various<br>Chemical Leaks, railroad tracks 1,2,3,4,5 and 6)<br>Site 71<br>(Herbicides, all railroad tracks)<br>Site 73 (2,4 dichlorophenoxy acetic acid, all grassed areas) | This subparcel is associated with the open land area surrounding Buildings 529, 530 and 630. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUC/IP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>   | REMEDATION/<br>MITIGATION  |
|---|-----------------------------------|---|--------------|--|--|
| 11.2(4)                                       | 19,15                             | 2.8   | Building 529 | This subparcel is associated with Building 529, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. Antifreeze, firefighting foam and photographic chemicals were stored in the west end of the building. Records indicate several spills of firefighting foam. The Spill Team responded, applied absorbent and disposed of all residues in accordance with federal, state and local regulations. Staining due to acid leaks from batteries in the forklift area was observed during the EBS visual inspection. After the December 1997 BCT decision to change fumigated buildings to Category 1, the BCT concurred to change this subparcel to Category 3 based on the cleanup of battery acid and firefighting foam. In June 1998, the BCT again concurred to change this subparcel from Category 7 to Category 3 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 3 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 11.3(4)                                       | 20,14                             | 2.8   | Building 530 | This subparcel is associated with Building 530, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on potential for groundwater remedial action at this subparcel. Subsequent groundwater sampling data indicated groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>   | REMEDATION/<br>MITIGATION  |
|---|-----------------------------------|---|--|--|--|
| 11.4(4)                                       | 16,13                             | 2.8   | Building 630   | This subparcel is associated with Building 630, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on potential for groundwater remedial action at this subparcel. Subsequent groundwater sampling data indicated groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 12.1(4)                                       | 17,15                             | 1.7   | Open land area surrounding Building 629<br><br>Site 70 (POL, Various Chemical Leaks, railroad tracks 1,2,3,4,5 and 6)<br><br>Site 71 (Herbicides, all railroad tracks)<br><br>Site 73 (2,4 dichlorophenoxy acetic acid, all grassed areas) | This subparcel is associated with the open land area surrounding Building 629. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| 12.2(4)                                       | 16,15                             | 2.8   | Building 629<br>Site 57 (AOC<br>H/Building 629<br>Spill Area) | This subparcel is associated with Building 629, formerly a hazardous materials storage building (DDT, herbicides, solvents, oxidizers, and toxic/corrosive materials) and Site 57 (AOC H/Building 629 Spill Area). A 6-gallon nitric acid spill was reported on April 23, 1990, inside Building 629, Section 1. The Spill Team responded, applied sodium bicarbonate and disposed of all residues in accordance with federal, state and local regulations. This building may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. After the December 1997 BCT decision to change fumigated buildings to Category 1, the BCT concurred to change this subparcel to Category 4 based on the cleanup of the nitric acid spill. In January 1998, the BCT again concurred to change subparcel from Category 7 to Category 4 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 4 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Site 57 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004, CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 13.1(4)                                       | 33,16                             | <0.01                                       | Sentry<br>Station/Gate 23                                     | This subparcel is associated with the Sentry Station at Gate 23. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004, CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY                  | BASIS <sup>c</sup>   | REMEDATION/<br>MITIGATION  |
|---|-----------------------------------|---|---------------------------|--|--|
| 13.2(4)                                       | 33,16                             | <0.01                                       | Sentry<br>Station/Gate 24 | This subparcel is associated with the Sentry Station at Gate 24. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 13.3(4)                                       | 32,16                             | <0.01                                       | Sentry<br>Station/Gate 25 | This subparcel is associated with the Sentry Station at Gate 25. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

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**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| 13.4(4)                                       | 31, 17                            | 5.5   | Building 210<br>Site 41 (Satellite Drum<br>Accumulation<br>Area)  | This subparcel is associated with Building 210 and Site 41 (Satellite Drum Accumulation Area). The building also contained the base photographer's photo developing lab in Bay 7. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. Site 41 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 13.5(4)                                       | 33, 16                            | 3.9   | Building 211 and<br>open land area<br>surrounding<br>Buildings 210<br>and 211, and<br>Sentry Stations<br>23 and 25<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1, 2, 3, 4, 5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)<br><br>Site 73 (2, 4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with Building 211 and its associated emergency generator, Gates 23, 24 and 25, and the surrounding open land area extending to Airways Boulevard. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY   | BASIS*   | REMEDIATION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|--------------------------------|--|--|--|
| 14.1(4)                           | 27, 19                            | <0.01                          | Sentry<br>Station/Gate 22  | This subparcel is associated with the Sentry Station at Gate 22. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 14.2(4)<br><br>Demolished<br>1998 | 33, 17                            | 10.5                           | Building 209 and<br>open land area<br>surrounding<br>Building 209 and<br>Sentry Station 22<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)<br><br>Site 73 (2,4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with Building 209 (demolished in 1998) and the surrounding open land area extending north to Dunn Road and east to Airways Boulevard. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. In addition, this subparcel is associated with a 12,000-gallon heating oil tank that was located outside of Building 209 but was removed in July of 1994. There has been no documented release associated with this tank, and no evidence was found of disposal or of migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY  | BASIS   | REMEDIAL ACTION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|--------------------------------|---|---|--|
| 15.1(4)                           | 10.18                             | <0.01                          | Sentry<br>Station/Gate 15   | This subparcel is associated with the Sentry Station at Gate 15. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 15.2(4)                           | 26.18                             | 0.01                           | Building 308<br>Site 35 (DRMO<br>Building T308 -<br>Hazardous<br>Waste Storage) | This subparcel is associated with 308 and Site 35 (DRMO Building T308 - Hazardous Waste Storage). The DRMO used this building for 90-day storage of hazardous waste prior to shipment for off-site disposal. Samples collected from around the building and air samples from inside the building to assess the impact from storage of hazardous materials indicated no human health hazards. In June 1998, The BCT concurred to change this subparcel from Category 7 to a Category 3 believing no further remedial action was required. Site 35 was decontaminated and certified clean in November 2001 in accordance with the RCRA Closure Plan (Permit TNHW-053). No further active remediation is required for this site; however, it is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS   | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 15.3(4)                                       | 26.16                             | 0.41  | Building 319<br>Site 74<br>(Flammables,<br>Toxics<br>West End -<br>Building 319) | This subparcel is associated with Building 319, a storage facility for various hazardous substances including flammables and toxics (cyanide) and Site 74 (Flammables, Toxics). Low-level radioactive materials were also stored in the western bay of Building 319. Beginning in 1994, the eastern end of Building 319 was used for hazardous waste storage by DRMO. In addition, a xylene spill was reported on November 18, 1991, inside Building 319, Section 4. In 1996 an inspection of the western bay was conducted as required for closure of the Defense Distribution Center's Nuclear Regulatory Commission permit for storage of low-level radioactive materials at the Depot. The inspection determined that approximately 8 feet of wall space within the western bay required remediation for low-level radioactive impacts. The Depot completed remediation in 1997. Soil samples collected in 1997 indicated chromium and lead at levels well below the 1 in a million risk ratio for both residential and industrial scenarios. The NRC approved the building remediation/permit closure documentation and deleted the Memphis Depot from the DDC's permit. Building 319 was released for use with no NRC restrictions. In June 1999, the BCT received the NRC permit closure approval documentation and concurred to change this subparcel from Category 7 to Category 4 based on the cleanup of both the xylene spill and the low-level radioactivity and believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 4 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. No further active remediation is required for Site 74; however, this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDATION/<br>MITIGATION  |
|---|-----------------------------------|---|--|---|--|
| 15.4(4)<br>Demolished<br>1998                 | 14,18                             | 0.28  | Building 702   | This subparcel is associated with Building 702, demolished in 1998. In February 1999, The BCT concurred to change this subparcel from Category 7 to Category 3 because the building was demolished and believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 15.5(4)                                       | 23,18                             | 3.3   | Open land area west of Buildings 308 and 309<br>Site 36 (DRMO Hazardous Waste Concrete Storage Pad)<br>Site 37 (DRMO Damaged/Empty Lubricant Container Area)<br>Site 38 (DRMO Damaged/Empty Hazardous Materials Drum Storage Area)<br>Site 39 (DRMO Damaged/Empty Hazardous Materials Drum Storage Area)<br>Site 72 (Waste Oil, DRMO Yard, surface application for dust control) | This subparcel is associated with a portion of the open gravel storage area Y50 that is west of Buildings 308 and 309. This subparcel is associated with Site 36 (DRMO Hazardous Waste Concrete Storage Pad), Site 37 (DRMO Hazardous Materials Drum Storage Area), Site 38 (DRMO Damaged/Empty Hazardous Container Area). This subparcel consists of gravel areas (Site 72) that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The PRE identified this subparcel for removal action, and the BCT concurred to change this subparcel from Category 7 to Category 6. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse; therefore, no removal action occurred. The report indicated that constituents did present unacceptable risks for residential reuse. Sites 36, 37, 38, 39 and 72 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred to change this subparcel from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup>   | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION <sup>d</sup>  |
|---|-----------------------------------|---|---|---|--|
| 15.6(4)<br>416 and 417<br>demolished in<br>2002 | 18, 17                            | 43.8  | Buildings 301,<br>304, 305, 306,<br>307, 309, 416,<br>417, 701 and<br>717 and<br>surrounding<br>open land area<br><br>Site 54 (AOC<br>E/DRMO East<br>Stormwater<br>Runoff Canal)<br><br>Site 55 (AOC<br>F/DRMO North<br>Stormwater<br>Runoff Canal)<br><br>Site 72 (Waste<br>Oil, DRMO yard,<br>surface<br>application for<br>dust control)<br><br>Site 79 (Fuels,<br>Miscellaneous<br>Liquids, Wood<br>and Paper –<br>Vicinity 702); | This subparcel is associated with open storage areas Y10, Y11, Y50, and Y60; Buildings 301, 304, 305, 306, 307, 309, T416, T417, 701 and 717; Site 54 (DRMO East Stormwater Runoff Canal), Site 55 (DRMO North Stormwater Runoff Canal), Site 72 (Waste Oil, DRMO yard, surface application for dust control), and Site 79 (Fuels, Miscellaneous Liquids, Wood and Paper – Vicinity S702); and a 4,000-gallon heating oil tank located outside of Building 319 removed in July 1994. The DRC demolished Buildings T416 and T417 in 2002. There has been no documented release associated with this tank. This subparcel is also associated with a 30-gallon solvent spill south of Building 309 in 1991. The Spill Team responded, took appropriate action and disposed of all residues in accordance with federal, state and local regulations. In addition, this subparcel contains railroad tracks and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 54, 55, 72 and 79 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE*<br>(acres) | FACILITY  | BASIS*  | REMEDIATION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|---------------------------------|---|---|--|
| 16.1(4)                           | 21,9                              | 2.8                             | Open land area<br>surrounding<br>Building 559<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)<br><br>Site 73 (2,4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with the open land area surrounding Building 559. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 16.2(4)<br>Demolished<br>1999     | 17,10                             | 5.5                             | Building 559  | This subparcel is associated with Building 559, which may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates)  | APPROXIMATE<br>SIZE °<br>(acres) | FACILITY  | BASIS°   | REMEDIATION/<br>MITIGATION   |
|-----------------------------------|--|----------------------------------|---|--|--|
| 17.1(4)                           | 22.10<br>Building<br>relocated to<br>Parcel 30<br>adjacent to<br>Building 925. | 0.09                             | Land area where<br>temporary<br>Building 459<br>once stood  | This subparcel is associated with land area where temporary Building 459 once stood. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on potential for groundwater remedial action at this subparcel. Subsequent groundwater sampling data indicated groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 17.2(4)                           | 22.9   | 3.7                              | Open land area<br>surrounding<br>Building 359<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)<br><br>Site 73 (2,4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with the open land area surrounding Building 359. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. In addition, this subparcel is associated with the following tanks: a 12,000-gallon and a 500-gallon fuel oil tank closed in place in July 1994 and September 1995, respectively; a 1,000-gallon fuel oil tank and a 500-gallon diesel tank removed in 1993; a 12,000-gallon and a 500-gallon fuel oil tank removed in 1993. There have been no documented releases associated with these tanks. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6**  
**SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDATION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|---|
| 17.3(4)<br>Demolished<br>1999                 | 25.9                              | 5.5   | Building 359<br>Site 49 (Medical<br>Waste Storage<br>Area) | <p>This subparcel is associated with Building 359 and Site 49 (Medical Waste Storage Area). The DRC demolished this building in 1999 during construction of the entrance boulevard. This building was used for storage of medical supplies, medical supply waste (expired shelf life medical supplies), sodium chloride, petroleum products and low level radiological items (watch dials, lantern mantels and compasses). The 1997 Radiological Survey concluded this building was available for unrestricted use as no evidence of radiological contamination was found. A sulfuric acid spill was reported on August 27, 1993 inside Building 359, Section 2. The Spill Team responded, applied sodium bicarbonate and disposed of all residues in accordance with federal, state and local regulations. An out of service incinerator was also located in this building. This building was fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. After the December 1997 BCT decision to change fumigated buildings to Category 1, the BCT concurred to change this subparcel to Category 4 based on the cleanup of the sulfuric acid. In June 1998, the BCT again concurred to change this subparcel from Category 7 to Category 4 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 4 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. No further active remediation is required for Site 49; however, Site 49 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.</p> | <p>Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005.</p> |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>   | REMEDICATION/<br>MITIGATION  |
|---|-----------------------------------|---|--|--|--|
| 18.1(4)HS/HR                                  | 17.8                              | 4.0   | Building 560   | This subparcel is associated with Building 560. Two spills (5 gallons and 15 gallons) of aqueous film forming foam were reported on October 17, 1995 and November 14, 1995 inside Building 560. Section 3. The Spill Team responded, applied absorbent and disposed of all residues in accordance with federal, state and local regulations. The 1996 Final Environmental Baseline Survey determined this subparcel to be a Category 4 and the BCT concurred. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.                                  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 18.2(4)                                       | 19.8                              | 2.6   | Open land area surrounding Building 560<br>Site 70 (POL, Various Chemical Leaks, railroad tracks 1,2,3,4,5 and 6)<br>Site 71 (Herbicides, all railroad tracks) | This subparcel is associated with the open land area surrounding Building 560. This subparcel contains railroad tracks (Sites 70 and 71) that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. In September 1997, The BCT concurred to change this subparcel from Category 7 to Category 3 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Sites 70 and 71 and this subparcel are located throughout the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6**  
**SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDICATION/<br>MITIGATION  |
|-----------------------------------|-----------------------------------|---|--|---|--|
| 19.1(4)                           | 21.8                              | 2.8   | Buildings<br>467 (fabric<br>tension structure<br>removed in<br>1996), 468, and<br>open land area<br>surrounding<br>Buildings 465,<br>467, 468 and<br>469<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)<br><br>Site 73 (2,4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with Building 467 (a fabric tension structure that was removed in 1996), Building 468 and the open land area surrounding Buildings 465, 468 and 469. Facility maintenance equipment was stored in Building 468. This subparcel contains railroad tracks (Sites 70 and 71) that were historically sprayed with pesticides, herbicides, and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains a small grass area (Site 73) and a small gravel area that were historically sprayed with herbicides and pesticides. In February 1998 the BCT conducted a walk-through of the buildings. A 1,000-gallon oil/water separator is located in Subparcel 19.1 and is connected to the vehicle wash at Building 465. The separator is connected to the sanitary sewer and was routinely cleaned out. In March 1999, the BCT concurred to change this subparcel from Category 7 to Category 3 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 3 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION  |
|---|-----------------------------------|---|--------------|---|---|
| 19.2(4)                                       | 22.7                              | 0.01  | Building 465 | <p>This subparcel is associated with Building 465, a vehicle wash rack. Chemical engine cleaners/degreasers may have been used or released in this building. This building contains a floor drain/sump connected to an oil/water separator, which is physically located in Subparcel 19.1. No sampling has been conducted at this subparcel. In February 1999, the BCT conducted a walk through of Building 465, determined that the sump had been cleaned upon facility closure and used since then only to wash grounds keeping equipment. In May 1999, the BCT concurred to change this subparcel from Category 7 to Category 3 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 3 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.</p> | <p>Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005.</p> |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 19.3(4)                                       | 22.8                              | 0.22  | Building 469<br>Site 40 (Safety<br>Kleen Units)<br>Site 41 (Satellite<br>Drum<br>accumulation<br>Area) | <p>This subparcel is associated with Building 469, which was the battery repair/charge shop. Acids, parts cleaning fluids and petroleum products were stored and used in Building 469. This subparcel is associated with Sites 40 (Safety Kleen Units) and 41 (Satellite Drum Accumulation Areas). A self-contained Safety Kleen unit was used in Building 469. Building 469 was also a satellite drum accumulation area for waste petroleum products and sulfuric acid. There is no evidence of releases from the units or accumulation area. On December 16, 1993, a transformer oil spill was reported at Building 469. Approximately 6 ounces of material was spilled on the south wall and floor near the entrance. The sheet rock wall and concrete floor absorbed some of the oil. The Spill Team responded, applied absorbent and disposed of the residue in accordance with federal, state and local regulations. Samples were collected from the absorbent and concrete and results indicated PCB-1242. According to the Spill Team Leader on the scene at the time of the spill and during sampling, the effected area was removed during sampling operations. In February 1999, the BCT conducted a walk through and was unable to locate the spill area. In May 1999, the BCT concurred that no further evidence of the spill remained, that a remedial action occurred, and to change this subparcel Category 7 to Category 4 based on the cleanup of the spill and believing no further action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 4 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 40 and 41 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.</p> | <p>Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI ROD and submission of MI Notice of Land Use Restrictions in January 2005.</p> |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>   | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|--------------|--|--|
| 20.1(4)PR                                     | 21.5                              | 0.46  | Building 489 | This subparcel is associated with a 1-gallon oil spill reported on November 3, 1995, at the north dock of Building 489, Section 4. The Spill Team responded, applied absorbent and disposed of all residues in accordance with federal, state and local regulations. This subparcel became a Category 2 due to the ECP Category definition change that occurred after the 1996 Environmental Baseline Survey categorized this subparcel as a Category 3. In December 1998, The BCT concurred to change this subparcel to Category 2 based on the new ECP definitions and believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 2 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 20.2(4)HS/HR                                  | 17.6                              | 5.0   | Building 670 | This subparcel is associated with Building 670. Significant corrosion was observed during the EBS visual inspection due to acid leaks at the battery charging station. Sodium bicarbonate was applied and disposed in accordance with federal, state and local regulations. A 1-gallon spill of hydraulic fluid was reported on August 30, 1995, inside Building 670, Section 1. The Spill Team responded, applied absorbent and disposed of all residues in accordance with federal, state and local regulations. The 1996 Final Environmental Baseline Survey determined this subparcel to be a Category 4 and the BCT concurred. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6**  
**SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--------------|---|--|
| 20.3(4)HS/HR                                  | 20.7                              | 5.0   | Building 470 | This subparcel is associated with Building 470. Corrosion was observed during the EBS visual inspection due to acid spills at the battery charging station. Sodium bicarbonate was applied and disposed in accordance with federal, state and local regulations. The 1996 Final Environmental Baseline Survey determined this subparcel to be Category 4 and the BCT concurred believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 4 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 20.4(4)HS/HR                                  | 21.5                              | 5.0   | Building 489 | This subparcel is associated with Building 489. Corrosion was observed during the EBS visual inspection due to acid spills at the battery charging station. Sodium bicarbonate was applied and disposed in accordance with federal, state and local regulations. The 1996 Final Environmental Baseline Survey determined this subparcel to be a Category 4 and the BCT concurred believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 4 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres)  | FACILITY  | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|--|---|--|--|
| 20.5(4)                                       | 19.6                              | 26.5<br><br>(based on the<br>survey performed<br>for the transfer the<br>area is 18.25<br>acres) | Open land area<br>surrounding<br>Buildings 470,<br>489 and 670<br><br>Site 70 (POL,<br>Various<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)<br><br>Site 73 (2,4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with the open land area surrounding Buildings 470, 489 and 670. This subparcel contains railroad track (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP and grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 20.6(4)                                       | 20.4                              | 0.40   | Spill area<br>between western<br>ends of Buildings<br>489 and 490   | This subparcel is associated with a sulfuric acid spill on June 10, 1993, on the south dock of Bay 5, Building 489. The Spill Team responded, took appropriate action and disposed of all residues in accordance with local, state and federal regulations. This subparcel also contains gravel areas that were historically sprayed with waste oil containing PCP. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|---|--|--|
| 21.1(4)                                       | 17.3                              | 5.0   | Building 690                                    | This subparcel is associated with Building 690, which was used to temporarily stage hazardous materials prior to shipment. This subparcel became a Category 1 due to the ECP category definition change that occurred after the 1996 Environmental Baseline Survey categorized this subparcel as a Category 2. At the October 1997 meeting, the BCT concurred to change this subparcel to a Category 1 based on the new ECP definitions. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 21.2(4)PS/HS/H<br>R                           | 23.3                              | 5.0   | Building 490<br>Site 40 (Safety<br>Kleen Units) | This subparcel is associated with Building 490 and Site 40 (Safety Kleen Units). The Safety Kleen unit was removed prior to closure. Corrosion was observed during the EBS visual inspection due to acid spills at the battery charging station. Sodium bicarbonate was applied and disposed in accordance with federal, state and local regulations. A 1-gallon spill of sulfuric acid/battery acid was reported on December 15, 1995, inside Building 490, Section 5. The Spill Team responded, applied sodium bicarbonate and disposed of all residues in accordance with federal, state and local regulations. Petroleum products and microfiche developing chemicals were stored and used in Building 490. The 1996 Final Environmental Baseline Survey determined this subparcel to be a Category 4 and the BCT concurred believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 4 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| 21.3(4)HS/HR                                  | 15.5                              | 5.2   | Building 689<br>Site 78 (Alcohol,<br>Acetone,<br>Toluene,<br>Naphtha,<br>Hydrofluoric Acid<br>Spill)<br>Site 40 (Safety<br>Kleen Units) | This subparcel is associated with Building 689, Site 78 (Alcohol, Acetone, Toluene, Naphtha, Hydrofluoric Acid Spills) and Site 40 (Safety Kleen Units). Building 689 historically staged alcohol, acetone, toluene, and hydrofluoric acid before transport. The Safety Kleen unit was removed prior to closure. Eleven spills are documented from May 8, 1990 through November 16, 1995 and included nitric acid, corrosion removing compound, hydraulic fluid, oil and sulfuric acid. The Spill Team responded, took the appropriate action and disposed of all residues in accordance with federal, state and local regulations. Samples were collected from the concrete parking lot immediately adjacent to and outside of Building 689. The 1996 Final Environmental Baseline Survey determined this subparcel to be a Category 4 and the BCT concurred believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 4 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 21.4(4)HS/HR                                  | 15.4                              | 0.73  | Building 685  | This subparcel is associated with Building 685. Corrosion was observed during the EBS visual inspection due to acid spills at the battery charging station. Sodium bicarbonate was applied and disposed in accordance with federal, state and local regulations. The 1996 Final Environmental Baseline Survey determined this subparcel to be a Category 4 and the BCT concurred. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres)   | FACILITY  | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| 21.5(4)                                       | 19,3                              | 32.9<br>(based on the<br>survey performed<br>for the transfer the<br>area is 24.4<br>acres) | Open land area<br>surrounding<br>Buildings 490,<br>685, 689 and<br>690<br><br>Site 73 (2.4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas)<br><br>Site 75<br>(Unknown<br>Wastes near<br>Building 689)<br><br>Site 76<br>(Unknown<br>Wastes near<br>Building 690) | This subparcel is associated with the open land area surrounding Buildings 490, 689 and 690. This subparcel contains gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP and grassed areas (Site that were historically sprayed with pesticides and herbicides. This subparcel is also associated with Sites 75 (Unknown Wastes near Building 689) and 76 (Unknown Wastes Near Building 690). The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 7 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Site 73 is located throughout the MI. Sites 73, 75 and 76 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 22.1(4)                                       | 18,4                              | 0.66  | Open land area<br>between east<br>ends of Buildings<br>689 and 690  | This subparcel is associated with the open land area between east ends of Buildings 689 and 690. This subparcel contains gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL/ MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 22.2(4)                                       | 17.4                              | 0.58  | Spill area east of Building 685 between Buildings 689 and 690<br>Site 77 (Unknown Wastes near Buildings 689 and 690) | This subparcel is associated with Site 77 (Unknown Wastes Near Buildings 689 and 690). Battery acid spilled during MHE battery charging procedures was washed out a nearby door onto the gravel area immediately east of Building 685. This subparcel contains gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Site 77 is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.                      | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 23.1(4)                                       | 19.2                              | <0.01                                       | Sentry Station/Gate 7  | This subparcel is associated with the Sentry Station at Gate 7. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 23.2(4)                                       | 13.2                              | 0.02  | Sentry Station/Gate 8  | This subparcel is associated with the Sentry Station at Gate 8. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY                         | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|----------------------------------|---|--|
| 23.3(4)<br>demolished<br>2002                 | 11,4                              | 0.12  | Building 787                     | This subparcel is associated with Building 787. The DRC demolished this building in 2002. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 23.4(4)                                       | 13,3                              | 0.01  | Waiting Shelter/<br>Building 795 | This subparcel is associated with Building 795. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 23.5(4)                                       | 5,2                               | 0.18  | Building 995                     | This subparcel is associated with Building 995. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. This subparcel was originally proposed as an ECP Category 1 in a December 6, 1996 CERFA letter; however, EPA was unable to concur with the proposed ECP Category 1 due to potential groundwater contamination under the subparcel. Upon further discussion based on recent EPA property transfer guidance and in a May 17, 1999 letter, EPA provided conditional concurrence with ECP Category 1 for this subparcel. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDICATION/<br>MITIGATION  |
|---|-----------------------------------|---|--|---|--|
| 23.6(4)                                       | 12.2                              | 20.6  | Open land area<br>surrounding<br>buildings 783,<br>787 and 793 and<br>Sentry Stations<br>at Gates 7 and 8<br><br>Site 73 (2.4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with open land areas south of Buildings 690 and 490 including parking lots and grassy areas, the open land area surrounding Buildings 783, 787 and 793 as well as Sentry Stations at Gates 8 and 7. This subparcel contains grassed areas (Site 73) that were historically sprayed with herbicides and pesticides. In October 1997, the BCT concurred to change this subparcel to from Category 7 to Category 3 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may require remedial action to reduce VOC levels; therefore, the BCT concurred in 2002 to change this subparcel from Category 3 to Category 6. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Site 73 is located throughout the MI and this subparcel is in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 23.7(4)<br><br>demolished<br>2002             | 11.5                              | 0.05  | Building 783<br><br>Site 82<br>(Flammables,<br>Buildings 783<br>and 793)   | This subparcel is associated with Building 783, which previously stored flammable items and ordnance material and is Site 82 (Flammables, Buildings 783 and 793). The DRC demolished Building 783 in 2002. In March 1999, The BCT concurred to change this subparcel from ECP Category 7 to a Category 3 based on a BCT visual inspection of the building's interior that determined no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Site 82 is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 23.8(4)                                       | 11,3                              | 0.04  | Building 793<br>Site 82<br>(Flammables,<br>Buildings 783<br>and 793) | This subparcel is associated with Building 793, which previously stored flammable items and ordinance material and is Site 82 (Flammables, Buildings 783 and 793). In March 1999, The BCT concurred to change this subparcel from Category 7 to Category 3 based on a BCT visual inspection of the building's interior that determined no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Site 82 is located in the area of the MI remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 23.9(4)                                       | 4,2                               | 0.25  | Spill area outside<br>Building 995                                   | This subparcel is associated with a gasoline spill reported on September 13, 1993, adjacent and to the northwest of Building 995. The Spill Team responded, applied absorbent, removed stained soil and disposed of it in accordance with federal, state and local regulations. Soil samples indicated that petroleum hydrocarbons were detected at 3.2 mg/kg, well below the Tennessee clean-up level of 100 mg/kg. In October 1997, The BCT concurred to change this subparcel to Category 3. In December 1998, The BCT concurred to change this subparcel from Category 3 to Category 2 based on the new ECP definitions regarding petroleum releases and believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 2 to Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION <sup>b</sup><br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>c</sup><br>(acres) | FACILITY  | BASIS <sup>d</sup>  | REMEDATION/<br>MITIGATION  |
|---|--|---|---|---|--|
| 23.10(4)                                      | 8.2  | 2.6   | Area X01  | This subparcel is associated with the open gravel storage area south of Buildings 873 and 875 in area X01, which was reportedly a small lake when the Depot opened in 1942. This subparcel consists of a gravel area that was historically sprayed with waste oil containing PCP, pesticides and herbicides. Records also indicate transformers possibly containing PCBs may have been stored at this area. There is no documentation of releases from the transformers. In October 1997, the BCT concurred to change this subparcel from Category 7 to Category 3 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 23.11(4)                                      | 6.2  | 3.3   | Open land area surrounding Building 995<br>Site 73 (2,4 dichlorophenoxy acetic acid, all grassed areas) | This subparcel is associated with the open land area surrounding Building 995. This subparcel contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Site 73 and this subparcel are located throughout the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY   | BASIS*  | REMEDIAL ACTION/<br>MITIGATION  |
|-----------------------------------|-----------------------------------|--------------------------------|--|---|---|
| 24.1(4)-HR                        | 10.3                              | 2.0                            | Former material<br>recoupment area<br>at southern end<br>of open storage<br>area X02 and at<br>the southeast<br>corner of<br>Building 873<br><br>Site 27 (Former<br>Recoupment<br>Area, Building<br>873) | This subparcel is associated with the southern end of open storage area X02, the gravel area east of Site 27 (Former Recoupment Area, Building 873). The southern end of X02 was used as a hazardous materials recoupment area (remove hazardous materials from damaged containers then repackage the materials) until the current Recoup Building was constructed in 1987/1988. In 1985 the Depot completed a soil removal project as part of pre-RI activities at this subparcel. The 1996 Final Environmental Baseline Survey determined this subparcel to be a Category 5 and the BCT concurred based on the removal action, but that further category changes would require RI results. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. No further action is required for this site; however, it is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 5 to Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008. | Pre-RI activities included soil removal completed in 1985. Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 24.4(4)HS/PS                      | 12.6                              | 2.64                           | Portion of X03   | This subparcel is associated with the eastern side of open storage area X03 extending from the recently constructed W.E. Freeman Drive to 6 <sup>th</sup> Street. The Depot created this subparcel in 2003 upon request from the DRC in order to facilitate transfer of this area. This subparcel consists of a gravel area that was used to store mission stock chemicals and POLs in 55-gallon drums. This area was also historically sprayed with waste oil containing PCP, pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred on Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005.  |
| 29.1(4)                           | 3.10                              | 0.01                           | Sentry<br>Station/Gate 9   | This subparcel is associated with the Sentry Station at Gate 9. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005.  |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(X, Y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY   | BASIS*  | REMEDIATION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|--------------------------------|--|---|--|
| 29.2(4)                           | 4, 18                             | 30.31                          | Open storage areas X27 and X30, Buildings 801, 802 and 804 as well as the surrounding open land area extending to Dunn Road and to Perry Road<br><br>Site 70 (POL, Various Chemical Leaks, railroad tracks 1,2,3,4,5 and 6)<br><br>Site 71 (Herbicides, all railroad tracks)<br><br>Site 73 (2,4 dichlorophenoxy acetic acid, all grassed areas) | This subparcel is associated with open storage areas X27 and X30, Buildings 801 and 802, and the surrounding open land area extending north to Dunn Road and west to Perry Road. This subparcel contains railroad tracks (Sites 70 and 71), open storage areas and other gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP and grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The railroad tracks and ballasts were removed in 1999/2000. In addition, this subparcel is associated with a 1.25-gallon hydraulic fluid spill that was reported on September 12, 1995 in the street. The spill reportedly spread north, through Gate 15, and across Dunn Avenue. The Spill Team responded, applied absorbent, removed any stained soil and disposed of all residues in accordance with federal, state and local regulations. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 29.3(4)                           | 2, 11                             | 0.13                           | Storm drainage ditch adjacent to Gate 9<br><br>Site 56 (AOC G/ West Stormwater Drainage Canal)   | This subparcel is associated with Site 56 (West Stormwater Drainage Canal), a stormwater drainage canal that collects the stormwater runoff from the western portion of the MI. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. No further action is required for this site; however, it is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>   | REMEDATION/<br>MITIGATION   |
|---|-----------------------------------|---|--|--|---|
| 29.4(4)PR                                     | 4,18                              | .91   | <p>Eastern end of Parcel 19, a portion of open storage area X03</p> <p>Site 70 (POL, Various Chemical Leaks, railroad tracks 1,2,3,4,5 and 6)</p> <p>Site 71 (Herbicides, all railroad tracks)</p> | <p>This subparcel is associated with the eastern end of Parcel 29, a portion of open storage area X30 extending from the recently constructed W.E. Freeman Drive to C Street. The Depot created this subparcel in 2003 upon request from the DRC in order to facilitate transfer of this area. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. In addition, this subparcel is associated with a 1.25-gallon hydraulic fluid spill that was reported on September 12, 1995. The spill reportedly spread north, through Gate 15, and across Dunn Avenue (DDMT 1995). The Spill Team responded, applied absorbent, removed any stained soil and disposed of all residues in accordance with federal, state and local regulations. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Sites 70 and 71 and this subparcel are located throughout the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this subparcel be Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.</p> | <p>Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005.</p> |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>   | REMEDICATION/<br>MITIGATION   |
|---|-----------------------------------|---|--------------|--|---|
| 30 1(4)                                       | 4, 14                             | 1.4   | Building 925 | <p>This subparcel is associated with Building 925. This building served as the Bulk Flammable Materials warehouse and stored 55-gallon drums of flammable materials such as xylene, toluene, acetone, methyl ethyl ketone, methanol and ethanol. Prior to construction of Building 915, this area was a bermed open storage location (X25) for petroleum products and flammable materials. A fabric tension structure was erected over this bermed area and warehoused flammable materials. On January 19, 1988, the fabric tension structure collapsed during a storm resulting in about 325 gallons of flammable materials being released in the bermed area and mixing with about 30,000 gallons of rainwater. The Spill Team and the Memphis Fire Department responded. The material was contained and removed to an appropriate disposal facility. The containment and clean up of this spill has been documented by the Depot and the Memphis Fire Department. The current Building 925 was constructed after this incident over a portion of the original fabric tension structure area. In September 1997, the BCT concurred to change this subparcel from Category 7 to Category 4 because the spill did not occur in the current building and any spilled material had volatilized over the past nine years. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008.</p> | <p>Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005.</p> |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 30.2(4)                                       | 4,13                              | 0.42  | Spill Area<br>between<br>Buildings 925<br>and 949<br><br>Site 53 (X-25<br>Flammable<br>Solvents Storage<br>Area near<br>Building 925   | This subparcel is associated with the former X25 open storage area, a 1988 spill and Site 53 (X-25 Flammable Solvents Storage Area near Building 925). In the past, flammable materials were stored in 55-gallon drums within an earthen bermed area, which was later converted to a concrete bermed area. A fabric tension structure was erected over the concrete bermed area. In 1988, the structure collapsed during heavy winds releasing approximately 327 gallons of flammable material (xylene, toluene, and methyl ethyl ketone) that mixed with approximately 30,000 gallons of water. The Memphis Fire Department Hazmat Team joined the Depot's Spill Team in cleaning up the spill. The material/water waste was pumped out of the bermed area and disposed of according to federal, state and local regulations. Building 925 was constructed over a portion of the area in 1994. In February 1999, the BCT concurred to change this subparcel from Category 7 to Category 4 based on cleanup of the spill and sample results. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. No further active remediation is required for Site 53; however, it is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 30.3(4)                                       | 4,15                              | 6.0   | Open storage<br>area X23 and<br>open land area<br>surrounding<br>Buildings 925<br>and 949<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks) | This subparcel is associated with the open land area surrounding Buildings 925 and 949, excluding the area in Subparcels 30.2 and 30.5. This subparcel also contains a portion of open storage area X23 and was formerly open storage area X25. Both X23 and X25 were used to store 55-gallon drums of POLs and flammable materials. Buildings 925 and 949 were constructed on former open storage area X25. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Sites 70 and 71 are located throughout the MI and this subparcel is in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 6 to Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY  | BASIS*   | REMEDIAL/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|--------------------------------|---|--|---|
| 30.4(4)                           | 4, 11                             | 1.4                            | Building 949  | This subparcel is associated with Building 949, which was used for short-term hazardous substance storage and may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In December 1997, the BCT concurred to change this subparcel to Category 1. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005.  |
| 30.5(4)                           | 4, 10                             | 0.55                           | Former spray paint area south of Building 949<br>Site 83 (Disposal of Dried Paint Residues south of Building 949) | This subparcel is associated with Site 83 (Disposal of Dried Paint Residues south of Building 949). According to interviews with Depot personnel, spray painting and sand blasting occurred at this location until the early 1980s. The MI RI Report indicated levels of several metals exceeding BCT screening criteria and presented unacceptable risks for industrial reuse. The MI FS and Proposed Plan indicated the need for lead-impacted soil to be removed from this subparcel. During development of the MI ROD, DLA elected to conduct a removal action. The ROD contains an explanation of significant differences regarding the removal action decision. The Depot completed the removal action in 2001. Site 83 is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI RI Report also indicated levels of several constituents that presented unacceptable risks for residential reuse. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 6 to Category 4 based on completion of the removal action and on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008. | Lead contaminated soil was removed from an area of approximately 7,200 square feet. The CERCLA Removal Action was completed in 2001. Per MI ROD effective September 6, 2001, other than LUCs no further remediation necessary. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

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SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--------------|---|--|
| 33.1(4)                                       | 12,16                             | 0.01  | Building 727 | This subparcel is associated with Building 727. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 33.2(4)<br>demolished<br>2002                 | 14,10                             | 0.05  | Building 754 | This subparcel is associated with Building 754. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The DRC demolished this building in 2002. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL/ MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 33.3(4)                                       | 14, 10                            | 0.01  | Building 755   | This subparcel is associated with Building 755. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on potential for groundwater remedial action at this subparcel. Subsequent groundwater sampling data indicated groundwater remedial action would not be implemented at this subparcel. In 2003, the BCT concurred that this subparcel change from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 33.4(4)                                       | 14, 9                             | 0.06  | Building 756   | This subparcel is associated with Building 756. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 33.7(4)<br>removed 1994                       | 13, 8                             | 0.15  | Former<br>aboveground<br>storage tank<br>(Building 765)<br>east of Building<br>770<br><br>Site 81 (Fuel Oil<br>AST Building<br>765)<br><br>Removed in<br>1994. | This subparcel is associated with Site 81 (Fuel Oil Building 765), a 12,000-gallon diesel fuel aboveground storage tank removed in 1994. This subparcel also contains a gravel area that was historically sprayed with pesticides, herbicides and waste oil containing PCP. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Site 81 is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY                | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|-------------------------|---|--|
| 33.10(4)<br>demolished<br>2002                | 14,10                             | 0.01  | Building 753            | This subparcel is associated with Building 753. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The DRC demolished this building in 2002. This subparcel became a Category 1 due to the ECP category definition change that occurred after the 1996 Environmental Baseline Survey categorized this subparcel as a Category 2. At the October 1997 meeting, the BCT concurred to change this subparcel to a Category 1 based on the new ECP definitions. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 33.11(4)                                      | 14,9                              | 0.25  | Outside Building<br>756 | This subparcel is associated with the 1,000-gallon diesel above ground storage tank outside Building 756. The original 1,000-gallon underground storage tank supplying the emergency generator in Building 756 was removed in June 1994. The 1996 Final Environmental Baseline Survey determined this subparcel to be Category 2 and the BCT concurred believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 2 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY   | BASIS*  | REMEDIATION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|--------------------------------|--|---|--|
| 33.12(4)                          | 14.9                              | 6.15                           | Southern end of<br>Parcel 33<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)  | This subparcel is associated with the open land area surrounding Subparcels 33.2, 33.3, 33.4, 33.7, 33.10 and 33.11 at the southern end of Parcel 33 extending from the Memphis Depot Parkway and W.E. Freeman Drive to 6 <sup>th</sup> Street. The Depot created this subparcel in 2003 upon request from the DRC in order to facilitate transfer of this area. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Sites 70 and 71 are located throughout the MI and this subparcel is in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred on Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 33.13(4)HS                        | 12.15                             | 6.34                           | Building 720,<br>open storage<br>areas X08 and<br>X09, open land<br>area surrounding<br>Buildings 720<br>and 727 at the<br>northern end of<br>Parcel 33<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)<br><br>Site 80 (Fuel and<br>Cleaners<br>Dispensing<br>Building 720) | This subparcel is associated with Building 720, open storage areas X08 and X09, Site 80 (Fuel and Cleaners Dispensing Building 720), as well as the open land area surrounding Buildings 720 and 727 at the northern end of Parcel 33 extending from W.E. Freeman Drive to 6 <sup>th</sup> Street. The Depot created this subparcel in 2003 upon request from the DRC in order to facilitate transfer of this area. This area contains gravel areas where mission stock chemical items were stored in 55-gallon drums. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. According to interviews with Depot personnel, cleaners were not dispensed from Building 720; parts cleaning solutions were used in the building. No evidence was found of a 1,000-gallon waste oil tank inside Building 720. This subparcel also contained a 12,000-gallon diesel aboveground storage tank west of Building 720 that was removed in 1997. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Sites 70 and 71 are located throughout the MI. Site 80 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form of LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred on Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6**  
**SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>   | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|--|--|--|
| 34.1(4)                                       | 24,8                              | 4.0   | Building 360   | This subparcel is associated with Building 360. This building was constructed just before base closure and was not used for storage. There has been no documented release or disposal of hazardous substances or petroleum products; nor has there been migration from an adjacent property of hazardous substances or petroleum products. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on the remedial actions addressed by the MI RD. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred to change this subparcel from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005.                               | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 34.2(4)                                       | 24,7                              | 2.7   | Open land area surrounding Building 360<br>Site 70 (POL, Various Chemical Leaks, railroad tracks 1,2,3,4,5 and 6)<br>Site 71 (Herbicides, all railroad tracks)<br>Site 73 (2,4 dichlorophenoxy acetic acid, all grassed areas) | This subparcel is associated with the open land area surrounding Building 360. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contains grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. In October 1997, the BCT concurred to change this subparcel from Category 7 to Category 3 believing no remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2003, the BCT concurred to change this subparcel from Category 6 to Category 4 based on implementation of the LUCs. A FOST for this subparcel was signed in July 2004. CESAM anticipates executing a deed to DRC by end of 2005. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup>                                   | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION  |
|---|-----------------------------------|---|---|--|---|
| 35.1(4)   | 3,3                               | 0.02  | Building 1090   | This subparcel is associated with Building 1090 that was used to store paint thinner, lubricating oil, P-19 preservation oil, and corrosion preservation compound. In February 1999, the BCT concurred that this building be cleaned during the removal action for the surrounding area and to change the subparcel from Category 7 to Category 6. The Depot completed the removal action in August 2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. This subparcel is in the area of the MI for which the CERCLA remedy includes LUCs. The MI ROD calls for remedial action in the form LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 6 to Category 4 based on implementation of the LUCs. Anticipate completing a FOST for this subparcel in 2008.                                    | Building cleaned as part of non-time critical removal action in Parcels 28 and 35 completed in 2000. Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |
| 36.14 (4)   | 31,11                             | 0.33  | Pistol Range<br>Site 60 (Pistol<br>Range Impact<br>Area/Bullet Stop)<br><br>Site 84 (Old<br>Pistol Range<br>Building<br>1184/Temporary<br>Pesticide<br>Storage) | This subparcel is associated with Site 60 (Pistol Range Impact Area and Bullet Stop) and Site 85 (Pistol Range Building 1184/Temporary Pesticide Storage). The DF RI Report indicated several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential, recreational and industrial reuse. However, lead levels at the pistol range impact area did present unacceptable risks for residential reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. In February 2002, the BCT concurred to conduct a removal action at this subparcel, which was completed in March 2003. The DF ROD indicates no further action required for Sites 60 and 84. In 2004, the BCT concurred to change this subparcel from Category 6 to Category 4. A FOST for this subparcel was signed in March 2005. On September 27, 2005 DA signed the Letter of Assignment transferring 17.66 acres to DOI/NPS, which will deed the property to the City of Memphis Parks Department. | Non-time critical removal action of lead in soil at the backstop area of Site 60 and removal of Building 1184 completed in March 2003. DF ROD effective April 12, 2004 indicates no further remediation necessary for this subparcel.   |
| <b>Environmental Condition Category 5: No subparcels designated Category 5.</b> |                                   |   |   |  |   |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>a</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|---|--|--|
| <b>Environmental Condition Category 6:</b>    |                                   |   |   |  |  |
| 4.2(6)  | 31.7                              | 0.33  | Building 270  | This subparcel is associated with Building 270. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on potential for groundwater remedial action at this subparcel. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 4.4(6)PS/PR/HS<br>/HR                         | 30.9                              | 0.15  | Building 260<br>Site 30 (Paint<br>Spray Booth)<br>Site 41 (Satellite<br>Drum<br>Accumulation<br>Area) | This subparcel is associated with Building 260, Site 41 (Satellite Drum Accumulation Area) and Site 30 (Paint Spray Booth). The 1996 Final Environmental Baseline Survey determined this subparcel to be a Category 3 and the BCT concurred believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. No further action is required for Sites 30 and 41; however, these sites are located in areas of the MI for which the CERCLA remedy includes enhanced bioremediation of groundwater and LUCs. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION  |
|---|-----------------------------------|---|--|--|---|
| 4.5(6)  | 30.8                              | 3.2   | Building 261 and<br>area surrounding<br>buildings in<br>Parcel 4 | <p>This subparcel is associated with Building 261 and the open land area surrounding buildings in Parcel 4. This subparcel contains grassed areas that were historically sprayed with herbicides and pesticides. A 5,000-gallon heating oil tank was removed in July 1994 outside of Building 253. Two 12,000-gallon and one 20,000-gallon gasoline USTs were removed in 1986 south of Building 257. One 18,000-gallon and one 20,000-gallon gasoline USTs that were actually in Subparcel 4.6 replaced these tanks. These tanks were removed in June 1998. Soil sampling conducted in accordance with TN UST removal procedures indicated no release of gasoline or diesel. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.</p> | <p>Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy.</p> |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION <sup>c</sup><br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>d</sup>   | REMEDICATION/<br>MITIGATION   |
|---|--|---|--------------|--|---|
| 4.6(6)<br><br>Demolished<br>1999              | 29.9   | 0.25  | Building 254 | <p>This subparcel is associated with Building 254 and a portion of the open land area/underground storage tank (UST) field west of the building. The DRC demolished this building in 1999. The EBS visual inspection noted that petroleum products, oils, lubricants and antifreeze were stored in this building as well as leaking drums and ground staining. In addition, a 5-gallon diesel spill was reported on March 20, 1995, from a tank outside the southwest corner of Building 254. The Spill Team responded, applied absorbent and disposed of all residues in accordance with federal, state and local regulations. A 1,110-gallon gasoline tank was removed in December 1989 from the UST field. Two USTs were removed in 1998 from the UST field behind Building 254. In September 1997, the BCT changed this subparcel to Category 6 due to the scheduled UST removal project. Upon receipt of UST closure approval by TDEC-UST in December 1998, The BCT concurred to change this subparcel from Category 6 to Category 2 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 2 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.</p> | <p>Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy.</p> |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| 4.8(6)  | 30.9                              | 0.02  | Building 263<br>Site 68 (POL<br>Building 263, 20<br>by 40 feet) | This subparcel is associated with Building 263, which has been used as attendants' room for the dispensing of petroleum, oil and lubricant to vehicles and as a vehicle grease rack since the 1940s, and to Site 68 (POL-Building 263). Records do not indicate any release, disposal or migration. In addition, this building was fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. After the December 1997 BCT decision to change fumigated buildings to Category 1, the BCT concurred to change this subparcel to Category 3 based on the potential release and cleanup of petroleum products and antifreeze. In June 1998, the BCT again concurred to change this subparcel from Category 7 to Category 3 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Site 68 is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 4.9(6)  | 29.8                              | 1.4   | Pad 267<br>Site 58<br>(Pesticides,<br>Herbicides Pad<br>267)    | This subparcel is associated with Pad 267, the site of the former pesticide shop (Building T267) and Site 58 (Pesticides, Herbicides Pad 267). Pad 267 was a concrete slab that has been covered with asphalt and is currently used as a parking lot. Building T267 was used for storing and mixing of pesticides/herbicides. Rinse water from pesticide/herbicide spraying operations was reportedly dumped on the ground near the facility. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY   | BASIS*   | REMEDIATION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|--------------------------------|--|--|--|
| 4.10(6)                           | 31.7                              | 0.26                           | Building 273 and<br>the former<br>putting green<br><br>Site 59<br>(Pesticides,<br>Cleaners<br>Building 273)<br><br>Site 73 (2,4<br>dichlorophenoxy<br>acetic acid, all<br>grassed areas) | This subparcel is associated with Building 273 that was used for mixing golf course pesticides and herbicides and the former putting green. It is also associated with Site 59 (Pesticides, Cleaners Building 273). This subparcel includes grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Site 73 is located throughout the MI for which the selected CERCLA remedy includes LUCs. Site 59 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 4.11(6)<br><br>Demolished<br>1999 | 29.9                              | 0.22                           | Building 253<br><br>Site 40 (Safety<br>Kleen Unit)<br><br>Site 66 (POL<br>Building 253)  | This subparcel is associated with Building 253, Site 40 (Safety Kleen Unit) and Site 66 (POL Building 253). Petroleum products (55-gallon drums of hydraulic oil) and antifreeze were stored and used at Building 253. Records and visual evidence do not indicate any release, disposal or migration in this building. Safety Kleen prior to closure removed the Safety Kleen unit in September 1997. This building may have been fumigated. Air sampling conducted during the BRAC sampling effort indicated no human health hazards from fumigation. In February 1998, the BCT concurred to change this subparcel to Category 1. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs. Sites 40 and 66 are located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated October 20, 1998, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--------------|---|--|
| 4.12(6)<br>Demolished<br>1999                 | 31, 10                            | 0.18  | Building 251 | <p>This subparcel is associated with Building 251, demolished in 1999 during construction of the boulevard construction. Building 251 had a floor drain connected to the sanitary sewer. One surface soil sample was taken from the sump beneath the floor drain. Results indicate elevated concentrations of many metals and PAHs. The Preliminary Risk Evaluation indicated these concentrations had a risk ratio above acceptable levels for residential and industrial worker scenarios. In December 1997, the BCT recommended that the sump be cleaned and, if appropriate, grouted closed and that upon completion of this action, the subparcel should change to a Category 4. The Depot completed the action in January 1998, and The BCT concurred to change this subparcel from Category 7 to Category 4 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 4 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.</p> | <p>Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI ROD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy.</p> |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION <sup>a</sup><br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|--|---|---|---|--|
| 4.13(6)                                       | 31,8   | 0.18  | Building 265  | This subparcel is associated with Building 265 that has a floor drain that is connected to the sanitary sewer. One surface soil sample was taken from the sump beneath the floor drain. Results indicate elevated concentrations of many metals and PAHs. The Preliminary Risk Evaluation indicated these concentrations had a risk ratio above acceptable levels for residential and industrial worker scenarios. In May 1998, the BCT recommended that the sump be cleaned and, if appropriate, grouted closed and that upon completion of this action, the subparcel should change to a Category 4. The Depot completed the action in June 1998 and the BCT concurred to that this subparcel change from Category 7 to Category 4 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 4 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 5.1(6)  | 29,7   | 0.49  | Building 272 and surrounding open land area<br><br>Site 73 (2,4 dichlorophenoxy acetic acid, all grassed areas) | This subparcel is associated with Building 272 and the surrounding open land area. This subparcel contains grassed areas (Site 73) that were historically sprayed with herbicides and pesticides. In September 1997, The BCT concurred to change this subparcel from Category 7 to Category 3 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Site 73 is located throughout the MI for which the selected CERCLA remedy includes LUCs. This subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 6 based on the remedial actions that will be addressed by the MI RD. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| 5.2(6)  | 29,7                              | 1.5   | Building 274 and<br>open land area<br>surrounding<br>Building 274<br><br>Site 48 (Former<br>PCB<br>Transformer<br>Storage Area)   | This subparcel is associated with Building 274, "J" Street Café, and the open land area surrounding the building. This subparcel is also associated with Site 48 (Former PCB Transformer Storage Area). Building 274 was constructed after transformer storage ceased. In 1997, surface soil samples were collected from the grassy areas directly outside of Building 274. Sample results indicated levels of PCBs and dieldrin exceeding BCT screening criteria. The DRC identified this subparcel as a high priority for reuse. In 1997, the BCT concurred to conduct a non-time critical removal action at this subparcel and to change this subparcel to a Category 6. The Depot completed the removal action in 1998. In May 1999, the BCT concurred that the removal action was complete and to change this subparcel from Category 6 to Category 4 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Site 48 is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 4 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Non-time critical removal action completed in 1998. Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 24.2(6)                                       | 11,6                              | 9.99  | Open storage<br>areas X02 and<br>X03<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks) | This subparcel is associated with open storage areas X02 and X03, which were used for storage of POLs and flammable materials in 55-gallon drums until 1988. The areas then became steel storage. This subparcel contains railroad tracks (Sites 70 and 71), open storage areas and other gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Sites 70 and 71 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. This subparcel also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy.   |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDICATION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|---|
| 24.3(6)                                       | 11,7                              | 3.9   | Buildings 770<br>and 771, and<br>open land area<br>surrounding<br>these buildings<br><br>Site 34 (Building<br>770<br>Underground Oil<br>Storage Tanks -<br>removed in<br>1989)<br><br>Site 30 (Paint<br>Spray Booth)<br><br>Site 40 (Safety<br>Kleen Units)<br><br>Site 41 (Satellite<br>Drum<br>Accumulation<br>Area) | This subparcel is associated with Site 34 (Building 770 Underground Oil Storage Tanks), Site 30 (Paint Spray Booth), Site 40 (Safety Kleen Units) and Site 41 (Satellite Drum Accumulation Area) at Buildings 770 and T771. The EBS visual inspection noted that hazardous materials (antifreeze, paint, solvents, Safety Kleen) and petroleum products were stored in Building 770. Three spills are documented from July 1990 through August 1993. The Spill Team responded, took appropriate action and disposed of all residues in accordance with federal, state and local regulations. Several tanks have been removed, including: an 11,155-gallon diesel tank removed in July 1994; an 11,155-gallon fuel oil tank removed in July 1994; a 10,000-gallon fuel oil tank removed in July 1994; a 440-gallon gasoline tank removed in December 1989; and two 1,000-gallon used motor oil tanks removed in December 1989. Building 770 has an oil/water separator that was pumped out quarterly and a floor drain. The EBS visual inspection noted oil staining on the floor of Building T771. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Sites 34, 30, 40, 41 and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. The MI ROD calls for remedial actions in the form of LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI ROD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>   | REMEDIATION/<br>MITIGATION  |
|---|-----------------------------------|---|--------------|--|---|
| 25.1(6)HS/HR<br>demolished<br>2002            | 9.4                               | 6.2   | Building 873 | <p>This subparcel is associated with Building 873. Building 873 stored hazardous materials such as chlorinated solvents, corrosives, petroleum, oils and lubricants. The DRC demolished Building 873 in 2002. The southern end of the building and the gravel area east of the building were used as the hazardous materials recoupment area (remove hazardous materials from damaged containers then repack the materials) until the current Recoup Building was constructed in 1987/1988. Thirteen spills are documented from March 10, 1990 through November 29, 1993 and included tetrachloroethylene, sulfuric acid, hydraulic fluid and descaling compound. The Spill Team responded, took the appropriate action and disposed of all residues in accordance with federal, state and local regulations. In September 1997, the BCT concurred to change this subparcel from Category 7 to Category 4 based on the cleanup of the spills and believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. The MI ROD calls for remedial actions in the form of LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 4 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.</p> | <p>Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy.</p> |

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**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY  | BASIS*   | REMEDIAL ACTION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|--------------------------------|---|--|--|
| 25.2(6)<br>demolished<br>2002     | 8,7                               | 12.0                           | Building 875 and<br>open land area<br>surrounding<br>Buildings 873<br>and 875<br><br>Site 27 (Former<br>Recoupment<br>Area, Building<br>873)<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks) | This subparcel is associated with Building 875, the open land area surrounding Buildings 873 and 875, and Site 27 (Former Recoupment Area, Building 873). The DRC demolished Building 875 in 2002. This subparcel also contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. A 1,000-gallon heating oil tank was closed in place in July 1994 outside Building 875. The Depot completed soil removal at Site 27 in 1985 as part of pre-RI activities. The PRE identified this subparcel for potential removal action. In September 1997, the BCT concurred to change this subparcel from Category 7 to Category 6. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse; therefore, no removal action occurred. The report indicated the constituents did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Sites 70 and 71 are located throughout the MI, Site 27 and this subparcel are located in the area of the MI, for which the selected CERCLA remedy includes LUCs. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Pre-RI activities included soil removal at Site 27 completed in 1985. Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 26.1(6)                           | 6,9                               | 4.7                            | Open land area<br>surrounding<br>Building 970<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks)  | This subparcel is associated with the open land area surrounding Building 970. This subparcel contains railroad tracks (Sites 70 and 71) and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Sites 70 and 71 are located throughout the MI for which the selected CERCLA remedy includes LUCs. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy.   |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY                                | BASIS*   | REMEDIATION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|--------------------------------|---|--|--|
| 26.2(6)                           | 6,4                               | 6.3                            | Building 970                            | This subparcel is associated with Building 970. An oil-fired generator that had leaked oil onto the concrete pad was observed at Building 970, Section 6, during the EBS visual inspection. This release consisted of only petroleum products. Absorbent was applied and the residue disposed in accordance with federal, state and local regulations. In October 1997, the BCT concurred to change this subparcel from Category 7 to Category 2 based on the cleanup of a petroleum product and believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 2 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 27.1(6)                           | 4,9                               | 4.4                            | Open land area surrounding Building 972 | This subparcel is associated with the open land area surrounding Building 972. This subparcel contains gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| 27.2(6)                                       | 4,4                               | 6.3   | Building 972<br>Site 84<br>(Flammables,<br>Solvents, Waste<br>oil, etc.)  | This subparcel is associated with Building 972 and Site 84 (Flammables, Solvents, Waste Oil, etc., Building 972). The building once stored flammable materials, solvents and waste oil as an open shed building. Building 972 was converted to a closed building and stored and constructed wooden packing materials involving the use of petroleum products (oils and lubricants), paints and spray adhesives. Small operational spills occurred and were cleaned when they occurred. In addition, oil stained areas were observed in the building during the EBS visual inspection. The building recently had the floor cleaned and resealed, which removed the stains. In October 1997, the BCT concurred to change this subparcel from Category 7 to Category 4 based on the cleanup of operational spills and believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Site 84 and Building 970 are located in the area of the MI for which the selected CERCLA remedy includes LUCs and overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 4 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 28.1(6)                                       | 2,7                               | 6.0   | Area X04<br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br>Site 71<br>(Herbicides, all<br>railroad tracks) | This subparcel contains the open storage area X04 north of Building 1089. This subparcel contains railroad tracks (Sites 70 and 71) that were historically sprayed with pesticides, herbicides, and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. According to Depot personnel, this area was used for the storage of feed stock material and not hazardous materials. In October 1997, the BCT concurred to change this subparcel from a Category 7 to a Category 3 believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Sites 70 and 71 are located throughout the MI for which the selected CERCLA remedy includes LUCs. This subparcel is in the area of the MI for which the selected CERCLA remedy includes LUCs and it overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.   | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

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**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>   | REMEDATION/<br>MITIGATION  |
|---|-----------------------------------|---|--|--|--|
| 28.2(6)                                       | 3,5                               | 6.31  | Building 1089<br>and surrounding<br>open land area<br><br>Site 89 (Acids,<br>Building 1089)  | This subparcel is associated with Building 1089, the open land area surrounding Building 1089 and Site 89 (Acids, Building 1089). Building 1089 was used to store acids, paints and cleaning solvents. Surface soil sample results indicated lead, arsenic and chromium levels exceeding BCT screening criteria. In October 1997, the BCT concurred to conduct a removal action at this subparcel and to change it from Category 7 to Category 6. Building 1089 was decontaminated by vacuuming to remove free dust and pressure washing. The surface soil in areas outside the southern end of the building were excavated to a depth of one foot and replaced with clean backfill. The excavated soil was disposed off-site as special waste. The Depot completed this non-time critical removal action in 2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Site 89 is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Non-time critical removal action completed in 2000. Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 31.1(6)                                       | 6,13                              | 23.7  | Open storage<br>areas X17, X19<br>and X21<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks) | This subparcel is associated with open storage areas X17, X19 and X21, and a portion of X23 and X15. These areas were used to store a variety of materials including POLs and hazardous materials. Records indicate that during the 1970s hazardous materials were recouped under a lean-to at the corner of 21st Street and E Street in the X21 area. This subparcel contains railroad tracks (Sites 70 and 71) and open storage areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Sites 70 and 71 are located throughout the MI for which the selected CERCLA remedy includes LUCs. This subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy.   |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| 32.1(6)                                       | 9,14                              | 4.6   | Areas X13 and<br>X15<br><br>Site 70 (POL,<br>Various<br>Chemical Leaks,<br>railroad tracks<br>1,2,3,4,5 and 6)<br><br>Site 71<br>(Herbicides, all<br>railroad tracks) | This subparcel is associated with open storage areas X13 and X15 to the west and north of Building 835. These areas were used to store a variety of materials including POLs and hazardous materials. This subparcel contains railroad tracks and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks (Sites 70 and 71) and ballasts were removed in 1999/2000. In October 1997, the BCT concurred to change this subparcel from Category 7 to Category 3 believing no remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Sites 70 and 71 are located throughout the MI for which the selected CERCLA remedy includes LUCs. This subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 32.2(6)                                       | 9,13                              | 3.6   | Building 835  | This subparcel is associated with Building 835. Thirteen spills were reported from March 9, 1991 to May 26, 1995 for Building 835. Materials spilled include battery acid, hydrochloric acid, sulfuric acid, herbicide, muratic acid, and transmission fluid. The Spill Team responded, took the appropriate action and disposed of all residues in accordance with federal, state and local regulations. Also, air sampling conducted in this building to assess the impact from storage of hazardous materials indicated no human health hazards. In September 1997, the BCT concurred to change this subparcel from Category 7 to Category 4 based on cleanup of these spills and believing no further remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 4 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY  | BASIS*   | REMEDIAL ACTION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|--------------------------------|---|--|--|
| 32.3(6)                           | 9, 10                             | 2.3                            | Building 865 and<br>surrounding<br>open land area<br><br>Site 28<br>(Recoupment<br>Area, Building<br>865) | This subparcel is associated with Site 28 (Recoupment Area, Building 865) and the surrounding open land area. Building 865 was a handling area used to transfer hazardous substances/wastes or petroleum products/wastes from damaged or leaking containers into undamaged containers. A small fenced-in area is located on the southwest side of Building 865. The EBS visual inspection noted that this area contained various drums (5-, 10-, 15-, and 55-gallon) of old chemicals (oil, methyl ethyl ketone, and isopropanol), some with protruding rusting tops. This subparcel also includes gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Site 28 is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 33.5(6)<br><br>demolished<br>2002 | 11, 10                            | 0.02                           | Building 860  | This subparcel is associated with Building 860. The DRC demolished this building in 2002. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risk for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater and to prevent residential or daycare operations reuse. Although EPA concurred via letter dated March 13, 1997, with the CERFA letter report that designated this subparcel Category 1, the BCT concurred in 2002 to change this subparcel from Category 1 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.  | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY   | BASIS*   | REMEDIATION/<br>MITIGATION  |
|-----------------------------------|-----------------------------------|--------------------------------|--|--|---|
| 33.6(6)HR                         | 13.13                             | 0.25                           | Spill area west of<br>Building 737<br><br>Site 44 (Former<br>Wastewater<br>Treatment Unit) | <p>This subparcel is associated with the open land area outside Building 737 and Site 44 (Former Wastewater Treatment Unit). A 50-gallon mineral oil (&lt;1 ppm PCB) spill was reported in 1995 outside of Building 737. The Spill Team responded, excavated contaminated material and disposed of it in accordance with federal, state and local regulations. Site 44 (Former Waste Water Treatment Unit) was a temporary unit used to treat rainwater mixed with PCP-contaminated oil and rinse waters from decontamination during the soil removal of the PCP dip vat system in 1985. The November 1996 Environmental Baseline Survey categorized this subparcel as a Category 4. In 1997 the ECP category definitions changed so that Category 4 was no longer appropriate for petroleum product releases. In December 1998, the BCT concurred Category 4 was not appropriate, as the release involved a petroleum product, and agreed to change the subparcel from Category 4 to Category 2 believing no remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. No further action is required for this site; however, Site 44 and this subparcel area located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial actions in the form LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 2 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008.</p> | <p>Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005.</p> |

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**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY     | BASIS <sup>c</sup>   | REMEDIAL/ MITIGATION   |
|---|-----------------------------------|---|--------------|--|--|
| 33.8(6)<br>demolished<br>2002                 | 10,10                             | 0.03  | Building 863 | This subparcel is associated with Building 863. The building contained a battery charging station. The DRC demolished this building in 2002. Material handling equipment (forklifts) was also stored in the building. The EBS visual inspection observed considerable oil stains on the concrete floor of Building 863. The BCT requested samples be taken from a nearby drainage point to determine if any releases occurred from the building. Samples results indicated no levels exceeding the BCT screening criteria. In February 1999, the BCT concurred to change this subparcel from Category 7 to Category 3 believing no remedial action was required. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. This building is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 3 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

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**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION:<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|------------------------------------|---|--|---|--|
| 33.9(6)<br>860 and 863<br>demolished<br>2002  | 12.14                              | 26.91                                       | Open storage areas X05, X06, X07, X10 and X11, Building X11, Building 737, and the open land area surrounding Buildings 737, 860 and 863<br><br>Site 42 (Former Pentachlorophenol (PCP) Dip Vat Area)<br><br>Site 43 (Former Underground PCP Tank Area)<br><br>Site 44 (Former Contaminated Soil Staging Area)<br><br>Site 45 (Former Contaminated Soil Staging Area)<br><br>Site 46 (Pallet Drying Area)<br><br>Site 47 (Former Contaminated Soil Drum Storage Area)<br><br>Site 70 (POL, Various Chemical Leaks, railroad tracks 1,2,3,4,5 and 6)<br><br>Site 71 (Herbicides, all railroad tracks)<br><br>Site 73 (2,4 dichlorophenoxy acetic acid, all grassed areas) | This subparcel is associated with open storage areas X05, X06, X07, X08, X09, X10 and X11; Building 737; and the open land area surrounding Buildings 737, 860 and 863. The DRC demolished Buildings 860 and 863 in 2002. This subparcel is associated with Site 42 (Former Pentachlorophenol (PCP) Dip Vat Area), Site 43 (Former Underground PCP Tank Area), Site 44 (Former Contaminated Soil Staging Area), Site 45 (Former Contaminated Soil Drum Storage Area), Site 46 (Pallet Drying Area) and Site 47 (Former Contaminated Soil Drum Storage Area). In 1985, the PCP dip vat, underground storage tank, associated piping and impacted soil were removed to a depth of 10 feet. Soil with PCP concentrations greater than 200 ppb remained beneath the excavated area. This subparcel contains railroad tracks (Sites 70 and 71), open storage areas and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP and grassed areas (Site 73) that were historically sprayed with pesticides and herbicides. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contained a 200-gallon gasoline underground storage tank adjacent to Building 754 that was removed in 1986. Hazardous substances and petroleum products were historically stored in open storage areas X05, X06, X07, X10, X11 and X12. Transformers containing mineral oil (non-PCB and PCB containing) were also stored in open storage area X07. Leaking 55-gallon drums of ethyl acetate/naphtha aromatic were reported to the Spill team, which responded, took the appropriate actions and disposed of all residues in accordance with federal, state and local regulations. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Subsequent groundwater sampling data indicated the groundwater remedial action would not be implemented at this subparcel. Sites 70, 71 and 73 are located throughout the MI and this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs. No further action is required for Sites 42, 43, 44, 45, 46 and 47; however, these sites and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs. The MI ROD calls for remedial actions in the form of LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | During pre-RI activities in 1985, the PCP dip vat, underground storage tank, associated piping and impacted soil were removed to a depth of 10 feet. Soil with PCP concentrations greater than 200 ppb remained beneath the excavated area. Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION  |
|---|-----------------------------------|---|--|--|---|
| 35.2(6)<br>demolished<br>2000                 | 3.5                               | 0.43  | Building 1084<br>and open land<br>area surrounding<br>this building<br><br>Site 29 (Former<br>Underground<br>Waste Oil<br>Storage Tank)<br><br>Site 87 (DDT,<br>banned<br>pesticides,<br>Building 1084)<br><br>Site 88 (POL,<br>Building 1085) | This subparcel is associated with Site 88, an old concrete grease rack and storage area for POLs at Building 1085 (removed 2000); Site 29, a UST associated with the grease rack (removed 1988); Site 87 (Building 1084, removed 2000), in the past used for storage of DDT and other pesticides; and the open land area surrounding these buildings. This subparcel contains gravel areas that were sprayed with herbicides, pesticides and waste oil containing PCP. Samples were collected from the gravel areas and results indicated levels of metals and PAHs at levels exceeding BCT screening criteria. In February 1999, the BCT concurred to change this subparcel from Category 7 to Category 6 and proceed through the removal action process. The Depot completed the removal action that included demolishing Building 1084 and removing the concrete slab and hydraulic lift associated with Site 88 in August 2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. Sites 29, 87 and 88 as well as this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overrules the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The selected groundwater treatment will address releases from Site 29. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Non-time critical removal action completed in 2000. Per MI ROD effective September 6, 2001, LUCs apply to this subparcel and Sites 87 and 88. The selected groundwater treatment of enhanced bioremediation will address releases from Site 29. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overrules the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 35.3(6)                                       | 3.5                               | 0.22  | Building 1086<br>Site 30 (Paint<br>Spray Booths) | This subparcel is associated with Building 1086 that contains a spray paint booth and stored hazardous materials from 1959 through 1983/1984. This building also contains a sump. This subparcel is associated with Site 30 (Paint Spray Booths). Samples were collected from the sump, and results indicated levels of metals and naphthalene. The BCT determined that the sump should be cleaned during removal actions at the surrounding parcels. In February 1999, the BCT concurred to change this subparcel from Category 7 to Category 6 and proceed through the removal action process. The Depot completed the removal action in August 2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. No further action required for Site 30; however, this subparcel is located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Non-time critical removal action completed in 2000. Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDATION/<br>MITIGATION  |
|---|-----------------------------------|---|--|---|--|
| 35 4(6)                                       | 3, 3                              | 4.9   | Building 1087,<br>former sandblast<br>waste drum<br>storage area and<br>the surrounding<br>open land area<br><br>Site 31 (Former<br>Spray Paint<br>Booth, Building<br>1087)<br><br>Site 33<br>(Sandblasting<br>Waste Drum<br>Storage Area<br>shed south of<br>Building 1088) | This subparcel is associated with Site 31 (Former Spray Paint Booth in Building 1087) which was used for major stock primer and enamel spray painting operations, and Site 33 (Sandblasting Waste Drum Storage) which consists of an open-sided, metal roof shed with a gravel floor south of Building 1088 and was historically used to store 55-gallon drums containing spent sandblasting material. This subparcel also includes gravel areas that were historically sprayed with herbicides and pesticides. Surface soil samples results indicated levels of PAHs, pesticides and metals exceeding BCT screening criteria. At the February 1999 meeting, the BCT concurred that this subparcel should change from Category 7 to Category 6 and proceed through the removal action process. Building 1087 was decontaminated by vacuuming to remove free dust and pressure washing. The surface soil outside Buildings 1087 and 1088 was excavated to a depth of one foot and replaced with clean backfill. The excavated soil was disposed off-site as special waste. The Depot completed this non-time critical removal action in 2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. No further action required for Sites 31 and 33; however, the sites and this subparcel are located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Non-time critical removal action completed in 2000. Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>   | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|---|--|--|
| 35.5(6)                                       | 2.2                               | 4.0   | Buildings 1088<br>and 1091 and<br>surrounding<br>open land area<br>extending to<br>Perry Road<br><br>Site 32<br>(Sandblasting<br>Waste<br>Accumulation<br>Area) | This subparcel is associated with Site 32 (Sandblasting Waste Accumulation Area), Buildings 1088 and 1091 as well as the open land area surrounding these buildings but not included in existing subparcels. Sample results associated with Site 32 indicated levels of chromium, lead, arsenic, and PAHs exceeding BCT screening criteria. In October 1997, the BCT concurred to change this subparcel from Category 7 to Category 6 and proceed through the removal action process. Building 1088 was decontaminated by vacuuming to remove free dust and pressure washing. The surface soil outside the building was excavated to a depth of one foot and replaced with clean backfill. The Depot completed the non-time critical removal action in August 2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel may contain VOC levels exceeding MCLs. No further action required at Site 32; however the site and this subparcel area located in the area of the MI for which the selected CERCLA remedy includes LUCs and it also overlies the groundwater treatment area where enhanced bioremediation is the selected CERCLA remedy. The MI ROD calls for remedial actions in the form of enhanced bioremediation of groundwater as well as LUCs to prevent use of fluvial aquifer groundwater, and to prevent residential or daycare operations reuse. In 2002, the BCT concurred that this subparcel remains Category 6 based on the remedial actions. Anticipate completing a FOST for this subparcel in 2008. | Non-time critical removal action completed in 2000. Per MI ROD effective September 6, 2001, other than LUCs no further action required. LUCs implemented via LUCIP portion of 2004 MI RD and submission of MI Notice of Land Use Restrictions in January 2005. This subparcel overlies the groundwater treatment area where enhanced bioremediation was selected as the CERCLA remedy. |
| 36.1(6)                                       | 30.9                              | <0.01                                       | DF<br><br>Site 2 (Ammonia<br>Hydroxide and<br>Acetic Acid<br>Burial Site)   | This subparcel is associated with Site 2 (Ammonia Hydroxide and Acetic Acid Burial Site) where a seven-pound jug of ammonia hydroxide and a one-gallon bottle of acetic acid were buried. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and DF Disposal Sites indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs. And it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010.  | Per DF ROD effective April 12, 2004, other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy   |

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**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION <sup>a</sup><br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>   | REMEDIATION/<br>MITIGATION   |
|---|--|---|---|--|--|
| 36.2(6)                                       | 30.9   | 0.01  | DF<br>Site 3 (Mixed<br>Chemical Burial<br>Site, ortho-<br>tolidine dihydro-<br>chloride, 1955)  | This subparcel is associated with Site 3 (Mixed Chemical Burial Site) where 3,000 quarts of unknown chemicals and five cubic feet of ortho-tolidine dihydrochloride were buried in 1955. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and DF Disposal Sites RD indicate excavation, transportation and disposal is required for this site. This site also is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy, but remediation is not attached to this site. Excavation began in March 2005, but was delayed due to discovery of intact glass vials filled with clear liquid, identified by analysis to be ortho-tolidine. Excavation will continue, and should be completed, in 2006 upon completion of work plan and health and safety plan addenda. Anticipate completing a FOST for this subparcel in 2010.  | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD excavation, transportation and disposal as well as LUCs required at this site. Excavation began in March 2005. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |
| 36.3(6)                                       | 30.9   | 0.02  | DF<br>Site 4 (POL<br>Burial Site,<br>thirteen 55-gallon<br>drums of oil,<br>grease and<br>paint)<br>Site 90 (SWMU<br>4.1/ POL Burial<br>Site, thirty-two<br>55-gallon drums<br>of oil, grease and<br>thinner) | This subparcel is associated with Site 4 (POL Burial Site, thirteen 55-gallon drums of oil, grease and paint) and Site 90 (SWMU 4.1/ POL Burial Site, thirty-two 55-gallon drums of oil, grease and thinner). Materials were buried in two adjacent trenches. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and DF Disposal Sites RD indicate excavation, transportation and disposal of Site 4. SVE, ZVI and PRB are required to address releases from Sites 4 and 90 (SWMU 4.1). This site also is located in the DF disposal area where the selected CERCLA remedy includes LUCs. Excavation at Site 4 completed in April 2005. Two RDs are being prepared to address these sites: Source Areas RD and Off Depot Groundwater RD. Currently conducting Source Areas Remedial Design Investigation to delineate treatment areas and will conduct a PRB installation field trial beginning in 2006. Anticipate completing a FOST for this subparcel in 2010. | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD excavation, transportation and disposal of Site 4. SVE, ZVI and PRB as well as LUCs required at these sites. Excavation completed in April 2005.   |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION <sup>d</sup>  |
|---|-----------------------------------|---|--|--|--|
| 36.4(6)                                       | 30.9                              | <0.01                                       | DF<br>Site 5 (Methyl<br>Bromide Burial<br>Site A, 3 cubic<br>feet, 1955) | This subparcel is associated with Site 5 (Methyl Bromide Burial Site) where three cubic feet of methyl bromide were buried. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and DF Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010.                        | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |
| 36.5(6)                                       | 30.8                              | <0.01                                       | DF<br>Site 7 (Nitric Acid<br>Burial Site, 1954)                          | This subparcel is associated with Site 7 (Nitric Acid Burial Site) where 1,700 quart bottles of nitric acid were buried. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010.                              | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |
| 36.6(6)                                       | 30.8                              | <0.01                                       | DF<br>Site 8 (Methyl<br>Bromide Burial<br>Site B, 1954)                  | This subparcel is associated with Site 8 (Methyl Bromide Burial Site) where 3,768 one-gallon cans of methyl bromide were buried to a depth of 7 feet. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010. | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIAL/ MITIGATION  |
|---|-----------------------------------|---|---|---|---|
| 36.7(6)                                       | 31,9                              | <0.01                                       | DF<br>Site 11<br>(Trichloroacetic<br>Acid Burial,<br>1965)                        | This subparcel is associated with Site 11 (Trichloroacetic Acid Burial Site) where 1,433 one-ounce bottles of trichloroacetic acid were buried at a depth of 6 feet. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. Releases from this site will be addressed by SVE, ZVI and PRB. This site also is located in the DF disposal area where the selected CERCLA remedy includes LUCs. Currently conducting Source Areas Remedial Design Investigation to delineate treatment areas and will conduct a PRB installation field trial beginning in 2006. Anticipate completing a FOST for this subparcel in 2010.         | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. Releases from this unit will be addressed by SVE, ZVI and PRB. |
| 36.8(6)                                       | 27,8                              | 0.06  | DF<br>Sites 12 and<br>12.1 (Sulfuric<br>and Hydrochloric<br>Acid Burial,<br>1967) | This subparcel is associated with Sites 12 and 12.1 (Sulfuric and Hydrochloric Acid Burial) where 30 pallets of discarded acid containers were buried at a depth of 8 feet. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. Releases from Site 12 will be addressed by SVE, ZVI and PRB. These sites also are located in the DF disposal area where the selected CERCLA remedy includes LUCs. Currently conducting Source Areas Remedial Design Investigation to delineate treatment areas and will conduct a PRB installation field trial beginning in 2006. Anticipate completing a FOST for this subparcel in 2010. | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at these sites. Releases from Site 12 will be addressed by SVE, ZVI and PRB. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDATION/<br>MITIGATION  |
|---|-----------------------------------|---|--|---|--|
| 36.9(6)                                       | 28,8                              | 0.01  | DF<br>Site 13 (Mixed<br>Chemical Burial,<br>Acid, 900<br>pounds,<br>unnamed solids,<br>8,100 pounds) | This subparcel is associated with Site 13 (Mixed Chemical Burial) where 32 cubic yards of mixed chemicals and acids and 8,100 pounds of unnamed solids were buried at a depth of 8 feet. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate excavation, transportation and disposal as well as LUCs required at this site. It is also located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010. | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD excavation, transportation and disposal as well as LUCs are required at this site. Excavation completed in April 2005. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |
| 36.10(6)                                      | 28,8                              | <0.01                                       | DF<br>Site 16<br>(Unknown Acid<br>Burial Site, 1969)<br>Site 93 (SWMU<br>16.1/Acid Burial<br>Site)   | This subparcel is associated with Sites 16 (Unknown Acid Burial Site, 1969) and 93 (SWMU/16.1 Unknown Acid Burial Sites) where unknown amounts of unnamed acid were buried. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010.  | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy.   |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS*   | REMEDIATION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|---|---|--|--|
| 36.11(6)                          | 28.8                              | <0.01                                       | DF<br><br>Site 17 (Mixed<br>Chemical Burial<br>Site C, 1969)  | This subparcel is associated with Site 17 (Mixed Chemical Burial Site C) where an unknown amount of chemicals and medical supplies were buried. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs. Releases from this unit are addressed by SVE, ZVI and PRB. Currently conducting Source Areas Remedial Design Investigation to delineate treatment areas and will conduct a PRB installation field trial beginning in 2006. Anticipate completing a FOST for this subparcel in 2010.   | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. Releases from this unit will be addressed by SVE, ZVI and PRB.  |
| 36.15(6)                          | 29.10                             | 15.84                                       | Open land area<br>surrounding<br>disposal pits and<br>extending along<br>the northern<br>fenceline to Hays<br>Rd (area situated<br>over<br>groundwater<br>contamination)<br><br>Site 18 (Plane<br>Crash Residue)<br><br>Site 22<br>(Hardware Burial<br>Site, nuts and<br>bolts) | This subparcel is associated with the open land area surrounding the disposal pits, excluding existing subparcels and extending along the northern fenceline to Hays Rd. The boundaries for this subparcel are on the north by the fence line, on the east by Subparcels 36.30 and 36.32, on the south by the southern edge of the asphalt pad (intersecting by but excluding Subparcel 36.29), and on the west by the fence line. This subparcel is associated with Site 18 (Plane Crash Residue) and Site 22 (Hardware Burial Site, nuts and bolts). This area contains grassy areas that were historically sprayed with pesticides and herbicides. The DF RI Report indicated several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that VOCs in subsurface soil impacting indoor air did present unacceptable risks for industrial (along the northern fence line only) and residential reuse, that groundwater beneath this subparcel contains VOC levels exceeding MCLs, and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for Sites 18 and 22; however, this subparcel is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010. | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION  |
|---|-----------------------------------|---|--|---|---|
| 36.16(6)                                      | 29.9                              | 0.08  | DF<br>Site 1 (Mustard<br>and Lewsite<br>Training Sets<br>Burial Site)        | This subparcel is associated with Site 1 (Mustard and Lewsite Training Sets Burial Site) where nine sets of Chemical Agent Identification Sets were reportedly buried in 1955. In 1998, sampling of surface soil, subsurface soil and groundwater around this site indicated no migration of chemical warfare materiel. In order to reduce potential risk from chemical warfare materiel, the Army determined the CWM must be removed. In June 1999, the BCT concurred to conduct a removal action and to change this subparcel from Category 7 to Category 6. The Depot completed the removal action in May 2001. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil that impact indoor air and in groundwater at levels exceeding MCLs) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. In 2002, the BCT concurred that this subparcel remains Category 6 based on the anticipated need for further remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs. And it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010. | CWM removal action completed in 2001. Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This site overlies area where SVE/ZVI was selected as part of the CERCLA remedy. |
| 36.17(6)                                      | 30.9                              | 0.07  | DF<br>Site 9 (Ashes<br>and Metal Burial<br>Site burning pit<br>refuse, 1955) | This subparcel is associated with Site 9 (Ashes and Metal Burial Site) where debris from Site 24 (Former Burn Site) was buried. The CWM field investigation determined this area does not contain CWM. See Appendix E for the documentation regarding this determination. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010.  | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy.  |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE<br>(acres) | FACILITY                         | BASIS*  | REMEDIAL/<br>MITIGATION  |
|-----------------------------------|-----------------------------------|--------------------------------|----------------------------------|---|--|
| 36.18(6)                          | 28.9                              | 0.61                           | DF<br>Site 86 (Food<br>Supplies) | This subparcel is associated with Site 86 (Food Supplies) where food items with expired shelf life were buried. Reportedly, CAIS sets were also buried here. The CEHNC ordnance division and the CWM field investigation contractor have determined this area does not contain CWM. See Appendix E for documentation regarding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010.   | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |
| 36.19(6)                          | 28.9                              | 0.02                           | DF<br>Site 86 (Food<br>Supplies) | This subparcel is associated with Site 86 (Food Supplies) where food items with expired shelf life were buried. Reportedly, CAIS sets were also buried here. The CEHNC ordnance division and the CWM field investigation contractor have determined this area does not contain CWM. See Appendix E for documentation regarding this determination. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010. | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION <sup>b</sup><br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|--|---|--|---|--|
| 36.20(6)                                      | 31.9   | 0.01  | DF<br>Site 6 (40,037<br>units eye<br>ointment Burial<br>Site, 1955)                      | This subparcel is associated with Site 6 (40,037 units of eye ointment) were buried here in 1955. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010.  | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy.   |
| 36.21(6)                                      | 30.8   | 0.07  | DF<br>Site 10 (Solid<br>Waste Burial Site<br>near MW10;<br>metal, glass,<br>trash, etc.) | This site is associated with Site 10 and was discovered during the installation of monitoring well 10. Charred debris was encountered. The DF RI Report indicated several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that VOCs in subsurface soil impacting indoor air did present unacceptable risks for industrial and residential reuse, that groundwater beneath this subparcel contains VOC levels exceeding MCLs, and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. This site also is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Excavation began in March 2005, but was delayed due to need for additional excavation that required a contract change order. Excavation will continue, and should be completed, in 2006. Anticipate completing a FOST for this subparcel in 2010. | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD excavation, transportation and disposal as well as LUCs required at this site. Excavation began in March 2005. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL* | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>   | REMEDIAL ACTION/<br>MITIGATION   |
|-----------------------------------|-----------------------------------|---|---|--|--|
| 36.22(6)                          | 28.8                              | 0.01  | DF<br>Site 14<br>(Municipal Waste<br>Burial Site B<br>near MW12,<br>food, paper<br>products)  | This municipal waste burial site reportedly contains paper, food, and other unnamed materials. This subparcel is associated with Site 14. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010.   | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |
| 36.23(8)                          | 28.8                              | 0.08  | DF<br>Site 15 (Sodium<br>Burial Sites,<br>1968)<br><br>Site 91 (SWMU<br>15.1/Sodium<br>Phosphate<br>Burial, 1968)<br><br>Site 92 (SWMU<br>15.2/ 14 Burial<br>Pits: Na2PO4,<br>Sodium, Acid,<br>Medical<br>Supplies, and<br>Chlorinated lime,<br>1969) | This subparcel is associated with Site 15 (Sodium Burial Sites, 1968), Site 91 (SWMU 15.1/Sodium Phosphate Burial, 1968), Site 92 (SWMU 15.2/ 14 Burial Pits: Na2PO4, Sodium, Acid, Medical Supplies, and Chlorinated lime, 1969). Records indicate that one pallet each of sodium and sodium phosphate containers, and an unknown quantity of sodium, sodium phosphate, acid, chlorinated lime, and medical supplies were buried here in 1970. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010. | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY   | BASIS <sup>c</sup>  | REMEDIAL ACTION/<br>MITIGATION   |
|---|-----------------------------------|---|--|---|--|
| 36.28(6)                                      | 30.9                              | 0.11  | DF<br>Site 61 (Buried<br>Drain Pipe<br>Northwestern<br>Quadrant of DF) | This subparcel is associated with Site 61 (Buried Drain Pipe Northwest Quadrant), a concrete stormwater pipe installed in the mid-1950s that collects stormwater runoff from surrounding areas. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate no further action is required for this site; however, it is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Anticipate completing a FOST for this subparcel in 2010. | Per DF ROD effective April 12, 2004, and DF Disposal Sites RD other than LUCs no further action required at this site. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. |

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

| SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup>                                   | LOCATION<br>(x, y<br>coordinates) | APPROXIMATE<br>SIZE <sup>b</sup><br>(acres) | FACILITY  | BASIS <sup>c</sup>  | REMEDIATION/<br>MITIGATION   |
|---|-----------------------------------|---|---|---|--|
| 36 29(6)  | 23.9                              | 7.5   | DF<br>Site 23<br>(Construction<br>Debris and Food<br>Burial Site)<br><br>Site 24 (Former<br>Burial/Burn Site<br>and<br>Neutralization<br>Pit)<br><br>Site 63<br>(Fluorspar<br>Storage<br>southwestern<br>Quadrant of DF)<br><br>Site 64 (Bauxite<br>Storage, CC-2<br>burial site, and IA<br>Site 31<br>burning/disposal<br>of smoke pots,<br>CN grenades<br>and souvenir<br>ordnance) | <p>This subparcel is associated with Site 24 (Former Burn Site/Bomb Casing Burial Site), Site 23 (Construction Debris and Food Burial Site), Site 63 (Fluorspar Storage Southwestern Quadrant), and Site 64 (Bauxite Storage). In April 2004, DDC consolidated the CC-2 Impregnate Burial Site (86,000 pounds buried in 1947 per the Archive Search Report) and the 1981 Installation Assessment Site 31 (reportedly used for burning/disposal of smoke pots, CN (tear gas) grenades and souvenir ordnance) with Site 64. Neither the CC-2 nor the IA Site 31 were issued an IRP or DSERTS site number. Site 64 covered both sites until removed by DNSP in 1973. In 1946, railcars carrying captured German bomb casings containing sulfur mustard in route to Pine Bluff Arsenal, AR from Mobile, AL began leaking mustard. Upon examination of the cars, 29 bomb casings were identified as leaking. These casings were taken to one pit at DF and drained into and neutralized by a chlorinated lime (super tropical bleach) slurry. The drained casings were placed in the pit and destroyed by dynamite in case a burster remained intact. In 1998, sampling of surface soil, subsurface soil and groundwater around this site indicated no migration of chemical warfare materiel. In order to reduce potential risk from chemical warfare materiel, the Army determined the CWM must be removed. In June 1999, the BCT concurred to conduct a removal action at Site 24 and concurred to change this subparcel from Category 7 to Category 6. Beginning in August 2000 all 29 bomb casings were recovered from Site 24 and 900 cubic yards of soil contaminated with mustard degradation by-products were excavated and disposed offsite.</p> <p>Beginning in November 2000, 33 cubic yards of soil contaminated with mustard and degradation by-products were excavated from the neutralization pit and disposed offsite. The Depot completed the non-time critical removal action in May 2001. Site 63 includes 11 fluorspar mounds removed by DNSP by 1999. This subparcel includes 1 of those mound locations. The DF RI Report indicated several constituents exceeding BCT screening criteria (including VOCs in subsurface soil impacting indoor air) that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The report also indicated that groundwater beneath this subparcel contains VOC levels exceeding MCLs and that burial sites within the Disposal Area are not suited for utility workers because of possible disturbance of buried wastes. In 2002, the BCT concurred to change this subparcel from Category 7 to Category 6 based on the anticipated need for remedial actions. DF ROD and Disposal Sites RD indicate excavation, transportation and disposal of IA Site 31. No further action was required for Sites 23, 24, 63, 64 or the CC-2 site; however, this subparcel is located in the DF disposal area where the selected CERCLA remedy includes LUCs and it overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy. Excavation of IA Site 31 completed in April 2005. Anticipate completing a FOST for this subparcel in 2010.</p> | <p>All 29 bomb casings were recovered from Site 24 and 900 cubic yards of soil contaminated with mustard degraded by-products were excavated and disposed offsite. Beginning in November 2000, 33 cubic yards of soil contaminated with mustard and degradation by-products were excavated from the neutralization pit and disposed offsite. The Depot completed the non-time critical removal action in May 2001.</p> <p>Per DF ROD effective April 12, 2004, and DF Disposal Sites RD excavation, transportation and disposal required for IA Site 31. Other than LUCs no further action required at Sites 23, 24, 63, 64 or the CC-2 site.</p> <p>Excavation of IA Site 31 completed in April 2005. This subparcel overlies the subsurface soil remediation area where SVE/ZVI was selected as part of the CERCLA remedy.</p> |
| <b>Environmental Condition Category 7: No subparcels designated Category 7.</b> |                                   |   |   |   |  |

## Notes:

AST: Aboveground storage tank

**Defense Distribution Center (Memphis)**

Rev. 1 BRAC Cleanup Plan Version 9

DRMO:

Defense Reutilization and Marketing Office

PDO:

Property Disposal Office

July 2006

**TABLE 3-6  
SUBPARCEL DESCRIPTIONS**

|       |                                      |        |                                      |       |  |
|-------|--------------------------------------|--------|--------------------------------------|-------|--|
| BCT:  | BRAC Cleanup Team                    | EBS:   | Environmental Baseline Survey        | RAWP: | Remedial Action Work Plan              |
| BRAC: | Base Realignment and Closure         | LUCs:  | Land Use Controls                    | RCRA: | Resource Conservation and Recovery Act |
| CAIS: | Chemical Agent Identification Sets   | LUCIP: | Land Use Control Implementation Plan | RD:   | Remedial Design                        |
| DA:   | U.S. Department of Army              | MI:    | Main Installation                    | RI:   | Remedial Investigation                 |
| DDC:  | Defense Distribution Center          | PAH:   | Poly aromatic hydrocarbon            | SVE:  | Soil Vapor Extraction                  |
| DDT:  | 4,4'-Dichlorodiphenyltrichloroethane | PCB:   | Polychlorinated biphenyl             | SVOC: | Semivolatile organic compounds         |
| DF:   | Dunn Field                           | PCP:   | Pentachlorophenol                    | TPH:  | Total petroleum hydrocarbons           |
| DLA:  | Defense Logistics Agency             | POL:   | Petroleum, oil and lubricant         | UST:  | Underground storage tank               |
| DNSP: | Defense National Stockpile Program   | PRB:   | Permeable Reactive Barrier           | VOC:  | Volatile organic compounds             |
| DRC:  | Depot Redevelopment Corporation      | ppm:   | parts per million                    | ZVI:  | Zero-Valent Iron                       |

|  |                               |   |
|--|-------------------------------|---|
| a) Subparcel label definitions are as follows: | HR:                           | Hazardous substance release or disposal |
| PS:  | Petroleum storage             | Hazardous substance storage             |
| PR:  | Petroleum release or disposal |   |

|   |                              |
|---|------------------------------|
| Qualified subparcel label definitions are as follows: |                              |
| A:  | Asbestos containing material |
| R:  | Radon                        |
| RD:   | Radionuclides                |

|  |
|--|
| b) Acreage figures are approximate; they have been calculated using AutoCAD Release 13.  |
| c) BCT screening criteria were established during the August 1997 BCT meeting and were based on preliminary risk based concentrations, the National Contingency Plan, Safe Drinking Water Act maximum contaminant levels and, for some metals, regional background levels. |

**TABLE 3-7**  
**UNCONTAMINATED CATEGORY 1 SUBPARCELS**

| SUBPARCEL<br>NUMBER | MAP<br>LOCATION <sup>(a)</sup> | BUILDING<br>NUMBER |
|---------------------|--------------------------------|--------------------|
| 1.1                 | 32,10                          | 1                  |
| 1.2                 | 32,13                          | 2                  |
| 1.3                 | NA                             | 129                |
| 1.4                 | 31,13                          | 139                |
| 1.5                 | 34,12                          | 144                |
| 1.6                 | 32,13                          | 145                |
| 1.7 demolished      | 31,10                          | 155                |
| 2.1                 | 34,6                           | 176                |
| 2.2                 | NA                             | 178                |
| 2.3                 | 34,5                           | 179                |
| 2.4                 | 34,5                           | 181                |
| 2.5                 | NA                             | 183                |
| 2.6                 | 34,4                           | 184                |
| 3.1                 | 32,2                           | 193                |
| 3.2                 | 31,2                           | 195                |
| 3.3                 | 31,2                           | 196                |
| 3.4                 | 31,2                           | 198                |
| 4.1 demolished      | 30,10                          | 252                |
| 4.2                 | 31,7                           | 270                |
| 4.3                 | 31,7                           | 271                |
| 4.11 demolished     | 29,9                           | 253                |
| 6.3                 | 27,12                          | 349                |
| 8.2                 | 29,15                          | 229                |
| 8.3                 | 29,14                          | 230                |
| 8.4                 | 26,15                          | 329                |
| 8.5                 | 26,13                          | 330                |
| 9.2                 | 26,15                          | 429                |
| 9.4                 | 23,12                          | 449                |
| 9.5                 | 23,11                          | 450                |
| 10.4                | 20,12                          | 549                |
| 10.6                | 17,11                          | 650                |

**TABLE 3-7**  
**UNCONTAMINATED CATEGORY 1 SUBPARCELS**

| SUBPARCEL<br>NUMBER | MAP<br>LOCATION <sup>(a)</sup>                       | BUILDING<br>NUMBER |
|---------------------|--|--------------------|
| 11.3                | 20,14  | 530                |
| 11.4                | 16,13  | 630                |
| 13.1                | 33,16  | 23                 |
| 13.2                | NA   | 24                 |
| 13.3                | 32,16  | 25                 |
| 13.4                | 31,17  | 210                |
| 14.1                | 27,19  | 22                 |
| 15.1                | 10,18  | 15                 |
| 16.2 demolished     | 17,10  | 559                |
| 17.1                | Relocated to open<br>area near Building<br>925; 4,16 | 459                |
| 21.1                | 17,3   | 690                |
| 23.1                | 19,2   | 7                  |
| 23.2                | 13,2   | 8                  |
| 23.3 demolished     | 11,4   | 787                |
| 23.4                | NA   | 795                |
| 23.5                | 5,2  | S995               |
| 29.1                | 3,10   | 9                  |
| 30.4                | 4,11   | 949                |
| 33.1                | 13,16  | 727                |
| 33.2 demolished     | 14,10  | 754                |
| 33.3                | 14,10  | 755                |
| 33.4                | 14,9   | 756                |
| 33.5 demolished     | 11,10  | 860                |
| 33.10               | 14,10  | 753                |
| 34.1                | 24,8   | 360                |

**Notes:**

(a) Map locations relate to coordinates on Figure 3-5.

**TABLE 3-8  
QUALIFIED SUBPARCEL DESCRIPTIONS**

| QUALIFIED<br>SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION (X,Y<br>COORDINATES) | APPROXIMATE<br>SIZE (ACRES) <sup>b</sup> | BUILDING<br>NUMBER | BASIS   | REMEDATION/<br>MITIGATION                            |
|--|-------------------------------|--|--------------------|---|--|
| 1.2-2Q-A/L(P)  | 32,13                         | 0.01                                     | 2                  | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction.                                  | No current mitigation.                               |
| 1.5-144Q-A/L(P)  | 34,12                         | 0.31                                     | 144                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction.                                  | No current mitigation.                               |
| 1.6-S145Q-A/L(P)   | NA                            | 0.02                                     | S145               | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction.                                  | No current mitigation.                               |
| 2.1-176Q-A/L   | 34,6                          | 0.11                                     | 176                | ACM and LBP present; confirmed by previous sampling and testing.  | LBP removed/<br>encapsulated. No further mitigation. |
| 2.2-S178Q-A/L(P)   | NA                            | 0.03                                     | S178               | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction.                                  | LBP removed/<br>encapsulated. No further mitigation. |
| 2.3-179Q-A/L   | 33,5                          | 0.11                                     | S179               | ACM and LBP present; confirmed by previous sampling and testing.  | LBP removed/<br>encapsulated. No further mitigation. |
| 2.4-181Q-A/L   | 34,5                          | 0.11                                     | 181                | ACM and LBP present; confirmed by previous sampling and testing.  | LBP removed/<br>encapsulated. No further mitigation. |
| 2.5-S183Q-A/L(P)   | NA                            | 0.11                                     | S183               | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction.                                  | LBP removed/<br>encapsulated. No further mitigation. |
| 2.6-184Q-A/L   | 34,4                          | 0.11                                     | 184                | ACM and LBP present; confirmed by previous sampling and testing. Lead from exterior paint present in soil at levels greater than 400 ppm. | Soil was removed. No further mitigation.             |
| 3.2-S195Q-A/L  | 31,2                          | 0.10                                     | S195               | ACM and LBP present; confirmed by previous sampling and testing.  | No current mitigation.                               |
| 3.3-196Q-A/L(P)  | 31,2                          | 0.02                                     | 196                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction.                                  | No current mitigation.                               |
| 3.4-S198Q-A/L(P)   | 31,2                          | 0.01                                     | S198               | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction.                                  | No current mitigation.                               |

**TABLE 3-8  
QUALIFIED SUBPARCEL DESCRIPTIONS**

| QUALIFIED<br>SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION (X,Y<br>COORDINATES) | APPROXIMATE<br>SIZE (ACRES) <sup>b</sup> | BUILDING<br>NUMBER | BASIS  | REMEDATION/<br>MITIGATION |
|--|-------------------------------|--|--------------------|--|---------------------------|
| 3.5-398Q-A/L(P)  | 29,4                          | 0.01                                     | 398                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 4.2-270Q-A/L(P)  | 31,7                          | 0.33                                     | 270                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 4.3-S271Q-A/L(P)   | 31,7                          | 0.03                                     | S271               | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 4.4-260Q-A/L(P)  | 30,9                          | 0.15                                     | 260                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 4.8-263Q-L(P)  | 30,9                          | 0.02                                     | 263                | LBP possible based on the year of construction.  | No current mitigation.    |
| 4.13-265Q-A/L(P)   | 31,8                          | 0.18                                     | 265                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 5.1-T272Q-L(P)   | 29,7                          | 0.03                                     | T272               | LBP possible based on the year of construction.  | No current mitigation.    |
| 5.2-274Q-A/L(P)  | 29,7                          | 0.31                                     | 274                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 6.2-250Q-A/L(P)  | 29,11                         | 2.8                                      | 250                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 6.3-349Q-A/L(P)  | 27,12                         | 2.8                                      | 349                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 6.4-350Q-A/L(P)  | 26,11                         | 2.8                                      | 350                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 7.2-249Q-A/L(P)  | 29,12                         | 2.8                                      | 249                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |

**TABLE 3-8  
QUALIFIED SUBPARCEL DESCRIPTIONS**

| QUALIFIED<br>SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION (X,Y<br>COORDINATES) | APPROXIMATE<br>SIZE (ACRES) <sup>b</sup> | BUILDING<br>NUMBER | BASIS  | REMEDATION/<br>MITIGATION |
|--|-------------------------------|--|--------------------|--|---------------------------|
| 8.2-229Q-A/L(P)  | 29,15                         | 2.8                                      | 229                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 8.3-230Q-A/L(P)  | 30,14                         | 2.8                                      | 230                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 8.4-329Q-A/L(P)  | 26,15                         | 2.8                                      | 329                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 8.5-330Q-A/L(P)  | 26,13                         | 2.8                                      | 330                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 9.2-429Q-A/L(P)  | 23,15                         | 2.8                                      | 429                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 9.3-430Q-A/L(P)  | 23,13                         | 2.8                                      | 430                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 9.4-449Q-A/L(P)  | 23,12                         | 2.8                                      | 449                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 9.5-450Q-A/L(P)  | 23,11                         | 2.8                                      | 450                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 10.1-649Q-A/L(P)   | 16,12                         | 2.8                                      | 649                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 10.4-549Q-A/L(P)   | 20,12                         | 2.8                                      | 549                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 10.5-550Q-A/L(P)   | 19,11                         | 2.8                                      | 550                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |
| 10.6-650Q-A/L(P)   | 17,11                         | 2.8                                      | 650                | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.    |

**TABLE 3-8  
QUALIFIED SUBPARCEL DESCRIPTIONS**

| QUALIFIED SUBPARCEL NUMBER AND LABEL <sup>a</sup> | LOCATION (X,Y COORDINATES) | APPROXIMATE SIZE (ACRES) <sup>b</sup> | BUILDING NUMBER | BASIS  | REMEDIATION/ MITIGATION |
|---|----------------------------|---------------------------------------|-----------------|--|-------------------------|
| 11.2-529Q-A/L(P)                                  | 19,15                      | 2.8                                   | 529             | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.  |
| 11.3-530Q-A/L(P)                                  | 20,14                      | 2.8                                   | 530             | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.  |
| 11.4-630Q-A/L(P)                                  | 16,13                      | 2.8                                   | 630             | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.  |
| 12.2-629Q-A/L(P)                                  | 16,15                      | 2.8                                   | 629             | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.  |
| 13.1-23Q-A/L(P)                                   | 33,16                      | <0.01                                 | 23              | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.  |
| 13.2-24Q-L(P)                                     | NA                         | <0.01                                 | 24              | LBP possible based on the year of construction.  | No current mitigation.  |
| 13.3-25Q-L(P)                                     | 32,16                      | <0.01                                 | 25              | LBP possible based on the year of construction.  | No current mitigation.  |
| 13.4-210Q-A/L(P)                                  | 31,17                      | 5.5                                   | 210             | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.  |
| 14.1-22Q-A/L(P)                                   | 27,19                      | <0.01                                 | 22              | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.  |
| 15.1-15Q-A/L(P)                                   | 10,18                      | <0.01                                 | 15              | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.  |
| 15.2-S308Q-A/L(P)                                 | 26,18                      | 0.01                                  | S308            | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.  |
| 15.3-319Q-A/L(P)                                  | 26,16                      | 0.41                                  | 319             | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.  |
| 15.6-301Q-A(P)/L(P)                               | 18,17                      | <0.01                                 | 301             | ACM and LBP possible based on the year of construction.  | No current mitigation.  |

**TABLE 3-8  
QUALIFIED SUBPARCEL DESCRIPTIONS**

| QUALIFIED<br>SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION (X,Y<br>COORDINATES) | APPROXIMATE<br>SIZE (ACRES) <sup>b</sup> | BUILDING<br>NUMBER | BASIS  | REMEDIALTION/<br>MITIGATION |
|--|-------------------------------|--|--------------------|--|-----------------------------|
| 15.6-S309Q-<br>A/L(P)                                      | 25,18                         | 0.01                                     | S309               | ACM present; confirmed by previous<br>sampling and testing. LBP possible based on<br>the year of construction. | No current mitigation.      |
| 19.1-S468Q-L(P)  | 21,8                          | 0.22                                     | S468               | LBP possible based on the year of<br>construction.   | No current mitigation.      |
| 19.2-S465Q-A   | 22,7                          | 0.01                                     | S465               | ACM present; confirmed by previous<br>sampling and testing.  | No current mitigation.      |
| 19.3-S469Q-L(P)  | 22,8                          | 0.22                                     | S469               | LBP possible based on the year of<br>construction.   | No current mitigation.      |
| 20.2-670Q-A/L(P)   | 17,6                          | 5.0                                      | 670                | ACM present; confirmed by previous<br>sampling and testing. LBP possible based on<br>the year of construction. | No current mitigation.      |
| 20.3-470Q-A/L(P)   | 20,7                          | 5.0                                      | 470                | ACM present; confirmed by previous<br>sampling and testing. LBP possible based on<br>the year of construction. | No current mitigation.      |
| 20.4-489Q-A/L(P)   | 21,5                          | 5.0                                      | 489                | ACM present; confirmed by previous<br>sampling and testing. LBP possible based on<br>the year of construction. | No current mitigation.      |
| 21.1-690Q-A/L(P)   | 17,3                          | 5.0                                      | 690                | ACM present; confirmed by previous<br>sampling and testing. LBP possible based on<br>the year of construction. | No current mitigation.      |
| 21.2-490Q-A/L(P)   | 23,3                          | 5.0                                      | 490                | ACM present; confirmed by previous<br>sampling and testing. LBP possible based on<br>the year of construction. | No current mitigation.      |
| 21.3-689Q-A/L(P)   | 15,5                          | 5.2                                      | 689                | ACM present; confirmed by previous<br>sampling and testing. LBP possible based on<br>the year of construction. | No current mitigation.      |
| 21.4-685Q-A/L(P)   | 15,4                          | 0.73                                     | 685                | ACM present; confirmed by previous<br>sampling and testing. LBP possible based on<br>the year of construction. | No current mitigation.      |
| 23.2-8Q-A/L(P)   | 13,2                          | 0.02                                     | 8                  | ACM present; confirmed by previous<br>sampling and testing. LBP possible based on<br>the year of construction. | No current mitigation.      |
| 23.4-795Q-L(P)   | NA                            | 0.01                                     | 795                | LBP possible based on the year of<br>construction.   | No current mitigation.      |

**TABLE 3-8  
QUALIFIED SUBPARCEL DESCRIPTIONS**

| <b>QUALIFIED<br/>SUBPARCEL<br/>NUMBER AND<br/>LABEL<sup>a</sup></b> | <b>LOCATION (X,Y<br/>COORDINATES)</b> | <b>APPROXIMATE<br/>SIZE (ACRES)<sup>b</sup></b> | <b>BUILDING<br/>NUMBER</b> | <b>BASIS</b>   | <b>REMEDIAL/<br/>MITIGATION</b> |
|---|---------------------------------------|---|----------------------------|--|---------------------------------|
| 23.8-793Q-L(P)  | 11,3                                  | 0.04  | 793                        | LBP possible based on the year of construction.  | No current mitigation.          |
| 24.3-770Q-A/L(P)  | 12,8                                  | 0.57  | 770                        | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.          |
| 24.3-T771Q-A/L(P)   | 11,7                                  | 0.02  | T771                       | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.          |
| 26.2-S970Q-A/L(P)   | 6,4                                   | 6.3   | S970                       | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.          |
| 27.2-S972Q-A/L(P)   | 4,4                                   | 6.3   | S972                       | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.          |
| 28.2-S1089Q-A(P)/L(P)   | 3,5                                   | 0.91  | S1089                      | ACM and LBP possible based on the year of construction.  | No current mitigation.          |
| 29.1-9Q-A/L(P)  | 3,10                                  | 0.01  | 9                          | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.          |
| 29.2-801Q-A/L(P)  | 4,18                                  | 0.01  | 801                        | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.          |
| 33.4-756Q-A   | 14,9                                  | 0.06  | 756                        | ACM present; confirmed by previous sampling and testing.   | No current mitigation.          |
| 33.9-717Q-A/L(P)<br>This building is in Subparcel 15.6              | 12,14                                 | 0.01  | 717                        | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.          |
| 33.9-S737Q-A/L(P)   | 13,13                                 | 0.13  | 737                        | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.          |
| 33.13-720Q-A/L(P)   | 14,15                                 | 0.11  | 720                        | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.          |
| 35.1-S1090Q-A/L(P)  | 3,3                                   | 0.02  | S1090                      | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.          |

**TABLE 3-8  
QUALIFIED SUBPARCEL DESCRIPTIONS**

| QUALIFIED<br>SUBPARCEL<br>NUMBER AND<br>LABEL <sup>a</sup> | LOCATION (X,Y<br>COORDINATES) | APPROXIMATE<br>SIZE (ACRES) <sup>b</sup> | BUILDING<br>NUMBER | BASIS  | REMEDIATION/<br>MITIGATION |
|--|-------------------------------|--|--------------------|--|----------------------------|
| 35.3-1086Q-L(P)  | 3,5                           | 0.22                                     | 1086               | LBP possible based on the year of construction.  | No current mitigation.     |
| 35.4-1087Q-A/L(P)  | 3,3                           | 0.11                                     | 1087               | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.     |
| 35.4-1088Q-L(P)  | 3,3                           | 0.05                                     | 1088               | LBP possible based on the year of construction.  | No current mitigation.     |
| 35.5-S1091Q-A/L(P)   | 2,2                           | 0.02                                     | S1091              | ACM present; confirmed by previous sampling and testing. LBP possible based on the year of construction. | No current mitigation.     |

**Notes:**

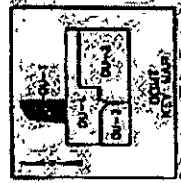
a) Parcel label definitions are as follows:

PS = petroleum storage  
PR = petroleum release or disposal  
HS = hazardous substance storage  
HR = hazardous substance release or disposal

Qualified parcel label definitions are as follows:

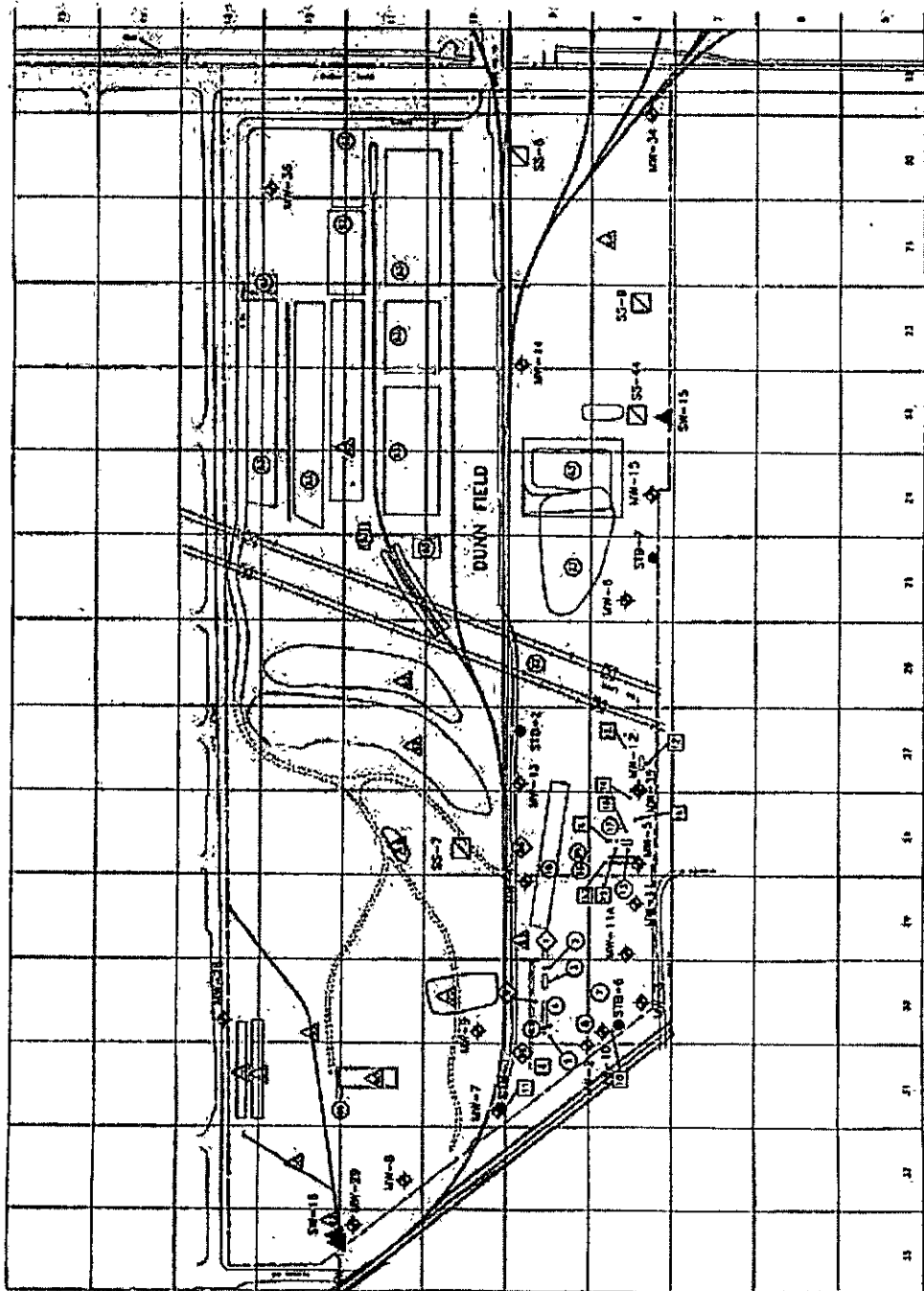
A = asbestos containing material  
L = lead-based paint  
P = polychlorinated biphenyls  
R = Radon  
X = UXO and/or ordnance fragments  
(P) = possible (unverified)

b) Acreage figures are approximate; they have been calculated using AutoCAD Release 13.

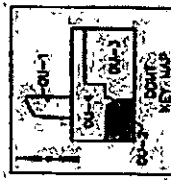


# LEGEND

- INSULATION PROPERTY BOUNDARY
- ASPHALT ROAD
- GRAVEL ROAD
- RAILROAD TRACKS
- EXISTING HORIZONTAL WALL
- EXISTING SOIL BORING LOCATION
- EXISTING SEDIMENT SOIL BORING LOCATION
- EXISTING SURFACE SAMPLE LOCATION
- EXISTING SURFACE WATER SAMPLE LOCATION
- SCREENING SITE
- PROPOSED NO FURTHER ACTION SITE
- RETAILING INVESTIGATION SITE
- CHEMICAL WASTE MANAGEMENT PLAN SITE
- PROPOSED EARLY REMEDIAL SITE

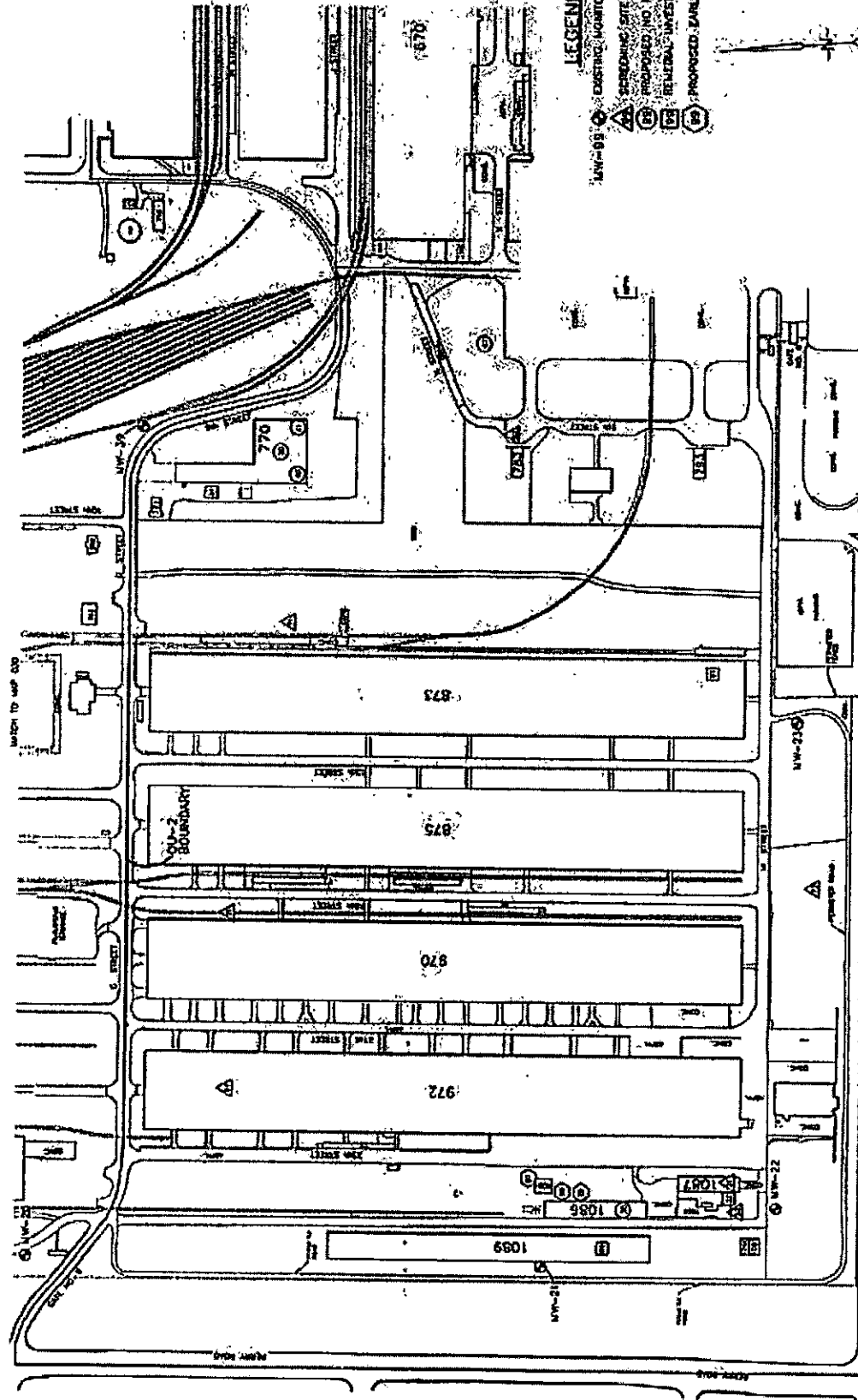


OU-1 (DUNN FIELD) SITE LOCATIONS

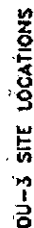


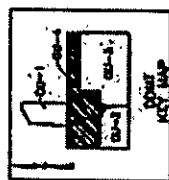
**LEGEND**

- ▲ EXISTING MONITORED WELL
- ▲ SCREENING SITE
- Ⓢ PROPOSED NO FURTHER ACTION SITE
- Ⓢ RELIEVAL INVESTIGATION SITE
- Ⓢ PROPOSED EARLY RESPONSE SITE



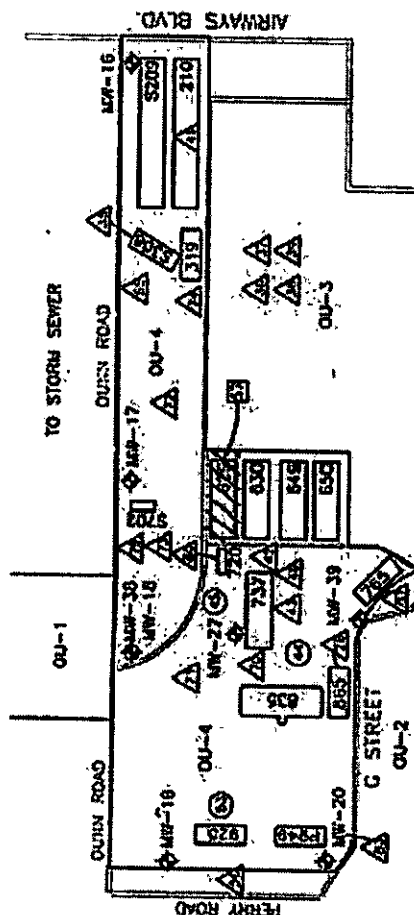
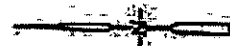
OU-2 SITE LOCATIONS





# LEGEND

- EXISTING MONITORING WELL
- SITE 37 AND SURROUNDING AREA
- SCREENING SITE
- PROPOSED NO FURTHER ACTION SITE



OU-4 SITE LOCATIONS





**SECTION FOUR****INSTALLATIONWIDE STRATEGY FOR ENVIRONMENTAL  
RESTORATION****4.0 INSTALLATIONWIDE STRATEGY FOR ENVIRONMENTAL RESTORATION**

This section describes and summarizes the installation-wide environmental restoration and compliance strategy for the Depot.

Prior to closure of the Depot on 30 September 1997, restoration projects were underway to identify, characterize, and remediate environmental contamination at the Depot. The restoration strategy focused on the protection of human health and the environment at the Depot, taking into consideration the ongoing and continued use of the Depot. With the closure announcement, the restoration strategy for the Depot changed from supporting an active military installation to responding to property disposal (transfer) and reuse considerations. The Depot environmental restoration strategy was therefore modified to address closure and reuse while still focusing on protection of human health and the environment.

The overall environmental and compliance strategy is the responsibility of DDC. The Depot's BRAC strategy is designed to ensure that all regulatory requirements are met, and that adequate and cost-effective restoration activities are implemented as quickly as possible to provide expedited transfer and reuse in compliance with U.S. Army and DRC redevelopment goals. The current strategy provides for the completion of all site restoration construction activities on the facility by 2009, with LTM of groundwater anticipated to continue until 2019.

The following sections describe various elements of the Depot BRAC environmental restoration strategy, including area designation strategy, compliance strategy, and natural and cultural resources strategy.

**4.1 ZONE/OU DESIGNATION AND STRATEGY**

Site designations were developed during overlapping environmental restoration programs and for facility reuse. Environmental restoration sites were first identified during the 1990 RFA, and additional sites were added over time. When the Depot was placed on the NPL in 1992 and during subsequent FFA negotiations, the Depot was broken into four OUs based on the geographic layout of the facility, and the number of restoration sites increased. After being placed on the BRAC list, the Depot was divided into BRAC parcels. During development of the RIs, the MI was divided into seven FUs and Dunn Field into three Areas based on historical use and proposed reuse. DOD uses an environmental tracking system, Defense Site Environmental Restoration Tracking System (DSERTS) that encompasses the restoration sites and the BRAC parcels.

**SECTION FOUR****INSTALLATIONWIDE STRATEGY FOR ENVIRONMENTAL  
RESTORATION****4.1.1 Zone/OU Designations**

In 1990, a USEPA contractor conducted a RFA of the Depot that identified 57 SWMUs/AOCs, also called restoration sites. After placement on the NPL in 1992 and during subsequent FFA negotiations, the Depot was broken into the following OUs as shown in Figure 1-2:

- OU-1, Dunn Field;
- OU-2, Southwest Quadrant, MI;
- OU-3, Southeastern Watershed and Golf Course, MI;
- OU-4, North-Central Area, MI.

The SMP portion of the FFA increased the number of sites to 89. Table 3-1 shows the relationship between restoration sites, OUs, and BRAC parcels. Figures 3-1 through 3-4 show the restoration sites in relation to the OUs.

When the facility was designated as a BRAC closure facility in 1995, the Depot was divided into parcels and subparcels. These parcels and subparcels were developed from a reuse and environmental restoration perspective. Thirty-six parcels were formed. Areas of environmental concern within each parcel were broken into subparcels and represent buildings, spill locations, burial locations, former pistol ranges, open land areas, and sites. This BRAC parcel system has allowed for the sites to be compared directly to BRAC parcels for reuse purposes and to facilitate sampling/analysis; CERFA environmental condition of property category decision-making; leasing; and, ultimately, transfer.

In 1999, during development of the RIs, rather than assess each parcel individually to evaluate risk to human health and the environment, the MI was divided into seven FUs for conducting baseline risk assessments based on similar historical use and proposed reuse, FUs 1 through 6 with groundwater being FU-7 (see Figure 1-2a). To assist investigations at Dunn Field, it was divided into three areas for conducting baseline risk assessments based on similar historical use and proposed reuse, Northeast Open Area, Stockpile Area, and Disposal Area (see Figure 1-2b).

In 2004, DDC submitted a RCRA Part B permit application that contained 93 SWMUs/AOCs, including the 89 from the 1990 permit. Two of the 89 sites consisted of multiple disposal locations

## **SECTION FOUR                      INSTALLATIONWIDE STRATEGY FOR ENVIRONMENTAL RESTORATION**

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that were separated, bringing the total number of sites to 93. The DSERTS encompasses these 93 sites as well as 21 of the BRAC parcels.

### **4.1.2 Sequence**

The environmental restoration program sequence has focused on completing activities at the MI, because DRC identified it as a priority for reuse, and then completing activities at Dunn Field.

Table 4-1 shows key documents submitted up to 1 November 2005 and projects delivery dates for other key documents.

### **4.1.3 Early Actions Strategy**

The Depot's strategy for early actions has encompassed DRC's priorities for reuse as well as the BCT's identification of sites suitable for early action. The Depot has completed several early actions, as shown in Table 3-3. As of 1 November 2005, there are no further early actions planned because the RODs for the MI and Dunn Field have been signed by DDC, USEPA, and TDEC.

### **4.1.4 Remedy Selection Approach**

Remedies for the restoration of the Depot have been selected in accordance with CERCLA, the NCP, and the FFA, as documented in the RODs for the MI (6 September 2001) and for Dunn Field (12 April 2004).

## **4.2 COMPLIANCE PROGRAM STRATEGY**

DDC no longer manages environmental compliance programs at the Depot. Contractors conducting environmental restoration activities are required to comply with the ARARs.

### **4.2.1 Storage Tanks**

DDC no longer maintains USTs or ASTs at the Depot.

### **4.2.2 Hazardous Materials/Waste Management**

DDC no longer manages hazardous materials/waste at the Depot. Contractors conducting environmental restoration activities are required to comply with the ARARs.

**SECTION FOUR****INSTALLATIONWIDE STRATEGY FOR ENVIRONMENTAL  
RESTORATION**

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**4.2.3 Solid Waste Management**

DDC no longer manages solid waste at the Depot.

**4.2.4 Polychlorinated Biphenyls**

DDC no longer manages PCBs at the Depot.

**4.2.5 Asbestos**

DDC no longer manages ACM at the Depot.

**4.2.6 Radon**

DDC no longer manages radon at the Depot.

**4.2.7 RCRA Facilities**

DDC no longer manages RCRA facilities at the Depot. See Sections 1.7 and 3.2.4 for more information regarding RCRA facilities.

**4.2.8 NPDES Permits**

DDC no longer manages NPDES permits at the Depot. TDEC terminated the Depot's NPDES permit effective 29 June 2001.

**4.2.9 Oil/Water Separators**

DDC no longer manages oil/water separators at the Depot. The remaining two oil/water separators remaining at the Depot have been transferred to DRC.

**4.2.10 Unexploded Ordnance**

The Archives Search Report and investigation indicated no UXO at the Depot.

**4.2.11 Pesticides**

The MI ROD included RA in the form of institutional controls across the MI, restricting residential use (including daycare operations) because of dieldrin levels. The Dunn Field ROD does not include RA specific to pesticides.

## **SECTION FOUR                      INSTALLATIONWIDE STRATEGY FOR ENVIRONMENTAL RESTORATION**

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### **4.2.12 Lead-Based Paint**

DDC no longer manages LBP at the Depot.

## **4.3 NATURAL AND CULTURAL RESOURCES STRATEGY**

DDC no longer manages natural or cultural resources at the Depot. For more information about the natural and cultural resources at the Depot, refer to the EA for Disposal and Reuse for the Depot completed in February 1998.

### **4.3.1 Archaeological Resources**

No archaeological resources were identified at the Depot.

### **4.3.2 Historical Structures and Resources**

DDC no longer manages historical structures or resources at the Depot. The TNSHPO determined that the 20 Typicals as well as three World War II vintage guard stations (Buildings 9, 22, and 23) were eligible for listing on the NRHP. No nomination has been made to date. AMC, the TNSHPO, and the Advisory Council on Historic Places entered into an MOA regarding these eligible buildings. DRC concurred with this MOA.

### **4.3.3 Native American Resources**

No Native American resources have been found at the Depot.

### **4.3.4 Threatened and Endangered Species**

No threatened and endangered species have been identified at the Depot.

### **4.3.5 Sensitive Habitats**

No sensitive habitats have been identified at the Depot.

### **4.3.6 Wetlands**

No wetlands have been identified at the Depot.

## **SECTION FOUR                      INSTALLATIONWIDE STRATEGY FOR ENVIRONMENTAL RESTORATION**

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### **4.3.7    Surface Waters**

There are two bodies of water located at the Depot. Both bodies of water (Lake Danielson and a golf course pond) are used to store water for firefighting purposes. Lake Danielson, approximately 4 acres in area, is located in the northwest corner of the golf course, and the golf course pond is located in the northeast corner of the golf course.

### **4.3.8    Floodplains**

The Depot is located outside the 500-year floodplain.

### **4.3.9    Paleontological Resources**

No paleontological resources have been identified at the Depot.

## **4.4    COMMUNITY INVOLVEMENT/STRATEGY**

The Depot prepared a community relations plan dated June 1999 to facilitate communication among the Depot; other federal, state, or local agencies; and interested groups and other community residents concerning BRAC and environmental restoration activities at the Depot. DDC submitted the final post-ROD Community Involvement Plan in February 2005. This plan should ensure that all involved or interested parties are provided accurate, consistent information concerning related cleanup activities in a timely manner. The following goals of DDC's Community Involvement Plan and the associated activities will fulfill the CERCLA community involvement requirements, as well as provide for a proactive community involvement program:

- Fulfill information availability requirements by maintaining an updated Information Repository, working with the local media, providing executive summaries of environmental reports, and conducting regular public meetings.
- Build positive interest in the cleanup program by producing the EnviroNews newsletter twice a year, producing fact sheets as required, and maintaining the website and community information line. The Depot will also have public meetings as required to meet CERCLA requirements. Another option is an annual Community Information Session to keep the community updated about the progress of the cleanup program throughout its completion.

**SECTION FOUR****INSTALLATIONWIDE STRATEGY FOR ENVIRONMENTAL  
RESTORATION**

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- Building community awareness about community involvement opportunities as the environmental program progresses can be done through regular and consistent communications. Fact sheets and newsletters are key elements of this goal. In addition, reaching out to the media through news releases and backgrounders will assist with this goal.
- Maintain regular information channels through the RAB meetings, annual public meetings, newsletters, fact sheets, and other communications from the Depot.

**TABLE 4-1  
ENVIRONMENTAL DOCUMENT STATUS**

| <b>ACTIVITY</b>   | <b>AGENCY</b>  | <b>DRAFT REPORT</b> | <b>FINAL REPORT</b> |
|---|--|---------------------|---------------------|
| PCB Survey  | DDMT-W   |                     | 1993                |
| RI/FS Work Plans  | CEHNC/CH2M Hill  | 1995                | 1995                |
| Asbestos Survey   | CEMVM/Pickering Inc.                                       |                     | January 1994        |
| UST Survey  | CEMVM/Pickering Inc.                                       |                     | January 1994        |
| Radon Survey  | ASCE-WP  |                     | March 1996          |
| Interim Record of Decision<br>(Groundwater at Dunn Field) | CEHNC/CH2M Hill  |                     | April 1996          |
| Wetland Determination                                     | CESWF/CELM   |                     | July 1996           |
| Lead-Based Paint Survey                                   | CEMVM/Barge, Waggoner,<br>Sumner & Cannon                  | December 1995       | April 1996          |
| Environmental Baseline Survey                             | CESAM/Woodward-Clyde                                       | May 1996            | November 1996       |
| Environmental Assessment –<br>Leasing                     | CESAM/Tetra Tech   | August 1996         | September 1996      |
| Radiological Survey                                       | DDRE   | August 1996         | September 1996      |
| BRAC Cleanup Plan Version 1                               | CESAM/Woodward-Clyde                                       | October 1996        | November 1996       |
| Section 106 Review  | CESWF/HUD/Tennessee<br>Historical Commission/TRC<br>Moriah | October 1996        | June 1997           |
| Cultural/Natural Resources Surveys                        | CESWF  | October 1996        | November 1997       |
| Environmental Assessment –<br>Disposal                    | CESAM/Tetra Tech   | November 1996       | February 1998       |
| BRAC Cleanup Plan Version 2                               | Memphis Depot Caretaker                                    | September 1998      | October 1998        |
| Community Relations Plan                                  | DDSP-F/Frontline   | September 1998      | June 1999           |
| BRAC Cleanup Plan Version 3                               | Memphis Depot Caretaker                                    | September 1999      | October 1999        |
| Main Installation RI Report                               | CEHNC/CH2M Hill  | September 1999      | January 2000        |
| Main Installation FS Report                               | CEHNC/CH2M Hill  | November 1999       | July 2000           |
| Main Installation Proposed Remedial<br>Action Plan        | CEHNC/CH2M Hill  | April 2000          | October 2000        |
| BRAC Cleanup Plan Version 4                               | Memphis Depot Caretaker                                    | September 2000      | October 2000        |
| Main Installation Record of Decision                      | CEHNC/CH2M Hill  | September 2000      | September 2001      |
| BRAC Cleanup Plan Version 5                               | Memphis Depot Caretaker                                    | September 2001      | October 2001        |
| Dunn Field RI Report                                      | CEHNC/CH2M Hill  | November 2001       | July 2002           |
| BRAC Cleanup Plan Version 6                               | CEHNC/Cooper and<br>Associates, Inc.                       |                     | September 2002      |
| BRAC Cleanup Plan Version 7                               | DDC/Labat-Anderson, Inc.                                   |                     | December 2003       |
| Dunn Field FS Report                                      | CEHNC/CH2M Hill  | June 2002           | May 2003            |
| 1st 5-Year Review Report                                  | CEHNC/CH2M Hill  | September 2002      | January 2003        |
| Dunn Field Proposed Remedial                              | CEHNC/CH2M Hill  | November 2002       | July 2003           |

**TABLE 4-1  
ENVIRONMENTAL DOCUMENT STATUS**

| <b>ACTIVITY</b>  | <b>AGENCY</b>   | <b>DRAFT REPORT</b> | <b>FINAL REPORT</b> |
|--|-----------------|---------------------|---------------------|
| Action Plan  |                 |                     |                     |
| Dunn Field Record of Decision                              | CEHNC/CH2M Hill | June 2003           | April 2004          |
| Main Installation Remedial Design                          | CEHNC/CH2M Hill | October 2003        | August 2004         |
| Dunn Field Disposal Sites Remedial Design                  | CEHNC/CH2M Hill | February 2004       | April 2004          |
| Dunn Field Disposal Sites Remedial Action Work Plan        | AFCEE/MACTEC    | May 2004            | November 2004       |
| Finding of Suitability to Transfer 4                       | AFCEE/MACTEC    | October 2004        | March 2005          |
| BRAC Cleanup Plan Version 8                                | AFCEE/MACTEC    | November 2004       | March 2005          |
| Post ROD Community Involvement Plan                        | AFCEE/MACTEC    | December 2004       | February 2005       |
| Main Installation Remedial Action Work Plan                | AFCEE/MACTEC    | February 2005       | September 2005      |
| Early Implementation Interim RA Completion Report          | AFCEE/MACTEC    | July 2005           | September 2005      |
| BRAC Cleanup Plan Version 9                                | AFCEE/MACTEC    | November 2005       | February 2006       |
| Dunn Field Disposal Sites RA Completion Report             | AFCEE/MACTEC    | May 2006            | September 2006      |
| Dunn Field Source Areas Final Remedial Design              | CEHNC/CH2M Hill | December 2006       | April 2007          |
| Dunn Field Off Depot Groundwater Final Remedial Design     | CEHNC/CH2M Hill | January 2007        | April 2007          |
| Dunn Field Source Areas Remedial Action Work Plan          | AFCEE/MACTEC    | February 2007       | October 2007        |
| Dunn Field Off Depot Groundwater Remedial Action Work Plan | AFCEE/MACTEC    | March 2007          | October 2007        |
| 2 <sup>nd</sup> 5-Year Review Report                       | AFCEE/MACTEC    | July 2007           | January 2008        |
| Main Installation Interim RA Completion Report             | AFCEE/MACTEC    | November 2007       | August 2008         |
| Finding of Suitability to Transfer 5                       | AFCEE/MACTEC    | May 2008            | October 2008        |
| Preliminary Closeout Report                                | AFCEE/MACTEC    | January 2009        | June 2009           |
| Dunn Field Off Depot Interim RA Completion Report          | AFCEE/MACTEC    | September 2009      | April 2010          |
| Dunn Field Source Areas Interim RA Completion Report       | AFCEE/MACTEC    | January 2010        | August 2010         |

**TABLE 4-1**  
**ENVIRONMENTAL DOCUMENT STATUS**

| <b>ACTIVITY</b>  | <b>AGENCY</b> | <b>DRAFT REPORT</b> | <b>FINAL REPORT</b> |
|--|---------------|---------------------|---------------------|
| Finding of Suitability to Transfer 6                           | AFCEE/MACTEC  | July 2010           | January 2011        |
| Final Closeout Report, including<br>Notice of Intent to Delete | AFCEE/MACTEC  | September 2019      | January 2020        |

**NOTES:**

AFCEE: Air Force Center for Environmental Excellence  
ASCE-WP: Administrative Support Center East – Environmental Branch  
BRAC: Base Realignment and Closure  
CEMVM: Army Corps of Engineers, Memphis, Tennessee  
CEHNC: Army Corps of Engineers, Huntsville, Alabama  
CESAM: Army Corps of Engineers, Mobile, Alabama  
CESWF: Army Corps of Engineers, Ft. Worth, Texas  
DDC: Defense Distribution Center  
DDMT: Defense Distribution Depot Memphis, Tennessee  
DDSP-F: Memphis Depot Caretaker Division  
DDRE: Defense Distribution Region East

DLA: Defense Logistics Agency  
FS: Feasibility Study  
HUD: Housing and Urban Development  
OU: Operable Unit  
PCB: Polychlorinated biphenyl  
RA: Remedial Action  
RD: Remedial Design  
RI: Remedial Investigation  
UST: Underground Storage Tank

**SECTION FIVE****ENVIRONMENTAL PROGRAM SCHEDULES****5.0 ENVIRONMENTAL PROGRAM SCHEDULES**

This section presents the Depot's schedule of anticipated activities for the environmental program. Environmental restoration and document review activities are summarized in Figure 5-1. This figure will be updated as the BCT makes decisions regarding sites and BRAC subparcels that require restoration.

**5.1 ENVIRONMENTAL RESTORATION PROGRAM**

This section provides the response schedules and fiscal year requirements for the environmental restoration program for the Depot.

**5.1.1 Response Schedules**

The draft schedule shown in Figure 5-1 was presented to the BCT in January 2006. This schedule may be further refined to reflect data collection efforts deemed necessary by DDC and the BCT. Once final, this schedule will be used to update the site schedules in the DSERTS. In order to track the environmental restoration process, scheduling strategies and timelines are prepared by DDC with input from the project team and the BCT so that all parties are involved in the process. The BCT and project team will review these schedules regularly to ensure that they are current, that activities are expedited whenever possible, and that reuse goals continue to be met.

The response schedules in Figure 5-1 include timeframes for RD, RA, and final closeout reports for the MI and Dunn Field (NPL site completion milestones are at the end of the Dunn Field schedule). Table 5-1 provides major milestones of the Depot environmental restoration program through FY09 for use as a quick reference for upcoming primary document reviews and the start dates of field work activities.

**5.1.2 Requirements by Fiscal Year**

The financial requirements by fiscal year for the environmental program at the Depot are summarized in Table A-1 in Appendix A. These requirements will be further refined to reflect periodic updates to the cost-to-complete database that tracks funding requirements by site and is maintained by AFCEE for the Depot.

**SECTION FIVE****ENVIRONMENTAL PROGRAM SCHEDULES****5.2 COMPLIANCE PROGRAMS**

DDC no longer manages compliance programs at the Depot; therefore, there are no fiscal requirements for compliance programs.

**5.3 NATURAL AND CULTURAL RESOURCES**

Natural and cultural resources at the Depot were assessed under the NEPA EA as discussed in Section 4.3. There are no fiscal requirements for natural and cultural resources.

**5.4 BCT/PROJECT TEAM/RAB MEETING SCHEDULE**

The BCT and the project team generally meet the third Thursday of every month and by interim teleconferences when issues or data need to be resolved or discussed. The RAB meets the third Thursday of specified months when the BCT and project team have information to provide. Additional BCT and project team meetings are scheduled as necessary to facilitate the decision-making process.

**TABLE 5-1**  
**MAJOR MILESTONES THROUGH FY09**

| <b>Activity</b>  | <b>BCP Version 9<br/>Date</b> | <b>Expected Date<br/>(if different)</b> |
|--|-------------------------------|---|
| Main Installation Notice of RA Implementation                    | 25 May 2006                   | 5 May 2006                              |
| Main Installation Final Construction Inspection                  | 23 November 2006              | 11 October 2006                         |
| Main Installation Interim RA Completion Report, Rev. 0 Submittal | 13 January 2008               | --                                      |
| Main Installation RA Remedy In Place                             | 31 August 2008                | --                                      |
| Dunn Field Disposal Sites RA Completion Report, Rev 0 Submittal  | 27 May 2006                   | 2 May 2006                              |
| Dunn Field Disposal Sites RA Complete                            | 24 October 2006               | 1 September 2006                        |
| Dunn Field Source Areas Final RD, Rev 0 Submittal                | 31 December 2006              | --                                      |
| Dunn Field Source Areas RA Work Plan, Rev 0 Submittal            | 1 March 2007                  | --                                      |
| Dunn Field Source Areas Notice of RA Implementation              | 4 November 2007               | --                                      |
| Dunn Field Off Depot Final RD, Rev 0 Submittal                   | 10 April 2007                 | --                                      |
| Dunn Field Off Depot RA Work Plan, Rev 0 Submittal               | 9 June 2007                   | --                                      |
| Dunn Field Off Depot Notice of RA Implementation                 | 12 February 2008              | --                                      |
| Second 5-Year Review, Rev. 0 Submittal                           | 30 July 2007                  | --                                      |
| FOST 5 (Main Installation) Approval                              | 1 December 2008               | --                                      |

**NOTES:**

RA: Remedial Action  
RD: Remedial Design

**Figure 5-1  
Master Schedule**

| ID  | BCT Item | %    | Task Name  | Duration | Start        | Finish       |
|-----|----------|------|--|----------|--------------|--------------|
| 1   |          | 32%  | MAIN INSTALLATION  | 5887 d   | Fri 1/28/00  | Fri 6/10/16  |
| 2   |          | 100% | Main Installation (MI) Remedial Investigation                              | 0 d      | Fri 1/28/00  | Fri 1/28/00  |
| 4   |          | 100% | Main Installation Feasibility Study  | 0 d      | Mon 7/31/00  | Mon 7/31/00  |
| 7   |          | 100% | Main Installation Proposed Remedial Action Plan (Proposed Plan)            | 68 d     | Mon 8/7/00   | Fri 10/13/00 |
| 11  |          | 100% | Main Installation Record of Decision                                       | 203 d    | Fri 2/16/01  | Thu 9/6/01   |
| 16  |          | 31%  | Main Installation Post ROD Activities                                      | 5309 d   | Wed 11/28/01 | Fri 6/10/16  |
| 17  |          | 100% | Main Installation Remedial Design (RD) Work Plan                           | 195 d    | Wed 11/28/01 | Mon 6/10/02  |
| 26  |          | 30%  | Main Installation Remedial Design (RD)/Remedial Action Construction (RA-C) | 5287 d   | Thu 12/20/01 | Fri 6/10/16  |
| 27  |          | 100% | Main Installation (MI) Remedial Design (RD)                                | 1310 d   | Thu 12/20/01 | Thu 7/21/05  |
| 28  |          | 100% | MI Pre-Design Sampling at Sites 42/43 (Former PCP Dip Vad/UST Area)        | 260 d    | Wed 6/18/03  | Wed 3/3/04   |
| 46  |          | 100% | MI Land Use Control Implementation Plan (LUCIP)                            | 556 d    | Mon 8/19/02  | Wed 2/25/04  |
| 61  |          | 100% | MI Enhanced Bioremediation Treatment (EBT) Pilot Test                      | 611 d    | Thu 12/20/01 | Fri 8/22/03  |
| 96  |          | 100% | MI Remedial Design (RD) Package  | 369 d    | Fri 8/8/03   | Tue 8/10/04  |
| 107 |          | 100% | MI RD Public Briefing  | 345 d    | Wed 8/11/04  | Thu 7/21/05  |
| 108 |          | 16%  | Main Installation (MI) Remedial Action (RA)                                | 4485 d   | Mon 3/1/04   | Fri 6/10/16  |
| 109 |          | 100% | Design Related Investigation   | 344 d    | Mon 3/1/04   | Mon 2/7/05   |
| 113 |          | 100% | MI Remedial Action (RA) Work Plan  | 541 d    | Sun 3/21/04  | Mon 9/12/05  |
| 120 |          | 0%   | Main Installation Remedial Action (RA) Construction                        | 234 d    | Mon 4/17/06  | Wed 12/6/06  |
| 121 |          | 0%   | Notice to Proceed  | 0 d      | Mon 4/17/06  | Mon 4/17/06  |
| 122 |          | 0%   | Remedial Action Planning   | 31 d     | Mon 4/17/06  | Wed 5/17/06  |
| 123 |          | 0%   | Subcontractor and Vendor Procurement                                       | 31 d     | Mon 4/17/06  | Wed 5/17/06  |
| 124 |          | 0%   | Utilities Survey   | 31 d     | Mon 4/17/06  | Wed 5/17/06  |
| 125 |          | 0%   | Preconstruction Conference   | 1 d      | Wed 5/10/06  | Wed 5/10/06  |
| 126 |          | 0%   | Mobilization and Site Preparation  | 7 d      | Wed 5/24/06  | Tue 5/30/06  |
| 127 | P        | 0%   | Notice of Remedial Action Implementation                                   | 1 d      | Thu 5/25/06  | Thu 5/25/06  |
| 128 |          | 0%   | MI RA Construction (RA-C)  | 183 d    | Wed 5/31/06  | Wed 11/29/06 |
| 129 |          | 0%   | Final Construction Inspection  | 7 d      | Thu 11/23/06 | Wed 11/29/06 |
| 130 |          | 0%   | Demobilization and Site Restoration  | 7 d      | Thu 11/30/06 | Wed 12/8/06  |
| 131 |          | 0%   | MI RA-O (Injection) Year 1   | 365 d    | Thu 11/30/06 | Thu 11/29/07 |
| 132 |          | 0%   | MI Interim RA Completion Report (with OPS)                                 | 276 d    | Fri 11/30/07 | Sun 8/31/08  |
| 133 | P        | 0%   | Prepare & Submit Rev. 0 MI Interim RACR to BCT                             | 45 d     | Fri 11/30/07 | Sun 1/13/08  |
| 134 | BCT      | 0%   | BCT Review & Submit Comments on Rev. 0 MI Interim RACR                     | 60 d     | Mon 1/14/08  | Thu 3/13/08  |

**Figure 5-1  
Master Schedule**

| ID  | BCT Item | %   | Task Name   | Duration | Start        | Finish       |
|-----|----------|-----|---|----------|--------------|--------------|
| 135 |          | 0%  | Respond to BCT Comments on Rev. 0 MI Interim RACR         | 60 d     | Fri 3/14/08  | Mon 5/12/08  |
| 136 | P        | 0%  | Prepare & Submit Rev. 1 MI Interim RACR                   | 120 d    | Fri 3/14/08  | Fri 7/11/08  |
| 137 | BCT      | 0%  | BCT Review of Rev. 1 MI Interim RACR w/ Concurrence       | 30 d     | Sat 7/12/08  | Sun 8/10/08  |
| 138 | P        | 0%  | EPA Approval of the MI Interim RACR and OPS Determination | 21 d     | Mon 8/11/08  | Sun 8/31/08  |
| 139 |          | 0%  | MI RA Complete / Remedy in Place                          | 0 d      | Sun 8/31/08  | Sun 8/31/08  |
| 140 |          | 0%  | MI RA-O (Injection) Year 2                                | 365 d    | Fri 11/30/07 | Fri 11/28/08 |
| 141 |          | 0%  | MI RA-O (Monitoring)                                      | 2558 d   | Sat 11/29/08 | Mon 11/30/15 |
| 142 |          | 12% | Main Installation Long-Term Groundwater Monitoring (LTM)  | 4429 d   | Mon 4/26/04  | Fri 6/10/16  |

**Figure 5-1  
Master Schedule**

| ID  | BCI Item | %    | Task Name   | Duration | Start        | Finish       |
|-----|----------|------|---|----------|--------------|--------------|
| 143 |          | 36%  | DUNN FIELD  | 5562 d   | Thu 10/18/01 | Sat 10/5/19  |
| 144 |          | 100% | Dunn Field Remedial Investigation   | 259 d    | Thu 11/8/01  | Wed 7/24/02  |
| 154 |          | 100% | Dunn Field Site 60 EE/CA  | 392 d    | Mon 5/20/02  | Sun 6/15/03  |
| 174 |          | 100% | Dunn Field Feasibility Study  | 567 d    | Thu 10/18/01 | Thu 5/8/03   |
| 186 |          | 100% | Dunn Field Proposed Remedial Action Plan (Proposed Plan)                        | 264 d    | Fri 10/25/02 | Tue 7/15/03  |
| 195 |          | 100% | Dunn Field Record of Decision   | 438 d    | Fri 1/31/03  | Mon 4/12/04  |
| 208 |          | 100% | Dunn Field Pre-Design Investigations to Support Selected Remedial Alternative   | 599 d    | Mon 1/20/03  | Thu 9/9/04   |
| 260 |          | 100% | Dunn Field Post ROD Activities  | 118 d    | Tue 4/13/04  | Sun 8/8/04   |
| 261 |          | 100% | Update Dunn Field Master Schedule Post ROD                                      | 118 d    | Tue 4/13/04  | Sun 8/8/04   |
| 269 |          | 100% | Dunn Field Remedial Design (RD) Work Plan                                       | 222 d    | Mon 10/6/03  | Fri 5/14/04  |
| 278 |          | 50%  | Dunn Field Remedial Design (RD)/Remedial Action Construction (RA-C)             | 1810 d   | Wed 12/3/03  | Sat 11/15/08 |
| 279 |          | 100% | Dunn Field Disposal Sites Remedial Design                                       | 164 d    | Wed 12/3/03  | Fri 5/14/04  |
| 286 |          | 100% | Dunn Field Disposal Sites RD Public Briefing                                    | 122 d    | Fri 10/1/04  | Sun 1/30/05  |
| 287 |          | 59%  | Dunn Field Disposal Sites Remedial Action                                       | 924 d    | Sat 3/20/04  | Fri 9/29/06  |
| 288 |          | 100% | Dunn Field Disposal Sites Remedial Action Work Plan                             | 242 d    | Sat 3/20/04  | Tue 11/16/04 |
| 295 |          | 37%  | Dunn Field Disposal Sites Remedial Action Implementation                        | 598 d    | Wed 2/9/05   | Fri 9/29/06  |
| 296 |          | 100% | Notice to Proceed   | 0 d      | Wed 2/9/05   | Wed 2/9/05   |
| 297 |          | 100% | Pre-Construction Conference   | 1 d      | Thu 3/3/05   | Thu 3/3/05   |
| 298 |          | 100% | Mobilization / Site Preparation   | 3 d      | Mon 3/14/05  | Wed 3/16/05  |
| 299 | P        | 100% | Notice of RA Implementation   | 1 d      | Mon 3/14/05  | Mon 3/14/05  |
| 300 |          | 57%  | Disposal Sites RA Construction (RA-C) - Excavation, Transportation and Disposal | 399 d    | Thu 3/17/05  | Wed 4/19/06  |
| 301 |          | 100% | Initial Excavation  | 48 d     | Thu 3/17/05  | Tue 5/3/05   |
| 302 |          | 100% | Planning and Change Orders  | 143 d    | Wed 5/4/05   | Fri 9/23/05  |
| 303 |          | 0%   | Notice to Proceed   | 0 d      | Tue 10/11/05 | Tue 10/11/05 |
| 304 | P        | 0%   | RAWP Addendum No. 1, Rev. 1   | 126 d    | Tue 10/11/05 | Mon 2/13/06  |
| 305 | BCI      | 0%   | BCT Review and Approval on RAWP Addendum No. 1, Rev. 1                          | 8 d      | Tue 2/14/06  | Tue 2/21/06  |
| 306 |          | 0%   | Sites 3 + 10 Excavation, Backfill and Restoration                               | 10 d     | Mon 2/27/06  | Wed 3/8/06   |
| 307 |          | 0%   | Pre-Final Construction Inspection   | 1 d      | Wed 4/19/06  | Wed 4/19/06  |
| 308 |          | 0%   | Demobilization  | 1 d      | Wed 3/8/06   | Wed 3/8/06   |
| 309 |          | 0%   | Dunn Field Disposal Sites Final RA Completion Report                            | 163 d    | Thu 4/20/06  | Fri 9/29/06  |
| 310 | P        | 0%   | Prepare & Submit Rev. 0 Disposal Sites RACR to BCT                              | 13 d     | Thu 4/20/06  | Tue 5/2/06   |

**Figure 5-1  
Master Schedule**

| ID  | BCT Item | %    | Task Name  | Duration | Start        | Finish       |
|-----|----------|------|--|----------|--------------|--------------|
| 311 | BCT      | 0%   | BCT Review & Submit Comments on Rev. 0 Disposal Sites RACR             | 60 d     | Wed 5/3/06   | Sat 7/1/06   |
| 312 |          | 0%   | Respond to BCT Comments on Rev. 0 Disposal Sites RACR                  | 30 d     | Sun 7/2/06   | Mon 7/31/06  |
| 313 | P        | 0%   | Prepare & Submit Rev. 1 Disposal Sites RACR                            | 60 d     | Sun 7/2/06   | Wed 8/30/06  |
| 314 | BCT      | 0%   | BCT Review of Rev. 1 Disposal Sites RACR w/ Concurrence                | 30 d     | Thu 8/31/06  | Fri 9/29/06  |
| 315 | P        | 0%   | EPA Approval of the Final Disposal Sites RACR                          | 0 d      | Fri 9/29/06  | Fri 9/29/06  |
| 316 |          | 0%   | Disposal Sites RA Complete / Remedy In Place                           | 0 d      | Fri 9/29/06  | Fri 9/29/06  |
| 317 |          | 100% | Dunn Field Groundwater Pre-Design Investigation                        | 488 d    | Mon 3/1/04   | Fri 7/1/05   |
| 321 |          | 100% | Early Implementation of Selected Remedy                                | 323 d    | Mon 11/1/04  | Mon 9/19/05  |
| 336 |          | 40%  | Dunn Field Source Areas (SVE & ZVI) Remedial Design                    | 1147 d   | Mon 5/24/04  | Sat 7/14/07  |
| 337 |          | 54%  | Dunn Field Land Use Control Implementation Plan (LUCIP)                | 877 d    | Mon 5/24/04  | Tue 10/17/06 |
| 338 |          | 79%  | Prepare Rev. 0 LUCIP with Army/DLA                                     | 617 d    | Mon 5/24/04  | Mon 1/30/06  |
| 339 | S        | 0%   | Submit Rev 0 LUCIP to BCT with Intermediate Source Areas RD Report     | 72 d     | Tue 2/7/06   | Wed 4/19/06  |
| 340 | BCT      | 0%   | BCT Review & Submit Comments on Rev 0 LUCIP                            | 60 d     | Thu 4/20/06  | Sun 6/18/06  |
| 341 |          | 0%   | Respond to BCT Comments on Rev 0 LUCIP                                 | 30 d     | Mon 6/19/06  | Tue 7/18/06  |
| 342 | S        | 0%   | Prepare & Submit Rev 1 LUCIP   | 60 d     | Mon 6/19/06  | Thu 8/17/06  |
| 343 | BCT      | 0%   | BCT Review of Rev 1 LUCIP  | 30 d     | Fri 8/18/06  | Sat 9/16/06  |
| 344 | S        | 0%   | Prepare & Submit Rev 2 LUCIP   | 30 d     | Sun 9/17/06  | Mon 10/16/06 |
| 345 | BCT      | 0%   | BCT Approval of Rev 2 LUCIP  | 1 d      | Tue 10/17/06 | Tue 10/17/06 |
| 346 | S        | 0%   | Final Dunn Field LUCIP (Approved by Army & EPA)                        | 0 d      | Tue 10/17/06 | Tue 10/17/06 |
| 347 |          | 0%   | Dunn Field Remedial Design Investigation (RDI)                         | 133 d    | Thu 12/22/05 | Wed 5/3/06   |
| 348 | S        | 0%   | Prepare and Submit RDI Technical Memorandum (TM) Rev 0 to BCT          | 58 d     | Thu 12/22/05 | Fri 2/17/06  |
| 349 | BCT      | 0%   | BCT Review and Submit Comments on RDI TM                               | 60 d     | Sat 2/18/06  | Tue 4/18/06  |
| 350 | S        | 0%   | Prepare and Submit RDI TM Rev 1 to BCT                                 | 15 d     | Wed 4/19/06  | Wed 5/3/06   |
| 351 |          | 35%  | Dunn Field Source Areas RD Report                                      | 937 d    | Tue 9/21/04  | Sun 4/15/07  |
| 352 | S        | 100% | Prepare & Submit Preliminary (30%) Source Areas RD Report              | 120 d    | Tue 9/21/04  | Tue 1/18/05  |
| 353 | BCT      | 100% | BCT Review & Submit Comments on Preliminary (30%) Source Areas RD Rep  | 20 d     | Wed 1/19/05  | Mon 2/7/05   |
| 354 |          | 0%   | Review of Source Areas RDI Data and RD                                 | 1 d      | Thu 12/15/05 | Thu 12/15/05 |
| 355 | S        | 0%   | Prepare and Submit Intermediate (60%) Source Areas RD Report           | 108 d    | Mon 1/2/06   | Wed 4/19/06  |
| 356 | BCT      | 0%   | BCT Review & Submit Comments on Intermediate (60%) Source Areas RD Rep | 60 d     | Thu 4/20/06  | Sun 6/18/06  |
| 357 |          | 0%   | On-Board Review of Intermediate (60%) Source Areas RD Report Comments  | 1 d      | Mon 6/19/06  | Mon 6/19/06  |
| 358 | S        | 100% | Prepare & Submit Pre-Final (90%) Source Areas RD Report                | 75 d     | Tue 6/20/06  | Sat 9/2/06   |
| 359 | BCT      | 0%   | BCT Review and Submit Comments on Pre-Final (90%) Source Areas RD Rep  | 60 d     | Sun 9/3/06   | Wed 11/1/06  |

**Figure 5-1  
Master Schedule**

| ID  | BCT Item | %  | Task Name  | Duration | Start        | Finish       |
|-----|----------|----|--|----------|--------------|--------------|
| 360 | P        | 0% | Prepare & Submit Final (100%) Source Areas RD Report, Rev. 0           | 60 d     | Thu 11/2/06  | Sun 12/31/06 |
| 361 | BCT      | 0% | BCT Review and Submit Comments on Final Source Areas RD Report, Rev. 0 | 60 d     | Mon 1/1/07   | Thu 3/1/07   |
| 362 | P        | 0% | Prepare and Submit Final Source Areas RD Report, Rev. 1                | 30 d     | Fri 3/2/07   | Sat 3/31/07  |
| 363 | BCT      | 0% | BCT Approval of Final Source Areas RD Report, Rev. 1                   | 15 d     | Sun 4/1/07   | Sun 4/15/07  |
| 364 | P        | 0% | Final Source Areas RD Report   | 0 d      | Sun 4/15/07  | Sun 4/15/07  |
| 365 |          | 0% | Notice of Land Use Restrictions Development                            | 30 d     | Mon 4/16/07  | Tue 5/15/07  |
| 366 |          | 0% | Notice of Land Use Restrictions Submittal                              | 60 d     | Wed 5/16/07  | Sat 7/14/07  |
| 367 |          | 0% | Dunn Field Source Areas RD Public Briefing                             | 120 d    | Mon 4/16/07  | Mon 8/13/07  |
| 368 |          | 0% | Dunn Field Source Areas (SVE & ZVI) Remedial Action                    | 685 d    | Mon 1/1/07   | Sat 11/15/08 |
| 369 |          | 0% | Dunn Field Source Areas Remedial Action Work Plan                      | 270 d    | Mon 1/1/07   | Thu 9/27/07  |
| 370 | P        | 0% | Prepare & Submit Rev. 0 Groundwater Source Areas RAWP to BCT           | 60 d     | Mon 1/1/07   | Thu 3/1/07   |
| 371 | BCT      | 0% | BCT Review & Submit Comments on Source Areas Rev. 0 RAWP               | 60 d     | Fri 3/2/07   | Mon 4/30/07  |
| 372 |          | 0% | Respond to BCT Comments on Rev. 0 Source Areas RAWP                    | 60 d     | Tue 5/1/07   | Fri 6/29/07  |
| 373 | P        | 0% | Prepare & Submit Rev. 1 Source Areas RAWP                              | 120 d    | Tue 5/1/07   | Tue 8/28/07  |
| 374 | BCT      | 0% | BCT Review of Rev. 1 Source Areas RAWP w/Concurrence                   | 30 d     | Wed 8/29/07  | Thu 9/27/07  |
| 375 | P        | 0% | Final Source Areas RAWP  | 0 d      | Thu 9/27/07  | Thu 9/27/07  |
| 376 |          | 0% | Dunn Field Source Areas Remedial Action Implementation                 | 408 d    | Thu 10/4/07  | Sat 11/15/08 |
| 377 |          | 0% | Source Areas ZVI Implementation  | 317 d    | Thu 10/4/07  | Sat 8/16/08  |
| 378 |          | 0% | Notice to proceed  | 0 d      | Thu 10/4/07  | Thu 10/4/07  |
| 379 |          | 0% | Preconstruction Conference   | 1 d      | Fri 10/19/07 | Fri 10/19/07 |
| 380 |          | 0% | Mobilization   | 7 d      | Sat 11/3/07  | Fri 11/9/07  |
| 381 | P        | 0% | Notice of ZVI RA Implementation  | 1 d      | Sun 11/4/07  | Sun 11/4/07  |
| 382 |          | 0% | Dunn Field ZVI Source Areas Construction                               | 274 d    | Sat 11/10/07 | Sat 8/9/08   |
| 383 |          | 0% | Demobilization   | 7 d      | Sun 8/10/08  | Sat 8/16/08  |
| 384 |          | 0% | Source Areas SVE Remedial Implementation                               | 249 d    | Wed 3/12/08  | Sat 11/15/08 |
| 385 |          | 0% | Preconstruction Conference   | 1 d      | Wed 3/12/08  | Wed 3/12/08  |
| 386 |          | 0% | Mobilization   | 7 d      | Thu 3/27/08  | Wed 4/2/08   |
| 387 | P        | 0% | Notice of SVE RA Implementation  | 1 d      | Fri 3/28/08  | Fri 3/28/08  |
| 388 |          | 0% | Dunn Field SVE Source Areas Construction                               | 220 d    | Thu 4/3/08   | Sat 11/8/08  |
| 389 |          | 0% | Demobilization   | 7 d      | Sun 11/9/08  | Sat 11/15/08 |
| 390 |          | 0% | Dunn Field ZVI/SVE Operation and Maintenance (RA-0) Year 1             | 368 d    | Sun 11/9/08  | Mon 11/9/09  |
| 391 |          | 0% | Source Areas Interim RA Completion Report with OPS                     | 261 d    | Tue 11/10/09 | Wed 7/28/10  |

**Figure 5-1  
Master Schedule**

| ID  | BCT Item | %    | Task Name  | Duration | Start        | Finish       |
|-----|----------|------|--|----------|--------------|--------------|
| 392 | P        | 0%   | Prepare & Submit Rev. 0 Source Areas RACR to BCT                               | 60 d     | Tue 11/10/09 | Fri 1/8/10   |
| 393 | BCT      | 0%   | BCT Review & Submit Comments on Rev. 0 Source Areas RACR                       | 60 d     | Sat 1/9/10   | Tue 3/9/10   |
| 394 |          | 0%   | Respond to BCT Comments on Rev. 0 Source Areas RACR                            | 45 d     | Wed 3/10/10  | Fri 4/23/10  |
| 395 | P        | 0%   | Prepare & Submit Rev. 1 Source Areas RACR                                      | 90 d     | Wed 3/10/10  | Mon 6/7/10   |
| 396 | BCT      | 0%   | BCT Review of Rev. 1 Source Areas RACR w/ Concurrence                          | 30 d     | Tue 6/8/10   | Wed 7/7/10   |
| 397 | P        | 0%   | EPA Approval of Source Areas Final RACR and OPS Determination                  | 21 d     | Thu 7/8/10   | Wed 7/28/10  |
| 398 |          | 0%   | Source Areas RA Complete / Remedy In Place                                     | 0 d      | Wed 7/28/10  | Wed 7/28/10  |
| 399 |          | 0%   | Dunn Field ZVI/SVE Operation and Maintenance (RA-0) Year 2 - 5                 | 1461 d   | Tue 11/10/09 | Sat 11/9/13  |
| 400 |          | 8%   | Dunn Field Off Depot Groundwater Remedial Design                               | 601 d    | Fri 12/16/05 | Wed 8/8/07   |
| 401 |          | 15%  | Off-Depot ZVI PRB Installation Field Trial                                     | 395 d    | Fri 12/16/05 | Sun 1/14/07  |
| 402 |          | 0%   | Notice to Proceed  | 1 d      | Fri 12/16/05 | Fri 12/16/05 |
| 403 | S        | 0%   | Prepare and Submit Rev. 0 PRB Work Plan to BCT                                 | 61 d     | Mon 12/19/05 | Fri 2/17/06  |
| 404 | BCT      | 0%   | BCT Review and Submit Comments on Rev. 0 PRB WP                                | 30 d     | Sat 2/18/06  | Sun 3/19/06  |
| 405 | S        | 0%   | Prepare and Submit Rev. 1 PRB WP to BCT  | 30 d     | Mon 3/20/06  | Tue 4/18/06  |
| 406 |          | 0%   | PRB Installation Field Effort  | 92 d     | Wed 4/19/06  | Wed 7/19/06  |
| 407 |          | 0%   | Confirmation Sampling  | 257 d    | Wed 5/3/06   | Sun 1/14/07  |
| 408 | S        | 0%   | Prepare and Submit PRB Field Trial TM to BCT                                   | 60 d     | Wed 5/3/06   | Sat 7/1/06   |
| 409 | BCT      | 0%   | BCT Review and Submit Comments on PRB Field Trial TM                           | 60 d     | Sun 7/2/06   | Wed 8/30/06  |
| 410 | S        | 100% | Final Document Submittal (Concurrent with Submittal of 90% Off-Depot GW RD Ref | 103 d    | Thu 8/31/06  | Mon 12/11/06 |
| 411 |          | 0%   | Dunn Field Off Depot Groundwater RD Report                                     | 568 d    | Wed 1/18/06  | Wed 8/8/07   |
| 412 |          | 0%   | Preliminary (30%) Off Depot RD Presentation                                    | 1 d      | Wed 1/18/06  | Wed 1/18/06  |
| 413 | S        | 0%   | Prepare and Submit Intermediate (60%) Off Depot RD Report                      | 105 d    | Thu 3/2/06   | Wed 6/14/06  |
| 414 | BCT      | 0%   | BCT Review & Submit Comments on Intermediate (60%) Off Depot RD Report         | 60 d     | Thu 6/15/06  | Sun 8/13/06  |
| 415 |          | 0%   | Respond to BCT Comments on Intermediate (60%) Off Depot RD Report              | 60 d     | Mon 8/14/06  | Thu 10/12/06 |
| 416 | S        | 0%   | Prepare & Submit Pre-Final (90%) Off Depot RD Report                           | 120 d    | Mon 8/14/06  | Mon 12/11/06 |
| 417 | BCT      | 0%   | BCT Review and Submit Comments on Pre-Final (90%) Off Depot RD Report          | 60 d     | Tue 12/12/06 | Fri 2/9/07   |
| 418 | P        | 0%   | Prepare & Submit Final (100%) Off Depot RD Report. Rev. 0                      | 60 d     | Sat 2/10/07  | Tue 4/10/07  |
| 419 | BCT      | 0%   | BCT Review and Submit Comments on Final Off Depot RD Report. Rev. 0            | 60 d     | Wed 4/11/07  | Sat 6/9/07   |
| 420 | P        | 0%   | Prepare and Submit Final Off Depot RD Report. Rev. 1                           | 30 d     | Sun 6/10/07  | Mon 7/9/07   |
| 421 | BCT      | 0%   | BCT Approval of Final Off Depot RD Report. Rev. 1                              | 30 d     | Tue 7/10/07  | Wed 8/8/07   |
| 422 | P        | 0%   | Final Off Depot Groundwater RD Report  | 0 d      | Wed 8/8/07   | Wed 8/8/07   |
| 423 |          | 0%   | Dunn Field Off Depot GW RD Public Briefing                                     | 120 d    | Thu 8/9/07   | Thu 12/6/07  |

**Figure 5-1  
Master Schedule**

| ID  | BCT Item | %    | Task Name  | Duration | Start        | Finish       |
|-----|----------|------|--|----------|--------------|--------------|
| 424 |          | 0%   | Dunn Field Off Depot GW Remedial Action                              | 4801 d   | Mon 8/14/06  | Sat 10/5/19  |
| 425 |          | 0%   | Off Depot Properties Access for Remedial Action                      | 74 d     | Mon 8/14/06  | Thu 10/26/06 |
| 426 |          | 0%   | Identify Properties & Owners where Off Depot Access will be Required | 14 d     | Mon 8/14/06  | Sun 8/27/06  |
| 427 |          | 0%   | Obtain Off Depot Access Agreements                                   | 60 d     | Mon 8/28/06  | Thu 10/26/06 |
| 428 |          | 0%   | Complete Access Agreements or Initiate Regulatory Action             | 0 d      | Thu 10/26/06 | Thu 10/26/06 |
| 429 |          | 0%   | Dunn Field Off Depot Groundwater Remedial Action Work Plan           | 270 d    | Wed 4/11/07  | Sat 1/5/08   |
| 430 | P        | 0%   | Prepare & Submit Rev. 0 Groundwater Off Depot RAMP to BCT            | 60 d     | Wed 4/11/07  | Sat 6/9/07   |
| 431 | BCT      | 0%   | BCT Review & Submit Comments on Rev. 0 Off Depot RAMP                | 60 d     | Sun 6/10/07  | Wed 8/8/07   |
| 432 |          | 0%   | Respond to BCT Comments on Rev. 0 Off Depot RAMP                     | 60 d     | Thu 8/9/07   | Sun 10/7/07  |
| 433 | P        | 0%   | Prepare & Submit Rev. 1 Off Depot RAMP                               | 120 d    | Thu 8/9/07   | Thu 12/6/07  |
| 434 | BCT      | 0%   | BCT Review of Rev. 1 Off Depot RAMP w/Concurrence                    | 30 d     | Fri 12/7/07  | Sat 1/5/08   |
| 435 | P        | 0%   | Final Dunn Field Off Depot Groundwater RAMP                          | 0 d      | Sat 1/5/08   | Sat 1/5/08   |
| 436 |          | 0%   | Dunn Field Off Depot Groundwater Remedial Action Implementation      | 4284 d   | Sat 1/12/08  | Sat 10/5/19  |
| 437 |          | 0%   | Notice to Proceed  | 0 d      | Sat 1/12/08  | Sat 1/12/08  |
| 438 |          | 0%   | Preconstruction Conference   | 1 d      | Sun 1/27/08  | Sun 1/27/08  |
| 439 |          | 0%   | Mobilization   | 7 d      | Mon 2/11/08  | Sun 2/17/08  |
| 440 | P        | 0%   | Notice of RA Implementation  | 1 d      | Tue 2/12/08  | Tue 2/12/08  |
| 441 |          | 0%   | Dunn Field Off Depot RA Construction (RA-C)                          | 230 d    | Mon 2/18/08  | Sat 10/4/08  |
| 442 |          | 0%   | Demobilization   | 7 d      | Sun 10/5/08  | Sat 10/11/08 |
| 443 |          | 0%   | Dunn Field RA-Q (Monitoring) Year 1                                  | 366 d    | Sun 10/5/08  | Mon 10/5/09  |
| 444 |          | 0%   | Dunn Field Off Depot Interim RA Completion Report with OPS           | 261 d    | Tue 10/6/09  | Wed 6/23/10  |
| 445 | P        | 0%   | Prepare & Submit Rev. 0 Off Depot RACR to BCT                        | 60 d     | Tue 10/6/09  | Fri 12/4/09  |
| 446 | BCT      | 0%   | BCT Review & Submit Comments on Rev. 0 Off Depot RACR                | 60 d     | Sat 12/5/09  | Tue 2/2/10   |
| 447 |          | 0%   | Respond to BCT Comments on Rev. 0 Off Depot RACR                     | 45 d     | Wed 2/3/10   | Fri 3/19/10  |
| 448 | P        | 0%   | Prepare & Submit Rev. 1 Off Depot RACR                               | 90 d     | Wed 2/3/10   | Mon 5/3/10   |
| 449 | BCT      | 0%   | BCT Review of Rev. 1 Off Depot RACR w/ Concurrence                   | 30 d     | Tue 5/4/10   | Wed 6/2/10   |
| 450 | P        | 0%   | EPA Approval of the Dunn Field Off Depot RACR and OPS Determination  | 21 d     | Thu 6/3/10   | Wed 6/23/10  |
| 451 |          | 0%   | Off Depot RA Complete / Remedy in Place                              | 0 d      | Wed 6/23/10  | Wed 6/23/10  |
| 452 |          | 0%   | Dunn Field RA-Q (Monitoring) Year 2 - 10                             | 3287 d   | Tue 10/6/09  | Fri 10/5/18  |
| 453 |          | 0%   | Dunn Field Long-Term Monitoring (LTM)                                | 365 d    | Sat 10/6/18  | Sat 10/5/19  |
| 454 |          | 42%  | Dunn Field Interim Remedial Actions (Groundwater Extraction)         | 1906 d   | Tue 3/11/03  | Wed 5/28/08  |
| 455 |          | 100% | Calendar Year 2003 Operations  | 380 d    | Tue 3/11/03  | Wed 3/24/04  |

**Figure 5-1  
Master Schedule**

| ID  | BCT Item | %    | Task Name   | Duration | Start       | Finish       |
|-----|----------|------|---|----------|-------------|--------------|
| 461 |          | 100% | Calendar Year 2004 Operations                                 | 481 d    | Mon 3/1/04  | Fri 6/24/05  |
| 467 |          | 20%  | Calendar Year 2005 Operations                                 | 394 d    | Sun 5/1/05  | Mon 5/29/06  |
| 468 |          | 100% | 1st Semi-Annual Groundwater Sampling Event                    | 60 d     | Sun 5/1/05  | Wed 6/29/05  |
| 469 |          | 0%   | 2nd Semi-Annual Groundwater Sampling Event                    | 60 d     | Sat 10/1/05 | Tue 11/29/05 |
| 470 | S        | 0%   | Annual Effectiveness Report (Rev. 0) to BCT                   | 90 d     | Thu 12/1/05 | Tue 2/28/06  |
| 471 | BCT      | 0%   | BCT review of the Annual Effectiveness Report (Rev. 0)        | 60 d     | Wed 3/1/06  | Sat 4/29/06  |
| 472 | S        | 0%   | Prepare and Submit Rev. 1 Annual Effectiveness Report (Final) | 30 d     | Sun 4/30/06 | Mon 5/29/06  |
| 473 |          | 0%   | Calendar Year 2006 Operations                                 | 455 d    | Wed 3/1/06  | Tue 5/29/07  |
| 474 |          | 0%   | 1st Semi-Annual Groundwater Sampling Event                    | 60 d     | Wed 3/1/06  | Sat 4/29/06  |
| 475 |          | 0%   | 2nd Semi-Annual Groundwater Sampling Event                    | 60 d     | Sat 9/2/06  | Tue 10/31/06 |
| 476 | S        | 0%   | Annual Effectiveness Report (Rev. 0) to BCT                   | 90 d     | Fri 12/1/06 | Wed 2/28/07  |
| 477 | BCT      | 0%   | BCT review of the Annual Effectiveness Report (Rev. 0)        | 60 d     | Thu 3/1/07  | Sun 4/29/07  |
| 478 | S        | 0%   | Prepare and Submit Rev. 1 Annual Effectiveness Report (Final) | 30 d     | Mon 4/30/07 | Tue 5/29/07  |
| 479 |          | 0%   | Calendar Year 2007 Operations                                 | 455 d    | Thu 3/1/07  | Wed 5/28/08  |
| 480 |          | 0%   | 1st Semi-Annual Groundwater Sampling Event                    | 60 d     | Thu 3/1/07  | Sun 4/29/07  |
| 481 |          | 0%   | 2nd Semi-Annual Groundwater Sampling Event                    | 60 d     | Sun 9/2/07  | Wed 10/31/07 |
| 482 | S        | 0%   | Annual Effectiveness Report (Rev. 0) to BCT                   | 90 d     | Sat 12/1/07 | Thu 2/28/08  |
| 483 | BCT      | 0%   | BCT review of the Annual Effectiveness Report (Rev. 0)        | 60 d     | Fri 2/29/08 | Mon 4/28/08  |
| 484 | S        | 0%   | Prepare and Submit Rev. 1 Annual Effectiveness Report (Final) | 30 d     | Tue 4/29/08 | Wed 5/28/08  |

**Figure 5-1  
Master Schedule**

| ID  | BCT Item | %    | Task Name  | Duration | Start        | Finish       |
|-----|----------|------|--|----------|--------------|--------------|
| 485 |          | 45%  | Memphis Depot NPL Site-Wide Activities   | 6437 d   | Mon 8/19/02  | Thu 4/2/20   |
| 486 |          | 100% | Post ROD Community Involvement Plan  | 285 d    | Sat 5/1/04   | Thu 2/10/05  |
| 487 | P        | 100% | Prepare & Submit Rev 0 CIP to BCT  | 235 d    | Sat 5/1/04   | Tue 12/21/04 |
| 488 | BCT      | 100% | BCT Review Rev 0 CIP with Concurrence  | 41 d     | Sat 1/1/05   | Thu 2/10/05  |
| 489 |          | 100% | Remedial Action Sampling & Analysis Plan                                       | 530 d    | Tue 5/25/04  | Sat 11/5/05  |
| 490 | S        | 100% | Prepare & Submit Rev 0 RA SAP  | 126 d    | Tue 5/25/04  | Mon 9/27/04  |
| 491 | BCT      | 100% | BCT Review & Submit Comments on Rev 0 RA SAP                                   | 77 d     | Tue 9/28/04  | Mon 12/13/04 |
| 492 |          | 100% | Respond to BCT Comments on Rev 0 RA SAP  | 131 d    | Sun 12/12/04 | Thu 4/21/05  |
| 493 | S        | 100% | Prepare & Submit Rev 1 RA SAP  | 314 d    | Sun 12/12/04 | Fri 10/21/05 |
| 494 | BCT      | 100% | BCT Review of Rev 1 RA SAP w/ Concurrence                                      | 15 d     | Sat 10/22/05 | Sat 11/5/05  |
| 495 | S        | 100% | Submit Final (Rev 1) RA SAP  | 0 d      | Sat 11/5/05  | Sat 11/5/05  |
| 496 |          | 0%   | BRAC Cleanup Plan (BCP)  | 485 d    | Sun 10/2/05  | Mon 1/29/07  |
| 497 |          | 0%   | BCP, Version 9   | 185 d    | Sun 10/2/05  | Tue 4/4/06   |
| 498 | P        | 0%   | Prepare & Submit Rev 0 BCP, V9 to BCT  | 125 d    | Sun 10/2/05  | Fri 2/3/06   |
| 499 | BCT      | 0%   | BCT Review & Submit Comments on Rev 0 BCP, V9                                  | 30 d     | Sat 2/4/06   | Sun 3/5/06   |
| 500 | P        | 0%   | Prepare & Submit Rev 1 BCP, V9 to BCT  | 30 d     | Mon 3/6/06   | Tue 4/4/06   |
| 501 |          | 0%   | BCP, Version 10  | 120 d    | Mon 10/2/06  | Mon 1/29/07  |
| 502 | P        | 0%   | Prepare & Submit Rev 0 BCP, V10 to BCT   | 60 d     | Mon 10/2/06  | Thu 11/30/06 |
| 503 | BCT      | 0%   | BCT Review & Submit Comments on Rev 0 BCP, V10                                 | 30 d     | Fri 12/1/06  | Sat 12/30/06 |
| 504 | P        | 0%   | Prepare & Submit Rev 1 BCP, V10 to BCT   | 30 d     | Sun 12/31/06 | Mon 1/29/07  |
| 505 |          | 34%  | FOST SCHEDULE  | 2525 d   | Tue 4/13/04  | Sat 3/12/11  |
| 506 |          | 90%  | FOST 4   | 597 d    | Tue 4/13/04  | Wed 11/30/05 |
| 507 |          | 100% | Prepare & Submit Internal Rev 0 FOST 4 to DSS-DB                               | 70 d     | Tue 4/13/04  | Mon 6/21/04  |
| 508 |          | 100% | DSS-DB Review & Submit Comments on Rev 0 FOST 4                                | 66 d     | Tue 6/22/04  | Thu 8/26/04  |
| 509 |          | 100% | Prepare & Submit Internal Rev 0 1 FOST 4 to DSS-DB                             | 37 d     | Sun 8/29/04  | Mon 10/4/04  |
| 510 |          | 100% | DSS-DB Review & Submit Comments on Rev 0 1 FOST 4                              | 17 d     | Tue 10/5/04  | Thu 10/21/04 |
| 511 | P        | 100% | Prepare & Submit Rev 1 FOST 4 to BCT   | 5 d      | Fri 10/22/04 | Tue 10/26/04 |
| 512 | BCT      | 100% | BCT Review & Submit Comments on Rev 1 FOST 4                                   | 75 d     | Wed 10/27/04 | Sun 1/9/05   |
| 513 |          | 100% | Prepare & Submit Final (Rev 2) FOST 4 for Public Comment                       | 14 d     | Mon 1/10/05  | Sun 1/23/05  |
| 514 |          | 100% | Public Comment Period for FOST 4   | 30 d     | Mon 1/24/05  | Tue 2/22/05  |
| 515 |          | 100% | Resolve/Incorporate Comments & Submit Final FOST 4 to DSS-DB                   | 2 d      | Wed 2/23/05  | Thu 2/24/05  |
| 516 |          | 100% | DSS-DB Revw & Send Final FOST to Hampton for Approval Signature (copies to DI) | 0 d      | Thu 2/24/05  | Thu 2/24/05  |

**Figure 5-1  
Master Schedule**

| ID  | BCT Item | %    | Task Name   | Duration | Start        | Finish       |
|-----|----------|------|---|----------|--------------|--------------|
| 517 |          | 100% | Hampton Approve/Sign FOST   | 30 d     | Fri 2/25/05  | Sat 3/26/05  |
| 518 |          | 75%  | Deed Issued by CoE - Mobile   | 249 d    | Sun 3/27/05  | Wed 11/30/05 |
| 519 |          | 0%   | <b>FOST 5</b>   | 488 d    | Fri 11/30/07 | Tue 3/31/09  |
| 520 |          | 0%   | Prepare & Submit Internal Rev 0 FOST 5 to DSS-DB                              | 60 d     | Fri 11/30/07 | Mon 1/28/08  |
| 521 |          | 0%   | DSS-DB Review & Submit Comments on Rev 0 FOST 5                               | 45 d     | Tue 1/29/08  | Thu 3/13/08  |
| 522 |          | 0%   | Prepare & Submit Internal Rev 0.1 FOST 5 to DSS-DB                            | 30 d     | Sun 3/16/08  | Mon 4/14/08  |
| 523 |          | 0%   | DSS-DB Review & Submit Comments on Rev 0.1 FOST 5                             | 30 d     | Tue 4/15/08  | Wed 5/14/08  |
| 524 | P        | 0%   | Prepare & Submit Rev 1 FOST 5 to BCT  | 15 d     | Thu 5/15/08  | Thu 5/29/08  |
| 525 | BCT      | 0%   | BCT Review & Submit Comments on Rev 1 FOST 5                                  | 30 d     | Fri 5/30/08  | Sat 6/28/08  |
| 526 | P        | 0%   | Prepare and Submit Rev 2 FOST 5 to BCT  | 30 d     | Sun 6/29/08  | Mon 7/28/08  |
| 527 | BCT      | 0%   | BCT Review & Submit Comments on Rev 2 FOST 5                                  | 15 d     | Tue 7/29/08  | Tue 8/12/08  |
| 528 |          | 0%   | Prepare & Submit Final (Rev 2) FOST 5 for Public Comment                      | 21 d     | Wed 8/13/08  | Tue 9/2/08   |
| 529 |          | 0%   | Public Comment Period for FOST 5  | 30 d     | Wed 9/3/08   | Thu 10/2/08  |
| 530 |          | 0%   | Resolve/Incorporate Comments & Submit Final FOST 5 to DSS-DB                  | 15 d     | Fri 10/3/08  | Fri 10/17/08 |
| 531 |          | 0%   | DSS-DB Rewr & Send Final FOST to Hampton for Approval Signature (copies to DI | 15 d     | Sat 10/18/08 | Sat 11/1/08  |
| 532 |          | 0%   | Hampton Approve/Sign FOST   | 30 d     | Sun 11/2/08  | Mon 12/1/08  |
| 533 |          | 0%   | Deed Issued by CoE - Mobile   | 120 d    | Tue 12/2/08  | Tue 3/31/09  |
| 534 |          | 0%   | <b>FOST 6</b>   | 488 d    | Tue 11/10/09 | Sat 3/12/11  |
| 535 |          | 0%   | Prepare & Submit Internal Rev 0 FOST 6 to DSS-DB                              | 60 d     | Tue 11/10/09 | Fri 1/8/10   |
| 536 |          | 0%   | DSS-DB Review & Submit Comments on Rev 0 FOST 6                               | 45 d     | Sat 1/9/10   | Mon 2/22/10  |
| 537 |          | 0%   | Prepare & Submit Internal Rev 0.1 FOST 6 to DSS-DB                            | 30 d     | Thu 2/25/10  | Fri 3/26/10  |
| 538 |          | 0%   | DSS-DB Review & Submit Comments on Rev 0.1 FOST 6                             | 30 d     | Sat 3/27/10  | Sun 4/25/10  |
| 539 | P        | 0%   | Prepare & Submit Rev 1 FOST 6 to BCT  | 15 d     | Mon 4/26/10  | Mon 5/10/10  |
| 540 | BCT      | 0%   | BCT Review & Submit Comments on Rev 1 FOST 6                                  | 30 d     | Tue 5/11/10  | Wed 6/9/10   |
| 541 | P        | 0%   | Prepare & Submit Rev 2 FOST 6 to BCT  | 30 d     | Thu 6/10/10  | Fri 7/9/10   |
| 542 | BCT      | 0%   | BCT Review & Submit Comments on Rev 2 FOST 6                                  | 15 d     | Sat 7/10/10  | Sat 7/24/10  |
| 543 |          | 0%   | Prepare & Submit Final (Rev 2) FOST 6 for Public Comment                      | 21 d     | Sun 7/25/10  | Sat 8/14/10  |
| 544 |          | 0%   | Public Comment Period for FOST 6  | 30 d     | Sun 8/15/10  | Mon 9/13/10  |
| 545 |          | 0%   | Resolve/Incorporate Comments & Submit Final FOST 6 to DSS-DB                  | 15 d     | Tue 9/14/10  | Tue 9/28/10  |
| 546 |          | 0%   | DSS-DB Rewr & Send Final FOST to Hampton for Approval Signature (copies to DI | 15 d     | Wed 9/29/10  | Wed 10/13/10 |
| 547 |          | 0%   | Hampton Approve/Sign FOST   | 30 d     | Thu 10/14/10 | Fri 11/12/10 |
| 548 |          | 0%   | Deed Issued by CoE - Mobile   | 120 d    | Sat 11/13/10 | Sat 3/12/11  |

**Figure 5-1  
Master Schedule**

| ID  | BCT Item | %    | Task Name   | Duration | Start        | Finish       |
|-----|----------|------|---|----------|--------------|--------------|
| 549 |          | 41%  | CERCLA 5-Year Review  | 1972 d   | Mon 8/19/02  | Fri 1/11/08  |
| 550 |          | 100% | Perform 1st 6-Year Review                                   | 158 d    | Mon 8/19/02  | Thu 1/23/03  |
| 558 |          | 0%   | Perform 2nd 5-Year Review                                   | 225 d    | Fri 6/1/07   | Fri 1/11/08  |
| 559 | P        | 0%   | Prepare & Submit Rev. 0 5-Year Review to BCT                | 60 d     | Fri 6/1/07   | Mon 7/30/07  |
| 560 | BCT      | 0%   | BCT Review & Submit Comments on Rev. 0 5-Year Review        | 60 d     | Tue 7/31/07  | Fri 9/28/07  |
| 561 |          | 0%   | Respond to BCT Comments on Rev. 0 5-Year Review             | 30 d     | Sat 9/29/07  | Sun 10/28/07 |
| 562 | P        | 0%   | Prepare & Submit Rev. 1 5-Year Review                       | 60 d     | Sat 9/29/07  | Tue 11/27/07 |
| 563 | BCT      | 0%   | BCT Review of Rev. 1 5-Year Review w/ Concurrence           | 30 d     | Wed 11/28/07 | Thu 12/27/07 |
| 564 | P        | 0%   | Prepare & Submit Rev. 2 5-Year Review                       | 15 d     | Fri 12/28/07 | Fri 1/11/08  |
| 565 |          | 0%   | Submit Rev. 2 5-Year Review                                 | 0 d      | Fri 1/11/08  | Fri 1/11/08  |
| 566 |          | 0%   | Preliminary Closeout Report (PCOR)                          | 210 d    | Sun 11/16/08 | Sat 6/13/09  |
| 567 | P        | 0%   | Prepare & Submit Rev. 0 PCOR                                | 60 d     | Sun 11/16/08 | Wed 1/14/09  |
| 568 | BCT      | 0%   | BCT Review & Submit Comments on Rev. 0 PCOR                 | 60 d     | Thu 1/15/09  | Sun 3/15/09  |
| 569 |          | 0%   | Respond to BCT Comments on Rev. 0 PCOR                      | 30 d     | Mon 3/16/09  | Tue 4/14/09  |
| 570 | P        | 0%   | Prepare & Submit Rev. 1 PCOR                                | 60 d     | Mon 3/16/09  | Thu 5/14/09  |
| 571 | BCT      | 0%   | BCT Review of Rev. 1 PCOR w/ Concurrence                    | 30 d     | Fri 5/15/09  | Sat 6/13/09  |
| 572 | P        | 0%   | EPA Approval of PCOR  | 0 d      | Sat 6/13/09  | Sat 6/13/09  |
| 573 |          | 0%   | Construction Completion                                     | 0 d      | Sat 6/13/09  | Sat 6/13/09  |
| 574 |          | 0%   | Final Remedial Action Report (Final Closeout Report [FCOR]) | 180 d    | Sun 10/16/19 | Thu 4/2/20   |
| 575 | P        | 0%   | Prepare & Submit Rev. 0 Final RA Report/FCOR to BCT         | 45 d     | Sun 10/16/19 | Tue 11/19/19 |
| 576 | BCT      | 0%   | BCT Review & Submit Comments on Rev. 0 Final RA Report/FCOR | 60 d     | Wed 11/20/19 | Sat 1/18/20  |
| 577 |          | 0%   | Respond to BCT Comments on Rev. 0 Final RA Report/FCOR      | 15 d     | Sun 1/19/20  | Sun 2/2/20   |
| 578 | P        | 0%   | Prepare & Submit Rev. 1 Final RA Report/FCOR                | 30 d     | Sun 1/19/20  | Mon 2/17/20  |
| 579 | BCT      | 0%   | BCT Review of Rev. 1 Final RA Report/FCOR                   | 30 d     | Tue 2/18/20  | Wed 3/18/20  |
| 580 | P        | 0%   | Prepare & Submit Rev. 2 Final RA Report/FCOR                | 15 d     | Thu 3/19/20  | Thu 4/2/20   |
| 581 | P        | 0%   | Final RA Report/FCOR  | 0 d      | Thu 4/2/20   | Thu 4/2/20   |
| 582 |          | 0%   | Site Completion   | 0 d      | Thu 4/2/20   | Thu 4/2/20   |
| 583 |          | 0%   | Site Completion   | 0 d      | Thu 4/2/20   | Thu 4/2/20   |

**SECTION SIX****TECHNICAL AND OTHER ISSUES TO BE RESOLVED****6.0 TECHNICAL AND OTHER ISSUES TO BE RESOLVED**

This section summarizes technical and other issues that have been or are yet to be resolved. This section is organized as the BCP Guidance (Fall 1995/September 1996 addendum) prescribes, although not every section includes unresolved issues.

**6.1 DATA USABILITY**

At this time, there are no unresolved issues regarding data usability.

**6.2 INFORMATION MANAGEMENT**

At this time, there are no unresolved issues with regard to managing information gathered and used in the Depot's environmental restoration and compliance programs.

**6.3 DATA GAPS**

This section summarizes unresolved issues pertaining to the determination and collection of data needed to complete the Depot environmental restoration program. As of 1 November 2005, there were data gaps regarding the CSM of plume movement and connections between the fluvial aquifer and deeper aquifers west of Dunn Field; the source of groundwater contamination migrating onto Dunn Field from an off-site, upgradient source; the extent of individual plumes on the MI; direction of groundwater flow at the south-central boundary of the MI; and the effectiveness of a proposed alternative method for constructing the PRB.

**6.3.1 BCT Action Items**

The following BCT action items should be addressed at the Depot to identify and fill data gaps and continue the environmental restoration process:

- Install additional monitoring wells to identify separate contaminant plumes and develop compliance well networks on the MI.
- Install additional CSM wells and conduct groundwater flow and contaminant transport modeling to improve the CSM, particularly in the area west of Dunn Field.
- Coordinate with USEPA and TDEC as appropriate in their investigation of the groundwater plume source area northeast of Dunn Field.

**SECTION SIX****TECHNICAL AND OTHER ISSUES TO BE RESOLVED**

- Additional monitoring wells will aid in determining groundwater flow at the south-central boundary of the MI.
- A field trial will be performed to evaluate an alternative method for constructing a PRB.

**6.3.2 Rationale**

Effective analysis of data gaps will facilitate the implementation of the MI Groundwater RA and the completion of the Dunn Field Source Areas and Off-Depot Groundwater RDs, so that the selected remedies can be evaluated and effectively implemented.

**6.3.3 Status/Strategy**

In 2005, the BCT elected to conduct a membrane interface probe study and install additional wells on Dunn Field during an RDI. The RDI also includes CSM wells west of Dunn Field to investigate suspected gaps in the uppermost clay. The additional CSM data will be incorporated into the groundwater modeling underway for the Off-Depot RD. Additional monitoring well locations on the MI have been recommended to further delineate low-concentration plumes, provide suitable compliance well networks, and evaluate success of MNA.

**6.4 BACKGROUND LEVELS**

At this time, there are no unresolved issues regarding background levels.

**6.5 RISK ASSESSMENTS**

At this time, there are no unresolved issues regarding risk assessments.

**6.6 BASEWIDE REMEDIAL ACTION STRATEGY**

This section summarizes unresolved issues pertaining to the base wide RA strategy. As of 1 November 2005, there were issues regarding groundwater contaminant concentrations near MW-39 on the MI outside the planned treatment areas, the installation method and location of the PRB west of Dunn Field, the cost effectiveness of ZVI injections in the source areas and off-depot locations, the effectiveness of SVE in the loess at Dunn Field, alternative remedial technologies for the loess at Dunn Field, and contaminant concentrations appropriate for MNA.

**SECTION SIX****TECHNICAL AND OTHER ISSUES TO BE RESOLVED****6.6.1 BCT Action Items**

The following BCT action items should be addressed at the Depot to resolve issues regarding the base wide RA strategy:

- Conduct contaminant transport modeling to determine concentrations that would be appropriate for MNA.
- Conduct additional investigations as needed to determine the extent of contamination on the MI near MW-39.
- Collect additional lithological and hydrogeological data along the proposed PRB alignment, and conduct a PRB installation field trial to determine the appropriate installation method for the site.

**6.6.2 Rationale**

Resolution of these issues will facilitate the implementation of the MI RA and the development of the MI Operating Properly and Successfully (OPS) application, and will facilitate the completion of the Dunn Field Source Areas and Off-Depot Groundwater RDs, so that the selected remedies can be effectively designed and implemented and OPS obtained.

**6.6.3 Status/Strategy**

In 2005, the BCT approved the Source Areas RDI Work Plan, and fieldwork began in October 2005. Additional monitoring wells and soil data were collected during this fieldwork, and the draft technical memorandum was submitted in March 2006. The RDI data will be used in the contaminant transport modeling, which is in progress. The Depot elected to conduct a PRB field trial and anticipates implementing it in 2006. The RDI includes soil borings along the PRB alignment, and a Work Plan for the field trial is being developed, with fieldwork planned for early 2006. Additional groundwater monitoring wells have been recommended to further delineate contamination near MW-39 and elsewhere on the MI. These wells will be installed during construction of the MI RA in 2006.

**SECTION SIX****TECHNICAL AND OTHER ISSUES TO BE RESOLVED****6.7 GROUNDWATER INTERIM REMEDIAL ACTION AND LONG-TERM GROUNDWATER MONITORING**

At this time, there are no unresolved issues regarding long-term groundwater monitoring. This section summarizes unresolved issues pertaining to the groundwater IRA. As of 1 November 2005, optimization of the groundwater IRA was being considered.

**6.7.1 BCT Action Items**

The following BCT action items should be addressed at the Depot with regard to IRA optimization:

- Review groundwater concentrations and flow rates in existing recovery wells to determine if selected wells could be shutdown with minimal affect on mass removal.
- Determine the impact on the effluent discharge permit with the City of Memphis and contact the City to discuss permit revisions, if necessary.
- Determine appropriate monitoring requirements and conditions for restarting shutdown recovery wells.

**6.7.2 Rationale**

IRA optimization will improve cost-effectiveness with little impact on system effectiveness.

**6.7.3 Status/Strategy**

In 2005, the BCT directed that IRA system operations be reviewed with the goal of improving cost-effectiveness while maintaining significant mass reduction at the facility boundary until the final remedy is in place. The optimization plan was submitted in February 2006 for review and action by the BCT. Although the BCT concurred with the plan, the City of Memphis would not change any of the permit discharge parameters. At the April 2006 BCT meeting, Mr. Dobbs informed the BCT that the optimization plan would not be implemented and the BCT concurred with the decision not to implement the optimization plan.

**6.8 EXCAVATION OF CONTAMINATED MATERIALS**

This section summarizes unresolved issues pertaining to the excavation of contaminated materials. As of November 2005, there are issues regarding completion of the excavation, transportation, and

**SECTION SIX****TECHNICAL AND OTHER ISSUES TO BE RESOLVED**

disposal of materials from Sites 3 and 10 at Dunn Field. The Disposal Sites RA included excavation, transportation, and disposal of five sites identified by the Disposal Sites Pre-Design Investigation. Fieldwork began in March 2005, and three of the sites were successfully excavated as indicated by confirmation sample results. At Site 3, the excavation revealed a large quantity of intact 1-quart glass bottles containing a clear liquid, and work ceased until the liquid could be identified. At Site 10, excavation to remove impacted materials from beyond the planned limits of excavation was performed. Additional confirmation samples along one wall indicated that contamination remained. AFCEE received a change order request from the contractor based on the bottles at Site 3 and the additional excavation at Site 10.

**6.8.1 BCT Action Items**

There are no BCT action items necessary to address this issue.

**6.8.2 Rationale**

Resolution of these issues must occur to complete excavations at Site 3 and 10.

**6.8.3 Status/Strategy**

AFCEE has issued a modification to resume activities at Disposal Sites 3 and 10. The contractors are preparing the Work Plan and Health and Safety Plan addenda. DDC anticipates that the Sites 3 and 10 field work will be performed in February 2006.

**6.9 PROTOCOLS FOR REMEDIAL DESIGN REVIEWS**

At this time, there are no unresolved issues pertaining to the protocols for RD review.

**6.10 CONCEPTUAL MODELS**

The RDI and groundwater modeling are being performed, in part, to review the CSM with regard to migration of groundwater contamination. See Section 6.6 for more information.

**6.11 CLEANUP STANDARDS**

Remedial goals (RGs) established in the Dunn Field ROD for the loess are being considered as part of the base wide RA strategy review described in Section 6.6. It is not clear that the selected remedial action (SVE) can effectively achieve the RGs. It is also not clear that the RGs are

**SECTION SIX****TECHNICAL AND OTHER ISSUES TO BE RESOLVED**

necessary to meet the remedial action objective of protecting groundwater. This issue will be considered further by the BCT in 2006. Should any changes to the RGs be deemed appropriate, they will be implemented through a ROD amendment with full public comment. The BCT does not anticipate that such a change will occur prior to construction of the Dunn Field Source Areas RA because all that would be affected is duration of the RA, not the action itself or the final design.

**6.12 INITIATIVES FOR ACCELERATING CLEANUP**

At this time, there are no unresolved issues pertaining to initiatives for accelerating cleanup.

**6.13 REMEDIAL ACTIONS**

The RDI was performed to better delineate the source areas requiring treatment at Dunn Field. The results will be used to review two of the selected RAs, SVE in loess and ZVI injection in the fluvial aquifer. A field trial is planned to evaluate an alternative installation method for the PRB west of Dunn Field. See Section 6.6 for more information.

**6.14 REVIEW OF SELECTED TECHNOLOGIES FOR APPLICATION OF EXPEDITED SOLUTIONS**

*In situ* thermal treatment will be used to enhance the selected remedy of SVE for cleanup of the loess. Based on vendor estimates, the thermal-enhanced SVE process treatment time will be less than one year for treatment of the loess deposits.

**6.14.1 BCT Action Items**

The following BCT action items should be addressed at the Depot with regard to thermal-enhanced SVE:

- Determine if thermal-enhanced SVE has reduced CVOC concentrations at other sites to the cleanup levels established for Dunn Field.
- Evaluate schedule implications for heating and cooling of the formation, which might result in potential delays for other selected treatment remedies.
- Determine if one of the proposed treatment technologies [Electrical Resistance Heating (ERH) or *In Situ* Thermal Desorption (ISTD)] is advantageous over the other based on site specific conditions.

## **SECTION SIX** **TECHNICAL AND OTHER ISSUES TO BE RESOLVED**

### **6.14.2 Rationale**

Thermal-enhanced SVE will increase the efficiency of conventional SVE to treat the loess.

### **6.14.3 Status/Strategy**

Following a succession of treatability studies and the treatment time desktop analysis, it was concluded that conventional SVE would not likely be able to achieve the ROD RG in a reasonable timeframe (5 years). As presented and discussed at the 15 December 2005 and 19 January 2006 BCT meetings, thermal-enhanced SVE was selected as the remedy for the loess.

## **6.15 HOT-SPOT REMOVALS**

At this time, there are no unresolved issues pertaining to hot-spot removals. No hot-spot removals were performed in 2005. Past removal actions are described in Table 3-3.

## **6.16 IDENTIFICATION OF CLEAN PROPERTIES**

At this time, there are no unresolved issues pertaining to identification of clean properties.

## **6.17 OVERLAPPING PHASES OF THE CLEANUP PROCESS**

At this time, there are no unresolved issues pertaining to overlapping phases of the cleanup process.

## **6.18 IMPROVED CONTRACTING PROCEDURES**

DLA recognizes that there have been some challenges with respect to contracting with support agencies (AFCEE and CEHNC). However, DLA is committed to improving services contracts to ensure that site activities are not being impeded. DLA has stressed to the support agencies the need to plan ahead for end of fiscal year policies and contract modifications. DLA has also implemented frequent communication calls with the service agencies and contractors to plan future contract needs well in advance of planned work activities.

### **6.18.1 BCT Action Items**

The following BCT action items should be addressed at the Depot to resolve issues regarding improved contracting procedures:

**SECTION SIX****TECHNICAL AND OTHER ISSUES TO BE RESOLVED**

- Continue to plan for the end of fiscal year policies and contract modifications to ensure activities are not impeded.
- Continue communication calls with the service agencies and contractors to plan future contracts well in advance of planned work activities.

**6.18.2 Rationale**

DLA's commitment to improving service contracts will facilitate implementation of the various phases of design and field related work so OPS can be obtained.

**6.18.3 Status/Strategy**

DLA is focused on improving communication between the support agencies and the contractors. DLA has emphasized to the support agencies that contracting has a significant impact on the Depot program and that work activities must be identified well in advance for planning and scheduling purposes. DLA has implemented frequent communication calls with the service agencies and the contractors to plan and identify contracting needs well in advance of work activities.

**6.19 INTERFACING WITH THE COMMUNITY REDEVELOPMENT PLAN**

At this time, there are no unresolved issues pertaining to interfacing with the community redevelopment plan.

**6.20 BIAS FOR CLEANUP INSTEAD OF STUDIES**

The last planned study to complete the remaining remedial designs is the ZVI PRB Implementation Study. Although no additional design related investigations or remedy optimization studies are planned, they may need to be considered if there is a need to improve or enhance the proposed remedies or their operational cost effectiveness.

**6.21 EXPERT INPUT ON CONTAMINATION AND POTENTIAL REMEDIAL ACTIONS**

At this time, there are no unresolved issues pertaining to expert input on contamination and potential RAs.

**SECTION SIX****TECHNICAL AND OTHER ISSUES TO BE RESOLVED****6.22 PRESUMPTIVE REMEDIES**

The use of SVE, the presumptive remedy selected for VOCs in subsurface soils at Dunn Field, is being reviewed for the loess based on the low air permeability in these soils and the increased operational period forecast for SVE. The results of the RDI indicate the use of thermal treatment as an enhancement to the SVE system. See Section 6.14 for more information.

**6.23 PARTNERING (USING INNOVATIVE MANAGEMENT, COORDINATION, AND COMMUNICATION TECHNIQUES)**

At this time, there are no unresolved issues with regard to partnering.

**6.24 UPDATING THE EBS AND NATURAL/CULTURAL RESOURCES DOCUMENTATION**

At this time, there are no unresolved issues pertaining to the updating of the EBS and natural and cultural resources documentation.

**6.25 IMPLEMENTING THE POLICY FOR ON-SITE DECISION MAKING**

At this time, there are no unresolved issues pertaining to implementing the policy for on-site decision making.

**SECTION SEVEN****REFERENCES****7.0 REFERENCES**

A.T. Kearney, Inc. 1990. RCRA Facilities Assessment Report. Prepared for the U.S. Environmental Protection Agency.

Barge, Waggoner, Sumner, and Cannon. 1996. Lead-Base Paint Risk Assessment for the Defense Distribution Depot Memphis, Tennessee.

Chemical Systems Laboratory. 1981. Installation Assessment of Defense Depot Memphis, Memphis, Tennessee.

CH2M Hill. 1995a. Generic Remedial Investigation/Feasibility Study Work Plan, Defense Distribution Depot Memphis. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

———. 1995b. Operable Unit 1 - Field Sampling Plan, Defense Distribution Depot Memphis. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

———. 1995c. Operable Unit 2 - Field Sampling Plan, Defense Distribution Depot Memphis. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

———. 1995d. Operable Unit 3 - Field Sampling Plan. Defense Distribution Depot Memphis. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

———. 1995e. Operable Unit 4 - Field Sampling Plan, Defense Distribution Depot Memphis. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

———. 1995f. Record of Decision for Interim Remedial Action of the Groundwater at Dunn Field (OU-1) at the Defense Distribution Depot Memphis. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

———. 1995g. Screening Sites Field Sampling Plan for Defense Distribution Depot Memphis. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

———. 1998a. Screening Sites Letter Reports. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

———. 1998b. Remedial Investigation Sites Letter Reports. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

**SECTION SEVEN****REFERENCES**

- . 1998c. Revised BRAC Parcel Summary Reports. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 1999. Final Streamlined Risk Assessment Parcel 3 Technical Memorandum. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2000a. Main Installation Remedial Investigation Report, Volumes 1 through IV. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2000b. Main Installation Feasibility Study for Groundwater. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2000c. Main Installation Feasibility Study for Soils. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2001a. Data Collection Plan for Long-Term Operational Areas (LTOAs), Main Installation. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2001b. Main Installation Record of Decision. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2001c. Well Construction and Sampling Techniques for LTOA Monitoring Wells Associated with SS42/SS43, NE6 (Building T-702), and SS80. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2001d. Soil Vapor Extraction Treatability Study Work Plan. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2002a. Dunn Field Remedial Investigation Report, Rev. 2. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2002b. Main Installation Remedial Design Workplan, Rev. 2. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2003a. Dunn Field Feasibility Study, Rev. 2. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

**SECTION SEVEN****REFERENCES**

- . 2003b. PCP Dip Vat Soil Investigation Work Plan, Rev 1. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2003c. Dunn Field Record of Decision, Rev. 2. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2003d. Memphis Depot Five-Year Review. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2003e. Dunn Field In-situ Chemical Reduction through Zero Valent Iron Bench-Scale and Pilot Tests Treatability Study Work Plan. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2003f. Disposal Sites Pre-Design Investigation Data Collection Plan, Rev 2. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2004a. Technical Memorandum Report, Results of Soil Investigation at Former PCP Dip Vat and Underground PCP Storage Tank Sites, Main Installation. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2004b. Main Installation Remedial Design, Rev. 2. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2004c. Dunn Field Disposal Sites Remedial Design, Rev. 2. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2004d. Early Implementation of Selected Remedy Technical Memorandum. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- . 2005. Dunn Field Remedial Design Investigation Work Plan, Rev. 1. Prepared for U.S. Army Corps of Engineers, Huntsville Division.
- Defense Distribution Depot, Memphis Tennessee (DDMT). 1992. Spill Response for DDMT 1990, 1991, 1992.
- . 1993. 1993 Spill Response Summary.
- . 1995. 1995 Spill Response Checklist.

**SECTION SEVEN****REFERENCES**

———. 1996. 1996 Spill Response Checklist.

Department of Defense. 1996. BRAC Cleanup Plan (BCP) Guidebook with addendum.

Frontline Corporate Communications. 1999. Final Community Relations Plan for the Memphis Depot.

Harland Bartholomew & Associates, Inc. 1988. Master Plan Report, Defense Depot Memphis, Tennessee.

Jacobs Engineering Services, Inc. 2000. Remediation Report, Removal Action in Parcels 28 and 35 (Old Paint Shop and Maintenance Area). Prepared for U.S. Army Corps of Engineers, Mobile.

———. 2001a. Decontaminate and Closure of Permitted Container Storage Facility (Building 308) and Removal of Lead Impacted Soil at Building 949. Prepared for U.S. Army Corps of Engineers, Mobile.

———. 2001b. Decontamination Report and Certification for Closure of Permitted Container Storage Facility (Building T-308). Prepared for U.S. Army Corps of Engineers, Mobile.

———. 2003. Remediation Report, Removal Action at Site 60. Prepared for U.S. Army Corps of Engineers, Mobile.

Law Environmental. 1990a. Feasibility Study Final Report. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

———. 1990b. Remedial Investigation Final Report of DDMT. Prepared for U.S. Army Corps of Engineers, Huntsville Division.

MACTEC Engineering and Consulting, Inc. 2004a. Rev. 1 Early Implementation of Selected Remedy Work Plan. Prepared for U.S. Air Force Center for Environmental Excellence.

———. 2004b. Dunn Field Disposal Sites Work Plan, Rev. 1. Prepared for U.S. Air Force Center for Environmental Excellence.

———. 2005a. Early Implementation of Selected Remedy Interim Remedial Action Completion Report, Rev. 1. Prepared for U.S. Air Force Center for Environmental Excellence.

**SECTION SEVEN****REFERENCES**

———. 2005b. Main Installation Remedial Action Work Plan, Rev. 1. Prepared for U.S. Air Force Center for Environmental Excellence.

National Census Report, August 2000.

OHM/IT Remediation Services, Inc. 1999a. Post Removal Report: Contaminated Soil Remediation Family Housing Area, Memphis Depot, Tennessee, Volumes I and II. Prepared for U.S. Army Corps of Engineers, Mobile.

———. 1999b. Post Removal Report: Contaminated Soil Remediation Cafeteria Building, Memphis Depot, Tennessee. Prepared for U.S. Army Corps of Engineers, Mobile.

Parsons Environmental Science. 1999. Final Engineering Evaluation and Cost Analysis (EE/CA) for the Removal of Chemical Warfare Materiel, Former Defense Distribution Depot Memphis, Tennessee.

The Pickering Firm, Incorporated. 1993a. Asbestos Identification Survey for Buildings 144-209.

———. 1993b. Asbestos Identification Survey for Buildings 210-257.

———. 1993c. Asbestos Identification Survey for Buildings 260-271.

———. 1993d. Storage Tank Survey.

———. 1994a. Asbestos Identification Survey of Buildings 139-198.

———. 1994b. Asbestos Identification Survey for Buildings 211-795.

———. 1994c. Asbestos Identification Survey for Buildings 229-309.

———. 1994d. Asbestos Identification Survey of Buildings 319-359.

———. 1994e. Asbestos Identification Survey of Buildings 319-490.

———. 1994f. Asbestos Identification Survey for Buildings 429-530.

———. 1994g. Asbestos Identification Survey of Buildings 549-650.

———. 1994h. Asbestos Identification Survey of Buildings 670-720.

**SECTION SEVEN****REFERENCES**

———. 1994i. Asbestos Identification Survey of Buildings 737-793.

———. 1994j. Asbestos Identification Survey of Buildings 1084-25.

———. 1994k. Asbestos Identification Survey of Buildings 801-995.

Prewitt & Associates, Inc. 1997. Archeological Survey of Two Parcels at Defense Distribution Depot Memphis, Tennessee.

Radian International. 1999. Final Baseline Risk Assessment for Golf Course Impoundments at the Defense Distribution Depot Memphis, Tennessee.

TRC Mariah Associates, Inc. 1997. A Cultural Resources Inventory and Assessment at the Defense Distribution Depot Memphis, Tennessee.

U.S. Department of Defense. 1995. BRAC Cleanup Plan (BCP) Guidebook with 1996 addendum.

UXB International, Inc. 2001. Final Report Chemical Warfare Materiel Investigation and Removal Action at Defense Depot Dunn Field. Prepared for U.S Army Engineering and Support Center Huntsville.

**Appendix A**

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**Table A-1**

**TABLE A-1  
FISCAL YEAR FUNDING REQUIREMENTS**

| INSTALLATION BUDGET |           |           |           |           |           |           |           |           |                     |
|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------------------|
| ACTIVITY            | FY04      | FY05      | FY06      | FY07      | FY08      | FY09      | FY10      | FY11      | FY12-<br>Completion |
| Restoration         | 4,589,000 | 3,087,000 | 4,469,995 | 9,098,562 | 5,602,758 | 1,151,817 | 1,404,597 | 1,106,512 | 5,625,021           |
| Compliance          | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0                   |
| Planning            | 95,000    | 125,000   | 0         | 0         | 0         | 0         | 0         | 0         | 0                   |
| Management          | 625,000   | 645,000   | 110,250   | 682,392   | 420,207   | 86,387    | 63,207    | 49,793    | 253,126             |
| TOTAL               | 5,309,000 | 3,857,000 | 4,580,245 | 9,780,954 | 6,022,965 | 1,238,203 | 1,467,804 | 1,156,305 | 5,878,147           |

**Appendix B**

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**Table B-1**

**TABLE B-1**  
**TECHNICAL DOCUMENTS SUMMARY**

| Document   | Year | Author   |
|--|------|--|
| Installation Assessment of Defense Depot Memphis, Tennessee Report No. 191                   | 1981 | U.S. Army Toxic and Hazardous Materials Agency   |
| Geohydrologic Study No. 38-26-0195-83  | 1982 | U.S. Army Environmental Hygiene Agency           |
| Environmental Audit No. 43-21-1387-86  | 1985 | U.S. Army Environmental Hygiene Agency           |
| Water Quality Biological Study No. 32-0733-86, Investigation of Fire Reservoir               | 1986 | U.S. Army Environmental Hygiene Agency           |
| Ground Water Consultation No. 38-26-0815-87, Collection and Analysis of Ground Water Samples | 1986 | U.S. Army Environmental Hygiene Agency           |
| Summary Report, On-Site Remedial Activities at the Defense Depot Memphis                     | 1986 | O.H. Materials Company                           |
| Inter-Office Memorandum regarding January 19, 1988 Spandome Collapse                         | 1988 | City of Memphis                                  |
| Remedial Investigation Final Report  | 1990 | Law Environmental, Inc.                          |
| Remedial Investigation Final Report Appendices   | 1990 | Law Environmental, Inc.                          |
| Feasibility Study Final Report   | 1990 | Law Environmental, Inc.                          |
| RCRA Facility Assessment   | 1990 | Environmental Protection Agency and A.T. Kearney |
| Hazard Ranking System Score  | 1991 | Environmental Protection Agency                  |
| Federal Register February 1992/Sites Proposed for the National Priorities List               | 1992 | Environmental Protection Agency/Jon D. Johnston  |
| Federal Register October 14, 1992/Sites Promulgated to the National Priorities List          | 1992 | Environmental Protection Agency                  |
| Final Pump Test Work Plan  | 1992 | Engineering-Science, Inc.                        |
| Pumping Test Technical Memorandum  | 1992 | Engineering-Science, Inc.                        |
| Non-Stockpile Chemical Materiel Program, Survey and Analysis                                 | 1993 | U.S. Army Chemical Materiel Destruction Agency   |

**TABLE B-1  
TECHNICAL DOCUMENTS SUMMARY**

| <b>Document</b>  | <b>Year</b> | <b>Author</b>   |
|--|-------------|---|
| Report   |             |   |
| Final Focused Feasibility Study: Dunn Field  | 1994        | Engineering-Science, Inc.   |
| Environmental Assessment, Removal Action for Groundwater   | 1994        | Engineering-Science, Inc.   |
| Final Proposed Groundwater Action Plan   | 1994        | U.S. Army Corps of Engineers and CH2M Hill  |
| No Further Action Report Draft   | 1994        | U.S. Army Corps of Engineers and CH2M Hill  |
| Electromagnetic and Magnetic Surveys at Dunn Field, Defense Depot Memphis, Tennessee   | 1994        | U.S. Army Corps of Engineers Waterways Experiment Station   |
| Groundwater Monitoring Results Report for Defense Depot Memphis, Tennessee, Volumes 1 through 9  | 1994        | Environmental Science & Engineering Inc.  |
| High Resolution Seismic Reflection Survey to Image the Top and Bottom of a Shallow Clay Layer at the Memphis Defense Depot, Memphis, Tennessee | 1994        | Kansas Geological Survey  |
| Generic Quality Assurance Project Plan Final   | 1995        | U.S. Army Corps of Engineers and CH2M Hill  |
| Generic Remedial Investigation/Feasibility Study Workplan Final  | 1995        | U.S. Army Corps of Engineers and CH2M Hill  |
| Screening Sites Field Sampling Plan Final  | 1995        | U.S. Army Corps of Engineers and CH2M Hill  |
| Operable Unit 1 Field Sampling Plan Final  | 1995        | U.S. Army Corps of Engineers and CH2M Hill  |
| Operable Unit 2 Field Sampling Plan Final  | 1995        | U.S. Army Corps of Engineers and CH2M Hill  |
| Operable Unit 3 Field Sampling Plan Final  | 1995        | U.S. Army Corps of Engineers and CH2M Hill  |
| Operable Unit 4 Field Sampling Plan Final  | 1995        | U.S. Army Corps of Engineers and CH2M Hill  |
| Public Health Assessment for USA Defense Depot Memphis   | 1995        | U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry |
| Ordnance and Explosive Waste Chemical Warfare Materials, Archives Search Report for Memphis Defense Depot                                      | 1995        | U. S. Army Corps of Engineers - St. Louis   |

**TABLE B-1**  
**TECHNICAL DOCUMENTS SUMMARY**

| Document  | Year | Author  |
|---|------|---|
| Federal Facilities Agreement  | 1995 | Environmental Protection Agency, Tennessee Department of Environment and Conservation, and Defense Depot Memphis, Tennessee |
| Sediment Sampling Analysis Report   | 1996 | U.S. Army Space and Strategic Defense Command   |
| Record of Decision for Interim Remedial Action of the Groundwater at Dunn Field (OU-1) at the Defense Distribution Depot Memphis, Tennessee | 1996 | U.S. Army Corps of Engineers and CH2M Hill  |
| Concurrence Letters for the Record of Decision on the Interim Remedial Action for Groundwater at Dunn Field                                 | 1996 | Environmental Protection Agency and the Tennessee Department of Environment and Conservation                                |
| Interim Remedial Action for Groundwater at Dunn Field   | 1996 | U.S. Army Corps of Engineers and CH2M Hill  |
| Final Environmental Assessment for Master Interim Lease at Defense Distribution Depot Memphis   | 1996 | U.S. Army Corps of Engineers and Tetra Tech, Inc.   |
| Environmental Baseline Survey   | 1996 | Woodward-Clyde, Inc.  |
| Groundwater Characterization Data Report  | 1998 | U.S. Army Corps of Engineers and CH2M Hill  |
| Revised Final BRAC Parcel Summary Reports   | 1998 | U.S. Army Corps of Engineers and CH2M Hill  |
| Final Remedial Investigation Sites Letter Reports   | 1998 | U.S. Army Corps of Engineers and CH2M Hill  |
| Final Screening Sites Letter Reports  | 1998 | U.S. Army Corps of Engineers and CH2M Hill  |
| Final Background Sampling Program Report  | 1998 | U.S. Army Corps of Engineers and CH2M Hill  |
| Final Preliminary Risk Evaluation   | 1998 | U.S. Army Corps of Engineers and CH2M Hill  |
| Final Baseline Risk Assessment for Golf Course Impoundments   | 1999 | U.S. Army Corps of Engineers and Radian International, Inc.   |
| A Cultural Resources Inventory and Assessment at Defense Distribution Depot Memphis, Tennessee  | 1997 | U.S. Army Corps of Engineers and TRC Mariah Associates, Inc   |
| Archeological Survey of Two Parcels at Defense Distribution Depot   | 1997 | U.S. Army Corps of Engineers and Prewitt & Associates,  |

**TABLE B-1**  
**TECHNICAL DOCUMENTS SUMMARY**

| <b>Document</b>   | <b>Year</b> | <b>Author</b>  |
|---|-------------|--|
| Memphis, Tennessee  |             | Inc.   |
| Final Environmental Assessment of BRAC 95 Disposal and Reuse of Defense Depot Memphis Tennessee   | 1998        | Tetra Tech, Inc., U.S. Army Corps of Engineers Mobile District and U.S. Army Materiel Command,           |
| Final Streamlined Risk Assessment Parcel 3 Technical Memorandum   | 1999        | U.S. Army Engineering and Support Center Huntsville and CH2M Hill  |
| Post Removal Report, Family Housing Area, Memphis Depot, Tennessee, Volumes I and II  | 1999        | U.S. Army Corps of Engineers Mobile and OHM Remediation Services, Corp.                                  |
| Post Removal Report, Cafeteria Building, Memphis Depot, Tennessee   | 1999        | U.S. Army Corps of Engineers Mobile and OHM Remediation Services, Corp.                                  |
| Final Engineering Evaluation and Cost Analysis (EE/CA), Old Paint Shop and Maintenance Area, Parcels 35 and 28  | 1999        | U.S. Army Engineering Support Center Huntsville and CH2M Hill  |
| Final Engineering Evaluation and Cost Analysis (EE/CA) for the Removal of Chemical Warfare Materiel, Former Defense Distribution Depot Memphis, Tennessee | 1999        | U.S. Army Corps of Engineers Mobile and Parsons Environmental Science, Inc.                              |
| Interim Remedial Action Groundwater Extraction System, Project Documentation, Volumes I and II  | 1999        | Memphis Depot Caretaker, U.S. Army Corps of Engineers Mobile District and OHM Remediation Services Corp. |
| Final Community Relations Plan  | 1999        | Memphis Depot Caretaker and Frontline Corporate Communications   |
| Project Closure Report, Parcels 28/35, Old Paint Shop and Maintenance Area  | 2000        | U.S. Army Corps of Engineers, Mobile District and Jacobs/Sverdrup Inc.                                   |
| Main Installation Remedial Investigation Report   | 2000        | U.S. Army Engineering and Support Center Huntsville and CH2M Hill  |
| Main Installation Feasibility Studies for Groundwater and Soil  | 2000        | U.S. Army Engineering and Support Center Huntsville and CH2M Hill  |
| Dunn Field Remedial Investigation Field Sampling Plan Addendum II   | 2000        | U.S. Army Engineering and Support Center Huntsville and CH2M Hill  |

**TABLE B-1**  
**TECHNICAL DOCUMENTS SUMMARY**

| <b>Document</b>  | <b>Year</b> | <b>Author</b>   |
|--|-------------|---|
| Annual Operations Report, Groundwater Interim Remedial Action, Dunn Field  | 2000        | U.S. Army Corps of Engineers, Mobile, AL, and OHM Remediation Services Corp.                  |
| Remedial Field Sampling Plan Addendum II for Dunn Field  | 2000        | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill                        |
| Data Collection Plan for Long-Term Operational Areas (LTOAs), Main Installation  | 2001        | U.S. Army Engineering and Support Center Huntsville and CH2M Hill                             |
| Well Construction and Sampling Techniques for LTOA Monitoring Wells Associated with SS42/SS43, NE6 (Building T-702), and SS80      | 2001        | U.S. Army Engineering and Support Center Huntsville and CH2M Hill                             |
| Soil Vapor Extraction Treatability Study Work Plan   | 2001        | U.S. Army Engineering and Support Center Huntsville and CH2M Hill                             |
| Decontaminate and Closure of Permitted Container Storage Facility (Building 308) and Removal of Lead Impacted Soil at Building 949 | 2001        | U.S. Army Corps of Engineers South Atlantic Division, Mobile, and Jacobs Engineering Services |
| Decontamination Report and Certification for Closure of Permitted Container Storage Facility (Building T-308)                      | 2001        | U.S. Army Corps of Engineers South Atlantic Division, Mobile, and Jacobs Engineering Services |
| Main Installation Record of Decision   | 2001        | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill                        |
| Final Report Chemical Warfare Materiel Investigation and Removal Action at Defense Depot Dunn Field                                | 2001        | U.S. Army Engineering and Support Center Huntsville, AL, and UXB International                |
| Annual Operation and Maintenance Summary Report for Year 2000, Groundwater Interim Remedial Action, Dunn Field                     | 2001        | U.S. Army Corps of Engineers, Mobile, AL, and Jacobs Engineering Group                        |
| Revision 2 Dunn Field Remedial Investigation Report  | 2002        | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill                        |
| Revision 2 Main Installation Remedial Design Workplan  | 2002        | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill                        |
| Annual Operation and Maintenance Summary Report for Year 2001,   | 2002        | U.S. Army Corps of Engineers, Mobile, AL, and Jacobs  |

**TABLE B-1**  
**TECHNICAL DOCUMENTS SUMMARY**

| Document  | Year | Author   |
|---|------|--|
| Groundwater Interim Remedial Action, Dunn Field   |      | Engineering Group  |
| Enhanced Bioremediation Treatability Study Work Plan  | 2002 | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill |
| Dunn Field Site 60 Engineering Evaluation/Cost Assessment   | 2002 | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill |
| Dunn Field Site 60 Action Memorandum  | 2002 | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill |
| Dunn Field Site 60 Remediation Report   | 2003 | U.S. Army Corps of Engineers, Mobile, AL, and Jacobs Engineering Group |
| Dunn Field Soil Vapor Extraction Treatability Study Work Plan   | 2002 | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill |
| Dunn Field Disposal Sites Pre-Design Investigation Data Collection Plan   | 2003 | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill |
| Dunn Field In-situ Chemical Reduction through Zero Valent Iron Bench-Scale and Pilot Tests Treatability Study Work Plan | 2003 | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill |
| Revision 2 Dunn Field Feasibility Study   | 2003 | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill |
| Annual Operation and Maintenance Summary Report for Year 2002, Groundwater Interim Remedial Action, Dunn Field          | 2003 | U.S. Army Corps of Engineers, Mobile, AL, and Jacobs Engineering Group |
| Installation of up-gradient monitoring wells near Dunn Field  | 2003 | U.S. Army Corps of Engineers, Mobile, AL, and Jacobs Engineering Group |
| Dunn Field Record of Decision   | 2004 | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill |
| Main Installation Remedial Design   | 2004 | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill |

**TABLE B-1  
TECHNICAL DOCUMENTS SUMMARY**

| <b>Document</b>  | <b>Year</b> | <b>Author</b>  |
|--|-------------|--|
| Dunn Field Disposal Sites Remedial Design  | 2004        | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill                         |
| Technical Memorandum: Early Implementation of Selected Remedy Component to Address Groundwater Contamination West of Dunn Field                              | 2004        | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill                         |
| Memorandum for File Subject: Technical Memorandum: Early Implementation of Selected Remedy Component to Address Groundwater Contamination West of Dunn Field | 2004        | BRAC Cleanup Team  |
| Early Implementation of Selected Remedy Work Plan  | 2004        | U.S. Air Force Center for Environmental Excellence and MACTEC Engineering and Consulting, Inc. |
| Remedial Action Sampling and Analysis Plan Volume I: Field Sampling Plan   | 2004        | U.S. Air Force Center for Environmental Excellence and MACTEC Engineering and Consulting, Inc. |
| Remedial Action Sampling and Analysis Plan Volume II: Quality Assurance Project Plan   | 2004        | U.S. Air Force Center for Environmental Excellence and MACTEC Engineering and Consulting, Inc. |
| Dunn Field Disposal Sites Remedial Action Work Plan  | 2004        | U.S. Air Force Center for Environmental Excellence and MACTEC Engineering and Consulting, Inc. |
| Early Implementation of Selected Remedy Interim Remedial Action Completion Report  | 2005        | U.S. Air Force Center for Environmental Excellence and MACTEC Engineering and Consulting, Inc. |
| Main Installation Remedial Action Work Plan  | 2005        | U.S. Air Force Center for Environmental Excellence and MACTEC Engineering and Consulting, Inc. |
| Dunn Field Remedial Design Investigation   | 2005        | U.S. Army Engineering and Support Center Huntsville, AL, and CH2M Hill                         |

**Appendix C**

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**Contains summaries of the following documents. Complete copies located at Memphis Depot information repositories:**

**Dunn Field Interim Record of Decision**

**Parcel 35 and 28 Action Memorandum**

**Chemical Warfare Materiel Action Memorandum**

**Main Installation Record of Decision**

**Site 60 Action Memorandum**

**Dunn Field Record of Decision**

**Early Implementation of Selected Remedy Memorandum of Agreement and Technical Memorandum**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.  
ATLANTA, GEORGIA 30365

863 258

May 1, 1996

4WD-FFB

Certified Mail

Return Receipt Requested

Colonel Michael J. Kennedy, Commander  
Defense Distribution Depot Memphis  
2163 Airways Boulevard  
Memphis, Tennessee 38114-5210

SUBJ: Concurrence with Interim Record of Decision, Operable Unit 1  
Defense Distribution Depot Memphis, Tennessee

Dear Col. Kennedy:

The U.S. Environmental Protection Agency (EPA) Region IV has reviewed the above referenced decision document and concurs with the Interim Record of Decision (IROD) for groundwater at Operable Unit 1, Dunn Field, as supported by the Remedial Investigation in progress.

The selected remedy is Alternative 8 in the IROD. EPA concurs with the selected remedy as detailed in the IROD with the following stipulation: *It is understood that the selected interim remedy for Operable Unit 1 may not be the final remedial action to address all media potentially affected by past disposal practices at this unit.*

This action is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action and is cost effective.

Sincerely,

Richard D. Green  
Acting Director  
Waste Management Division

cc: Jordan English, Tennessee Department of Environment & Conservation



STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
MEMPHIS ENVIRONMENTAL FIELD OFFICE  
SUITE E-645, PERIMETER PARK  
2510 MT. MORIAH  
MEMPHIS, TENNESSEE 38115-1520

April 24, 1996

Commander  
Defense Distribution Depot Memphis  
Attn: DDMT-DE (Ms. Christine Kartman)  
2163 Airways Blvd.,  
Memphis, Tennessee 38114-5210

Re: Concurrence for the Record of Decision for Interim Remedial Action of the Groundwater at Dunn Field (OU-1) at the Defense Depot site, Memphis, Shelby County, Tennessee, April 1996, TDSF #79-736, cc 82

Dear Ms. Kartman:

The Tennessee Division of Superfund (TDSF) Memphis Field Office (MFO) has reviewed the Interim Remedial Action Record of Decision for the Groundwater at Dunn Field, for the Defense Depot site dated April 1996 referenced above.

The Tennessee Department of Environment and Conservation (TDEC) is in concurrence with the selected remedy, a pump and treat containment alternative, Alternative 8 as described. TDEC has been actively involved with the development of the alternatives as well as the selection process through closely coordinated project management among Base Closure Team (BCT) members and extended BCT members.

This concurrence is provided within the authority of the Federal Facilities Agreement (FFA) for the Defense Depot, the Defense Department/State Memorandum of Agreement (DSMOA), and the delegated powers of the Commissioner of TDEC as part of the President's five step Base Cleanup Plan (BCP) process.

Sincerely,

  
Clint Willer, Director  
Tennessee Division of Superfund

c: TDSF, NCO  
TDSF, MFO  
Dann Spariosu  
United States Environmental Protection Agency  
Federal Facilities Branch  
345 Courtland Street, N.E.  
Atlanta, GA 30365

# **Record of Decision**

**for Interim Remedial Action**

**of the**

**Groundwater at Dunn Field (OU-1)**

**at the**

**Defense Distribution Depot  
Memphis, Tennessee**

**April 1996**

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This Record of Decision (ROD) presents the selected interim remedial action (IRA) for DDMT in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). In 1992, after receiving a Hazard Ranking System (HRS) score of 58.06, DDMT was placed on the National Priorities List by the Environmental Protection Agency. The selected IRA provides for hydraulic control of a contaminant plume in groundwater beneath Dunn Field. Contaminants identified as those of potential concern include volatile organic compounds, such as solvents used for cleaning mechanical parts, and metals. It is not intended as a permanent solution; however, it is intended to be compatible with the final remedy.

DDMT and the involved regulatory agencies have been working to inform the community about activities involved with the site since 1992 through press releases, mailings, newspaper ads, and public meetings.

Eight alternatives, each consisting of groundwater extraction, groundwater treatment, and disposal components, were evaluated. The alternative chosen as the preferred alternative consists of extraction on/offsite and discharge to a publicly owned treatment works (POTW). This alternative assumes that pretreatment will not be necessary before treatment at the POTW. If, however, chemical analyses indicate that pretreatment is necessary, a pretreatment provision is part of the contingency remedy.

## 1.1 Site Name and Location

Defense Depot Memphis, Tennessee (DDMT)  
Memphis, Shelby County, Tennessee

## 1.2 Statement of Basis and Purpose

This decision document (Record of Decision [ROD]) presents the selected interim remedial action (IRA) for the DDMT site, Memphis, Tennessee, developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), 42 U.S.C. Section 9601 *et seq.*, and to the extent practicable, the National Oil and Hazardous Pollution Contingency Plan (NCP) 40 *Code of Federal Regulations* (CFR) Part 300. The DDMT is the lead agency for the remedial investigation/feasibility study (RI/FS) process for the site. The U.S. Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC) are the supporting regulatory agencies for the site. In accordance with 40 CFR 300.430, the regulatory agencies have provided input during this process. The regulatory agencies are provided with a draft IRA ROD for review and their comments are incorporated into the final document. The U.S. EPA and the State of Tennessee concur with the selected interim remedy.

## 1.3 Assessment of the Site

Actual or threatened releases of hazardous substances from the DDMT site, if not addressed by implementing the IRA selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, and the environment.

## 1.4 Description of Interim Remedial Action

This IRA provides for hydraulic control of a contaminant plume in groundwater beneath Dunn Field (also called OU-1). Because the contaminated Fluvial Aquifer poses a potential threat to the deeper Memphis Sand Aquifer, it is considered as a potential threat to human health and the environment. Thus, the groundwater IRA is designed to provide a quick, interim response measure that will help prevent the possible contamination of the area's drinking water supply. As a contingency remedy, the IRA also includes a provision for pretreatment if necessary. As described in the IRA Proposed Plan contained in the Administrative Record, follow-on activities include monitoring the groundwater plume and its response to the IRA. Once the plume has been fully characterized, subsequent action may be taken to provide long-term definitive protection, including remediation of source areas. To the extent possible, the interim action will not be inconsistent with, nor preclude implementation of, the expected final remedy. RI/FS activities at OU-2, OU-3, and OU-4 will address contamination found within the southwestern quadrant, southeastern watershed and golf course, and northern portions of the Main Installation, respectively.

This IRA addresses only Dunn Field. OU-2, OU-3, and OU-4 will be addressed in the remedial documents for those OUs.

The major components of the selected IRA for OU-1 include the following:

- Evaluation of aquifer characteristics which may include installation of a pump test well
- Installation of additional monitoring wells to locate the western edge of the groundwater plume
- Installation of recovery wells along the leading edge of the plume
- Obtaining discharge permit for disposal of recovered groundwater to the T. E. Maxson Wastewater Treatment Plant publicly owned treatment works (POTW) or municipal sewer system
- Operation of the system of recovery wells until the risk associated with the contaminants is reduced to acceptable levels or until the final remedy is in place
- Chemical analysis will be conducted to monitor the quality of the discharge in accordance with the city discharge permit requirements; the permit will include parameters to be monitored and frequency.

### 1.5 Declaration

This interim action is protective of human health and the environment, complies with federal and state requirements that are legally applicable or relevant and appropriate, and is cost-effective. This action is interim; it is not intended as a permanent or final remedy. However, it is intended to be compatible with the permanent solution. It is not intended to be the permanent solution, and uses alternative treatment technologies to the maximum extent practical for this interim response. Because this action does not constitute the final remedy for this OU, the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volumes as a principal element has not been entirely accommodated and will be addressed at the time of the final response action. Subsequent actions are planned to address fully the threats posed by the conditions at this OU. Because this remedy will result in hazardous substances remaining onsite above health-based levels, a review will be conducted to ensure that the remedy continues to provide adequate protection of human health and the environment within 5 years after the commencement of this remedial action. Because this is an interim action ROD, review of the remedy will be ongoing as DDMT continues to develop the final remedial action for OU-1.

  
CHRISTINE E. KARTMAN  
Chief, Environmental Protection and Safety Office

April 9, 1996  
Date

---

*Action Memorandum*

**Old Paint Shop and  
Maintenance Area,  
Parcels 35 and 28  
Former Defense Distribution  
Depot Memphis, Tennessee**

Defense Logistics Agency  
Defense Distribution Depot Susquehanna Pennsylvania  
Memphis Depot Caretaker Division  
Memphis, TN 38114-5210



September 1999

**ACTION MEMORANDUM****Old Paint Shop and Maintenance Area****Parcels 35 and 28****Former Defense Distribution Depot Memphis, Tennessee**

Site Status: Closed Industrial Area

Category of Removal: Non-Time-Critical Removal Action

CERCLIS ID: TN4 201 002 0570

Site ID: Sites 29, 32, 88, 89

**I. Purpose**

The purpose of this Action Memorandum is to document approval of the proposed removal action described herein for the paint shop and maintenance area at the former Defense Distribution Depot Memphis, Tennessee (Memphis Depot or Depot) located along 2163 Airways Boulevard, Memphis, Tennessee 38114. The Depot is in Shelby County.

**II. Site Conditions and Background****A. Site Description****1. Removal Site Evaluation**

The Memphis Depot is a former Defense Department supply depot. The Depot operated from World War II until its closure in 1997. Since closure, the Depot has been operated by the Memphis Depot Caretaker, a division of the Defense Distribution Depot Susquehanna, Pennsylvania.

As part of Base Realignment and Closure (BRAC) activities, the Depot was divided into 36 parcels to facilitate assessment of the environmental condition of the property and to determine if it can be transferred from government ownership for private- or public-sector uses.

BRAC Parcels 35 and 28, located at the southwestern corner of the Depot, contain the former maintenance shop, grease rack, sandblast, paint shop, and storage facilities. The Depot Redevelopment Corporation plans to develop the area as part of BRAC activities for future commercial and industrial uses.

Chemical contamination identified in Parcel 35 and the southern portion of Parcel 28 primarily consists of contaminated surface soil, residue, and sediment remaining from past operations in the area. Historical information, on-site inspection, and the results of surface soil sampling from the parcels suggest that the following removal actions will be conducive to permit transfer of the parcels for the planned future reuse.

- Remove residue, dust, and sediment that have accumulated in buildings associated with past operations;

- Remove areas of contaminated surface soil identified by surface soil sampling inside the perimeter fence of the Main Installation; and
- Remove potentially contaminated soil related to a sump and underground storage tank (UST) locations at the former maintenance shop and grease rack facilities.

## 2. Physical Location

The Memphis Depot is a 642-acre area in the central section of Memphis, Tennessee, approximately 5 miles east of the Mississippi River, 4 miles from the central business district of Memphis, and approximately 1 mile north of the Memphis International Airport. Airways Boulevard borders the Depot on the east and is the primary access to the Main Installation. Dunn Road, Ball Road, and Perry Road serve as northern, southern, and western boundaries, respectively, of the Main Installation. Figure 1 shows the general location of the Depot within the Memphis area. Figure 2 shows the configuration of the Depot and its location with respect to the surrounding streets.

The Depot is located in an area of widely varying uses. Most of the land surrounding the Depot is intensely developed. To the north of the Depot are rail lines of the Frisco Railroad and Illinois Central Gulf Railroad. Large industrial and warehousing operations are located along the rail lines in this area. A triangular area immediately to the north of the Depot, bounded by Dunn Road, Castalia Road, and Frisco Avenue, also contains several industrial facilities. Formerly a residential neighborhood, the area is characterized by small commercial and manufacturing uses with some single-family residences remaining.

Airways Boulevard is the most heavily traveled thoroughfare in the vicinity and is developed with numerous small commercial establishments. Businesses along Airways Boulevard are typical of highway commercial districts. Other commercial establishments are located to the north, south, and west of the Depot. Most are small groceries or convenience stores that serve their immediate neighborhoods.

The Depot is surrounded by residential development, including single- and multiple-family residences. Numerous small church buildings and schools are located throughout the area.

## 3. Site Characteristics

Parcels 35 and 28 are located in the southwestern corner of the Depot (Figure 2).

Approximately 7.5 acres of the 12-acre area contained in Parcels 35 and 28 are located within the perimeter fence surrounding the Main Installation (Figure 3). This area was industrial where maintenance and repair activities were undertaken. Except for the grassy area at its southern end, this portion of Parcels 35 and 28 consists of industrial buildings, concrete and asphalt pavements, and gravel surfacing.

Facilities within the Main Installation perimeter fence at this industrial area include:

- Building 1084 - A former maintenance shop, which also was used as a wood shop and a pesticide storage area;

- Building 1085 - A concrete slab from a former grease rack;
- Building 1086 - An industrial building formerly used as a preparation area, paint shop, and storage area;
- Building 1087 - An industrial building formerly used as a paint shop;
- Building 1088 - An industrial building with a former sandblast facility;
- Building 1089 - A partially enclosed warehouse where some sandblasting occurred; and
- Buildings 1090 and 1091 - Small Quonset huts formerly used to store paint and other supplies for paint shop operations.

The remaining 4.5 acres of Parcels 35 and 28 are located outside the perimeter fence. This area is a grassed utility corridor, which provides a buffer zone between the Main Installation perimeter fence and Perry Road.

The Depot is currently under the ownership of the Army and operational control of the Defense Logistics Agency. Parcels 35 and 28 will be transferred to the ownership of the Depot Redevelopment Corporation for reuse.

#### 4. Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant, or Contaminant

Surface soil samples (zero to 12 inches in depth) within the Main Installation perimeter fence at the industrial area have a variety of contaminants associated with the former functions of the area. The most frequently detected constituents were metals (copper, cadmium, lead, mercury, nickel, and zinc). Polycyclic aromatic hydrocarbons (PAHs) (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and phenanthrene) were also detected in significant quantities. In addition, the samples contained sparse concentrations of volatile organic compounds (VOCs) (acetone, methylene chloride, methyl ethyl ketone, and toluene); phthalates (bis(2-ethylhexyl)phthalate and di-n-butylphthalate); and pesticides (p,p'-DDE, p,p'-DDT, and dieldrin). The concentrations were distributed throughout the parcels and were not concentrated in a particular area.

Concentrations of PAHs and lead exceeding U.S. Environmental Protection Agency (EPA) Region III risk-based criteria for residential land use were detected in samples along Perry Road, within the utility corridor west of the Main Installation perimeter fence. PAHs and lead are common constituents of exhaust gases from motor vehicles. Concentrations of PAHs and lead from near-road samples adjacent to the paint spraying and sandblasting operations are elevated relative to other samples near the road but away from these operations. Therefore, although these constituents are commonly associated with burning of gasoline, it is possible that they are also associated with the paint spray and sandblasting operations. During the early stages of the removal action, additional sampling will be performed to determine if the lead and PAH in surface soil within Parcels 35 and 28 have been transported across the utility corridor toward Perry Road.

All of the industrial buildings within the fenced industrial area contain dust, residue, and sediment from their past operations. Although sampling has been minimal within the buildings, it is anticipated that constituents within the buildings will be similar to those

detected in the adjacent graveled areas. A 1993 survey of asbestos-containing materials (ACM) at the Depot identified the presence of asbestos-containing roof flashing materials on Building 1084 and asbestos-containing insulation for the heating system in Building 1087. Buildings 1086, 1087, 1088, and 1089 contained sandblast and/or paint booth facilities where lead-based paint residue may be present. Noticeable areas of scaling or peeling paint also are present in some buildings.

In addition, there are two subsurface areas within the fenced industrial area where known or suspected sources of contamination are present. The first area is the former underground storage tank (UST) location associated with the former grease rack, Building 1085. The UST, which was removed in 1989, contained waste oil, and also may have contained various other liquids containing petroleum hydrocarbons, pesticides, polychlorinated biphenyls (PCBs), and metals.

The second area is a gravel-filled sump beneath Building 1084 that drained a former maintenance pit. Potential contaminants in this area include petroleum hydrocarbons, solvents, and metals associated with the maintenance operations.

The potential release mechanisms for surface and near-surface contamination include transport of contaminated surface soil or residues by surface water runoff, off-site tracking of contaminated surface soil or residues by vehicles or personnel operating in the area, and suspension and migration of contamination as dust. There is also a potential for downward migration of contaminants from the previous UST and underground sump locations. The likely exposures to these potential release mechanisms are from dermal contact or ingestion by an on site worker. Exposure to dust from the suspension and migration of contamination is most likely when the site becomes disturbed during construction.

## 5. NPL Status

The Memphis Depot was placed on the National Priorities List (NPL) in October 1992, and must fulfill requirements under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP). The Depot is under the jurisdiction of the Tennessee Department of Environment and Conservation (TDEC) and EPA Region IV.

A sitewide remedial investigation and feasibility study (RI/FS) is currently being prepared for the Depot in accordance with CERCLA and NCP to evaluate human health and environmental risk, and to screen for potential remedial actions.

Proposed removal actions outlined in this Action Memorandum, however, are actions the Memphis Depot decided to voluntarily pursue to remove readily accessible chemical contamination in Parcels 35 and 28 to facilitate property transfer. Further remedial action requirements, if any, will be determined by a record of decision following the RI/FS. The proposed removal actions will not preclude remedial actions, if any are required, for other environmental media.

## B. Other Actions

### 1. Previous Actions

UST records at the Depot indicate that removal of a 1,000-gallon underground waste oil tank and in-place closure of the underground hydraulic fluid tank for the former hydraulic lift, were done in 1989 by the Memphis District, U.S. Army Corps of Engineers. No records of how the tanks were removed or closed are available. Observations of the vertical inlet pipe for the hydraulic fluid tank, however, suggest that the UST was closed by filling it with sand, a common practice at that time. However, this has not been confirmed.

### 2. Current Actions

No operational or remedial actions are currently ongoing in the vicinity of Parcels 35 and 28.

## III. Threats to Public Health, Welfare, or the Environment

### A. Threats to Public Health or Welfare

The expected land use of the area of Parcels 35 and 28 located within the Main Installation perimeter fence is industrial and commercial. Employees working within the industrial area of Parcels 35 and 28 will be the primary individuals encountering contamination within the area.

No risk assessment was conducted for the area. Instead, detected contaminant concentrations in Parcels 35 and 28 were compared with industrial screening criteria based on background concentrations, BRAC Cleanup Team (BCT) screening values, and EPA Region III risk-based concentrations (RBCs) corresponding to a Hazard Index (HI) of 1.0 and updated to current (October 1998) values. Contaminants that exceeded the industrial screening criteria were aluminum, antimony, arsenic, benzo(a)pyrene, iron, lead, and phenanthrene. Of these, arsenic and benzo(a)pyrene are carcinogens. The remaining contaminants are noncarcinogens.

### B. Threats to the Environment

There is no undisturbed natural habitat within the site. The land use is highly developed and industrial in nature, and little vegetation is present. According to the "Environmental Assessment for BRAC 95 Disposal and Reuse of the Defense Distribution Depot, Memphis, Tennessee" by Tetra Tech, no endangered species or wetlands are present in the area.

## IV. Endangerment Determination

Contamination has been detected in excess of industrial screening criteria within the industrial area contained in Parcels 35 and 28. The Memphis Depot has elected to perform the following removal actions to remove readily accessible contamination so that the property may be transferred for future industrial use:

- Remove residue, dust, sediment, and incidental ACM and lead-containing materials in readily accessible areas of existing industrial buildings in Parcels 35 and 28;

- Remove surface soil to a depth of 12 inches in areas within the Main Installation perimeter fence at the industrial area of Parcels 35 and 28 that had contaminant levels exceeding the industrial screening criteria for the Depot;
- If surface soils with PAH and lead concentrations exceeding residential risk-based criteria within the utility corridor are determined to be associated with operations within Parcels 35 and 28, remove to a depth of 12 inches; and
- Sample and remove contaminated soil related to a sump and UST locations at Buildings 1084 and 1085.

These locations are shown in Figure 4.

## V. Proposed Actions and Estimated Costs

### A. Proposed Actions

Three alternatives were developed for meeting the removal actions described above. These alternatives include:

- Alternative 1 - Decontaminate Existing Metal and Masonry Buildings and Associated Equipment for In-Place BRAC Transfer; Remove and Dispose of Wooden Structures, Contaminated Soil, and Debris;
- Alternative 2 - Decontaminate Existing Metal and Masonry Buildings for In-Place BRAC Transfer; Decontaminate, Remove, and Dispose of Associated Equipment; and Remove and Dispose of Wooden Structures, Contaminated Soil, and Debris; and
- Alternative 3 - Decontaminate, Remove, and Dispose of All Above-Grade Buildings and Associated Equipment and Remove and Dispose of Contaminated Soil and Debris.

Alternatives were evaluated in terms of effectiveness, implementability, cost, and the following removal action goals and objectives:

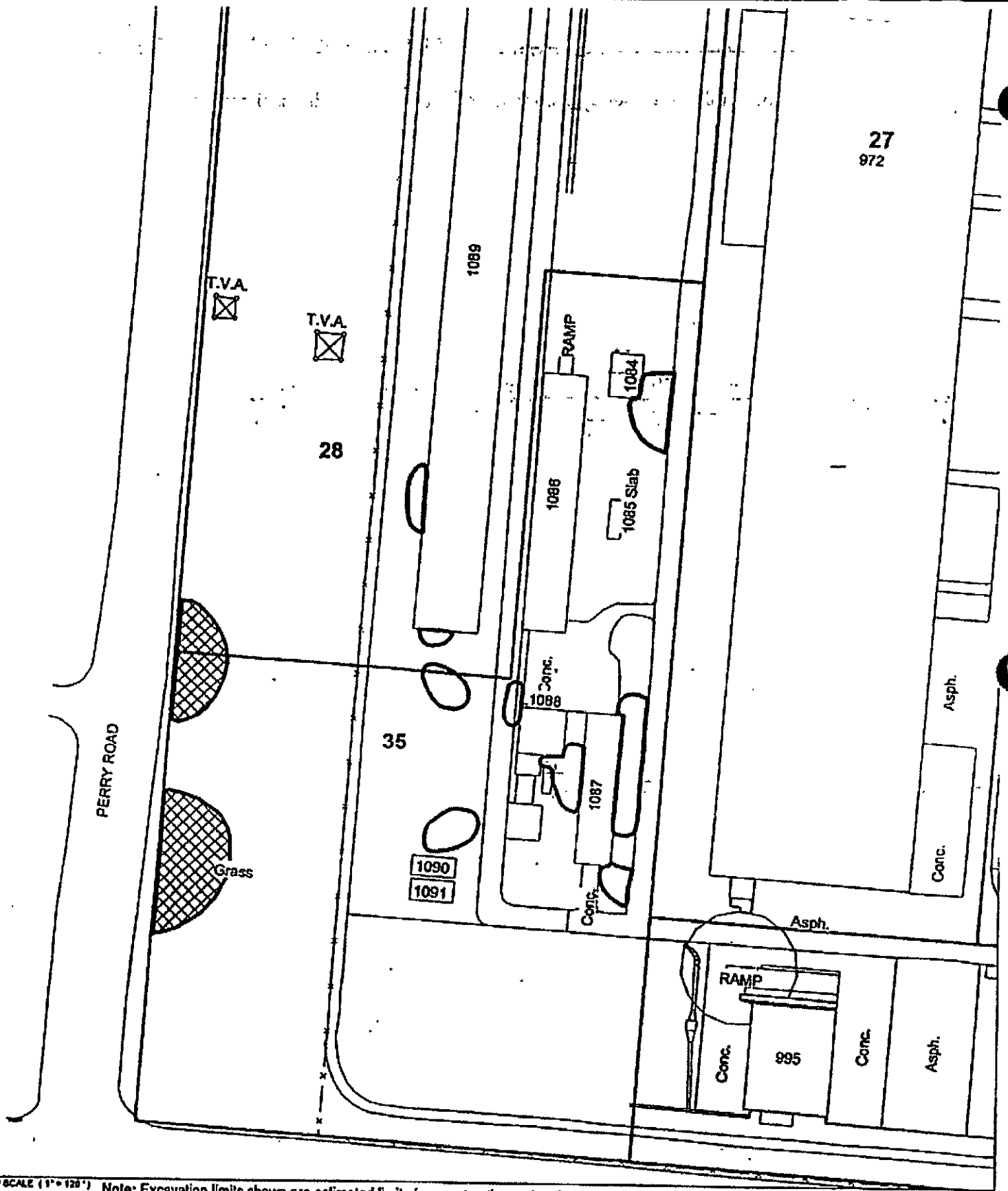
- Reduce potential risk to long-term site users to a level deemed acceptable by EPA and TDEC;
- Be technically appropriate and feasible to accomplish using commonly accepted construction practices;
- Minimize, to the extent possible, the volumes of materials that must be removed and landfilled off-site;
- Have a reasonable and acceptable cost;
- Be implemented in an expedited manner to meet BRAC parcel transfer and leasing schedules; and
- Involve minimal post-removal operational, maintenance, or monitoring requirements.

All removal action alternatives can be implemented and all can meet the stated removal action goals and objectives. There is a potential for slightly greater effectiveness with

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ACTION MEMORANDUM  
OLD PAINT SHOP AND MAINTENANCE AREA, PARCELS 35 AND 28

Alternatives 2 and 3, but this is offset by the increased work scope, disposal requirements, and cost.



863 272

27  
972

28

1089

35

PERRY ROAD

T.V.A.

T.V.A.

Grass

RAMP

1088

1084

1085 Slab

Conc.  
1088

1087

Conc.

1090

1091

Asph.

Conc.

Asph.

RAMP

Conc.

995

Conc.

Asph.

SCALE (1" = 120')

Note: Excavation limits shown are estimated limits for construction-estimating purposes. Actual limits will be determined by analytical sampling and testing during construction.

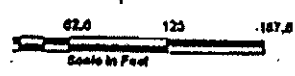
**LEGEND**



Excavation Limits (Industrial)



Excavation Limits (Residential)



**Figure 4**  
**SITE CONFIGURATION WITH**  
**EXCAVATION AREAS**  
**BRAC PARCELS 35 & 28**  
**CH2MHILL**

Alternative 2 was initially recommended because it provides, at a reasonable cost, open and fully decontaminated buildings that could be used for a variety of purposes. Upon further consultation with the Depot Redevelopment Corporation, Alternative 1 was selected because the proposed future use requires that the existing sandblast and paint booth facilities remain in place.

## 1. Description of Proposed Action

The proposed action (Alternative 1) includes the following elements:

- Remove all loose dust, debris, and surface residue from the exterior of sandblast and paint booth equipment to remain in place in Buildings 1086, 1087, and 1088. Collect confirmatory samples and compare analytical results with industrial screening criteria for the Depot.
- Remove all loose dust, debris, and surface residue from the interiors of Buildings 1086, 1087, 1088, 1089, 1090, and 1091, including slabs, sumps, and drainage structures. Collect confirmatory samples and compare analytical results with industrial screening criteria for the Depot.
- Clean all loose dust, debris, and surface residue and remove and dispose of Building 1084 wooden structure and slab.
- Remove contaminated surface soil to a depth of 12 inches and perform confirmatory sampling in areas inside the fenced industrial area where previous sampling indicated the presence of chemical contaminant levels exceeding the industrial screening criteria for the Depot. Collect confirmatory samples and compare analytical results with industrial screening criteria for the Depot.
- Conduct confirmatory sampling of surface soil outside the perimeter fence along Perry Road to confirm the belief that elevated PAH and lead levels are not associated with past industrial activities in Parcels 35 and 28. Remove contaminated soil outside the perimeter fence only if the confirmatory samples suggest that this is not the case. Soil exceeding residential risk-based criteria will be removed.
- Sample and remove contaminated soil related to the sump and UST locations at Buildings 1084 and 1085. Collect confirmatory samples and compare analytical results with industrial screening criteria for the Depot.

## 2. Contribution to Remedial Performance

The proposed removal action will remove residual contamination (e.g., contaminated surface soil, surface residues, debris, and dust) to the extent necessary to facilitate transfer of the property for further industrial or commercial reuse. It will also remove the potential risk of subsurface contamination in identified areas (e.g., sump area and UST location at Buildings 1084 and 1085) where such soils could present a hazard for future development in those areas or a potential source of groundwater contamination.

Removal of the soil will support a No Further Action determination for Installation Restoration Program sites in Parcels 35 and 28. Evaluation of potential groundwater remedial action will be performed as part of the CERCLA RI/FS for these sites.

### 3. Description of Alternative Technologies

On-site and off-site treatment alternatives to landfilling may be potentially viable from a technical perspective, but the relatively small volume of soil (less than 1,200 cubic yards) and the low cost of landfill disposal (approximately \$20 per cubic yard) at a local industrial landfill suggest that treatment options would not be cost-effective. As a result, no treatment alternatives to landfill disposal were considered.

### 4. Engineering Evaluation/Cost Analysis (EE/CA)

The proposed removal action is based on removal action requirements and an alternatives evaluation documented in the *Draft-Final Former Defense Distribution Depot Memphis, Tennessee, Engineering Evaluation/Cost Analysis (EE/CA), Old Paint Shop and Maintenance Area, Parcels 35 and 28*, dated April 1999, and information and decisions made subsequent to publication of that document. A final EE/CA document is currently being prepared to document these changes. Appendix A, Responsiveness Summary, lists all comments made by the public during the 60-day public comment period and provides the agency's responses.

### 5. Applicable or Relevant and Appropriate Requirements (ARARs)

The following list of ARARs was developed on the basis of the proposed scope of work for the removal action and known or suspected conditions at the site:

- Contaminated soil and debris will be screened to determine if they are characterized as hazardous waste. Waste will be characterized as hazardous if the appropriate analysis determines that the wastes are reactive, ignitable, corrosive, or toxic as described in 40 CFR 261 Subpart D.
- Applicable Occupational Safety and Health Administration (OSHA) health and safety regulations will be followed during the removal operations. Workers performing the removal will be properly trained and under appropriate medical supervision. Appropriate personal protective equipment (PPE) will be used and safe work practices will be followed.
- ACM will be packaged in leak-tight containers and disposed of in accordance with the appropriate OSHA, EPA, and Memphis/Shelby County Health Department/Pollution Control Division requirements.
- Lead-based paint will be managed in accordance with the appropriate OSHA and Memphis/Shelby County Health Department/Pollution Control Division requirements.
- PCB-contaminated materials, if any, will be managed in accordance with the Toxic Substances Control Act (TSCA). PCB-contaminated materials that contain a PCB concentration of 50 parts per million or greater will be disposed of at a TSCA-permitted incinerator or a TSCA-permitted chemical landfill.
- Soil surrounding former USTs will be removed to achieve the TDEC cleanup levels for petroleum contamination. In addition, soil will be subjected to the full scan of chemical analyses to identify other constituents that may be present. These constituents will be removed, as necessary, to the corresponding industrial cleanup standards.

- Water pollution control requirements of the federal Clean Water Act and National Pollutant Discharge Elimination System (NPDES) and applicable state and county requirements will be followed during all construction and decontamination operations.
- Applicable NCP requirements, including public comment period provisions, will be included as applicable.

#### 6. Project Schedule

The Mobile District, U.S. Army Corps of Engineers, has procured a contractor for cleanup actions at the Depot. The removal action for Parcels 35 and 28 is scheduled to be the first action under the contract.

Current projections indicate that the work will begin during the fall of 1999. It is estimated that approximately 3 months will be required to complete the removal action once the contractor is on-site.

#### B. Estimated Costs

The conceptual-level cost estimate for the proposed removal action is \$871,000. This cost estimate includes a direct capital cost (for example, cost for construction, construction oversight, transportation, and disposal) of \$792,000 and an indirect cost (for example, fees for engineering and design, legal, and licenses) of \$79,000. Indirect costs are assumed to be about 10 percent of the direct costs. Conceptual-level cost estimates are order-of-magnitude cost estimates made without detailed engineering data and include estimates of major cost components and quantities, typical costs from similar work, cost curves, and scale-up and scale-down factors or ratios. It is normally expected that estimates of this type would be accurate to within plus 50 percent to minus 30 percent. The actual cost will be developed as the final design is completed and a better estimate of actual work items for the selected alternative has been developed.

No long-term operations and maintenance costs were included in the cost estimate because contaminants will be removed and no cap systems, treatment systems, etc., will be required to augment the removals.

### VI. Expected Change in the Situation Should Action Be Delayed or Not Taken

As long as surface soil contamination and debris and dust in the buildings remain, there is a potential for migration of surface contaminants via surface water drainage or dust. The presence of contaminant-laden dust and residue in the buildings poses a potential hazard to people entering those buildings.

The potential for downward migration of contaminants from the old UST location at Building 1085 is dependent upon the presence and concentrations of contaminants remaining in that area. The pit area beneath Building 1084 is currently covered with a concrete slab and roof. Little, if any, migration of contaminants from that area is anticipated.

The potential for downward migration of contaminants from the old UST location at Building 1085 is dependent upon the presence and concentrations of contaminants remaining in that area. The pit area beneath Building 1084 is currently covered with a concrete slab and roof. Little, if any, migration of contaminants from that area is anticipated.

## VII. Outstanding Policy Issues

The work is being funded fully by the Defense Logistics Agency. No policy issues concerning cost sharing or EPA funding are involved for the removal action.

## VIII. Enforcement

The proposed removal action is a non-time-critical removal action voluntarily being undertaken by DLA. It is not an enforcement action; however, review and oversight of the removal action by TDEC and EPA are expected. Because it is a voluntary action, an Enforcement Addendum is not required.

## IX. Decision

This decision document represents the selected removal action for Parcels 35 and 28 and the former Defense Distribution Depot Memphis, Tennessee, developed in accordance with CERCLA as amended, and is consistent with the NCP. The decision is based on the administrative record for the site.

Conditions at the site meet the NCP section 300.415(b) (2) criteria for a removal action and I approve the recommended removal action.



J.W. KENNEY

Captain, SC, USN

Commander

Engineering Evaluation/Cost Analysis  
for the Removal of Chemical Warfare Materiel  
Former Defense Distribution Depot Memphis, Tennessee

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**ADDENDUM 1**  
**SITE NUMBERS TO AREA NUMBERS**

The EE/CA for the removal of chemical warfare materiel at the former Defense Distribution Depot Memphis refers to potential CWM burial pits and trenches as "areas." These areas were referred to as sites in previous documents and on figures and maps. The areas identified for investigation under this EE/CA correlate to the site numbers as follows:

Areas A-1 and A-2 correlate to Site 24. These two areas were identified as the suspected locations of trenches and/or pits where leaking German bombs containing CWM were drained, neutralized, destroyed, and buried. The geophysical investigation, ASR review, and aerial photo study confirmed that activities took place in these areas that could have included the disposal of CWM in trenches/pits on Dunn Field. The findings of the EE/CA recommend that removal actions be implemented for A-1 and A-2.

Area B-1 correlates to Site 86 and Site 9. Area B-1 was described in the Archives Search Report (ASR) as two long trenches that were used for the disposal of XX-CC-3 Impregnite, DANC, Chlorinated Lime and RH195. The ASR also states that these areas were used to dispose of food supplies and such. Maps that were used to record these disposals show the trenches containing food supplies and ashes and metal refuse. In addition to these activities, another trench listed as Site 18 is located next to Site 86 and may actually cover part of Site 86. Site 18 contains refuse from a plane crash and was buried in 1984. The geophysical investigation identified the areas where these trenches are located. However, based on the lack of data supporting the disposal of CWM in these trenches, Area B-1 is not recommended for removal action.

Area B-2 correlates to Site 1. Area B-2 is a pit where Chemical Agent Identification Sets were buried in 1955-1956. Broken sets were reportedly buried 5 or 6 times by placing them in a pit and covering with dirt. This pit was marked on maps as Site 1 and dated as 22 July 1955. The existence and location of the burial pit is documented in the ASR and an USATHAMA report (Installation Assessment of Defense Depot Memphis, TN, Report No. 191, March 1981). Area B-2 is recommended for removal action.

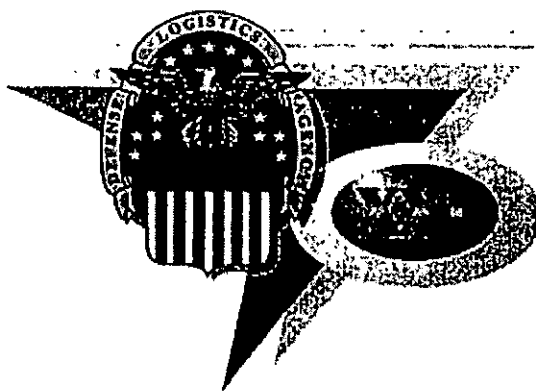
| SITE CORRELATION TABLE           |                   |                 |
|----------------------------------|-------------------|-----------------|
| EE/CA Site Number                | RI/FS Site Number | New Site Number |
| A-1 (Mustard bomb burial trench) | 24                | 24-A            |
| A-2 (Chlorinated lime pits)      | 24                | 24-B            |
| B-1 (Food stuff burial trench)   | 9 & 86            | 9 & 86          |
| B-2 (CAIS burial pit)            | 1                 | 1               |

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*Action Memorandum*

# **Removal of Chemical Warfare Materiel, Parcel 36 Former Defense Distribution Depot Memphis, Tennessee**

Defense Logistics Agency  
Defense Distribution Depot Susquehanna Pennsylvania  
Memphis Depot Caretaker Division  
Memphis, TN 38114-5210



April 2000

**ACTION MEMORANDUM****Removal of Chemical Warfare Materiel****Parcel 36****Former Defense Distribution Depot Memphis, Tennessee**

Site Status: Closed Industrial Area

Category of Removal: Non-Time-Critical Removal Action

CERCLIS ID: TN4 201 002 0570

Site ID: Sites 1, 9, 24, 86

**I. Purpose**

The purpose of this Engineering Evaluation and Cost Analysis (EE/CA) Action Memorandum is to document approval of the proposed removal action described herein for Sites 1, 24A, and 24B Areas A and B of Dunn Field at the former Defense Distribution Depot Memphis, Tennessee (Memphis Depot or Depot) located at 2163 Airways Boulevard, Memphis, Tennessee 38114. The Depot is in Shelby County. The action is required by and is being taken pursuant to the Department of Defense Ammunition and Explosive Standard (DoD 6055.9) Chapter 12, paragraph 3.2 regarding Land Disposal. This parcel is subject to future transfer from the federal government per the Base Realignment and Closure Act, 1995.

The United States Army Corps of Engineers (USACE) is the lead respondent under the Defense Environmental Restoration Program and the Defense Logistics Agency is the lead agency under the USEPA Federal Facilities Agreement. Based on the results of the completed EE/CA, the excavation and removal alternative is recommended for the sites identified as potentially containing chemical agent. Excavation and removal of chemical warfare materiel (CWM) will eliminate the possibility of exposure and hazards to the public and the environment from CWM at the suspected burial pits and trenches. It is the only alternative that fully meets the remedial objective: to ensure that exposure to any level of CWM does not occur in the future. The EE/CA was prepared to document the potential alternatives that were analyzed and to recommend the appropriate alternative for the site. *The State of Tennessee and USEPA have participated and are in agreement with the selected remedy.*

The administrative record for this site is located at the Memphis Depot. Additional information repositories that include copies of the administrative record are: the Memphis/Shelby County Health Department in Memphis, TN; the Memphis/Shelby County Public Library, Main and Cherokee Branches, and in the Memphis Depot Community Outreach Room.

## II. Site Conditions and Background

### A. Site Description

#### 1. Removal Site Evaluation

The Memphis Depot is a former Defense Department supply depot. The Depot operated from World War II until its closure in 1997. Since closure, the Depot has been operated by the Memphis Depot Caretaker, a division of the Defense Distribution Depot Susquehanna, Pennsylvania. As part of Base Realignment and Closure (BRAC) activities, the Depot was divided into 36 parcels to assess the environmental condition of each parcel and to determine if it can be transferred from government ownership to private or public-sector uses. Dunn Field is parcel number 36.

The history of CWM disposal at Dunn Field began in July 1946 when 29 mustard-filled German bomb casings were destroyed and buried. Most likely these bomb casings were filled with sulfur mustard. These bomb casings were part of a railroad shipment en route from Mobile, Alabama to Pine Bluff, Arkansas. Records indicate that some of the bomb casings were leaking and had resulted in the contamination of the rail lines and freight cars that contained the munitions. Prior to reaching Pine Bluff, three railcars were identified as containing leaking munitions and these cars were transferred to the Memphis Depot for proper handling. These railcars were staged in the Main Installation area for unloading and decontamination. As the bomb casings were unloaded from the railcars, those found to be leaking were taken to a pit, containing a bleach (chloride of lime) solution, that was constructed at Dunn Field for draining of the mustard. Reports indicate the drained bomb casings were then destroyed and buried in a shallow trench in case any of the bomb casings contained a burster charge. A total of twenty-four 500 kilogram and five 250 kilogram bombs were destroyed. These two sites are in Area A.

During the early to mid 1950s, Chemical Agent Identification Sets (CAIS) were buried in Dunn Field. These sets were used by the military to train soldiers to identify chemical agents in the field and were probably K951/K952 sets that contained small glass ampoules of mustard, lewisite, and chloropicrin, mixed with chloroform. Set K951/K952 also included an ampoule of concentrated phosgene. At least six sets were buried at Dunn Field. CAIS stocks found to be leaking or broken during periodic inspection were reportedly buried in Dunn Field. The chloroform was included in the ampoules as a solvent. Each of the ampoules, with the exception of phosgene, contained anywhere from 0% to 50% chloroform. This site is in Area B.

The investigation at Dunn Field included an archives and literature search, interviews with former Memphis Depot employees, aerial photograph study, geophysical investigations, soil borings and sampling, groundwater well installation and sampling, sampling data analysis, and a streamlined risk evaluation (both human health and ecological). Three locations in Areas A and B were identified as potential CWM burial pits and trenches. CWM was not found in any of the soil or groundwater samples collected around the geophysical anomalies that are the burial sites. The results of the risk evaluation indicated that no adverse effects to human or ecological receptors are expected from exposure to environmental media outside of the burial pits or trenches. However, it is assumed that

chemical agents are present in the pits/trenches and that exposure to these materials would, by definition, present an unacceptable risk to receptors.

## 2. Physical Location

The Memphis Depot is a 642-acre area in the central section of Memphis, Tennessee, approximately 5 miles east of the Mississippi River, 4 miles from the central business district of Memphis, and approximately 1 mile north of the Memphis International Airport. Airways Boulevard borders the Depot on the east and is the primary access to the Main Installation. Dunn Road, Ball Road, and Perry Road serve as northern, southern, and western boundaries, respectively, of the Main Installation. Figure 1 shows the general location of the Depot within the Memphis area. Figure 2 shows the configuration of the Depot and its location with respect to the surrounding streets.

The Depot is located in an area of widely varying uses. Most of the land surrounding the Depot is intensely developed. The area immediately east of Dunn Field bounded by Hayes Road, Dunn Road, Castalia Road, and Persons Avenue is residential. The area north of Dunn Road and between Dunn Field and Dunn Elementary School is part residential and part industrial. To the north of the Depot are rail lines of the Frisco Railroad and Illinois Central Gulf Railroad. Large industrial and warehousing operations are located along the rail lines in this area. A triangular area immediately to the north of the Depot, bounded by Dunn Road, Castalia Road, and Frisco Avenue, also contains several industrial facilities. Formerly a residential neighborhood, the area is characterized by small commercial and manufacturing uses with some single-family residences remaining.

Airways Boulevard is the most heavily traveled thoroughfare in the vicinity and is developed with numerous small commercial establishments. Businesses along Airways Boulevard are typical of highway commercial districts. Other commercial establishments are located to the north, south, and west of the Depot. Most are small grocery or convenience stores that serve their immediate neighborhoods. The Depot is surrounded by residential development, including single- and multiple-family residences. Numerous schools and small church buildings are located throughout the area.

## 3. Site Characteristics

Dunn Field is located to the north of the Main Installation (north of Dunn Avenue) and was used in the past for bulk mineral storage and waste disposal. It was divided into four areas for the purpose of the EE/CA (Area A, B, C, and D [Figure 3]). Areas A and B are the only areas where CWM disposal was documented in the past. The majority of Areas A and B are covered with grass that is mowed regularly. Areas A and B are approximately 19 acres in size and the topography is characterized by flat to gently rolling slopes and hills.

The Depot is currently under the ownership Department of Army and is operated by the Defense Logistics Agency. Dunn Field will be transferred to the ownership of the Depot Redevelopment Corporation or sold through public sale for reuse.

#### 4. Release or Threatened Release Into the Environment of a Hazardous Substance, Pollutant, or Contaminant

Soil and groundwater samples were collected during the EE/CA for Dunn Field. Soil samples were collected between 0 and 15 foot depths. Groundwater samples were collected from six new wells installed directly downgradient of the suspected burial pits and two existing wells. 45 soil samples and eight groundwater samples were collected and analyzed. The following paragraphs describe the laboratory results from these samples.

Twenty-two metals were detected in site surface soil samples. Thallium was the only metal not detected out of those for which analysis was conducted. These detections are comparable to natural background conditions. Three explosive compounds were detected at trace levels in surface soils. These included 2,4,6-trinitrotoluene, HMX (octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazorine), and RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine). These compounds were detected in two samples. No CWM or breakdown products were detected in any surface soil samples.

Twenty metals were detected in subsurface soil samples. These detections are comparable to natural background conditions. Of those metals analyzed, cadmium, silver, and thallium were the only metals not detected. Two explosive compounds were detected at trace levels in subsurface soils. These included 2,4,6-trinitrotoluene and RDX. The compound 2,4,6-trinitrotoluene was detected in three samples. RDX was detected in one sample. No CWM or breakdown products were detected in any of the subsurface soil samples.

Thirteen metals were detected in site groundwater samples collected from wells MW-56 to MW-61. These included: aluminum, antimony, arsenic, barium, chromium, cobalt, copper, iron, lead, manganese, nickel, vanadium, and zinc. These detections are comparable to natural background conditions. Due to the conservative nature of the data validation process, fourteen explosive compounds were estimated at the reporting limit in the sample from MW-56. These explosives may or may not have been present in the sample, but were certainly no higher than the reporting limit. These compounds were not detected in any other groundwater sample. No other constituents were detected in groundwater.

#### 5. NPL Status

The Memphis Depot was placed on the National Priorities List (NPL) in October 1992, and must fulfill requirements under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP). The Depot is under the jurisdiction of the Tennessee Department of Environment and Conservation (TDEC) and EPA Region IV.

**FIGURE 3**  
**Site Map**  
**Memphis Depot**  
**Memphis, Tennessee**

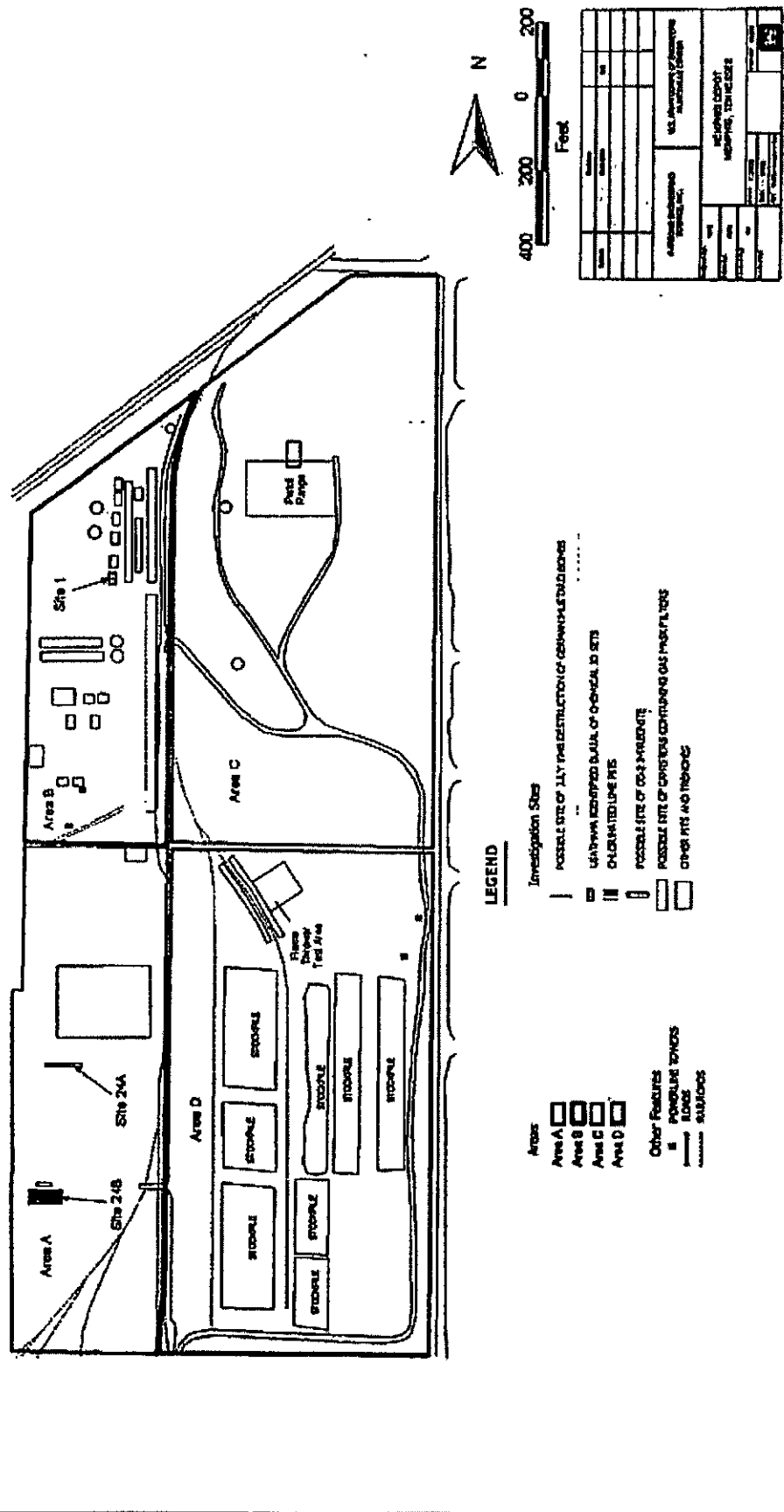


Figure 3. Site Map

A site wide Remedial Investigation and Feasibility Study (RI/FS) is currently being prepared for the Depot in accordance with CERCLA and NCP to evaluate human health and environmental risk, and to screen for potential remedial actions.

The proposed removal action outlined in this Action Memorandum, however, is proposed voluntarily by the Defense Logistics Agency to remove suspected CWM at Dunn Field to eliminate potential risks to human health and the environment and to facilitate property transfer. Further remedial action requirements for other sites on Dunn Field and other potential contaminants, if any, will be determined by a record of decision following the RI/FS. The proposed removal action will not preclude remedial actions, if any are required, for other environmental media or sites.

## **B. Other Actions**

### **1. Previous Actions**

No previous actions have been undertaken to address the suspected CWM at Dunn Field.

### **2. Current Actions**

Currently, a Remedial Investigation at Dunn Field is in progress and a groundwater recovery system is in operation along the western and northern edges of Area B. However, these actions are unrelated to the CWM investigation.

## **III. Threats to Public Health, Welfare, or the Environment**

### **A. Threats to Public Health or Welfare**

A streamlined risk evaluation was conducted for the areas directly adjacent to suspected CWM burial pits. The risk evaluation included a human health risk evaluation (HHRE) and an ecological preliminary risk evaluation (PRE). Potential exposure for both current and future human receptors to groundwater and soil at Dunn Field was evaluated in the HHRE. Chemicals that were found in soil and groundwater samples were evaluated as potential risks to these human and ecological receptors. Constituents of Concern (COCs) identified from the HHRE included lead in surface soil (0-1 foot); lead, chromium, and iron in mixed surface and subsurface soil (0-11 feet); and nitrobenzene, aluminum, iron, and manganese in groundwater. Based on the risk analysis that indicated safe levels and the fact that these COCs are not CWM related, none were identified as COCs to be removed. Therefore, adverse effects to current and future human receptors resulting from exposure to site media are not expected to occur in the areas directly adjacent to the suspected CWM burial pits.

### **B. Threats to the Environment**

An ecological PRE, including a site walk, a visual inspection, and soil screening, was conducted at Dunn Field. Chemical compounds in surface soil (0-1 foot) and mixed surface and subsurface soil (0-11 feet) were evaluated and the ecological site characterization indicated it is highly unlikely that wildlife populations would be sustained at Dunn Field or in the surrounding area. No significant impacts to ecological populations are expected from CWM or CWM byproducts in the areas directly adjacent to the suspected CWM burial pits.

## IV. Endangerment Determination

Although soil or groundwater samples were not collected directly beneath or within the suspected CWM burial pits, it is assumed that CWM exists in these areas and they are, by definition, toxic to human and ecological receptors. These wastes will result in an unacceptable risk if left in place. Therefore, removal actions are necessary to reduce or eliminate the potential CWM risk posed by these wastes. The locations of the removal areas are shown on Figure 4.

## V. Proposed Actions and Estimated Costs

### A. Proposed Actions

Four alternatives were evaluated for the removal action at Dunn Field. These alternatives include:

- Alternative 1 – No further action;
- Alternative 2 – Institutional controls;
- Alternative 3 – Capping; and
- Alternative 4 – Excavation and Removal of CWM.

Alternatives were evaluated in terms of effectiveness, implementability, cost, and the following removal action goals and objectives:

- Reduce or eliminate any chemical risk posed by CWM that remains at Sites 1, 24A, and 24B in Dunn Field;
- Remove any OE found in the suspected CWM burial pits;
- Recommend a response that is consistent with the intended future land use of the site;
- Have a reasonable and acceptable cost; and
- Be implemented in an expedited manner to meet BRAC parcel transfer and leasing schedules.

Alternative 4 is the only alternative that fully meets the removal action goals and objectives, including the Department of Defense Ammunition and Explosive Standard (DoD 6055.9).

### 1. Description of Proposed Action

The proposed action (Alternative 4) includes the following elements:

- Excavating and off-site disposal of the material contained in the three areas shown on Figure 4; and
- Confirmatory soil sampling.

## 2. Contribution to Remedial Performance

The proposed removal action will remove the source of contamination (e.g., pit contents and contaminated soil) to the extent necessary to facilitate transfer of the property for further industrial or commercial reuse. It will also remove the potential risk of exposure to subsurface contamination in the areas of concern where such soils could present a hazard for future development or a potential source of groundwater contamination. Removal of the suspected CWM will support a No Further Action determination for Installation Restoration Program sites 1, 24A, and 24B.

## 3. Description of Alternative Technologies

On-site treatment of CWM contaminated soils was not evaluated due to the nature of the suspected contaminants and community issues. The objective of the removal action is to eliminate any potential exposure to CWM in the future. The proposed removal action, excavation and off-site disposal, may include either landfilling or treatment of contaminated soil at a regulator approved facility.

## 4. Engineering Evaluation/Cost Analysis (EE/CA)

The proposed removal action is based on removal action requirements and an alternatives evaluation documented in the *Engineering Evaluation/Cost Analysis (EE/CA), for the Removal of Chemical Warfare Materiel, Former Defense Distribution Depot, Memphis Tennessee*, dated June 1999, and information and decisions made subsequent to publication of that document. An information session/media day was held on September 19, 1998 in which the public and media were invited to a forum describing the findings of the field activities performed at Dunn Field and other areas of Memphis Depot. Approximately 40 citizens attended and concerns were mainly about the danger posed by CWM. A public notice/comment period on the EE/CA and the proposed removal action took place from June 10 to August 9, 1999. A public meeting to receive comments and a community information session were held on June 17, 1999. Approximately ten citizens attended this event. Appendix A, Responsiveness Summary, lists all comments made by the public during the 60-day public comment period and provides the agency's responses.

## 5. Applicable or Relevant and Appropriate Requirements (ARARs)

The following list of ARARs was developed on the basis of the proposed scope of work for the removal action and known or suspected conditions at the site:

- Contaminated soil and debris will be screened to determine if they are characterized as hazardous waste. Waste will be characterized as hazardous if the appropriate analysis determines that the wastes are reactive, ignitable, corrosive, or toxic as described in 40 CFR 261 Subpart D.
- Applicable Occupational Safety and Health Administration (OSHA) health and safety regulations will be followed during the removal operations. Workers performing the removal will be properly trained and under appropriate medical supervision. Appropriate personal protective equipment will be used and safe work practices will be followed.

- Water pollution control requirements of the federal Clean Water Act and National Pollutant Discharge Elimination System (NPDES) and applicable state and county requirements will be followed during all construction and decontamination operations.
- Applicable NCP requirements, including public comment period provisions, have been followed.

## **6. Project Schedule**

The U.S. Army Engineering Support Center, Huntsville, has procured a contractor for CWM cleanup actions at Sites 1, 24A, and 24B. Current projections indicate that the work will begin during the spring of 2000. It is estimated that three to six months will be required to complete the removal action once the contractor is on-site.

## **B. Estimated Costs**

The conceptual-level cost estimate for the proposed removal action ranges from \$3.2 to \$5.9 million. These costs are high and low estimates based on the amount of soil excavated and how it is characterized (i.e., CWM contaminated or HTRW contaminated). This cost estimate includes a direct capital cost (cost for transportation, and disposal) of \$1.8 to \$4.4 million and fixed costs (fees for subcontracts, travel and per diem and labor) of \$1.4 million.

Conceptual-level cost estimates are order-of magnitude cost estimates made without detailed engineering data and include estimates of major cost components and quantities as well as typical costs from similar work. It is normally expected that estimates of this type would be accurate to within plus 50 percent to minus 30 percent. The actual cost will be determined upon the award and completion of the removal action to a contractor.

No long-term operations and maintenance costs were included in the cost estimate because contaminants will be removed and no cap systems, treatment systems, etc., will be required after the removal action is complete.

## **VI. Expected Change in the Situation Should Action Be Delayed or Not Taken**

As long as suspected CWM remains in place at Dunn Field, there is a potential for exposure to the CWM in the burial pits and trenches and potential for migration of subsurface contaminants via infiltration and leaching of rainwater. However, recent sampling results indicate that migration of contaminants from the burial pits is not occurring. The Defense Logistics Agency can not absolutely prevent exposure to CWM after the property is transferred if the removal is not conducted.

## **VII. Outstanding Policy Issues**

The work is being funded fully by the Defense Logistics Agency. No policy issues concerning cost sharing or EPA funding are involved for the removal action.

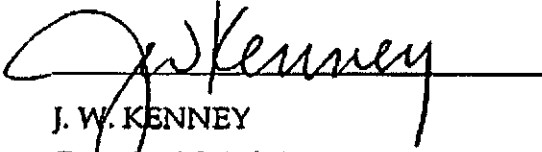
## VIII. Enforcement

The proposed removal action is a non-time-critical removal action voluntarily being undertaken by the Defense Logistics Agency. It is not an enforcement action; however, review and oversight is provided by TDEC and EPA.

## IX. Decision

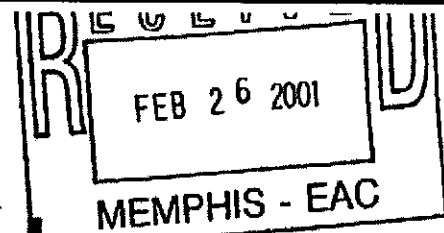
This Action Memorandum represents the selected removal action for Sites 1, 24A, and 24B, in Areas A and B of Dunn Field, part of the former Defense Distribution Depot Memphis, Tennessee. The United States Army Corps of Engineers is the lead respondent under the Defense Environmental Restoration Program and the Defense Logistics Agency is the lead agency for actions under the USEPA Federal Facilities Agreement. This Action Memorandum was developed in accordance with CERCLA as amended, and consistent with the NCP. The Department of Defense Ammunition and Explosive Standard (DoD 6055.9) requires the action. The decision is based on the information in the administrative record for the site.

Conditions at the site meet the NCP section 300.415(b)(2) criteria for a removal action and I approve the proposed removal action.



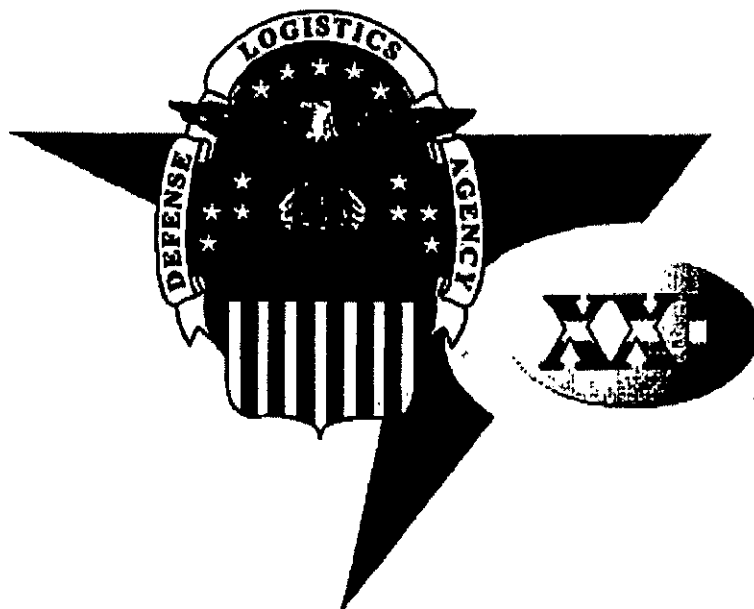
J. W. KENNEY  
Captain, SC, USN  
Commander

**Memphis Depot  
Main Installation**



863 289

# Record of Decision



**Memphis Depot Caretaker  
February 2001 — Rev. 2**



**CH2MHILL**



**U.S. Army Engineering  
and Support Center, Huntsville**

U.S. Army Engineering and Support Center, Huntsville  
Contract No. DACA87-94-D-0009  
Delivery Order No. 11

# 1.0 Declaration

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## 1.1 Site Name and Location

Memphis Depot

Main Installation, Functional Units (FUs) 1 through 7

2163 Airways Boulevard

Memphis, Shelby County, Tennessee

U.S. Environmental Protection Agency (EPA) Identification Number (ID): TN4210020570

## 1.2 Statement of Basis and Purpose

This decision document presents the selected remedy for the Main Installation (MI) of the Memphis Depot, in Memphis, Tennessee. This action was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and, to the extent applicable, the National Oil and Hazardous Pollution Contingency Plan (NCP). This decision is based upon the Administrative Record for the MI, including EPA Policy, *Land Use in the CERCLA Remedy Selection Process (OSWER Directive No. 9355.7-04)*. This policy provides for consideration of the likely future land use of the Memphis Depot when selecting the remedy.

The State of Tennessee Department of Environment and Conservation (TDEC) and EPA concur with the selected remedy.

## 1.3 Assessment of the Site

The response action selected in this Record of Decision (ROD) is necessary to protect human health and welfare, and the environment. The selected action will prevent imminent or substantial danger from actual or threatened releases from the MI of pollutants, contaminants, or hazardous substances.

## 1.4 Description of the Selected Remedy

The selected groundwater and surface soil remedy addresses the remediation of surface soil and groundwater contamination, which will allow the transfer or lease of the MI property for its intended land use (industrial and recreational). The selected surface soil remedy consists of land use controls for FUs 1 through 6, coupled with excavation, transport, and off-site disposal of an estimated 7,200-ft<sup>2</sup> area of surface soil in FU4. The selected groundwater remedy for FU7 is enhanced bioremediation, which includes land use controls and long-term monitoring. The selected remedy applies to the MI portion of the Memphis Depot and does not include Dunn Field (Operable Unit 1), located to the north of the MI.

The remedial investigation (RI) and feasibility study (FS) for Dunn Field are scheduled to be completed in 2001 and the final ROD in 2002.

The major components of the selected remedy include:

- Excavation, transportation, and off-site disposal at a permitted landfill of an estimated 7,200 ft<sup>2</sup> of surface soil containing lead concentrations equal to or greater than 1,536 milligrams per kilogram (mg/kg) near the southeast corner of Building 949 in FU4.
- Deed restrictions and site controls, which include the following:
  - Prevention of residential land use on the MI (except at the existing Housing Area).
  - Daycare restriction controls.
  - Production/consumptive use groundwater controls for the fluvial aquifer and for drilling into aquifers below the fluvial aquifer on the MI.
  - Elimination of casual access by adjacent off-site residents through maintenance of a boundary fence surrounding FU2.
- Enhanced bioremediation of chlorinated volatile organic compounds (CVOCs) in the most contaminated part of the groundwater plume.
- Long-term groundwater monitoring to document changes in plume concentrations and to detect potential plume migration to off-site areas or into deeper aquifers.
- 5-year reviews of the selected alternatives.

The land use controls (deed restrictions and site controls) that are included as part of the selected remedy provide additional layers of protection above the existing land use and groundwater controls as established by the: (1) City of Memphis and Shelby County zoning regulations; (2) Federal Property Management Regulations; and (3) Ground Water Quality Control Board for the City of Memphis and Shelby County.

No source materials on the MI are "principal threat wastes" as defined by EPA guidance. Surface and subsurface soils across the MI are not considered to be principal threats. No evidence of non-aqueous phase liquids (NAPL) has been discovered on the MI. Although contaminated groundwater poses a risk, it is not considered a principal threat.

## 1.5 Statutory Determinations

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable. The selected remedy allows the entire MI to be available for the anticipated future land use.

The selected remedy for groundwater contamination at the MI satisfies the statutory preference for treatment. The selected remedy for surface soil contamination at the MI does not satisfy the statutory preference for treatment as a principal element of the remedy. However, the remedy for surface soil was chosen for the following reasons:

- Deed restrictions and site controls can be implemented quickly.
- Deed restrictions and site controls provide additional layers of protectiveness above existing land use restrictions and controls.
- Excavation and off-site disposal provides permanent risk reduction at the MI through removal.
- The remedy will allow the property to be used for industrial and recreational land use, and does not preclude future response actions, if warranted.
- The remedy is cost-effective at achieving anticipated industrial (and recreational) land use criteria.

The remedy will result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure; therefore, in accordance with Section 121(c) of CERCLA and NCP §300.430(f)(5)(iii)(c), a statutory review will be conducted within 5 years of initiation of remedial action, and every 5 years thereafter, to ensure that the remedy continues to be protective of human health and the environment.

Hazardous substances above health-based levels will remain in groundwater beneath the Memphis Depot after implementation of this remedy. Because hazardous substances are to remain, the Defense Logistics Agency (DLA), TDEC, and EPA recognize that Natural Resource Damage Assessment (NRDA) claims, in accordance with CERCLA, may be applicable. This document does not address restoration or rehabilitation of any natural resource injuries that may have occurred or whether such injuries have occurred. In the interim, neither DLA nor TDEC waives any rights or defenses each may have under CERCLA, Sect. 107(a)(4)(c).

## 1.6 ROD Data Certification Checklist

The following information is included in the *Decision Summary* section (Section 2) of this ROD. Additional information can be found in the Administrative Record for the MI.

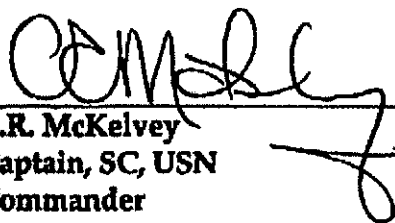
- Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of groundwater used in the baseline risk assessment and ROD (page 2-15).
- Chemicals of concern (COCs) and their respective concentrations (page 2-17).
- Baseline risk represented by the COCs (page 2-21).
- Clean-up levels established for COCs and the basis for these levels (page 2-24).
- Key factor(s) that led to the selection of the remedy (page 2-40).
- Estimated capital costs, annual operation and maintenance (O&M) costs, total present worth costs, discount rate, and number of years over which the remedial cost estimates are projected (pages 2-46 to 2-47).

- Potential land and groundwater use that will be available at the MI as a result of the selected remedy (page 2-48).


There are no source materials constituting principal threats on the MI; therefore, this topic will not be addressed.

## 1.7 Authorizing Signatures

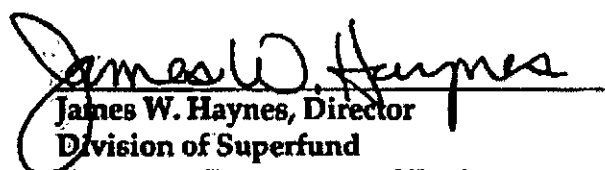
For this document, DLA is the prime signatory while EPA and TDEC concur with the findings of the ROD.

  
C.R. McKelvey  
Captain, SC, USN  
Commander

22 FEB 2001  
Date

  
Richard D. Green, Director  
Waste Management Division  
U.S. Environmental Protection Agency,  
Region 4

6 SEP 01  
Date

  
James W. Haynes, Director  
Division of Superfund  
Tennessee Department of Environment  
and Conservation

March 1, 2001  
Date

# Memphis Depot Dunn Field Action Memorandum

Former Pistol Range, Site 60



October 2002 (Rev. 1)



**CH2MHILL**



**U.S. Army Engineering  
and Support Center, Huntsville**

U.S. Army Engineering and Support Center, Huntsville  
Contract No. DACA87-94-D-0009  
Task Order No. 13

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## Attachment

- 1 Responsiveness Summary

## **ACTION MEMORANDUM**

### **Former Pistol Range**

#### **Site 60**

#### **Defense Distribution Center (Memphis), Dunn Field**

Site Status: Closed Pistol Firing Range

Category of Removal: Non-Time Critical Removal Action

CERCLIS ID: TN4 201 002 0570

Site ID: 60

## **I. Purpose**

The purpose of this Action Memorandum is to request and document approval of the proposed removal action described herein for the former Pistol Range at the Dunn Field of the Defense Distribution Center (Memphis) (also referred to the Memphis Depot) located at 2613 Airways Boulevard, Memphis, Tennessee, 38114. The Memphis Depot is in Shelby County.

## **II. Site Conditions and Background**

### **A. Site Description**

#### **1. Removal Site Evaluation**

The Memphis Depot (formerly known as Defense Distribution Depot Memphis, Tennessee and referred to in this document as the Depot) is a former US Defense Department supply depot. The facility was in operation from World War II until its closure in 1997. The Depot is divided into two major units – the Main Installation and Dunn Field.

Dunn Field was divided into three separate areas as part of the Dunn Field Remedial Investigation (RI) to assist the investigation of previous activities (CH2M HILL, July 2002). These areas are known as the Northeast Open Area, Disposal Area, and Stockpile Area. This document is concerned with the Northeast Open Area only.

Within the northeastern quadrant of the Northeast Open Area contains Site 60 - Pistol Range Impact Area and Bullet Stop and the adjacent Site 85 - Pistol Range Building and Temporary Pesticide Storage Building. Although this document is focused towards Site 60, the proximity of Site 85 will result in removal activities being conducted there as well.

Contamination within Site 60 and 85 primarily consists of contaminated surface soil. Historical information, on-site inspection, and the results of surface soil sampling during the RI from Site 60 and the adjacent Site 85 suggest that the following removal action will be conducive to transfer the sites for the planned future unrestricted use:

- Remove brush, trees, and overgrowth from the former backstop area and the metal target racks and associated support system;

- Demolition of Building 1184, including the pistol stand, and concrete slabs that are in the footprint of the excavation; and
- Remove areas of contaminated surface soil identified by surface soil sampling within the footprint of the former pistol range.

## 2. Physical Location

The Memphis Depot is located in Memphis, Tennessee (Figure 1), consists of approximately 642 acres and includes the Main Installation (MI), which includes open storage areas, warehouses, military family housing, and outdoor recreational areas, and Dunn Field, which includes former mineral storage and waste disposal areas. The major features of the Depot are shown in Figure 2. The Depot lies approximately 5 miles east of the Mississippi River and just northeast of the Interstate 240–Interstate 55 junction in the south-central portion of Memphis, approximately 4 miles southeast of the central business district and one mile northwest of Memphis International Airport (Figure 1). Airways Boulevard borders the MI portion of the Depot on the east and provides primary access to the MI. Dunn Avenue, Ball Road, and Perry Road serve as the northern, southern, and western boundaries of the MI, respectively.

Dunn Field, comprising 64 acres of primarily undeveloped land, is immediately adjacent, across Dunn Avenue, to the north-northwest portion of the MI. Dunn Field is bounded by the Illinois Central Gulf Railroad and Person Avenue to the north, Hays Road to the east, and Dunn Avenue to the south. Dunn Field is partially bounded to the west by: (1) Kyle Street; (2) Memphis Light Gas and Water (MLGW) powerline corridor (which bisects Dunn Field); (3) undeveloped property; and (4) a commercial trucking facility (Figure 2).

## 3. Site Characteristics

Site 60 is located approximately 400 feet south of the north fence surrounding Dunn Field (Figure 3) and 90 feet west of Building 1184. The boundary of the site has been estimated using historical aerial photography, which also indicate that the site was constructed between 1953 and 1958. Records from the former Memphis Depot identify Site 60 as a former pistol range used for marksmanship training. No additional information is available about previous uses of this area. There is no documented evidence that this site was ever used for the storage or disposal of hazardous or toxic materials. The time period that Site 60 was used for target practice is unknown, but the Installation Assessment report (USATHMA, 1982) states that the "area was abandoned in the late 1970s and the building [1184] is currently being used for pesticide storage."

From historical documents, Site 85 appears to be the building located at the former pistol range. Site 85 is the Pistol Range Building (Building 1184) that served as an office and control point for Site 60 and is located immediately adjacent to the pistol stand and Site 60 area (see Figure 4). Reportedly during activities at Dunn Field, this building also served as a location for temporary storage of pesticide containers. No additional information is available about previous uses of this area. Building 1184 is no longer used for temporary storage of pesticides.

#### **4. Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant, or Contaminant**

At Site 60 and the adjacent Site 85, 6 surface soil samples were collected during the RI and analyzed for pesticides, PCBs and metals. Soil from the pistol range was sieved onsite during the sampling event, verifying the presence of lead bullets and casings. Of the 6 surface soil samples analyzed for lead, 5 samples contained lead concentrations that exceeded the background value of 30 milligrams per kilogram (mg/kg). The lead concentrations ranged from 39.2 mg/kg to 2,100 mg/kg, with the maximum value recorded in samples from the former Pistol Range.

Other metals detected in soil samples from the Pistol Range include beryllium, cadmium, chromium, copper, and zinc. A total of four pesticides were detected in six surface soil samples from Sites 60 and 85: DDT, DDD, dieldrin, and endrin. Figure 8-5 in Section 8 of the Dunn Field RI report (CH2MHILL, July 2002) presents the locations within the Northeast Open Area where samples were collected for pesticides analysis, and highlights the pesticides with concentrations above background or with any detectable concentration if no background concentration is available.

The Dunn Field RI report stated that dieldrin, DDD, and DDT were detected across the Northeast Open Area, but are not associated with discrete releases from source areas within the Northeast Open Area. In the past, these pesticides were sprayed routinely on grassy areas and around buildings, and a wide range of variability was observed (CH2M HILL, 1999, Main Installation RI Report). The Dunn Field RI report also stated that the high dieldrin concentration near the Former Pistol Range (6085D) may result from increased application in this area because of frequent activity and is not indicative of releases specifically from pesticide handling at Site 85.

PCBs (Aroclor 1260) were detected in 3 of 6 samples analyzed; however, all results were reported as estimated with a "J" qualifier, and none were reported above the background value of 0.11 mg/kg.

#### **5. NPL Status**

The Memphis Depot was placed on the National Priorities List (NPL) in October 1992, and must fulfill the requirements under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP). The Depot is under the jurisdiction of the Tennessee Department of Environment and Conservation (TDEC) and EPA Region IV.

A sitewide remedial investigation and feasibility study (RI/FS) have been finalized (July 2002) or submitted for review (August 2002), respectively, in accordance with CERCLA and the NCP to evaluate human health and environmental risk, and to screen for potential remedial actions.

Proposed removal actions outlined in this Action Memorandum, however, are actions the Memphis Depot decided to voluntarily pursue to remove readily accessible chemical contamination at Site 60 to facilitate property transfer. Additional remedial action requirements are not expected for the Northeast Open Area, based upon the results of the risk assessment conducted as part of the RI.

## **B. Other Actions**

### **1. Previous Actions**

Previous removal actions at Dunn Field have included removals outside of the Site 60 area. These activities were conducted as non-time critical removal actions under CERCLA. An EE/CA was performed by Parsons Engineering Science, Inc. in June 1999 to: (1) assess whether CWM contamination was migrating from the CWM disposal pits at Dunn Field; (2) analyze risk management alternatives; and (3) recommend feasible CWM remedial alternatives for contaminants found to be present. The recommended alternative for the three identified areas of concern at Dunn Field was Alternative 4, excavation and removal of CWM. UXB International, under contract with USACE - Huntsville, conducted the removal action from mid-2000 to mid-2001 at Sites 1, 24-A, and 24-B.

Other surface soil removal actions have occurred at the MI, including removals at Parcels 35 and 28 (in 2000), Building 949 (in 2001), the former cafeteria area (in 1998), and the housing area (in 1998). The Building 949 removal action on the MI involved removal of lead contaminated soil down to one foot, similar to the activity for Site 60. In each case, excavation and removal of the contaminated material was the remedial method. This method was preferred over others because of the low amount of material to be removed and remediated. Other methods were found to be too costly because of equipment and time requirements. Cleanup limits for these projects were based on risk-based criteria.

### **2. Current Actions**

There is a groundwater extraction system on the western perimeter of Dunn Field that has been in place and operational since 1999. There will be no concurrent soil actions on Dunn Field.

## **III. Threats to Public Health, Welfare, or the Environment**

### **A. Threats to Public Health or Welfare**

The expected land use of Sites 60 and 85 located within the Northeast Open area of Dunn Field is unrestricted. All users of the site are not expected to encounter any residual contamination that would pose an unacceptable risk from past uses of the Northeast Open Area.

Lead contamination in surface soil is the greatest potential concern to human health. The maximum recorded lead concentration in surface soil at the Northeast Open Area is 2,100 mg/kg, with an estimated arithmetic mean of 196 mg/kg. The maximum concentration was detected in sample Location 6085D from Site 60. All lead concentrations for Site 60 and the entire Northeast Open Area, except the maximum, are below a residential exposure-based screening level of 400 mg/kg and an industrial worker exposure-based target concentration of 1,536 mg/kg (CH2M HILL, July 2002). The lead is possibly associated with spent bullets in the firing range, as the elevated concentrations were limited to this area. The maximum observed lead levels at the site are expected to pose health hazards for any of the receptors mentioned because both screening levels have been exceeded.

## **B. Threats to the Environment**

According to Section 9 – Baseline Risk Assessment of the Northeast Open Area, within the Dunn Field RI, the only potential threats to the environment were from concentrations of dieldrin and chromium. The risk was based on the American Robin as the target receptor. The risk assessment stated that it is unlikely that the robin would forage exclusively within the bounds of the Northeast Open Area, or that dieldrin and chromium would be uniformly distributed in surface soil, or that these chemicals would be 100 percent bioavailable in organic soil. In addition, the dietary components of the robin were conservatively estimated to support a worst case exposure to dieldrin; however, its actual diet is likely to differ (and is known to include more fruit and seeds at some times of the year) and the availability of preferred food items at the Northeast Open Area is expected to be low as a result of routine mowing activities. Based on this evaluation, the risk assessment concluded that no further assessment of ecological risk associated with contaminants at the Northeast Open Area was warranted.

## **IV. Endangerment Determination**

Contamination has been detected in excess of residential screening criteria within the Site 60 area. The Memphis Depot has elected to perform the following removal actions to remove readily accessible contamination so that the property may be transferred for future unrestricted use:

- Clearing and grubbing of the bushes and trees that have grown in and around Site 60.
- Removal of up to 12-inches of soil for all areas of contaminated surface soil within the perimeter of Site 60 where previous sampling suggests the presence of surface soil contamination in excess of residential screening criteria.
- Removal of up to 24 inches of surface soil from the former bullet stop area within the perimeter of Site 60.
- Removal of Building 1184 (Site 85), as well as all other metal emplacements including the pistol stand and target racks.

## **V. Proposed Actions and Estimated Costs**

### **A. Proposed Actions**

To expedite this removal action, the BRAC Cleanup Team (BCT) for the Memphis Depot determined that the process of a full analysis of available alternatives for Site 60 was not necessary. Instead, this removal action would be based upon previous, similar EE/CA and feasibility study activities at the Memphis Depot, especially those conducted for Parcels 35 and 28 and the surface soils on the Main Installation (e.g., Building 949) in Functional Unit (FU) 4. The documentation and activities for those two removals were used as the basis for selection of the remedial alternative at Site 60. Sections 3, 4, and 5 of the final EE/CA document for the Old Paint Shop and Maintenance Area, Parcels 35 and 28 (CH2M HILL, August 1999) identify, analyze, and compare the alternatives. The method recommended as the primary remedial alternative included excavation and removal of surface soil

contamination in excess of risk-based industrial and residential screening criteria. The excavation and removal method was selected because: (1) this alternative would effectively meet risk-based cleanup criteria and decrease residual effects; (2) the alternative is technically appropriate and feasible; and (3) costs were acceptable. The MI Soils Feasibility Study (FS) (CH2M HILL, July 2000) also identified several remedial alternatives for removal of lead contaminated surface soil at various locations (e.g., Building 949) on the MI. Section 4 of the FS identified excavation, transportation, and off-site disposal as being protective of human health and the environment via contaminant reduction to industrial worker exposure levels acceptable to appropriate land use. The alternative was also found to be permanent, timely in implementation, and cost-effective. Further, the MI Record of Decision (ROD) (CH2M HILL, September 2001) provided that, for Building 949, excavation and removal is the preferred alternative for remediation due to its expediency, permanence, and moderate cost. The reader is referred to these documents for specific information related to the alternative evaluation and selection process.

As identified by the BCT, the one objective that is to be accomplished by this non-time critical removal is that Site 60 should, after the removal is completed, be available for unrestricted use. Based on these requirements, the parameters of previous removal actions, and successful implementation of those previous removal actions, excavation, transportation, and offsite disposal of all contaminated surface soil and debris at Site 60 (including the removal of Building 1184 [Site 85]) was selected by the BCT as the most effective and efficient method.

## **1. Description of Proposed Action**

The proposed removal action includes the following elements:

- Clearing and grubbing of the bushes and trees that have grown in and around Site 60. Removal of roots from former tree locations and removal of potentially contaminated soil from the root balls.
- In-situ soil characterization sampling for lead constituents across Site 60, based on a grid pattern determined by the RA contractor, prior to excavation resulting in direct load-out of the material when mobilization occurs.
- Removal of 12-inches of soil for all areas (except Area C in Figure 5) of contaminated surface soil within the perimeter of Site 60 where previous sampling suggests the presence of surface soil contamination in excess of residential screening criteria, and the presence of spent bullet and casings have been found.
- Removal of up to 24 inches of surface soil from Area C within the perimeter of Site 60, as shown in Figure 5, as this area served as the bullet stop while the site was used as a pistol range.
- Removal of Building 1184 (Site 85), as well as all other metal emplacements including the pistol stand and target racks.
- Confirmatory sampling from all excavations to ensure that: (1) no additional contaminated soil above residential screening criteria (lead at 400 mg/kg) is present; and (2) spent bullets are not present.

- Replacement of excavated areas (primarily Areas A and B) with clean (laboratory tested), backfill soil. The source of this soil is the backstop area.
- Engineering controls to minimize fugitive dust and stormwater releases as well as all water related to decontamination procedures.

## **2. Contribution to Remedial Performance**

The proposed removal action will remove residual surface soil contamination to the extent necessary to facilitate transfer of the property for unrestricted use. Removal of the soil will support a No Further Action determination for surface soil for Site 60 and the Northeast Open Area within the upcoming Record of Decision document for Dunn Field. Action will be required for groundwater underlying Dunn Field and some subsurface areas of the Northeast Open Area may be targeted for soil vapor extraction as part of the Dunn Field Remedial Action for subsurface soil.

## **3. Description of Alternative Technologies**

Onsite and offsite treatment alternatives to excavation and removal may be potentially viable from a technical perspective, but in consideration of previous removal actions at the Memphis Depot and the relatively small volume of soil and low cost of landfill disposal, other treatment options would not be cost-effective. As a result, no treatment alternatives to landfill disposal were considered.

## **4. Engineering Evaluation/Cost Analysis (EE/CA)**

The proposed removal action is based on removal action requirements and an alternatives evaluation documented in the *Final Memphis Depot Dunn Field Engineering Evaluation/Cost Analysis, Former Pistol Range, Site 60*, dated July 2002, and information and decisions made prior to publication of that document.

## **5. Applicable or Relevant and Appropriate Requirements**

The following list of applicable or relevant or appropriate requirements (ARARs) was developed based on the scope of work to be performed during the removal action:

- The excavation and disposal of soil that contains RCRA-restricted waste may trigger the RCRA land disposal restrictions (LDRs). In general, RCRA's LDRs were established for waste streams that differ significantly from Superfund wastes. Because the LDRs are not based on treating wastes that contain soil and debris, a treatability variance may be appropriate. Under a treatability variance, alternative treatment levels based on data from actual treatment of soil, or best management practices (BMPs) for debris, become the "treatment standard" that must be met. To determine if the soils are to be disposed of in a hazardous or solid waste landfill, a toxicity characteristic leaching procedure (TCLP) test is conducted on representative soil samples to determine if a waste is characterized as hazardous per Title 40 of the *Code of Federal Regulations* Part 261 Subpart C (40 CFR 261C). The excavation and off-site disposal of soil and debris that contain a RCRA hazardous waste must comply with transporter regulations under 40 CFR 263C). A transporter under Subtitle C is defined as any person engaged in off-site transportation of hazardous waste within the United States. Such transportation requires a manifest under 40 CFR 262.

- Applicable Occupational Safety and Health Administration (OSHA) health and safety regulations will be followed during removal actions. Workers performing the activities will be properly trained and under appropriate medical supervision. Appropriate personal protective equipment (PPE) will be used and appropriate safe work practices will be followed. This includes OSHA 29 CFR 1926.62, which also addresses when employees must follow mandatory hand-washing procedures and when full-body showers are required, and when employers must make available medical exams for workers as well as testing for blood lead levels. There are provisions for removing workers with high blood lead levels from jobs involving lead exposure.
- Lead contaminated materials, if any will be managed in accordance with appropriate OSHA, EPA, State of Tennessee and Memphis and Shelby County Health Department/Pollution Control Division requirements.
- Lead contaminated soils will be removed as necessary to achieve cleanup standards, as described in Description of Proposed Action above.
- Emissions to air during excavation and/or on-site treatment may require compliance with the substantive requirements of Tennessee Rule 1200-3-1, which includes requirements for the control of fugitive dust emissions, among others.

## **6. Project Schedule**

The US Army Corps of Engineers, Mobile District, currently has a remedial action contractor under contract to perform remedial actions at the Memphis Depot. The procurement procedures for this action are being completed during development of this document.

Current projections indicate that the removal work will begin during the late fall of 2002 and completion of the work in winter of 2002/2003.

## **B. Estimated Costs**

The conceptual level cost estimate for the proposed removal action is \$300,000. This cost estimate includes a direct capital cost (for example, cost of remedial action workplan development, labor for oversight, mobilization, excavation, transportation, and disposal) of \$240,000 and indirect costs as project management and contingency for \$60,000. Indirect costs are assumed to be 25% of the capital costs.

These costs are order-of-magnitude capital costs. Order-of-magnitude estimates are made without detailed engineering data and included estimates of major cost components and quantities, typical costs for similar work, cost curves, and scale-up or scale-down factors or ratios. It is normally expected that estimates of this type would be accurate to within plus 50 percent to minus 30 percent. The final costs of this project will depend on actual labor and material costs, competitive market conditions, final project costs, implementation schedule, and other variable factors. As a result, the final project costs will vary from the estimates presented herein.

## VI. Expected Change in the Situation Should Action Be Delayed or Not Taken

As long as surface soil contamination at Site 60 remains, there is potential for migration of surface contaminants via surface water drainage or dust. The presence of contaminant-laden surface soils presents a hazard to users of the Northeast Open Area.

## VII. Outstanding Policy Issues

The work is being funded fully by the Defense Logistics Agency. No policy issues concerning cost sharing or EPA funding are involved for the removal action.

## VIII. Enforcement

The proposed removal action is a non-time critical removal action voluntarily being undertaken by the Depot. It is not an enforcement action; however, review and oversight of the removal action by TDEC and EPA are expected. Since it is a voluntary action, an Enforcement Addendum is not required.

## IX. Recommendation

This decision document represents the selected removal action for Site 60, and the Memphis Depot, developed in accordance with CERCLA, as amended, and is consistent with the NCP. The decision is based on the administrative record for the site.

Conditions at the site meet the NCP Section 300.415(b) (2) criteria for a removal action and I recommend approval of the proposed removal action.



30 October 2002

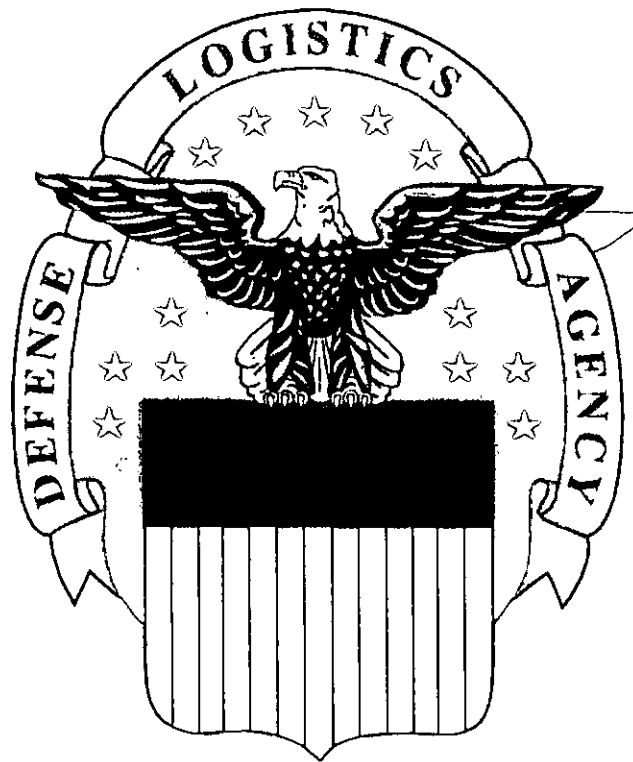
R.J. RITCHIE  
Captain, SC, USN  
Commander

(Date)

# Memphis Depot

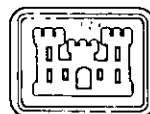
Dunn Field

## Record of Decision



**Defense Distribution Center (Memphis)**

**February 2004 — Rev. 2**



**U.S. Army Engineering  
and Support Center, Huntsville**

U.S. Army Engineering and Support Center, Huntsville  
Contract No. DACA87-94-D-0009  
Task Order No. 10

# 1.0 Declaration

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## 1.1 Site Name and Location

Memphis Depot  
Dunn Field, Operable Unit 1 (OU-1)  
2163 Airways Boulevard  
Memphis, Shelby County, Tennessee  
U.S. Environmental Protection Agency (EPA) Identification Number (ID): TN4210020570

## 1.2 Statement of Basis and Purpose

This decision document presents the selected remedy for Dunn Field of the Memphis Depot, in Memphis, Tennessee. This action was chosen by the Defense Logistics Agency (DLA) in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and, to the extent practicable, the National Oil and Hazardous Pollution Contingency Plan (NCP, 40 CFR Part 300 *et. seq.*). This decision is based upon the Administrative Record file for Dunn Field, and EPA Policy including, *Land Use in the CERCLA Remedy Selection Process (OSWER Directive No. 9355.7-04)*. This policy provides for consideration of the likely future land use of the Memphis Depot when selecting the remedy.

The State of Tennessee Department of Environment and Conservation (TDEC) and EPA concur with and approve the selected remedy.

## 1.3 Assessment of the Site

The response action selected in this Record of Decision (ROD) is necessary to protect public health or welfare, or the environment, from actual or potential releases from the Dunn Field of pollutants, contaminants, or hazardous substances into the environment.

## 1.4 Description of the Selected Remedy

The selected remedy includes the remediation of disposal sites and associated subsurface soil, and groundwater contamination as well as volatile organic compound (VOC) contamination within subsurface soil that is outside of the disposal sites. The remedies will allow the transfer or lease of the Dunn Field property for its intended land use (industrial and recreational).

The major components of the selected remedy for Dunn Field include:

- Excavation, transport, and disposal of soil and material contained within disposal sites located in the western half of Dunn Field based upon results from a pre-design investigation into these sites.
- Use of soil vapor extraction (SVE) to reduce VOC concentrations in subsurface soils to levels that are protective of the intended land use and groundwater.
- Injection of zero-valent iron (ZVI) within Dunn Field to treat chlorinated volatile organic compounds (CVOCs) in the most contaminated part of the groundwater plume, and installation of a permeable reactive barrier (PRB) to remediate CVOCs within the off site areas of the groundwater plume.
- Monitored natural attenuation (MNA) and long-term groundwater monitoring (LTM) to document changes in plume concentrations, to detect potential plume migration to off-site areas or into deeper aquifers, and to track progress toward remediation goals.
- Implementation of land use controls, which consist of the following institutional controls: deed and/or lease restrictions; Notice of Land Use Restrictions; City of Memphis/Shelby County zoning restrictions and the Memphis and Shelby County Health Department groundwater well restrictions.

Subsurface soils, including the disposal sites, in the Disposal Area are considered to be principal threat wastes as defined by EPA guidance. The principal threat wastes have significantly degraded groundwater quality in the shallow fluvial aquifer. Based on the highest observed concentration of the detected solvents trichloroethene (TCE) and 1,1,2,2-tetrachloroethane (PCA) in groundwater, free-phase solvents may be present in Dunn Field groundwater and would be considered principal threat wastes. However, free-phase solvents have not been detected during the RI and subsequent groundwater sampling events.

## 1.5 Statutory Determinations

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable. The selected remedy allows the entire Dunn Field to be available for the anticipated future land use.

The selected remedy for VOC contamination in groundwater and in subsurface soil outside of the disposal site locations at Dunn Field satisfies the statutory preference for treatment. The selected remedy for the disposal sites and associated subsurface soil non-VOC contamination at Dunn Field does not satisfy the statutory preference for treatment as a principal element of the remedy. However, the remedy for the disposal sites and associated subsurface soil was chosen for the following reasons:

- Excavation and off-site disposal provides permanent risk reduction through removal.
- The remedy will allow the Disposal Area of Dunn Field to be used for industrial land use, and does not preclude future response actions, if warranted.
- The remedy is cost-effective at achieving anticipated industrial land use criteria.
- Land use controls, which include institutional controls, can be implemented quickly and provide additional layers of protectiveness to the existing land use controls (zoning and groundwater well restrictions).

In-situ treatment is not selected primarily because of the homogeneity of disposed materials, which is incompatible with the technology. Ex-situ treatment calls for excavation and separation of pit contents, and return of residual mass to the pits. Either treatment alternative would leave residual concretized mass that could interfere with reuse options. As long as the disposal pit contents have to be excavated, it is prudent to dispose of them in a permitted landfill subject to all relevant regulations.

The remedy will result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and recreational exposure; therefore, in accordance with Section 121(c) of CERCLA and NCP §300.430(f)(5)(iii)(c), a statutory review will be conducted within 5 years of initiation of remedial action, and every 5 years thereafter, to ensure that the remedy continues to be protective of human health and the environment.

Although active restoration is the remedial action objective for the contaminated groundwater, hazardous substances above health-based levels may remain in groundwater associated with Dunn Field after implementation of this remedy. Therefore, DLA, TDEC, and EPA recognize that Natural Resource Damage claims, in accordance with CERCLA, may be applicable. The remedy does address restoration or rehabilitation of groundwater, but does not determine the extent of any natural resource injuries that may have occurred. However, neither DLA nor TDEC waives any rights or defenses each may have under CERCLA, Sect. 107(a)(4)(c).

## 1.6 ROD Data Certification Checklist

The following information is included in the *Decision Summary* section (Section 2) of this ROD. Additional information can be found in the Administrative Record for Dunn Field.

- Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of groundwater used in the baseline risk assessment and ROD (Section 2.6).
- Chemicals of concern (COCs) and their respective concentrations (Section 2.7.1.1 and Table 2-6).
- Baseline risk represented by the COCs (Section 2.7.1.5 and Tables 2-11 through 2-19).
- Remediation goals for soil and groundwater established for COCs, and the basis for these levels (Section 2.7.3 and Tables 2-21A through 2-21G).

- Source materials constituting principal threats on Dunn Field and how these threats are being addressed (Section 2.11).
- Key factor(s) that led to the selection of the remedy (Section 2.12.1).
- Estimated capital costs, annual operation and maintenance (O&M) costs, total present worth costs, discount rate, and number of years over which the remedial cost estimates are projected (Section 2.12.3).
- Potential land and groundwater use that will be available at Dunn Field as a result of the selected remedy (Section 2.12.4).

## 1.7 Authorizing Signatures

\_\_\_\_\_  
R.J. Ritchie  
Captain, SC, USN  
Commander

\_\_\_\_\_  
Date

\_\_\_\_\_  
Winston A. Smith, Director  
Waste Management Division  
U.S. Environmental Protection Agency,  
Region 4

\_\_\_\_\_  
Date

\_\_\_\_\_  
James W. Haynes, Director  
Division of Superfund  
Tennessee Department of Environment  
and Conservation

\_\_\_\_\_  
Date

AR4 811

October 21, 2004

## MEMORANDUM FOR FILE

SUBJECT: Technical Memorandum: Early Implementation of Selected Remedy  
Component to Address Groundwater Contamination West of Dunn Field,  
Rev. 2, CH2M HILL/ATL, October 14, 2004

Defense Logistics Agency (DLA), U. S. Environmental Protection Agency, and Tennessee Department of Environment and Conservation, as the BRAC Cleanup Team (BCT) for the Former Memphis Defense Depot, concur in the need for this Early Implementation as described in the attached Technical Memorandum. The early implementation has been discussed at BCT meetings in July, August and September 2004. The technical memorandum provides background information and the basis for the early implementation and describes the action, which consists of zero valent iron injection in west of Dunn Field with groundwater monitoring before and after the injections. This implementation is within the scope of the Dunn Field Record of Decision (final approval April 12, 2004). The action represents a non-significant modification to the remedy, in order to optimize remedy performance in light of new technical information. The BCT understands that subsequent monitoring may identify areas where additional injection will be required.



MICHAEL A. DOBBS  
Environmental Program Manager  
Defense Distribution Center



WM. TURPIN BALLARD, RPM  
Federal Facilities Branch  
Environmental Protection Agency, Region 4



JAMES W. MORRISON  
Program Manager  
Division of Superfund  
Tennessee Department of Environment and Conservation

## TECHNICAL MEMORANDUM

CH2MHILL

## Early Implementation of Selected Remedy Component to Address Groundwater Contamination West of Dunn Field

PREPARED FOR: USACE-Huntsville Center

PREPARED BY: CH2M HILL/ATL

COPIES: Defense Logistics Agency (DLA), U.S. Environmental Protection Agency, Region IV (EPA), Tennessee Department of Environment and Conservation (TDEC), MACTEC, Inc., and MitreTek Systems, Inc.

DATE: October 14, 2004

REVISION: 01

### I. Introduction & Objective

This memorandum documents the basis for conducting early implementation of a selected remedy in an area of groundwater contamination west of Dunn Field of the Defense Distribution Center (Memphis) in Memphis, Tennessee (see Figure 1).

Groundwater contaminant extent and remedies selected for remediation of the groundwater were identified in the April 2004 Final Dunn Field Record of Decision (ROD). The remedy selected for treatment of groundwater for chlorinated volatile organic compounds (CVOCs) in the most contaminated part of the plume is injection of zero-valent iron (ZVI). ZVI consists of pure iron metal granules or powder, which must be specially manufactured and packaged to prevent premature corrosion. Once released into the environment, iron oxidation fosters anaerobic conditions, which yields ferrous iron and hydrogen ions, both of which are reducing agents for chlorinated solvents.

New data collected during the Remedial Design (RD) phase of work show that contamination in the shallow aquifer is greater than previously known near areas known to be in connection with the Memphis aquifer and are approximately one-half mile upgradient of the Allen Well Field (Memphis aquifer) capture zone. Both Treatment Areas 1 and 2, identified in Figure 1, were not identified in the ROD as requiring treatment. Treatment Area 1 was previously identified for monitored natural attenuation (MNA) while Treatment Area 2 was expected to receive treatment by being within the zone of influence of a ZVI injection area. For site background and historical information, please refer to the ROD and administrative record on which the document is based.

Based on the results of sampling conducted subsequent to the ROD in June and August 2004, the DLA is conducting an early implementation of a component of the selected groundwater remedy (injection of ZVI) to address the concentrations of CVOCs at the leading edge of the high concentration portion of the plume (within the 500 µg/L total CVOCs).

## II. Description of Current Situation

This section describes the hydrogeology of the site west of Dunn Field, the nature and extent of contaminants in this area, and fate and transport parameters associated with the plume.

### A. Hydrogeology

Groundwater underlying the Dunn Field and areas west of Dunn Field is within a predominantly medium to fine-grained sand geological formation locally referred to as the fluvial aquifer. The aquifer varies in thickness but has been observed to range from 3 to over 30 feet thick west of Dunn Field with an average thickness of 18 feet. The fluvial aquifer is underlain by a massive clay unit that is regarded as an aquitard (i.e., little to no groundwater flows through the unit). This clay unit is part of the Jackson Formation/Upper Claiborne Formation. A top of clay contour map is presented as Figure 2. The clay map reveals that a swale exists beginning in the area of MW145 and is oriented northwards towards MW40. Current interpretation of the geology indicates that there is a geologic "window" to the underlying intermediate aquifer at MW40. The United States Geological Survey (USGS) has established that the intermediate aquifer is in connection with the lower Memphis aquifer at several points in Memphis. Figure 3 presents a lithologic cross-section through the early remedy implementation area.

As shown in Figure 4, groundwater predominantly flows to the west-northwest in the fluvial aquifer. However, a groundwater divide exists in the area of monitoring wells MW151 and MW152, where groundwater flow appears to split and begins to flow southwest and to the north. Seepage velocities range from 0.17 to 1.58 feet per day (ft/dy) across this area of the higher concentration portion of the area impacted by the subject plume. Seepage velocity from monitoring well MW-77 to MW-150 is estimated to be 0.91 ft/dy. Flow apparently slows down from MW-150 towards MW-152 as the velocity decreases to 0.17 ft/dy.

### B. Nature and Extent of Groundwater Contaminants

Groundwater sample data was collected from the site in June 2004 from 7 new wells (MW144 through MW150) installed to identify and define groundwater contaminant extent west of Dunn Field. Analysis of groundwater samples from these wells revealed a high concentration plume in the area of MW144, MW54, and MW150. To verify the extent of the high concentration plume, seven additional wells (MW151 through MW157) were installed in August 2004 west of Dunn Field. Samples from these wells redefined the groundwater plume previously presented in the ROD. As shown in Figure 5, contaminants are highly concentrated within this area. Note that the principal VOC constituents within this plume are 1,1,2,2-tetrachloroethane (1,1,2,2-PCA), trichloroethene (TCE), and 1,2-dichloroethene (1,2-DCE). Figure 3 also displays the contaminant concentrations within the fluvial aquifer along the predominant groundwater flowpath from August 2004.

As shown in Table 1, concentrations of 1,1,2,2-PCA range from 2100 micrograms per liter ( $\mu\text{g/L}$ ) to 8000  $\mu\text{g/L}$  in the area of wells MW54, MW150 and MW155. TCE levels are also elevated in the area of wells MW54, MW150 and MW155, with concentrations ranging from 1000 to 3000  $\mu\text{g/L}$ .

### C. Fate and Transport

Figure 6 presents an historical view of the concentration of TCE and 1,1,2,2-PCA at MW54. Concentrations of these contaminants have been increasing since the beginning of 2002 and, as of the last sampling event, do not appear to have reached a peak. The rapid rise in contaminant concentration indicates that the plume is relatively dynamic and unstable in this area possibly as a result of recent water table fluctuations (periods of drought and recovery). The information from MW54 could suggest that the existing plume (observed at well MW150) is migrating in a more westerly direction than was previously observed.

As discussed in Section II A, groundwater seepage velocities are an order of magnitude higher from MW77 to MW150 than from MW150, through MW155 to MW152, where the solute front of the >500 µg/L total CVOC plume is interpreted to be at this time.

### III. Basis of Decision

In the judgement of DLA, EPA, and TDEC, early implementation of a selected remedy is appropriate to address the contamination within the 500 µg/L total CVOC plume. The expedited response action is needed because of the following:

- The identification of higher concentrations of the COCs at the distal portion of the plume that could go untreated and adversely affect the MNA component of the selected remedy;
- At the time of the ROD, contaminant concentrations greater than or equal to 500 µg/L were targeted for active treatment. With the discovery of contamination greater than 500 µg/L downgradient of the proposed PRB, the BCT determined that engineered treatment is appropriate;
- Allowing concentrations to go untreated may adversely affect the proposed PRB component of the selected remedy for this area (e.g., the placement or location of the PRB could be in an area of greater saturated thickness, which may result in higher costs and potential encroachment onto offsite private property); and,
- Proximity of these COCs to potential migration pathways to the drinking water aquifer that supplies the City of Memphis.

Implementation of this action is within the scope of the Dunn Field ROD. The action represents a non-significant modification to the remedy, in order to optimize remedy performance in light of new technical information.

The selection of ZVI injection for this early remedy implementation was also based upon the results of a ZVI Treatability Study conducted as part of the RD for Dunn Field. The study was performed on Dunn Field in a known soil and groundwater contaminant source area centered around monitoring well MW73. The study was conducted from October 2003 to April 2004 and, during this study, four injection points were installed in the study area along with five new monitoring wells and, approximately 25,000 pounds of ZVI were injected into the fluvial aquifer. Over the course of five confirmatory separate sampling events, there was an observed 84 to 99 percent reduction of VOCs in the ZVI treatment zone.

This remedy will comply with all applicable or relevant and appropriate requirements (ARARs) as defined in the ROD, including State of Tennessee or Memphis-Shelby County Underground Injection Control (UIC) regulations (Page 2-69 of the Dunn Field ROD). Remedy actions (i.e., ZVI) will occur "onsite", as defined in 40 CFR Part 300.5 and 300.400(e)(1) (Page 2-68 of the Dunn Field ROD). Under CERCLA 121(e)(1), no permit is required for actions conducted entirely on-site; although, the substantive requirements must be met.

#### IV. Description of Remedial Action

The remedy selected within the Dunn Field ROD for high concentrations of contaminants in the fluvial aquifer underlying Dunn Field and the area west of Dunn Field is injection of ZVI (Page 2-57, Dunn Field ROD).

##### A. Summary of ZVI Remedy

There are two (2) engineered groundwater remediation components to the groundwater remedy selected within the Dunn Field ROD, including a permeable reactive barrier (PRB) and ZVI injections. The ROD states, "The [selected] alternative employs ZVI injection as a treatment technology of the most contaminated parts of the plume, and treatment of the remaining areas of contaminated groundwater through installation of a PRB and natural attenuation." ZVI does not require extensive lead time to design and implement, has the capacity to reduce contaminants concentrations effectively in the short-term, and requires no long-term operation and maintenance.

Applying the ZVI injection technology to the distal end of the plume where total CVOCs are greater than 500 µg/L is expected to reduce the time to achieve remedial action objectives (RAOs) for groundwater within the overall contaminant plume.

##### B. Location and Size of Early Remedy Implementation Areas

Figure 1 presents the primary and secondary treatment areas that are part of the early remedy implementation. The larger and primary of the two areas (noted as Area 1 in Figure 1) is west of Dunn Field and extends from the Canadian National (CN) railroad tracks northwest to the Memphis Light, Gas, and Water (MLGW) electrical substation and is bisected by Menager Avenue. The area encompasses monitoring wells MW54, MW150, and MW155. The total surface area in Area 1 is approximately 75,000 square feet.

Area 1 has several access restrictions within the perimeter, including five electric line support towers, CN railroad tracks along the southern edge, and a portion of an MLGW electric substation. Approximately 24,000 square feet of Area 1 is within a security fence for the MLGW substation and access to this area has been denied. There are also several power lines that extend from the towers to the substation, which are low enough that access underneath the lines for heavy equipment used to implement the remedy may not be permissible.

The secondary area (shown as Area 2 in Figure 1) is also west of Dunn Field but is between the perimeter of Dunn Field and the CN rail line. This area is centered around monitoring well MW-144. This area is approximately 80 feet wide and a maximum of 275 feet long for a

total surface area of approximately 22,000 square feet. There is one electric line support tower within Area 2, which also has access restrictions surrounding the tower.

### **C. Scope of Field Work for Early Remedy Implementation**

The early remedy implementation field effort will include three main activities:

- Installation of additional monitoring wells
- Installation of ZVI injection points and injection of the ZVI into the fluvial aquifer
- Monitoring of groundwater prior to and subsequent to the injection

#### **Additional Monitoring Well Installation**

As shown in Figure 7, approximately 8 new monitoring wells will be installed in seven locations up- and downgradient to the proposed early remedy implementation areas. One new well cluster will be installed near Area 1, approximately midway between MW152 and MW155. The wells will be suitable for sampling using passive diffusion bag (PDB) samplers and have screen lengths of 15 feet or less. Two wells are required to screen the full saturated thickness.

Additional wells will be installed to confirm the limits of the planned early remedy implementation and to allow for monitoring results of the action. One well will be installed in Area 1 immediately south of the MLGW property along Menager Avenue about 160 feet west of MW148. Four wells will be installed in Area 2 at the north and south ends of the planned line of injections and upgradient and downgradient of MW144.

#### **ZVI Injection Points and Injection Locations**

Based upon the results of the Dunn Field ZVI Treatability Study, the radius of treatment of the ZVI injections was determined to be up to 40 feet. This radius of treatment is based upon the reduction of VOC concentrations within monitoring well MW131, which is located 40 feet from the study injection point IW-2. However, note that the quantities in this TM are based upon a 25 foot radius of influence (ROI) from each injection point. This distance is based upon observed thickness of ZVI within treatability study confirmation borings.

##### **Area 1**

Based on the anticipated 25-foot ZVI ROI, 13 points will be used for ZVI injection at Area 1 (Figure 7). The number of points proposed for this area will provide significant ROI overlap to treat groundwater flowing through the available treatment zone and, groundwater flowing through the treatment area should encounter ZVI at some point in the flowpath before exiting the area.

The aquifer directly beneath Area 1 varies from approximately 8 to 28 feet in thickness. Using an average thickness of 20 feet and the total surface area of approximately 25,525 square feet (thirteen 50-foot diameter injection areas), the amount of soil within the Area 1 aquifer is approximately 510,500 cubic feet. Assuming that there is 30 percent porosity in the aquifer, then the total cubic feet of soil in the Area 1 aquifer is approximately 357,000. Using an iron to soil mass ratio of a 0.5 percent (as was used during the treatability study) for each injection point, a soil density of approximately 100 pounds per cubic ft, then approximately 175,000 pounds of H-200 sponge ZVI will be required to treat the soil.

### Area 2

Based on the anticipated ZVI ROI of 25 feet, 5 points will be used for injection of the ZVI at Area 2 (Figure 7). The number of points proposed for this area will provide significant ROI overlap to treat groundwater flowing through the available treatment zone and, groundwater flowing through the treatment area should encounter ZVI at some point in the flowpath before exiting the area.

Using an average thickness of 4 feet and the total surface area of approximately 9,820 square feet (five 50-foot diameter injection areas), the amount of soil within the Area 2 aquifer is approximately 39,300 cubic feet. Assuming that there is 30 percent porosity in the aquifer, then the total cubic feet of soil in the Area 1 aquifer is approximately 27,500. Using an iron to soil mass ratio of a 0.5 percent (as was used during the treatability study) for each injection point, a soil density of approximately 100 pounds per cubic ft, then approximately 14,000 pounds of H-200 sponge ZVI will be required to treat the soil.

### **Groundwater Monitoring**

Groundwater samples will be collected from monitoring wells up- and downgradient from each of the treatment areas before and after injection of the ZVI to establish baseline groundwater chemistry and geochemical conditions and to confirm the reduction of the contaminants in groundwater. Samples will be collected through the use of PDB samplers and low-flow groundwater sampling techniques. The methods and procedures used in the field will adhere as closely as possible to procedures described in the site-specific Quality Assurance Project Plan, the U.S. EPA Region 4 Science and Ecosystems Services Division, *Environmental Investigations Standard Operating Procedures and Quality Assurance Manual* (EISOPQAM), dated November 2001, as well as sampling and purging procedures presented in *Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures* (Puls and Barcelona, 1996), Sections 7.2.2 and 7.3.3.

Groundwater samples will be analyzed for VOC constituents as well as geochemical parameters, including the metals iron, magnesium, manganese, selenium, and arsenic, as well as calcium, alkalinity, nitrate, and nitrite.

## **V. Public Notification**

A Fact Sheet describing the early implementation of a component of the selected remedy will be produced and distributed to the public in September 2004. The Fact Sheet is for general informational purposes and should present much of the same information contained within this technical memorandum. The Fact Sheet will also provide a date for presentation of this information to the public and the Restoration Advisory Board (RAB). The date for the presentation is currently set for October 21, 2004.

# Memphis Depot Dunn Field Action Memorandum

Former Pistol Range, Site 60



October 2002 (Rev. 1)



**CH2MHILL**



**U.S. Army Engineering  
and Support Center, Huntsville**

U.S. Army Engineering and Support Center, Huntsville  
Contract No. DACA87-94-D-0009  
Task Order No. 13



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**Appendix D**

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**Contains summaries of the following documents. Complete copies located at Memphis Depot information repositories:**

**Findings of Suitability to Lease 1 through 8**

**Findings of Suitability to Transfer 1, 2, 3 and 4**

**FINDING OF SUITABILITY (FOSL)  
TO LEASE**

**DEFENSE DISTRIBUTION DEPOT MEMPHIS**

NOVEMBER 1996  
REVISED APRIL 1997

ENVIRONMENTAL PROTECTION AND SAFETY OFFICE  
DEFENSE DISTRIBUTION DEPOT MEMPHIS

**FINDING OF SUITABILITY TO LEASE  
(FOSL)  
DEFENSE DISTRIBUTION DEPOT MEMPHIS**

APRIL 1997

## **1. INTRODUCTION**

In my capacity as Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health, I have determined that certain parcels consisting of 48 buildings at Defense Distribution Depot Memphis, Tennessee (DDMT) are suitable for lease to the Memphis Redevelopment Agency (MDRA). This property is suitable for lease for like use without posing a threat to human health and the environment. The purpose of this Finding Of Suitability To Lease (FOSL) is to document environmentally-related findings for the proposed lease property and present use restrictions as specified in the attached environmental protection provisions.

## **2. PROPERTY DESCRIPTION**

A site map of the proposed lease buildings is at enclosure 1. Information regarding each building addressed in this FOSL is included in Table 1, enclosure 2..

## **3. REGULATORY COORDINATION**

The Tennessee Department of Environment and Conservation (TDEC) and the U.S. Environmental Protection Agency (EPA) Region IV were notified of the initiation of the FOSL. Regulatory comments received during the FOSL development were reviewed and incorporated into the document at enclosure 3. All comments received from TDEC and the EPA during review were resolved and incorporated into the FOSL.

## **4. EXISTING ORDERS/AGREEMENTS**

On October 14, 1992, the EPA placed DDMT on the National Priority List (NPL) for environmental restoration. DDMT has since entered into a Federal Facilities Agreement (FFA) with the TDEC and the EPA. The FFA established regulatory coordination procedures and a schedule for environmental investigation and restoration activities.

## **5. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE**

The environmental impacts associated with leasing the subject facilities have been adequately analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for Master Interim Lease, Defense Distribution Depot Memphis, Tennessee, dated September 1996.

The proposed use of this property is consistent with the Defense Distribution Depot Memphis Reuse Plan. The environmental effects of the reuse activities anticipated under the proposed lease were determined to not be significant. The proposed lease will not have an adverse effect on human health and the environment.

## 6. ENVIRONMENTAL BASELINE SURVEY FINDINGS

A determination of the environmental condition of the facilities has been made in the form of a Community Environmental Response Facilitation Act (CERFA) evaluation, and Environmental Baseline Survey (EBS), dated September 1996. The information provided is a result of a complete search of agency files during the development of the EBS. The EBS documents the environmental condition of the property being offered for lease with regard to the storage, release, or disposal of hazardous substances and petroleum products.

### 6.1 Environmental Condition of Property Categories

The property addressed by this FOSL, is classified as Department of Defense (DoD) Environmental Condition of Property (ECP) Categories 1, 2, 3, and 4. The facilities are listed according to the appropriate ECP Categories.

Category 1<sup>1</sup>: Areas where storage, release, or disposal of hazardous substances or petroleum has occurred (including no migration of these substances from adjacent areas).

Category 2<sup>1</sup>: Areas where only storage of petroleum products has occurred, but no release, disposal, or migration has occurred.

Category 3: Areas where release, disposal, and/or migration of hazardous substances has occurred; and at concentrations that do not require a removal or remedial response.

Category 4: Areas where release disposal and/or migration of hazardous substances has occurred; and all removal or remedial actions to protect human health and the environment have been taken.

The EBS determined that the following 38 facilities are considered to be ECP Category 1: 1, 2, 7, 8, 9, 15, 22, 23, 24, 25, 129, 139, 144, 145, 155, 176, 178, 179, 181, 183, 184, 193, 195, 196, 198, 252, 270, 271, 360, 459, 727, 754, 755, 756, 787, 795, T860, S995.

### 6.2 Hazardous Substances

The EBS determined that 11 of the buildings being offered for lease contain areas considered as ECP Categories 2, 3, and 4. There is evidence that hazardous substances or petroleum products were stored and released at 12 areas within or outside buildings: 210, 470, 489, 490, 560, 670, 685, 689, 690, 753, and 756. Releases were the result of spills inside the buildings, except building 756 which had a fuel tank outside. The releases were remediated in accordance with federal, state, and local regulations. Although hazardous substances were stored or released in the subject facilities, these facilities can be leased without risk to human health or the environment and without interference to the environmental restoration process. Notification of hazardous substance and petroleum product storage, release, or disposal on the property shall be provided in the lease documents as required by DoD FOSL Guidance, and is at Table 2, enclosure 4.

<sup>1</sup> Changes in the FY97 Appropriations Act have since changed the definitions of Categories 1 and 2 to allow the inclusion of former hazardous substance and petroleum product storage areas.

### 6.3 Asbestos

Asbestos surveys indicate asbestos containing materials are present in all of the buildings proposed for lease with the exception of Buildings 24, 25, 193, 360, and 560. The buildings meet all local, state, and federal regulations for asbestos and do not pose a threat to human health or the environment. The lease will include the asbestos warning and covenant included in the Environmental Protection Provisions of this FOSL.

### 6.4 Lead-Based Paint (LBP)

Based on their age (construction prior to 1978), all of the buildings proposed for lease are assumed to contain lead-based paint with the exception of Buildings 360 and 560. The lease will include the lead-based paint warning and covenant included in the Environmental Protection Provisions of this FOSL.

### 6.5 Unexploded Ordnance

None of the buildings or surrounding land proposed for lease are known to have unexploded ordnance present.

## 7. FINDING OF SUITABILITY TO LEASE

On the basis of the above results from the site-specific EBS and subsequent investigations, certain terms, conditions, reservations, restrictions, and notifications are required for the proposed lease. Environmental Protection Provisions are at enclosure 5 and will be included in all lease documents. The subject property may be used by the Lessee pursuant to the terms and conditions specified in the lease, including the use restrictions detailed in the enclosed Environmental Protection Provisions, without posing a threat to human health and the environment or interference with environmental remediation efforts. Notifications of hazardous substance storage, release, and disposal on the property shall be provided in the lease documents, as required under DoD FOSL Guidance.

Based on the information detailed in the EBS and references cited therein, I have concluded that all Department of Defense requirements to reach a Finding of Suitability to Lease have been fully met for the subject properties.

*Raymond J. Fatz*  
Raymond J. Fatz

Deputy Assistant Secretary of the Army  
(Environment, Safety, and Occupational Health)  
OASA(IL&E)

4 Enclosures

TABLE I

| Gate 1        | Sentry Station Gate #1                            | 1  | Sentry Post   | Sentry Post  | 1959    | 280    |
|---------------|---|----|---|--|---------|--------|
| Gate 2        | Sentry Station Gate #2                            | 1  | Sentry Post   | Sentry Post  | 1958    | 280    |
| Gate 7        | Sentry Station Gate #7                            | 23 | Sentry Post   | Sentry Post  | Unknown | 67     |
| Gate 8        | Sentry Station Gate #8                            | 23 | Sentry Post   | Sentry Post  | 1969    | 675    |
| Gate 9        | Sentry Station Gate #9                            | 29 | Sentry Post   | Sentry Post  | 1946    | 420    |
| Gate 15       | Sentry Station Gate #15                           | 15 | Sentry Post   | Sentry Post  | 1979    | 196    |
| Gate 22       | Sentry Station Gate #22                           | 14 | Sentry Post   | Sentry Post  | 1942    | 67     |
| Gate 23       | Sentry Station Gate #23                           | 13 | Sentry Post   | Sentry Post  | 1942    | 67     |
| Gate 24       | Sentry Station Gate #24                           | 13 | Sentry Post   | Sentry Post  | 1961    | 100    |
| Gate 25       | Sentry Station Gate #25                           | 13 | Sentry Post   | Sentry Post  | 1961    | 100    |
| Building 129  | Waiting Shelter                                   | 1  | Shelter   | Shelter  | 1980    | 75     |
| Building 139  | Waiting Shelter                                   | 1  | Shelter   | Shelter  | 1959    | 144    |
| Building 144  | Depot Headquarters Building                       | 1  | Administration  | Administration   | 1942    | 13500  |
| Building S145 | Security Building                                 | 1  | Pass and Identification                                     | Security   | 1943    | 860    |
| Building 155  | Waiting Shelter                                   | 1  | Shelter   | Shelter  | 1960    | 144    |
| Building 176  | Military Family Housing (MFH)                     | 2  | Residential   | Residential  | 1948    | 4787   |
| Building S178 | Detached Garage-Family Housing                    | 2  | Automobile parking, maintenance                             | Automobile parking, maintenance  | 1948    | 1440   |
| Building 179  | Military Family Housing (MFH)                     | 2  | Residential   | Residential  | 1948    | 4835   |
| Building 181  | Military Family Housing (MFH)                     | 2  | Residential   | Residential  | 1948    | 4835   |
| Building S183 | Detached Garage-Family Housing                    | 2  | Automobile parking, maintenance                             | Automobile parking, maintenance  | 1948    | 1440   |
| Building 184  | Military Family Housing (MFH)                     | 2  | Residential   | Residential  | 1948    | 4739   |
| Building 193  | Outdoor Swimming Pool                             | 3  | Recreation  | Recreation   | 1948    | 426    |
| Building S195 | Community Club                                    | 3  | Recreation  | Recreation   | 1949    | 4254   |
| Building 196  | MWR Office/Public Toilet                          | 3  | Recreation  | Recreation   | 1952    | 896    |
| Building S198 | Equipment Shed                                    | 3  | Dry goods   | Dry goods  | 1959    | 323    |
| Building 210  | Admin/Computer Center - General Purpose Warehouse | 13 | Offices, equipment storage                                  | Offices, storage, small photo lab  | 1942    | 240000 |
| Building 252  | Physical Fitness Center                           | 4  | Recreation  | Unknown  | 1942    | 8455   |
| Building 270  | Facility Installation Services                    | 4  | Administration  | Maintenance shop   | 1945    | 14400  |
| Building S271 | Engineer Admin. Building (USACE)                  | 4  | Administration  | Former Golf Course Club House  | 1958    | 1436   |
| Building 360  | General Purpose Warehouse                         | 34 | Unused  | None (new building)  | 1996    | 174665 |
| Building P459 | Training Facility                                 | 17 | Classrooms  | Parking lot  | 1990    | 4,000  |
| Building 470  | General Purpose Warehouse                         | 20 | Equipment/ clothing storage                                 | Equipment/clothing storage   | 1954    | 218000 |
| Building 489  | General Purpose Warehouse                         | 20 | Equipment/ clothing storage                                 | Equipment/clothing storage   | 1954    | 218000 |
| Building 490  | General Purpose Warehouse                         | 21 | Central receiving facility                                  | Microfiche developing, historic dipping of machine parts as preservation | 1954    | 218000 |
| Building 560  | General Purpose Warehouse                         | 18 | Medical and general supplies                                | Unknown  | 1990    | 174665 |
| Building 670  | General Purpose Warehouse                         | 20 | Equipment/ clothing storage                                 | Equipment/clothing storage   | 1953    | 218000 |
| Building 685  | General Purpose Warehouse                         | 21 | Vehicle maintenance supplies                                | Unknown  | 1985    | 32000  |
| Building 689  | General Purpose Warehouse                         | 21 | Material handling equipment and materials awaiting shipment | Hazardous waste, Safety Kleen, unknown wastes                            | 1953    | 228000 |
| Building 690  | General Purpose Warehouse                         | 21 | Material handling equipment and materials awaiting shipment | Unknown wastes, vehicle maintenance supplies                             | 1953    | 218000 |
| Building 727  | Sentry Station                                    | 33 | Vacant  | None   | 1994    | 280    |
| Building 753  | Pump Station                                      | 33 | Fire extinguisher   | Pump station   | 1956    | 513    |

|               |                                 |    | refilling                  |                    |         |      |
|---------------|---------------------------------|----|----------------------------|--------------------|---------|------|
| Building 754  | Water Storage Tank              | 33 | Water tank                 | Water tank         | Unknown | 1963 |
| Building 755  | Sewage Pump                     | 33 | Sewage pump house          | Sewage pump house  | 1953    | 237  |
| Building 756  | Water Pump                      | 33 | Water distribution         | Water distribution | Unknown | 2400 |
| Building 787  | General Purpose Warehouse       | 23 | Recycling warehouse        | Steel processing   | 1988    | 5038 |
| Building 795  | Waiting Shelter                 | 23 | Shelter                    | Shelter            | 1974    | 240  |
| Building T860 | Admin. General Purpose          | 33 | Administration             | Administration     | 1944    | 800  |
| Building S995 | Transportation - Steel Building | 23 | Steel storage and handling | Unknown            | Unknown | 8000 |

FINDING OF SUITABILITY TO LEASE

(FOSL)

*Parcel 5.1, Parcel 5.2, Parcel 30.1*

Defense Distribution Depot Memphis, Tennessee

*(FOSL Number 2)*

November 5, 1997

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## 1. PURPOSE

The purpose of this Finding Of Suitability To Lease (FOSL) is to document the environmental suitability of certain parcels of property at Defense Distribution Depot Memphis, Tennessee for leasing to the Depot Redevelopment Corporation consistent with the Department of Defense (DOD) and Army policy. In addition, this FOSL identifies use restrictions as specified in the text and attached Environmental Protection Provisions (enclosure 4) necessary to protect human health or the environment and to prevent interference with any existing or planned environmental restoration activities. Uses of the property will be restricted to light industry, storage, sorting operations, receiving, packaging and shipping, support activities, mechanical shop to support material handling equipment, recreation, welfare activities, training, education, and general office.

## 2. PROPERTY DESCRIPTION

The proposed property to be leased consists of 3.39 acres that include three buildings. The three buildings are identified as Building 274 ("J" Street Cafeteria), Building T272, and Building 925. A site map of the property proposed to be leased can be found at enclosure 1.

## 3. ENVIRONMENTAL CONDITION OF THE PROPERTY

A determination of the environmental condition of the facilities has been made based on the Community Environmental Response Facilitation Act (CERFA) Letter Report, dated December 5, 1996 and an Environmental Baseline Survey (EBS), dated November 6, 1996. The information provided is a result of a complete search of agency files during the development of the CERFA Letter Report and EBS. The following documents also provided information on environmental conditions of the property: Final Remedial Investigation Report (Law Environmental, August 1990), Final Environmental Assessment for Master Interim Lease (Tetra Tech, September 1996), Remedial Investigation Soil Sampling Letter Report (CH2M Hill, May 1997), OU - 3 and OU - 4 Field Sampling Plans (CH2M Hill, September 1995), RCRA Facilities Assessment (A.T. Kearney, Inc., January 1990), and the Installation Assessment (USAEHA, March 1981).

### 3.1 Environmental Condition of Property Categories

The properties that are being considered for lease are classified as (DOD) Environmental Condition of Property (ECP) Categories 3, 4, and 6. The ECP Categories for the specific buildings and/or parcels are as follows:

|                 |                                     |
|-----------------|-------------------------------------|
| ECP Category 3: | Parcel 5.1 to include Building T272 |
| ECP Category 4: | Parcel 30.1 that is Building 925    |
| ECP Category 6: | Parcel 5.2 to include Building 274  |

A summary of the ECP Categories for specific buildings or parcels is provided in

Table 1 – Description of Property (enclosure 2).

### 3.2 Storage, Release, Treatment or Disposal of Hazardous Substances

It was determined that no hazardous substances were stored, released, or disposed in excess of the 40 CFR Part 373 reportable quantities in Building T272. Accordingly, there is no need for any notification of hazardous substance storage, release, treatment, or disposal for this building.

It was determined that even though no hazardous substances were released or disposed in Building 274 in excess of the 40 CFR Part 373 reportable quantities, there was a possible previous spill involved with this area. Building 274 was constructed on a former transformer storage area. Prior to construction of the cafeteria, a spill probably occurred in this area as evidenced by the information obtained from the CH2M Hill sampling conducted in 1997. One out of five samples taken indicate a level of PCB's in the grassy area immediately surrounding the cafeteria slightly above the Residential Risk Based Concentration (RBC) for soil ingestion (1.39 mg/kg vs 0.83 mg/kg). DDE, DDT, DDD, and Dieldrin levels found in the five samples were all below the RBC for soil ingestion.

It was determined that even though no hazardous substances were released or disposed in Building 925 in excess of the 40 CFR Part 373 reportable quantities, there was a previous spill involved with this area. The release of hazardous substances was remediated at the time of the release as an emergency response. Building 925 was previously known as X - 25, an open storage area where flammable materials and petroleum products were stored in an earthen and then concrete bermed area. At one time the concrete bermed area was covered with a fabric tension structure that was called a spandome. This building was labeled Building T925. On January 19, 1988, during a period of inclement weather (wind/rain), the spandome collapsed resulting in a release of hazardous substances in the bermed area. In order to safely remove the collapsed laminate roof and associated steel girders, the bermed area needed to be emptied. Two tanker trucks with pumps removed approximately 36,000 gallons of product and rain water that had accumulated. The following is a list of the impacted products and the 40 CFR Part 373 reportable quantity associated with them: Toluene (1,000 pounds), Xylene (100 pounds), Methyl Ethyl Ketone (5,000 pounds), Methyl IsoButyl Ketone (5,000 pounds), Acetone (5,000 pounds), and Isopropyl Alcohol (5,000 pounds). It was later determined that approximately 325 gallons of product had been spilled although the exact proportions are now unknown. Therefore, a worst case scenario would assume that it was possible for Xylene to exceed the 40 CFR Part 373 reportable quantity of 100 pounds (13.92 gallons) and/or Toluene to exceed the 40 CFR Part 373 reportable quantity of 1,000 pounds (137 gallons).

Temporary Building 925 was replaced in 1993/1994 with Building 925. While Building 925 stored hazardous materials (acetone, methyl ethyl ketone, methanol, ethanol) and petroleum products, it was determined that there was no evidence of any release or disposal in excess of 40 CFR Part 373 reportable quantities. A summary of the buildings in

which hazardous substances were stored, released, or disposed in excess of 40 CFR Part 373 reportable quantities is provided in Table 2 - Notification of Hazardous Substance and Petroleum Products, Storage, Release, or Disposal (enclosure 3).

### **3.3 Petroleum and Petroleum Products**

#### **3.3.1 Storage, Release, or Disposal of Petroleum or Petroleum Products**

There is no evidence that any petroleum or petroleum products were stored, released, or disposed at the properties listed in this FOSL except for the area involving Building 925. Building 925 was built on the former earthen and then concrete bermed area of X - 25 and Building T925. There is no evidence that any petroleum or petroleum products were released or disposed in this area. The January 19, 1988 spill did not contain petroleum products. A summary of the building or area in which petroleum or petroleum products were stored, released, or disposed is provided in Table 2 - Notification of Hazardous Substances and Petroleum Products Storage, Release, or Disposal (enclosure 3).

#### **3.3.2 Underground and Above-Ground Storage Tanks (UST/AST)**

The EBS and visual site inspection (VSI) reported or identified no underground storage tanks and no above-ground storage tanks on the property listed in this FOSL. There is no evidence of petroleum contamination at these sites.

### **3.4 Polychlorinated Biphenyls (PCB) Equipment**

There are no PCB containing transformers or other PCB containing equipment located on the property listed in this FOSL. However, Building 274 was built on the location of a former storage area for electrical transformers that contained PCB's. During the Installation Assessment conducted in March 1981, two transformers were observed in the storage area. Testing of the fluid in the transformers indicated concentrations of less than 50 parts per million of PCBs. The site's date of initial operations is unknown but assumed to be prior to 1981. Activities ceased in the mid-1980's because of the construction of the new DDMT cafeteria.

Surface soil sampling in the grassy areas surrounding Building 274 revealed one out of five samples indicating a slightly elevated level of PCB (Aroclor - 1260) above the residential risk-based concentration for soil ingestion (1.39 mg/kg vs 0.83 mg/kg). There is no surface exposure. This site is a candidate for an early removal action or Baseline Risk Assessment to support a Record of Decision for No Further Action. A restriction associated with this Building will be that no digging (soil disturbance) will be allowed in any of the grassy areas surrounding the "J" Street Cafeteria without the express permission of the Government.

The lease will include the PCB notification provision included in the Environmental Protection Provisions (enclosure 4).

### **3.5 Asbestos**

The EBS and the Asbestos Identification Survey (Pickering, December 1993 and January 1994) indicate asbestos containing materials (ACM) are present in Building 274. The tile mastic contained 3% to 5% chrysotile. The ACM does not currently pose a threat to human health or the environment because there is no friable asbestos. The lease will include the asbestos warning and covenant included in the Environmental Protection Provisions (enclosure 4).

### **3.6 Lead-Based Paint (LBP)**

Based on the age of Buildings 925 and 274 (constructed after 1978), they are presumed to contain no lead-based paint. The construction date of Building T272 (lumber storage shed) was 1942, and therefore it is presumed to contain lead-based paint.

No residential use is to be permitted under the terms of the lease.

The lease will include the lead-based paint warning and covenant included in the Environmental Protection Provisions (enclosure 4).

### **3.7 Radiological Sources or Contamination**

There is no evidence that the Army or DDMT used or stored radioactive sources on the property listed in this FOSL.

### **3.8 Radon**

In keeping with DOD policy to not perform radon assessment and mitigation prior to transfer of BRAC property unless otherwise required by applicable law, there were no radon surveys conducted in the buildings listed in this FOSL. Radon surveys were conducted in accordance with regulations in the following residential structures at DDMT: Buildings 176, 179, 181, and 184. Radon was not detected above the EPA residential action level of 4 picocuries per liter (pCi/L) in these buildings.

### **3.9 Unexploded Ordnance**

Based on a review of existing records and available information, none of the buildings or surrounding land proposed for lease are known to contain unexploded ordnance.

### **3.10 Other Hazardous Conditions**

There are no other known hazardous conditions that present a threat to human health or the environment.

#### **4. REMEDIATION**

In October 1992, the U.S. Environmental Protection Agency (EPA) placed DDMT on the National Priorities List (NPL) for environmental restoration. DDMT has since entered into a Federal Facilities Agreement (FFA) with the Tennessee Department of Environment and Conservation (TDEC) and the EPA. Environmental contamination on the property does not present a hazard to leasing the property. In addition, environmental conditions on adjacent property do not present a hazard to the leasing of the property. Regulators have concurred with DDMT that the property does not pose risks above levels deemed protective provided that the property is used for the proposed purpose. The lease will include a provision reserving the Army's right to conduct remediation activities in the Environmental Protection Provisions (enclosure 4).

#### **5. REGULATORY COORDINATION**

TDEC and EPA Region 4 were notified of the initiation of the FOSL. Regulatory comments received during the FOSL development and the BRAC Cleanup Team meetings were reviewed and incorporated as appropriate. All comments received from TDEC and the EPA during the review process were resolved and incorporated into the FOSL. No written comments were received from the public.

#### **6. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND CONSISTENCY WITH LOCAL REUSE PLAN**

The environmental impacts associated with the proposed lease of the property have been adequately analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for Master Interim Lease, Defense Distribution Depot Memphis, Tennessee, dated September 1996. The environmental effects of the activities anticipated under the proposed lease were determined not to be significant.

The proposed lease addressed by this FOSL is consistent with the reuse alternatives stated in the above referenced NEPA document and with the intended reuse of the property set forth in the Memphis Depot Redevelopment Plan dated May 1997.

#### **7. ENVIRONMENTAL PROTECTION PROVISIONS**

On the basis of the above results from the site-specific EBS, any subsequent or additional investigations, surveys, or studies identified in the FOSL, and in consideration of the intended use of the property, certain terms, conditions, reservations, and restrictions are required for the proposed lease. The Environmental Protection Provisions are at enclosure 4 and will be included in the proposed lease and all subleases.

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are required for the proposed lease. The Environmental Protection Provisions are at enclosure 4 and will be included in the proposed lease and all subleases.

#### 8. FINDING OF SUITABILITY TO LEASE

Based on the information detailed in the EBS, the references cited therein, and this FINDING OF SUITABILITY TO LEASE, I have concluded that all Department of Defense requirements to reach a FINDING OF SUITABILITY TO LEASE have been fully met for the subject property. The subject property is suitable to lease by the Lessee for the intended purpose, subject to the terms, conditions, reservations, and restrictions set forth in the Environmental Protection Provisions attached to this FOSL, without posing an unacceptable risk to human health or the environment and without interference with the environmental remediation process at Defense Distribution Depot Memphis, Tennessee, and the uses contemplated for the lease are consistent with protection of human health and the environment.

As required by CERCLA section 120(h)(3)(B), I have determined that the Environmental Protection Provisions of the lease and the terms of the lease provide adequate assurances that the United States will take any additional remedial action found to be necessary to protect human health and the environment with respect to any hazardous substances remaining on the property on the date of the lease which has not been taken on the date of the lease.

Notification of hazardous substance or petroleum product storage, release, treatment, or disposal on the property, Table 2 - Notification of Hazardous Substance or Petroleum Product Storage, Release, Treatment or Disposal (enclosure 3) shall be provided in the lease documents, as required under the DOD FOSL Guidance.

  
Marie C. Richardson  
Colonel, GS  
Deputy Chief of Staff  
for Engineering, Housing,  
Environmental, and Installation  
Logistics

#### 4 Enclosures

- Encl 1 Site Map of Proposed Lease Area
- Encl 2 Table 1 - Description of Property
- Encl 3 Table 2 - Notification of Hazardous Substance or Petroleum  
Product Storage, Release, or Disposal
- Encl 4 Environmental Protection Provisions

**FINDING OF SUITABILITY TO LEASE**

**(FOSL)**

**Parcel 4.12 and Parcel 27.2**

**Defense Distribution Depot Memphis, Tennessee**

**(FOSL Number 3)**

**May 20, 1998**

## 1. PURPOSE

The purpose of this Finding Of Suitability To Lease (FOSL) is to document the environmental suitability of certain parcels of property at Defense Distribution Depot Memphis, Tennessee (DDMT) for leasing to the Depot Redevelopment Corporation (DRC) consistent with the Department of Defense (DOD) and Army policy. The expected reuse of the properties are as follows: Building 251 - Portion of a Police Department Precinct; Building 972 - Wood Pallet Production. Expected reuse includes light industry, storage or general office use. In addition, this FOSL identifies use restrictions as specified in the text and attached Environmental Protection Provisions (Enclosure 5) necessary to protect human health or the environment and to prevent interference with any existing or planned environmental restoration activities.

## 2. PROPERTY DESCRIPTION

The proposed property to be leased consists of 6.52 acres that include two BRAC parcels. The two parcels are identified as 4.12 (Building 251) and 27.2 (Building 972). A site map of the property proposed to be leased can be found at Enclosure 1.

## 3. ENVIRONMENTAL CONDITION OF THE PROPERTY

A determination of the environmental condition of the facilities has been made based on the Community Environmental Response Facilitation Act (CERFA) Letter Report, dated December 5, 1996 and an Environmental Baseline Survey (EBS), dated November 6, 1996. The information provided is a result of a complete search of agency files during the development of the CERFA Letter Report and EBS. The following documents also provided information on environmental conditions of the property: Draft Final BRAC Cleanup Plan Version 2 (DDSP-FB, November 1997), Asbestos Reinspection (DDC-WP, October 1996), Final Environmental Assessment for Master Interim Lease (Tetra Tech, September 1996), Remedial Investigation Soil Sampling Letter Report (CH2M Hill, May 1997), OU - 2 and OU - 3 Field Sampling Plans (CH2M Hill, September 1995), Asbestos Identification Survey (Pickering, December 1993 and January 1994), RCRA Facilities Assessment (A.T. Kearney, Inc., January 1990), Final Remedial Investigation Report (Law Environmental, August 1990) and the Installation Assessment (USAEHA, March 1981).

### 3.1 Environmental Condition of Property Categories

The properties that are being considered for lease are classified as DOD Environmental Condition of Property (ECP) Category 4. The ECP category for the specific buildings and/or parcels are as follows:

ECP Category 4: Parcel 4.12 Building 251 only

ECP Category 4: Parcel 27.2 Building 972 only

A summary of the ECP Categories for the specific building is provided in Table 1 - Identification of Property and Environmental Conditions (Enclosure 2).

### 3.2 Storage, Release, Treatment or Disposal of Hazardous Substances

It was determined that there is no evidence that hazardous substances were stored or disposed in Building 251. However, a one square foot floor drain was sampled and found to contain sediment with levels of concern for Lead and Poly Aromatic Hydrocarbons. In accordance with direction from the BCT, the sediment was removed from the floor drain. The floor drain was then filled with concrete.

Building 972 stored flammables, solvents, and waste oils. Known releases in this building are addressed in paragraph 3.3.1, Storage, Release, or Disposal of Petroleum or Petroleum Products.

A summary of the buildings in which hazardous substances were stored, released, or disposed in excess of 40 CFR Part 373 reportable quantities is provided in Table 2 - Notification of Hazardous Substance Storage, Release, or Disposal (Enclosure 3).

### 3.3 Petroleum and Petroleum Products

#### 3.3.1 Storage, Release, or Disposal of Petroleum or Petroleum Products

It was determined that petroleum products were used in Building 251. Building 251 housed a small engine/equipment shop area and a mechanic's work pit that contained a small sump. There is no evidence of any petroleum products being released or disposed in this area. The mechanic's work pit and sump were filled with concrete prior to 1976.

It was determined that petroleum products were stored in Building 972 and releases occurred. Operational spills were cleaned when they occurred. In addition, oil stained areas were observed during a visual inspection to facilitate the Screening Sites Field Sampling Plan (CH2M Hill 1995). Building 972 has been retrofitted with the floor being cleaned and sealed with new flooring material.

A summary of the buildings or areas in which petroleum or petroleum products were stored, released, or disposed is provided in Table 3 - Notification of Petroleum Products Storage, Release, or Disposal (Enclosure 4).

#### 3.3.2 Underground and Above-Ground Storage Tanks (UST/AST)

There was no evidence that any petroleum or petroleum products were stored in USTs/ASTs on the properties listed in this FOSL.

### 3.4 Polychlorinated Biphenyls (PCB) Equipment

There are no PCB containing transformers or other PCB containing equipment, except hermetically sealed fluorescent light bulb ballasts that may contain PCBs, located on the property listed in this FOSL. There is no evidence these ballasts have leaked. There is no evidence of unremediated releases of PCB equipment. The lease will include the PCB notification provision included in the Environmental Protection Provisions (Enclosure 5).

### 3.5 Asbestos

The EBS and the Asbestos Identification Survey (Pickering, December 1993 and January 1994) indicate asbestos containing materials (ACM) are present in Buildings 251 and 972.

Asbestos findings in Building 251 were as follows:

Boiler/flue Insulation: Material contained 35% amosite and 10% to 20% chrysotile. Material was in good condition with minimal damage due to natural deterioration and maintenance activity. Boiler/flue insulation removed in 1995.

Thermal System Pipe Insulation: Contained 35% to 40% amosite and 8% to 25% chrysotile. Material was in good condition with minimal damage due to natural deterioration and maintenance activity. Insulation removed in 1995.

Boiler Door Insulation: Contained 35% to 55% chrysotile. Material was in good condition with minor natural deterioration. Insulation removed in 1995.

Exterior Window Putty: Contained 4% to 7% chrysotile. Material was in fair to poor condition due to physical damage and natural deterioration.

9 X 9 Floor Tile: Tile and mastic in the restrooms contained 20% to 25% chrysotile. Material was non-friable and in good condition.

Roof Flashing: Material used to seal the roof perimeter and all roof penetrations contained 5% chrysotile. Material was non-friable and in good condition.

Asbestos findings in Building 972 were as follows:

12 X 12/9 X 9 Floor Tile: Two layers of asbestos containing floor tile installed in the office and break room contained 10% to 25% chrysotile. Material was in good condition.

9 X 9 Beige Vinyl Floor Tile: Vinyl floor tile installed in the office area of Bay 5 contained 30% chrysotile. Material was non-friable and in good condition.

9 X 9 Floor Tile: Vinyl floor tile and mastic installed in the office area of Bay 5 contained 25% chrysotile. Material was non-friable and in good condition.

**Cement Asbestos Products:** Cement asbestos board installed on the ceiling and wall area of the shop in Bay 6 contained 25% chrysotile. Material was in fair condition with moderate damage due to maintenance activity. Boards removed in 1998.

The ACM does not currently pose a threat to human health or the environment because there is no friable asbestos. The lease will include the asbestos warning and covenant included in the Environmental Protection Provisions (Enclosure 5).

### **3.6 Lead-Based Paint (LBP)**

Based on the age of Buildings 972 and 251 (constructed prior to 1978), they are presumed to contain lead-based paint. No residential use is to be permitted under the terms of the lease. The lease shall include the lead-based paint warning and covenant included in the Environmental Protection Provisions (Enclosure 5).

### **3.7 Radiological Sources or Contamination**

There is no evidence that the Army or DDMT used or stored radioactive sources on the property listed in this FOSL.

### **3.8 Radon**

In keeping with DOD policy to not perform radon assessment and mitigation prior to transfer of BRAC property, there were no radon surveys conducted in the buildings in this FOSL. Radon surveys were conducted in accordance with regulations in the following residential structures at DDMT: Buildings 176, 179, 181, and 184. Radon was not detected above the Environmental Protection Agency (EPA) residential action level of 4 picocuries per liter (pCi/L) in these buildings.

### **3.9 Unexploded Ordnance**

Based on a review of existing records and available information, none of the buildings or surrounding land proposed for lease are known to contain unexploded ordnance.

### **3.10 Other Hazardous Conditions**

There are no other known hazardous conditions that present a threat to human health or the environment.

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#### 4. REMEDIATION

In October 1992, the U.S. EPA placed DDMT on the National Priorities List (NPL) for environmental restoration. DDMT has since entered into a Federal Facilities Agreement (FFA) with the Tennessee Department of Environment and Conservation (TDEC) and the EPA. Environmental contamination on the property does not present a hazard to leasing the property. In addition, environmental conditions on adjacent property do not present a hazard to the leasing of the property. Regulators have concurred with DDMT that the property does not pose risks above levels deemed protective provided that the property is used for the proposed purpose. No remediation is currently underway or planned. The lease will include a provision reserving the Army's right to conduct remediation activities in the Environmental Protection Provisions (Enclosure 5).

#### 5. REGULATORY COORDINATION

TDEC and EPA Region 4 were notified of the initiation of this FOSL. Regulatory comments received during the FOSL development and the BRAC Cleanup Team meetings were reviewed and incorporated as appropriate. The FOSL was discussed with public at the January 22, 1998 Restoration Advisory Board meeting. No verbal or written comments were received from the public.

#### 6. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND CONSISTENCY WITH LOCAL REUSE PLAN

The environmental impacts associated with the proposed lease of the property have been adequately analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for Master Interim Lease, Defense Distribution Depot Memphis, Tennessee dated September 1996. The environmental effects of the activities anticipated under the proposed lease were determined not to be significant.

The proposed lease addressed by this FOSL is consistent with the reuse alternatives stated in the above referenced NEPA document and with the intended reuse of the property set forth in the Memphis Depot Redevelopment Plan dated May 1997.

#### 7. ENVIRONMENTAL PROTECTION PROVISIONS

On the basis of the above results from the site-specific BBS, any subsequent or additional investigations, surveys, or studies identified in the FOSL, and in consideration of the intended use of the property, certain terms, conditions, reservations, and restrictions are required for the proposed lease. The Environmental Protection Provisions are at Enclosure 5 and will be included in the proposed lease and all subleases.

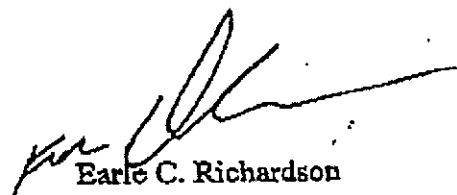
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## 8. FINDING OF SUITABILITY TO LEASE

Based on the information detailed in the EBS, the references cited therein, and this FINDING OF SUITABILITY TO LEASE, I have concluded that all Department of Defense requirements to reach a FINDING OF SUITABILITY TO LEASE have been fully met for the subject properties. The subject property is suitable to lease by the Lessee for the intended purpose, subject to the terms, conditions, reservations, and restrictions set forth in the Environmental Protection Provision attached to this FOSL, without posing an unreasonable risk to human health or the environment and without interference with the environmental remediation process at Defense Distribution Depot Memphis, Tennessee, and the uses contemplated for the lease are consistent with protection of human health and the environment.

As required by CERCLA section 120(h)(3)(B), I have determined that the Environmental Protection Provisions of the lease and the terms of the lease provide adequate assurances that the United States will take any additional remedial action found to be necessary to protect human health and the environment with respect to any hazardous substances remaining on the property on the date of the lease which has not been taken on the date of the lease.

Notification of hazardous substance or petroleum product storage, release, treatment, or disposal on the property, Table 2 - Notification of Hazardous Substance Storage, Release, Treatment or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Products Storage, Release or Disposal (Enclosure 4) shall be provided in the lease documents, as required under the DOD FOSL Guidance.



Earle C. Richardson  
Colonel, GS

Deputy Chief of Staff for Engineering, Housing,  
Environmental, and Installation Logistics

### 7 Enclosures

- Encl 1 Site Map of Proposed Lease Area
- Encl 2 Table 1 - Identification of Property and Environmental Condition
- Encl 3 Table 2 - Notification of Hazardous Substance Storage, Release, or Disposal
- Encl 4 Table 3 - Notification of Petroleum Product Storage, Release or Disposal
- Encl 5 Environmental Protection Provisions
- Encl 6 Regulatory/Public Comments and Responses
- Encl 7 References

FINDING OF SUITABILITY TO LEASE

(FOSL)

*Parcel 4.4, Parcel 4.5, Parcel 4.6, Parcel 4.7,  
Parcel 4.8, Parcel 4.9, Parcel 4.10, Parcel 4.11, Parcel 4.13*

Defense Distribution Depot Memphis, Tennessee

(FOSL number 4)

July 8, 1998

## 1. PURPOSE

The purpose of this Finding Of Suitability To Lease (FOSL) is to document the environmental suitability of Parcels 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.1 and 4.13 at the Defense Distribution Depot Memphis, Tennessee (DDMT) for leasing to the Depot Redevelopment Corporation (DRC) for light industry, storage or general office use consistent with Department of Defense (DOD) and Army policy. This FOSL has been developed in accordance with the DRC's Reuse Plan. In addition, the FOSL identifies use restrictions as specified in the attached Environmental Protection Provisions (Enclosure 5) necessary to protect human health or the environment and to prevent interference with any existing or planned environmental restoration activities.

## 2. PROPERTY DESCRIPTION

The proposed property to be leased consists of 5.93 acres that includes nine (9) parcels (4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11 and 4.13). Included in these parcels are nine (9) buildings (Buildings 253, 254, T256, 257, 260, T261, 263, 265 and 273), one pad (Pad 267) and one open area. The open land area contains Buildings T256 and T261. Site maps of the property proposed to be leased can be found at Enclosure 1.

## 3. ENVIRONMENTAL CONDITION OF THE PROPERTY

A determination of the environmental condition of the facilities has been made based on the Community Environmental Response Facilitation Act (CERFA) Letter Report dated December 5, 1996 and an Environmental Baseline Survey (EBS) dated November 6, 1996. The information provided is a result of a complete search of agency files during the development of these environmental surveys. The following documents also provided information on environmental conditions of the property: Draft Final BRAC Cleanup Plan Version 2 (DDSP-FE, November 1997), Asbestos Reinspection (DDC-WP, October 1996), Final Environmental Assessment for Master Interim Lease (Tetra Tech, September 1996), Remedial Investigation Soil Sampling Letter Report (CH2M Hill, May 1997), OU - 2 and OU - 3 Field Sampling Plans (CH2M Hill, September 1995), Asbestos Identification Survey (Pickering, December 1993 and January 1994), RCRA Facilities Assessment (A.T. Kearney, Inc., January 1990), Final Remedial Investigation Report (Law Environmental, August 1990) and the Installation Assessment (USAEHA, March 1981).

### 3.1 Environmental Condition of Property Categories

The Department of Defense (DOD) Environmental Condition of Property (ECP) Categories for the properties are as follows:

ECP Category-1: Parcel 4.11 - Building 253 only

|                 |   |
|-----------------|---|
| ECP Category 3: | Parcel 4.8 - Building 263 only<br>Parcel 4.4 - Building 260 only  |
| ECP Category 4: | Parcel 4.13 - Building 265 only   |
| ECP Category 6: | Parcel 4.6 - Building 254 and surrounding area<br>Parcel 4.7 - Building 257 and surrounding area  |
| ECP Category 7: | Parcel 4.10 - Building 273 and surrounding area<br>Parcel 4.9 - Pad 267 and surrounding area<br>Parcel 4.5 - consisting of Buildings T256 and T261 plus all land areas in Parcel 4 except those within Parcels 4.6, 4.7, 4.9 and 4.10 |

A summary of the ECP Categories for specific buildings or parcels is provided in Table 1 - Description of Property (Enclosure 2).

### **3.2 Storage, Release or Disposal of Hazardous Substances**

Hazardous substances were stored in Buildings 253, 254, 257, 260, 263, 265, 273, Pad 267 and the open areas of Parcel 4.5. It is assumed this storage was in excess of the 40 CFR Part 373 reportable quantities. Hazardous substances were released in Buildings 254, 257, 260, 273, Pad 267 and other areas in Parcel 4.5 surrounding Buildings 253, 263 and T256. It is assumed, unless otherwise noted, releases were in excess of the 40 CFR Part 373 reportable quantities. The release of hazardous substances was either remediated at the time of the release or is currently under evaluation as part of the installation restoration program. There is no risk to human health and the environment so long as the tenant adheres to the Environmental Protection Provisions (Enclosure 5) with particular reference to Provision 14 regarding ground disturbing activities. These activities shall not be allowed without prior written approval from the Government. A summary of the buildings or areas in which hazardous substances activities occurred is provided in Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3).

### **3.3 Petroleum and Petroleum Products**

#### **3.3.1 Storage, Release or Disposal of Petroleum Products**

Petroleum products were stored in Buildings 253, 254, T256, 257 and the open grassy area in Parcel 4.5 directly south of Building 257. It is assumed this storage was in excess of 55 gallons. Petroleum products were released in Building 257 and the surrounding area as well as the open grassy area in Parcel 4.5 directly south of Building 257. It is assumed, unless otherwise noted, these releases were in excess of 55 gallons. The release of petroleum products was either remediated at the time of the release or is currently under evaluation as part of the installation restoration program. There is no risk to human health and the environment so long as the tenant adheres to the Environmental

to human health and the environment so long as the tenant adheres to the Environmental Protection Provisions (Enclosure 5) with particular reference to Provision 14 regarding ground disturbing activities. These activities shall not be allowed without prior written approval from the Government. An underground storage tank removal project for Parcel 4.5 is scheduled for the summer of 1998 and will include all associated piping and any petroleum contaminated soil. A summary of the buildings or areas in which petroleum products were stored or released is provided in Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).

### **3.3.2 Underground and Above-Ground Storage Tanks (UST/AST)**

There are two (2) underground storage tanks and two (2) aboveground storage tanks (UST/AST) on the property that were used for storage of petroleum products. There is no evidence of petroleum product releases at the following UST/AST sites: the 18,000-gallon UST gasoline tank (converted to diesel in 1995) and the 20,000-gallon UST gasoline tank installed in 1984 south of Building 257, the two (2) 1,000-gallon AST gasoline tanks (one was converted to diesel in 1995) located adjacent to Building 257. A summary of the buildings or areas in which petroleum product activities occurred is provided in Table 3 - Notification of Petroleum Products Storage, Release or Disposal (Enclosure 4).

### **3.4 Polychlorinated Biphenyls (PCB) Equipment**

There are no PCB containing transformers or other PCB containing equipment, except hermetically sealed fluorescent light bulb ballasts that may contain PCBs, located on the property listed in this FOSL. There is no evidence of unremediated PCB releases from these ballasts.

### **3.5 Asbestos**

The EBS and the Asbestos Identification Survey (Pickering, December 1993 and January 1994) indicate Asbestos Containing Materials (ACM) are present in the following buildings:

Building 260: Thermal System Pipe Insulation (to include joints)

Cement Ceiling Panels

Exterior Window Putty

12 x 12 Floor Tiles and Mastic

Building 254: Cement Asbestos Panels

Felt Paper Roofing Material

Building 257: 12 x 12 Vinyl Floor Tiles

Asphalt Built Up Roofing and Roof Flashing

**Building 253:** Exterior Window Frame Putty  
12 x 12 Vinyl Floor Tile  
Thermal System Pipe Insulation

**Building 265:** Boiler Flue Insulation  
Thermal System Pipe Insulation (to include joints)  
Interior Boiler Door Insulation  
9 x 9 Floor Tile  
12 x 12 Floor Tile  
Roof Flashing

**Building 273:** No Survey Completed - Structure is a tin and wood shed;  
assumed no ACM present

**Building T256:** No Survey Completed - Structure is a tin and wood shed;  
assumed no ACM present

**Building T261:** No Survey Completed - Structure erected in 1993;  
assumed no ACM present

The ACM does not currently pose a threat to human health or the environment because all friable asbestos that posed an unacceptable risk to human health has been removed or encapsulated. The lease will include the asbestos warning and covenant included in the Environmental Protection Provisions (Enclosure 5).

### **3.6 Lead-Based Paint (LBP)**

Based on the age of the buildings (constructed prior to 1978), the following buildings are presumed to contain lead-based paint: Buildings 260, 254, 257, 253, 265, 273, T256, and 263. The lease will include the lead-based paint warning and covenant provided in the Environmental Protection Provisions (Enclosure 5).

### **3.7 Radiological Materials**

There is no evidence that the Department of Defense used or stored radioactive materials on the property.

### **3.8 Radon**

In keeping with DOD policy to not perform radon assessment and mitigation prior to transfer of BRAC property, there were no radon surveys conducted in the buildings in this FOSL.

### **3.9 Unexploded Ordnance**

Based on a review of existing records and available information, none of the buildings or surrounding land proposed for lease are known to contain unexploded ordnance.

### **3.10 Other Hazardous Conditions**

There are no other known hazardous conditions that present an unacceptable threat to human health or the environment on the property.

## **4. REMEDIATION**

In October 1992, the U.S. Environmental Protection Agency (EPA) placed DDMT on the National Priorities List (NPL) for environmental restoration. DDMT has since entered into a Federal Facilities Agreement (FFA) with the Tennessee Department of Environment and Conservation (TDEC) and the EPA. Environmental contamination on the property described in this document does not present a hazard to leasing it. In addition, environmental conditions on adjacent property do not present a hazard to the leasing of the property. Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4) provide details regarding environmental conditions for each individual parcel or building contained within this FOSL. Regulators have concurred with DDMT that Buildings 253, 260, 263 and 265 do not pose risks above levels deemed protective provided that the property is used for the proposed purpose and the lessee strictly adheres to the Environmental Protection Provisions (Enclosure 5). Buildings 254 and 257 and the surrounding areas shall be remediated during the Parcel 4.5 underground storage tank removal project scheduled for the summer of 1998 and will not pose risks above levels deemed protective provided the property is used for the proposed purpose. The remaining property consisting of Building 273 and surrounding area, Building T261, Building T256, Pad 267 and surrounding area as well as the remaining open areas do not pose risks above levels deemed protective provided that the property is use for the proposed purpose and the lessee strictly adheres to the Environmental Protection Provisions (Enclosure 5). The lease will include a provision reserving the Army's right to conduct remediation activities in the Environmental Protection Provisions (Enclosure 5).

## **5. REGULATORY/PUBLIC COORDINATION**

The U.S. EPA Region 4, TDEC and the public were notified of the initiation of the FOSL. Regulators have reviewed this FOSL and provided comments. These comments have been reviewed and incorporated as appropriate. Regulatory/public comments and responses are provided in Enclosure 6.

## 6. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND CONSISTENCY WITH LOCAL REUSE PLAN

The environmental impacts associated with proposed lease of the property have been analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for Master Interim Lease, Defense Distribution Depot Memphis, Tennessee, dated September 1996. The environmental effects of the activities anticipated under the proposed lease were determined not to be significant. In addition, the proposed use of the property is consistent with the intended reuse of the property set forth in the Depot Redevelopment Corporation Reuse Plan.

## 7. ENVIRONMENTAL PROTECTION PROVISIONS

On the basis of the above results from the site-specific EBS and other environmental studies and in consideration of the intended use of the property, certain terms and conditions are required for the proposed lease. These terms and conditions are set forth in the attached Environmental Protection Provisions (Enclosure 5) and will be included in the lease.

## 8. FINDING OF SUITABILITY TO LEASE

Based on the above information, I have concluded that all Department of Defense (DOD) requirements to reach a Finding of Suitability to Lease (FOSL) to the Depot Redevelopment Corporation for light industrial use have been fully met for the property subject to the terms and conditions in the attached Environmental Protection Provision (Enclosure 5). As required by CERCLA section 120(h)(3)(B), I have determined that the property is suitable for lease for the intended purpose, the uses contemplated for the lease are consistent with protection of human health and the environment, and there are adequate assurances that the United States will take any additional remedial action found to be necessary that has not been taken on the date of the lease.

As required under the DOD FOSL Guidance, notification of hazardous substance activities and petroleum product activities shall be provided in the lease documents. Refer to Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).



DAVID S. ABDELNOUR

Acting Deputy Chief of Staff

For Engineering, Housing, Environment, and  
Installation Logistics

7 Enclosures

FINDING OF SUITABILITY TO LEASE

(FOSL)

*Parcel 8.1, Parcel 8.2, Parcel 8.3*

*Parcel 8.4, Parcel 8.5*

Defense Distribution Depot Memphis, Tennessee

(FOSL Number 5)

July 8, 1998

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## 1. PURPOSE

The purpose of this Finding Of Suitability To Lease (FOSL) is to document the environmental suitability of Parcels 8.1, 8.2, 8.3, 8.4 and 8.5 at the Defense Distribution Depot Memphis, Tennessee (DDMT) for leasing to the Depot Redevelopment Corporation (DRC) for light industry, storage or general office use consistent with Department of Defense (DOD) and Army policy. This FOSL has been developed in accordance with the DRC's Reuse Plan. In addition, the FOSL identifies use restrictions as specified in the attached Environmental Protection Provisions (Enclosure 5) necessary to protect human health and the environment and to prevent interference with any existing or planned environmental restoration activities.

## 2. PROPERTY DESCRIPTION

The proposed property to be leased consists of 17.6 acres that includes five (5) parcels. Included in these parcels are four (4) buildings (Buildings 229, 230, 329 and 330) and the open land area surrounding these buildings. Site maps of the property proposed to be leased can be found at Enclosure 1.

## 3. ENVIRONMENTAL CONDITION OF THE PROPERTY

A determination of the environmental condition of the facilities has been made based on the Community Environmental Response Facilitation Act (CERFA) Letter Report dated December 5, 1996 and an Environmental Baseline Survey (EBS) dated November 6, 1996. The information provided is a result of a complete search of agency files during the development of these environmental surveys. The following documents also provided information on environmental conditions of the property: Draft Final BRAC Cleanup Plan Version 2 (DDSP-FE, November 1997), Asbestos Reinspection (DDC-WP, October 1996), Final Environmental Assessment for Master Interim Lease (Tetra Tech, September 1996), Ordnance and Explosive Waste/Chemical Warfare Materials Archives Search Report (U.S. Army Corps of Engineers, January 1995), Remedial Investigation Soil Sampling Letter Report (CH2M Hill, May 1997), OU - 2 and OU - 3 Field Sampling Plans (CH2M Hill, September 1995), Asbestos Identification Survey (Pickering, December 1993 and January 1994), RCRA Facilities Assessment (A.T. Kearney, Inc., January 1990), Final Remedial Investigation Report (Law Environmental, August 1990) and the Installation Assessment (USAEHA, March 1981).

### 3.1 Environmental Condition of Property Categories

The Department of Defense (DOD) Environmental Condition of Property (ECP) Categories for the property are as follows:

|                 |                                |
|-----------------|--------------------------------|
| ECP Category 1: | Parcel 8.2 - Building 229 only |
|                 | Parcel 8.3 - Building 230 only |
|                 | Parcel 8.4 - Building 329 only |
|                 | Parcel 8.5 - Building 330 only |

**ECP Category 7: Parcel 8.1 - Open land areas surrounding the buildings in Parcel 8**

A summary of the ECP Categories for specific buildings or parcels is provided in Table 1 – Description of Property (Enclosure 2).

### **3.2 Storage, Release or Disposal of Hazardous Substances**

Hazardous substances were stored in Buildings 229, 230, 329 and 330. It is assumed this storage was in excess of the 40 CFR Part 373 reportable quantities. Hazardous substances were released in the open area surrounding the four (4) buildings in Parcel 8. It is assumed, unless otherwise noted, these releases were in excess of the 40 CFR Part 373 reportable quantities. The release of hazardous substances was either remediated at the time of the release or is currently under evaluation as part of the installation restoration program. There is no risk to human health and the environment so long as the tenant adheres to the Environmental Protection Provisions (Enclosure 5) with particular reference to Provision 14 regarding ground disturbing activities. These activities shall not be allowed without prior written approval from the Government. A summary of the buildings or areas in which hazardous substance activities occurred is provided in Table 2 – Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3).

### **3.3 Petroleum and Petroleum Products**

#### **3.3.1 Storage, Release, or Disposal of Petroleum Products**

Petroleum products were stored in Buildings 229, 230, 329 and 330. It is assumed this storage was in excess of 55 gallons. There is no evidence that petroleum products were released in these buildings; therefore there is no risk to human health or the environment. A summary of the buildings or areas in which petroleum products were stored, released or disposed is provided in Table 3 – Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).

#### **3.3.2 Underground and Above-Ground Storage Tanks (UST/AST)**

There is no evidence that petroleum products were stored in underground or aboveground storage tanks on the property.

### **3.4 Polychlorinated Biphenyls (PCB) Equipment**

There are no PCB containing transformers or other PCB containing equipment, except hermetically sealed fluorescent light bulb ballasts that may contain PCBs, located on the property listed in this FOSL. There is no evidence of unremediated PCB releases from these ballasts.

### **3.5 Asbestos**

The EBS and the Asbestos Identification Survey (Pickering, December 1993 and January 1994) indicate Asbestos Containing Materials (ACM) are present in the following buildings:

|               |  |
|---------------|--|
| Building 229: | Thermal System Pipe Insulation (to include joints)<br>Cement Asbestos Wall Board<br>Cement Asbestos Transite Pipe<br>Raised Roof Panel Putty<br>12 x 12 Floor Tiles and Mastic |
| Building 230: | Cement Asbestos Wall Board<br>12 x 12 Floor Tile<br>Raised Roof Panel Putty<br>Roof Flashing   |
| Building 329: | Cement Asbestos Wall Board<br>Floor Tile Mastic<br>Raised Roof Panel Putty<br>Roof Flashing  |
| Building 330: | Cement Asbestos Wall Board<br>Floor Tile Mastic<br>Raised Roof Panel Putty<br>Roof Flashing  |

The ACM does not currently pose a threat to human health or the environment because all friable asbestos that posed an unacceptable risk to human health has been removed or encapsulated. The lease will include the asbestos warning and covenant included in the Environmental Protection Provisions (Enclosure 5).

### **3.6 Lead-Based Paint (LBP)**

Based on the age of the buildings (constructed prior to 1978), the following buildings are presumed to contain lead-based paint: 229, 230, 329 and 330. The lease will include the lead-based paint warning and covenant provided in the Environmental Protection Provisions (Enclosure 5).

### **3.7 Radiological Materials**

There is no evidence that the Department of Defense used or stored radioactive materials on the property addressed in this FOSL.

### **3.8 Radon**

In keeping with DOD policy to not perform radon assessment and mitigation prior to transfer of BRAC property, there were no radon surveys conducted in the buildings in this FOSL.

### **3.9 Unexploded Ordnance**

Based on a review of existing records and available information, none of the buildings or surrounding land proposed for lease are known to contain unexploded ordnance.

### **3.10 Other Hazardous Conditions**

There are no other known hazardous conditions that present an unacceptable threat to human health or the environment on the property.

## **4. REMEDIATION**

In October 1992, the U.S. Environmental Protection Agency (EPA) placed DDMT on the National Priorities List (NPL) for environmental restoration. DDMT has since entered into a Federal Facilities Agreement (FFA) with the Tennessee Department of Environment and Conservation (TDEC) and the EPA. Environmental contamination on the property described in this document does not present a hazard to leasing it. In addition, environmental conditions on adjacent property do not present a hazard to the leasing of the property. Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4) provide details regarding environmental conditions for each individual parcel or building contained within this FOSL. Regulators have concurred with DDMT that the open area surrounding buildings in Parcel 8 do not pose risks above levels deemed protective provided that the property is used for the proposed purpose and the lessee strictly adheres to the Environmental Protection Provisions (Enclosure 5).

## **5. REGULATORY/PUBLIC COORDINATION**

The U.S. EPA Region 4, TDEC and the public were notified of the initiation of the FOSL. Regulators have reviewed this FOSL and provided comments. These comments have been incorporated as appropriate. Regulatory/public comments and responses are provided in Enclosure 6.

## **6. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND CONSISTENCY WITH LOCAL REUSE PLAN**

The environmental impacts associated with proposed lease of the property have been analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for Master Interim Lease, Defense Distribution Depot Memphis, Tennessee, dated September 1996. The environmental effects of the activities anticipated under the proposed lease were determined not to be significant. In addition, the proposed use of the property is consistent with the intended reuse of the property set forth in the Depot Redevelopment Corporation Reuse Plan.

## 7. ENVIRONMENTAL PROTECTION PROVISIONS

On the basis of the above results from the site-specific EBS and other environmental studies and in consideration of the intended use of the property, certain terms and conditions are required for the proposed lease. These terms and conditions are set forth in the attached Environmental Protection Provisions (Enclosure 5) and will be included in the lease.

## 8. FINDING OF SUITABILITY TO LEASE

Based on the above information, I have concluded that all Department of Defense (DOD) requirements to reach a Finding of Suitability to Lease (FOSL) to the Depot Redevelopment Corporation for light industrial use have been fully met for the property subject to the terms and conditions in the attached Environmental Protection Provision (Enclosure 5). As required by CERCLA section 120(h)(3)(B), I have determined that the property is suitable for lease for the intended purpose, the uses contemplated for the lease are consistent with protection of human health and the environment, and there are adequate assurances that the United States will take any additional remedial action found to be necessary that has not been taken on the date of the lease.

As required under the DOD FOSL Guidance, notification of hazardous substance activities and petroleum product activities shall be provided in the lease documents. Refer to Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).



P. S. MORRIS

Colonel, GS

Deputy Chief of Staff for Engineering, Housing,  
Environment and Installation Logistics

### 7 Enclosures

- Encl 1 Site Maps of Property
- Encl 2 Table 1 - Description of Property
- Encl 3 Table 2 - Notification of Hazardous Substance Storage, Release or Disposal
- Encl 4 Table 3 - Notification of Petroleum Product Storage, Release or Disposal
- Encl 5 Environmental Protection Provisions
- Encl 6 Regulatory/Public Comments and Responses
- Encl 7 Reference Materials

FINDING OF SUITABILITY TO LEASE

(FOSL)

*Parcel 1.8, Parcel 6.1, Parcel 9.1, Parcel 10.2, Parcel 10.3, Parcel  
16.1, Parcel 16.2, Parcel 17.2, Parcel 17.3*

Defense Distribution Depot Memphis, Tennessee

(FOSL Number 6)

July 8, 1998

## 1. PURPOSE

The purpose of this Finding Of Suitability To Lease (FOSL) is to document the environmental suitability of Parcels 1.8, 6.1, 9.1, 10.2, 10.3, 16.1, 16.2, 17.2 and 17.3 at the Defense Distribution Depot Memphis, Tennessee (DDMT) for leasing to the Depot Redevelopment Corporation (DRC) for light industry, storage or general office use consistent with Department of Defense (DOD) and Army policy. This FOSL has been developed in accordance with the DRC's Reuse Plan. In addition, the FOSL identifies use restrictions as specified in the attached Environmental Protection Provisions (Enclosure 5) necessary to protect human health and the environment and to prevent interference with any existing or planned environmental restoration activities.

## 2. PROPERTY DESCRIPTION

The proposed property to be leased consists of 52.35 acres that includes nine (9) parcels. Included in these parcels are two (2) buildings (Buildings 359 and 559) and the open land area surrounding these buildings as well as the open land area surrounding Buildings 250, 349, 350, 429, 430, 449, 450, 549, 550, 649 and 650. Site maps of the property proposed to be leased can be found at Enclosure 1.

## 3. ENVIRONMENTAL CONDITION OF THE PROPERTY

A determination of the environmental condition of the facilities has been made based on the Community Environmental Response Facilitation Act (CERFA) Letter Report dated December 5, 1996 and an Environmental Baseline Survey (EBS) dated November 6, 1996. The information provided is a result of a complete search of agency files during the development of these environmental surveys. The following documents also provided information on environmental conditions of the property: Draft Final BRAC Cleanup Plan Version 2 (DDSP-FE, November 1997), Asbestos Reinspection (DDC-WP, October 1996), Final Environmental Assessment for Master Interim Lease (Tetra Tech, September 1996), DDMT Radiological Survey (Administrative Support Center East, August 1996), Remedial Investigation Soil Sampling Letter Report (CH2M Hill, May 1997), OU - 2 and OU - 3 Field Sampling Plans (CH2M Hill, September 1995), Asbestos Identification Survey (Pickering, December 1993 and January 1994), RCRA Facilities Assessment (A.T. Kearney, Inc., January 1990), Final Remedial Investigation Report (Law Environmental, August 1990) and the Installation Assessment (USAEHA, March 1981).

### 3.1 Environmental Condition of Property Categories

The Department of Defense (DOD) Environmental Condition of Property (ECP) Categories for the property are as follows:

ECP Category 1: Parcel 16.2 - Building 559 only

ECP Category 4: Parcel 17.3 - Building 359 only

- ECP Category 7:**
- Parcel 1.8 - Open land area surrounding the buildings in Parcel 1, including the parking lots and grassy areas, the flagpole (Building 143), switch station building (Building 147) and the antenna tower (Building 146)
  - Parcel 6.1 - Open land area surrounding buildings in Parcel 6
  - Parcel 9.1 - Open land area surrounding buildings in Parcel 9
  - Parcel 10.2 - Open land area surrounding buildings in Parcel 10 except land in Parcel 10.3
  - Parcel 10.3 - Open land area between southern corners of Buildings 550 and 650 (reported spill area)
  - Parcel 16.1 - Open land area surrounding buildings in Parcel 16
  - Parcel 17.2 - Open land area surrounding buildings in Parcel 17

A summary of the ECP Categories for specific buildings or parcels is provided in Table 1 – Description of Property (Enclosure 2).

### **3.2 Storage, Release or Disposal of Hazardous Substances**

Hazardous substances were stored in Building 359. It is assumed this storage was in excess of the 40 CFR Part 373 reportable quantities. Hazardous substances were released in Building 359 as well as the open land area surrounding the buildings in Parcels 1, 6, 9, 10, 16 and 17. It is assumed, unless otherwise noted, these releases were in excess of the 40 CFR Part 373 reportable quantities. The release of hazardous substances was either remediated at the time of the release or is currently under evaluation as part of the installation restoration program. There is no risk to human health and the environment so long as the tenant adheres to the Environmental Protection Provisions (Enclosure 5) with particular reference to Provision 14 regarding ground disturbing activities. These activities shall not be allowed without prior written approval from the Government. A summary of the buildings or areas in which hazardous substance activities occurred is provided in Table 2 – Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3).

### **3.3 Petroleum and Petroleum Products**

#### **3.3.1 Storage, Release, or Disposal of Petroleum Products**

Petroleum products were stored in excess of 55 gallons in underground and above-ground storage tanks at Building 359. See Section 3.3.2 for more information regarding these tanks. There is no evidence that any petroleum or petroleum products in excess of 55 gallons at one time were released or disposed on the property. A summary of the buildings or areas in which petroleum products activities occurred is provided in Table 3 – Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).

#### **3.3.2 Underground and Above-Ground Storage Tanks (UST/AST)**

There is one (1) above-ground storage tank at Building 359 that was used for the storage of petroleum products. There were seven (7) underground storage tanks at Building 359 that

were used for the storage of petroleum products. There is no evidence of petroleum product releases at the following Building 359 USTs/ASTs: 12,000-gallon fuel oil UST (closed in place); 500-gallon fuel oil UST (closed in place); 500-gallon blow down UST (closed in place); 500-gallon fuel oil UST (removed); 1,000-gallon fuel oil UST (removed); 12,000-gallon fuel oil UST (removed); 500-gallon fuel oil UST (removed); 500-gallon diesel fuel AST (currently in place).

A summary of the buildings or areas in which petroleum products were stored is provided in Table 3 – Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).

### **3.4 Polychlorinated Biphenyls (PCB) Equipment**

There are no PCB containing transformers or other PCB containing equipment, except hermetically sealed fluorescent light bulb ballasts that may contain PCBs, located on the property listed in this FOSL. There is no evidence of unremediated PCB releases from these ballasts.

### **3.5 Asbestos**

The EBS and the Asbestos Identification Survey (Pickering, December 1993 and January 1994) indicate Asbestos Containing Materials (ACM) are present in the following buildings:

|               |  |
|---------------|--|
| Building 359: | Thermal System Pipe Insulation (to include joints)<br>Interior Window Putty<br>Duct Tape<br>12 x 12 Floor Tiles and Mastic<br>9 x 9 Floor Tiles and Mastic |
| Building 559: | Cement Asbestos Wall Board<br>Floor Tile Mastic<br>Roof Flashing   |

The ACM does not currently pose a threat to human health or the environment because all friable asbestos that posed an unacceptable risk to human health has been removed or encapsulated. The lease will include the asbestos warning and covenant included in the Environmental Protection Provisions (Enclosure 5).

### **3.6 Lead-Based Paint (LBP)**

Based on the age of the buildings (constructed prior to 1978), the following buildings are presumed to contain lead-based paint: 359 and 559. The lease will include the lead-based paint warning and covenant provided in the Environmental Protection Provisions (Enclosure 5).

### **3.7 Radiological Materials**

There is evidence that the Department of Defense used or stored radioactive materials on the following properties included in this FOSL: Building 359, Section 3 - storage of items such as

watches and compasses containing tritium (H-3). There is no evidence that any releases of radiological materials occurred at these buildings. A radiological field survey was conducted at the site, and the survey concluded that this area was suitable for unrestricted use.

### **3.8 Radon**

In keeping with DOD policy to not perform radon assessment and mitigation prior to transfer of BRAC property, there were no radon surveys conducted in the buildings in this FOSL.

### **3.9 Unexploded Ordnance**

Based on a review of existing records and available information, none of the buildings or surrounding land proposed for lease are known to contain unexploded ordnance.

### **3.10 Other Hazardous Conditions**

There are no other known hazardous conditions that present an unacceptable threat to human health or the environment on the property.

## **4. REMEDIATION**

In October 1992, the U.S. Environmental Protection Agency (EPA) placed DDMT on the National Priorities List (NPL) for environmental restoration. DDMT has since entered into a Federal Facilities Agreement (FFA) with the Tennessee Department of Environment and Conservation (TDEC) and the EPA. Environmental contamination on the property described in this document does not present a hazard to leasing it. In addition, environmental conditions on adjacent property do not present a hazard to the leasing of the property. Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4) provide details regarding environmental conditions for each individual parcel or building contained within this FOSL. Regulators have concurred with DDMT that the open area surrounding buildings in Parcels 1, 6, 9, 10, 16 and 17 does not pose risks above levels deemed protective provided that the property is used for the proposed purpose and the lessee strictly adheres to the Environmental Protection Provisions (Enclosure 5).

## **5. REGULATORY/PUBLIC COORDINATION**

The U.S. EPA Region 4, TDEC and the public were notified of the initiation of the FOSL. Regulators have reviewed this FOSL and provided comments. These comments have been incorporated as appropriate. Regulatory/public comments and responses are provided in Enclosure 6.

## 6. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND CONSISTENCY WITH LOCAL REUSE PLAN

The environmental impacts associated with proposed lease of the property have been analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for Master Interim Lease, Defense Distribution Depot Memphis, Tennessee, dated September 1996. The environmental effects of the activities anticipated under the proposed lease were determined not to be significant. In addition, the proposed use of the property is consistent with the intended reuse of the property set forth in the Depot Redevelopment Corporation Reuse Plan.

## 7. ENVIRONMENTAL PROTECTION PROVISIONS

On the basis of the above results from the site-specific EBS and other environmental studies and in consideration of the intended use of the property, certain terms and conditions are required for the proposed lease. These terms and conditions are set forth in the attached Environmental Protection Provisions (Enclosure 5) and will be included in the lease.

## 8. FINDING OF SUITABILITY TO LEASE

Based on the above information, I have concluded that all Department of Defense (DOD) requirements to reach a Finding of Suitability to Lease (FOSL) to the Depot Redevelopment Corporation for light industrial use have been fully met for the property subject to the terms and conditions in the attached Environmental Protection Provision (Enclosure 5). As required by CERCLA section 120(h)(3)(B), I have determined that the property is suitable for lease for the intended purpose, the uses contemplated for the lease are consistent with protection of human health and the environment, and there are adequate assurances that the United States will take any additional remedial action found to be necessary that has not been taken on the date of the lease.

As required under the DOD FOSL Guidance, notification of hazardous substance activities and petroleum product activities shall be provided in the lease documents. Refer to Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).



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Colonel, GS  
Deputy Chief of Staff for Engineering, Housing,  
Environment and Installation Logistics

### 7 Enclosures

Encl 1 Site Maps of Property

Encl 2 Table 1 - Description of Property

Encl 3 Table 2 - Notification of Hazardous Substance Storage, Release or Disposal

FINDING OF SUITABILITY TO LEASE

(FOSL)

*Parcel 2.7, Parcel 6.2, Parcel 6.3, Parcel 6.4, Parcel 7.1, Parcel 7.2,  
Parcel 9.2, Parcel 9.3, Parcel 9.4, Parcel 9.5, Parcel 10.1, Parcel 10.4,  
Parcel 10.5, Parcel 10.6, Parcel 11.1, Parcel 11.2, Parcel 11.3,  
Parcel 11.4, Parcel 12.1, Parcel 12.2, Parcel 24.3, Parcel 32.1,  
Parcel 32.2 and Parcel 33.11*

Defense Distribution Depot Memphis, Tennessee

(FOSL Number 7)

October 26, 1998

## 1. PURPOSE

The purpose of this Finding of Suitability to Lease (FOSL) is to document the environmental suitability of Parcels 2.7, 6.2, 6.3, 6.4, 7.1, 7.2, 9.2, 9.3, 9.4, 9.5, 10.1, 10.4, 10.5, 10.6, 11.1, 11.2, 11.3, 11.4, 12.1, 12.2, 24.3, 32.1, 32.2 and 33.11 at the Defense Distribution Depot Memphis, Tennessee (DDMT) for leasing to the Depot Redevelopment Corporation (DRC) for light industry, storage, general office or residential (Parcel 2.7 only) use consistent with Department of Defense (DOD) and Army policy. This FOSL has been developed in accordance with the DRC's Reuse Plan. In addition, the FOSL identifies use restrictions as specified in the attached Environmental Protection Provisions (Enclosure 5) necessary to protect human health and the environment and to prevent interference with any existing or planned environmental restoration activities.

## 2. PROPERTY DESCRIPTION

The proposed property to be leased consists of 66.90 acres which includes twenty-four (24) parcels. Included in these parcels are nineteen (19) buildings (Buildings 249, 250, 349, 350, 429, 430, 449, 450, 529, 530, 549, 550, 629, 630, 649, 650, 770, 771 and 835); the open land area in Parcel 2.7 surrounding the Family Housing units; the open land area in Parcel 7.1 surrounding Building 249; the open land area in Parcel 12.1 surrounding Building 629; the open land area in Parcel 11.1 surrounding Buildings 529, 530 and 630; the open land area in parcel 24.3 surrounding Buildings 770 and 771; the open land area in Parcel 32.1 surrounding Building 835; and the open land area in Parcel 33.11 that contains the 1,000-gallon diesel above ground storage tank outside Building 756. Site maps of the property proposed to be leased can be found at Enclosure 1.

## 3. ENVIRONMENTAL CONDITION OF THE PROPERTY

A determination of the environmental condition of the facilities has been made based on the Community Environmental Response Facilitation Act (CERFA) Letter Report dated December 5, 1996 and an Environmental Baseline Survey (EBS) dated November 6, 1996. The information provided is a result of a complete search of agency files during the development of these environmental surveys. The following documents also provided information on environmental conditions of the property: Draft Final BRAC Cleanup Plan Version 2 (DDSP-FE, November 1997), Asbestos Reinspection (DDC-WP, October 1996), Final Environmental Assessment for Master Interim Lease (Tetra Tech, September 1996), DDMT Radiological Survey (Administrative Support Center East, August 1996), Remedial Investigation Soil Sampling Letter Report (CH2M Hill, May 1997), OU - 2 and OU - 3 Field Sampling Plans (CH2M Hill, September 1995), Asbestos Identification Survey (Pickering, December 1993 and January 1994), RCRA Facilities Assessment (A.T. Kearney, Inc., January 1990), Final Remedial Investigation Report (Law Environmental, August 1990) and the Installation Assessment (USAEHA, March 1981).

### 3.1 Environmental Condition of Property Categories

The Department of Defense (DOD) Environmental Condition of Property (ECP) Categories for the property are as follows:

- |                 |   |
|-----------------|---|
| ECP Category 1: | Parcel 6.3 - Building 349<br>Parcel 9.2 - Building 429<br>Parcel 9.4 - Building 449<br>Parcel 9.5 - Building 450<br>Parcel 10.4 - Building 549<br>Parcel 10.6 - Building 650<br>Parcel 11.3 - Building 530<br>Parcel 11.4 - Building 630        |
| ECP Category 2: | Parcel 33.11 - Open land area containing the 1,000-gallon diesel above ground storage tank outside Building 756   |
| ECP Category 3: | Parcel 6.2 - Building 250<br>Parcel 6.4 - Building 350<br>Parcel 9.3 - Building 430<br>Parcel 10.1 - Building 649<br>Parcel 10.5 - Building 550<br>Parcel 11.2 - Building 529<br>Parcel 32.1 - Open land area in north and west of Building 835 |
| ECP Category 4: | Parcel 7.2 - Building 249<br>Parcel 12.2 - Building 629<br>Parcel 32.2 - Building 835   |
| ECP Category 5: | Parcel 2.7 - Open land area surrounding the Family Housing Units (Buildings 176, S178, 179, 181, S183 and 184)  |
| ECP Category 6: | Parcel 7.1 - Open land area surrounding Building 249  |
| ECP Category 7: | Parcel 11.1 - Open land area surrounding Buildings 529, 530 and 630<br>Parcel 12.1 - Open land area surrounding Building 629<br>Parcel 24.3 - Buildings 770 and 771 as well as the open land area surrounding Buildings 770 and 771             |

A summary of the ECP Categories for specific buildings or parcels is provided in Table 1 - Description of Property (Enclosure 2).

### **3.2 Storage, Release or Disposal of Hazardous Substances**

Hazardous substances were stored in Buildings 249, 250, 350, 430, 529, 550, 629, 649, 770 and 835 as well as the open land area north and west of Building 835 (Parcel 32.1). It is assumed this storage was in excess of the 40 CFR Part 373 reportable quantities. Hazardous substances were released in the following locations: Buildings 249, 250, 350, 430, 529, 550, 629, 649, 770 and 835; the open land area surrounding the Family Housing Units (Parcel 2.7); the open land area surrounding Building 249 (Parcel 7.1); the open land area surrounding Buildings 529, 530 and 630 (Parcel 11.1); the open land area surrounding Building 629 (Parcel 12.1); the open land area surrounding Buildings 770 and 771 (Parcel 24.3); and the open land area north and west of Building 835 (Parcel 32.1). Existing records do not support the determination that releases exceeded the 40 CFR Part 373 reportable quantities unless otherwise noted. The release of hazardous substances was either remediated at the time of the release or is currently under evaluation as part of the installation restoration program. There is no risk to human health and the environment so long as the tenant adheres to the Environmental Protection Provisions (Enclosure 5) with particular reference to Provision 14 regarding ground disturbing activities. These activities shall not be allowed without prior written approval from the Government. A summary of the buildings or areas in which hazardous substance activities occurred is provided in Table 2 – Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3).

### **3.3 Petroleum and Petroleum Products**

#### **3.3.1 Storage, Release, or Disposal of Petroleum Products**

Petroleum products were stored in excess of 55 gallons in underground and above-ground storage tanks at Building 770 and in Parcel 33.11 outside of Building 756. See Section 3.3.2 for more information regarding these tanks. There is evidence that petroleum or petroleum products were released at Building 770. It is assumed, unless otherwise noted, that the release was in excess of 55 gallons. The release of petroleum products was either remediated at the time of the release or is currently under evaluation as part of the installation restoration program. There is no risk to human health and the environment so long as the tenant adheres to the Environmental Protection Provisions (Enclosure 5) with particular reference to Provision 14 regarding ground disturbing activities. These activities shall not be allowed without prior written approval from the Government. A summary of the buildings or areas in which petroleum product activities occurred is provided in Table 3 – Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).

#### **3.3.2 Underground and Above-Ground Storage Tanks (UST/AST)**

In Parcel 24.3, outside of Building 770, there were four (4) underground storage tanks (USTs) and two (2) above-ground storage tanks (ASTs) used for the storage of petroleum products. There is no evidence of petroleum product releases at the Building 770 USTs/ASTs. In Parcel 33.11, outside Building 756, there is a 1,000-gallon diesel above ground storage tank that replaced a 1,000-gallon diesel UST removed in 1994. A summary of the buildings or areas in

which petroleum products activities occurred is provided in Table 3 – Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).

### 3.4 Polychlorinated Biphenyls (PCB) Equipment

There are no PCB containing transformers or other PCB containing equipment, except hermetically sealed fluorescent light bulb ballasts that may contain PCBs, located on the property listed in this FOSL. On July 9, 1990, a 50-gallon PCB-containing liquid spill was reported at Building 770. The Spill Team responded, applied absorbent, excavated all stained soil and removed soil and absorbent to the appropriate disposal facility. The lease will include the PCB notification provision contained in the Environmental Protection Provisions (Enclosure 5).

### 3.5 Asbestos

The EBS and the Asbestos Identification Survey (Pickering, December 1993 and January 1994) indicate Asbestos Containing Materials (ACM) are present in the following buildings:

|               |  |
|---------------|--|
| Building 249: | <p>Raised Roof Putty and Roof Flashing<br/> 12 x 12 Gray Marble Floor Tiles and Mastic<br/> 12 x 12 Beige Marble Floor Tile and Mastic<br/> 9 x 9 Brown Vinyl Floor Tile and Mastic<br/> Cement Asbestos Panels on Raised Roof</p> |
| Building 250: | <p>12 x 12 Floor Tiles and Mastic<br/> Domestic Water Pipe Insulation (Including Joints)<br/> Cement Asbestos Panels on Raised Roof<br/> Raised Roof Putty and Roof Flashing<br/> Asphalt Built-up Roofing</p>                     |
| Building 349: | <p>Domestic Water Pipe Joint Insulation<br/> 12 x 12 Floor Tile and Mastic<br/> Cement Asbestos Panels on Raised Roof<br/> Raised Roof Putty and Roof Flashing</p>   |
| Building 350: | <p>Domestic Water Pipe Insulation (Including Joints)<br/> Cement Asbestos Panels on Raised Roof<br/> Raised Roof Putty and Roof Flashing</p>   |
| Building 429: | <p>Domestic Water Pipe Joint Insulation<br/> 12 x 12 Vinyl Floor Tile<br/> Exterior Window Frame Putty<br/> Cement Asbestos Panels on Raised Roof<br/> Raised Roof Putty and Roof Flashing</p>                                     |

- Building 430:** Domestic Water Pipe Joint Insulation  
Exterior Window Frame Putty  
Cement Asbestos Panels on Raised Roof  
Raised Roof Putty and Roof Flashing
- Building 449:** Domestic Water Pipe Insulation (Including Joints)  
12 x 12 Beige Vinyl Floor Tile and Mastic  
12 x 12 Brown Marble Floor Tile  
Concrete Sealant Putty  
Exterior Window Frame Putty  
Cement Asbestos Panels on Raised Roof  
Raised Roof Putty and Roof Flashing
- Building 450:** Domestic Water Pipe Insulation (Including Joints)  
12 x 12 Dark Brown Vinyl Floor Tile  
Exterior Window Frame Putty  
Cement Asbestos Panels on Raised Roof  
Raised Roof Putty and Roof Flashing
- Building 529:** Domestic Water Pipe Joint Insulation  
12 x 12 Dark Vinyl Floor Tile and Mastic  
Cement Asbestos Panels on Raised Roof  
Raised Roof Putty and Roof Flashing
- Building 530:** 12 x 12 Beige Vinyl Floor Tile and Mastic  
Cement Asbestos Panels on Raised Roof  
Raised Roof Putty
- Building 549:** Domestic Water Pipe Joint Insulation  
12 x 12 Dark Brown Vinyl Floor Tile  
Cement Asbestos Panels on Raised Roof  
Raised Roof Putty and Roof Flashing
- Building 550:** Domestic Water Pipe Insulation (Including Joints)  
12 x 12 Beige Vinyl Floor Tile and Mastic
- Building 629:** Domestic Water Pipe Joint Insulation  
12 x 12 Vinyl Floor Tile  
12 x 12 Beige Vinyl Floor Tile  
Cement Asbestos Panels on Raised Roof  
Raised Roof Putty
- Building 630:** Domestic Water Pipe Joint Insulation  
Interior and Exterior Window Frame Putty  
12 x 12 Vinyl Floor Tile

Cement Asbestos Panels on Raised Roof  
Raised Roof Putty

**Building 649:** Domestic Water Pipe Joint Insulation  
12 x 12 Beige Vinyl Floor Tile  
Cement Asbestos Panels on Raised Roof  
Raised Roof Putty

**Building 650:** Domestic Water Pipe Joint Insulation  
Exterior Window Frame Putty  
Cement Asbestos Panels on Raised Roof  
Raised Roof Putty

**Building 770:** Thermal System Pipe Insulation (Includes Joints)  
Boiler/Flue Insulation and Boiler Rope Gasket  
12 x 12 Brown Vinyl Floor Tile Mastic  
12 x 12 Brown Vinyl Floor Tile  
Cement Asbestos Exterior Siding  
Cement Asbestos Ceiling Panels  
Roof Flashing

**Building 771:** Cement Asbestos Exterior Siding  
Original Roofing Shingles  
Cement Asbestos Board on Restroom Walls

The ACM does not currently pose a threat to human health or the environment because all friable asbestos that posed an unacceptable risk to human health has been removed or encapsulated. The lease will include the asbestos warning and covenant included in the Environmental Protection Provisions (Enclosure 5).

### 3.6 Lead-Based Paint (LBP)

Based on the age of the buildings (constructed prior to 1978), the following buildings are presumed to contain lead-based paint: 249, 250, 349, 350, 430, 449, 450, 530, 549, 550, 630 and 650. Lead-based paint on the Family Housing Units, which are not in this FOSL is being abated. These units are surrounding by Parcel 2.7. Appropriate measures will be implemented during the abatement to ensure protection of the soil. The lease will include the lead-based paint warning and covenant provided in the Environmental Protection Provisions (Enclosure 5).

### 3.7 Radiological Materials

The following buildings were used for radiological activities:

- Building 629, Bay 2 - storage of wrist watches containing tritium (H-3) and radium-226 and compasses containing tritium (H-3); possible storage of lantern

mantles containing thorium-232; smoke detectors containing americium 241; electron tubes containing thorium-232, tritium (H-3) and radium-226; and indicator and toggle switches containing radium-226.

- Building 835, Section 6 (east side) - storage of lantern mantles containing thorium-232; smoke detectors containing americium 241; electron tubes containing thorium-232, tritium (H-3) and radium-226; wrist watches containing tritium (H-3) and radium-226; indicator and toggle switches containing radium-226; and compasses containing tritium (H-3).

There is no evidence that any releases of radiological materials occurred at these buildings. A radiological field survey was conducted at those sites having radiological activities, and the survey concluded that these areas were suitable for unrestricted use.

### **3.8 Radon**

In accordance with the Department of Defense Memorandum, Subject: Asbestos, Lead Paint and Radon Policies at BRAC Properties, dated October 31, 1994, no radon surveys were conducted in the buildings included in this FOSL as their intended use will not be residential.

### **3.9 Unexploded Ordnance**

Based on a review of existing records and available information, none of the buildings or land proposed for lease are known to contain unexploded ordnance.

### **3.10 Other Hazardous Conditions**

There are no other known hazardous conditions that present an unacceptable threat to human health or the environment on the property.

## **4. REMEDIATION**

In October 1992, the U.S. Environmental Protection Agency (EPA) placed DDMT on the National Priorities List (NPL) for environmental restoration. DDMT has since entered into a Federal Facilities Agreement (FFA) with the Tennessee Department of Environment and Conservation (TDEC) and the EPA. Environmental contamination on the property described in this document does not present a hazard to persons leasing it. In addition, environmental conditions on adjacent federal government property do not present a hazard to the leasing of the property. Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4) provide details regarding environmental conditions for each individual parcel or building contained within this FOSL. Regulators have concurred with the Depot that the following areas and buildings do not pose risks above levels deemed protective provided that the property is used for the proposed purpose and the lessee strictly adheres to the Environmental Protection Provisions (Enclosure 5): Buildings 249, 250, 349, 350, 429, 430, 449, 450, 529, 530, 549, 550,

629, 630, 649, 650, 770, 771 and 835; the open land area surrounding the Family Housing Units (Parcel 2.7); the open land area surrounding Building 249 (Parcel 7.1); the open land area surrounding Buildings 529, 530 and 630 (Parcel 11.1); the open land area surrounding Building 629 (Parcel 12.1); the open land area surrounding Buildings 770 and 771 (Parcel 24.3); and the open land area north and west of Building 835 (Parcel 32.1) and open land area containing the 1,000-gallon diesel above ground storage tank outside Building 756 (Parcel 33.11).

## **5. REGULATORY/PUBLIC COORDINATION**

The U.S. EPA Region 4, TDEC and the public were notified of the initiation of this FOSL. EPA, Defense Logistics Agency and Army Materiel Command have reviewed this FOSL and provided comments. Regulatory/public comments and responses are provided in Enclosure 6.

## **6. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND CONSISTENCY WITH LOCAL REUSE PLAN**

The environmental impacts associated with proposed lease of the property have been analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for Master Interim Lease, Defense Distribution Depot Memphis, Tennessee, dated September 1996. The environmental effects of the activities anticipated under the proposed lease were determined not to be significant. In addition, the proposed use of the property is consistent with the intended reuse of the property set forth in the Depot Redevelopment Corporation Reuse Plan.

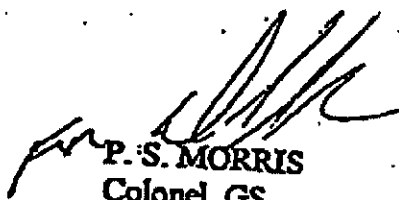
## **7. ENVIRONMENTAL PROTECTION PROVISIONS**

On the basis of the above results from the site-specific EBS and other environmental studies and in consideration of the intended use of the property, certain terms and conditions are required for the proposed lease. These terms and conditions are set forth in the attached Environmental Protection Provisions (Enclosure 5) and will be included in the lease.

## **8. FINDING OF SUITABILITY TO LEASE**

Based on the above information, I have concluded that all Department of Defense (DOD) requirements to reach a Finding of Suitability to Lease (FOSL) to the Depot Redevelopment Corporation for light industrial and residential (Parcel 2.7 only) use have been fully met for the property subject to the terms and conditions in the attached Environmental Protection Provision (Enclosure 5). As required by CERCLA section 120(h)(3)(B), I have determined that the property is suitable for lease for the intended purpose, the uses contemplated for the lease are consistent with protection of human health and the environment, and there are adequate assurances that the United States will take any additional remedial action found to be necessary that has not been taken on the date of the lease.

As required under the DOD FOSL Guidance, notification of hazardous substance activities and petroleum product activities shall be provided in the lease documents. Refer to Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).

  
P. S. MORRIS  
Colonel, GS  
Deputy Chief of Staff  
for Engineering,  
Housing, Environment,  
and Installation Logistics

Enclosures

- d 1 Site Maps of Property
- d 2 Table 1 - Description of Property
- d 3 Table 2 - Notification of Hazardous Substance Storage, Release or Disposal
- d 4 Table 3 - Notification of Petroleum Product Storage, Release or Disposal
- d 5 Environmental Protection Provisions
- d 6 Regulatory/Public Comments and Responses
- d 7 Reference Materials

## FINDING OF SUITABILITY TO LEASE

(FOSL)

*Parcel 3.5, Parcel 3.6, Parcel 3.7, Parcel 3.8, Parcel 3.9, Parcel 3.10, Parcel 3.11, Parcel 13.5, Parcel 14.2, Parcel 15.2, Parcel 15.3, Parcel 15.4, Parcel 15.5, Parcel 15.6, Parcel 18.2, Parcel 19.1, Parcel 19.2, Parcel 19.3, Parcel 20.1, Parcel 20.5, Parcel 20.6, Parcel 21.5, Parcel 22.1, Parcel 22.2, Parcel 23.6, Parcel 23.7, Parcel 23.8, Parcel 23.9, Parcel 23.10, Parcel 23.11, Parcel 24.1, Parcel 24.2, Parcel 25.1, Parcel 25.2, Parcel 26.1, Parcel 26.2, Parcel 27.1, Parcel 28.1, Parcel 28.2, Parcel 29.2, Parcel 29.3, Parcel 30.2, Parcel 30.3, Parcel 30.4, Parcel 30.5, Parcel 31.1, Parcel 32.3, Parcel 33.6, Parcel 33.7, Parcel 33.8, Parcel 33.9, Parcel 34.2, Parcel 35.1, Parcel 35.2, Parcel 35.3, Parcel 35.4 and Parcel 35.5*

Defense Distribution Depot Memphis, Tennessee

(FOSL Number 8)

July 1999

## 1. PURPOSE

The purpose of this Finding of Suitability to Lease (FOSL) is to document the environmental suitability of Parcels 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 13.5, 14.2, 15.2, 15.3, 15.4, 15.5, 15.6, 18.2, 19.1, 19.2, 19.3, 20.1, 20.5, 20.6, 21.5, 22.1, 22.2, 23.6, 23.7, 23.8, 23.9, 23.10, 23.11, 24.1, 24.2, 25.1, 25.2, 26.1, 26.2, 27.1, 28.1, 28.2, 29.2, 29.3, 30.2, 30.3, 30.4, 30.5, 31.1, 32.3, 33.6, 33.7, 33.8, 33.9, 34.2, 35.1, 35.2, 35.3, 35.4 and 35.5 at the former Defense Distribution Depot Memphis, Tennessee (the Depot) for inclusion in the Interim Master Lease held by the Depot Redevelopment Corporation (DRC) for light industry, storage, general office and recreation use consistent with Department of Defense (DOD) and Army policy. This FOSL has been developed in accordance with the DRC's Reuse Plan. In addition, the FOSL identifies use restrictions as specified in the attached Environmental Protection Provisions (Enclosure 5) necessary to protect human health and the environment and to prevent interference with any existing or planned environmental restoration activities.

## 2. PROPERTY DESCRIPTION

The proposed property to be leased consists of 367.52 acres which includes fifty-seven (57) parcels. Included in these parcels are thirty-three (33) buildings (Buildings 194, 197, 211, 301, 308, 309, 319, 398, T416, T417, 465, 468, 469, 717, 720, 737, 783, 793, 801, 802, 863, 865, 873, 875, 949, 970, 1084, 1086, 1087, 1088, 1089, 1090 and 1091); concrete foundations remaining after the demolition of Buildings 209, 702 and 1085; open land areas surrounding these buildings and foundations and extending to Airways Boulevard, Dunn Road, Ball Road and Perry Road; open storage areas X01, X02, X03, X04, X05, X06, X07, X08, X09, X10, X11, X12, X17, X19, X20, X21, X23, X27, X30, Y10, Y50; spill area west of Building 737; spill area on the north dock of Building 489; spill area between Buildings 489 and 490; spill area east of Building 685; spill area between Buildings 925 and 949; spill area northwest of Building 995; former material recoupment area at southeast corner of Building 873; former waste material storage area west of Buildings 308 and 309; recreational area including the golf course, playground, softball field, volleyball and tennis courts, wading pool and open land area surrounding the community club complex; Lake Danielson and associated storm drain ditch; the golf course pond and associated storm drain ditch; open land area between east ends of Buildings 689 and 690; open land area surrounding Building 972; storm drain adjacent to Gate 9; former spray paint area south of Building 949; open land area surrounding Buildings 490, 689 and 690; open land area surrounding Buildings 470, 489 and 670; and a former aboveground storage tank east of Building 770. Site maps of the property proposed for lease can be found at Enclosure 1.

## 3. ENVIRONMENTAL CONDITION OF THE PROPERTY

A determination of the environmental condition of the facilities has been made based on the Community Environmental Response Facilitation Act (CERFA) Letter Report dated December 5, 1996 and an Environmental Baseline Survey (EBS) dated November 6, 1996. The information provided is a result of a complete search of agency files during the development of these environmental surveys. The following documents also provided information on environmental conditions of the property: Nuclear Regulatory Commission letter approving Building 319 for unrestricted use (April 16, 1999), Final Baseline Risk Assessment for Golf Course Impoundments (Radian International, May 1999), Final Streamlined Risk Assessment Parcel 3 Technical Memorandum (CH2M Hill, January 1999), BRAC Cleanup Plan Version 2

(DDSP-FE, October 1998), Revised BRAC Parcel Summary Reports (CH2M Hill, October 1998), Final Remedial Investigation Sites Letter Reports (CH2M Hill, May 1998), Final Screening Sites Letter Reports (CH2M Hill, March 1998), Environmental Baseline Study Radiological Survey for Defense Distribution Depot Memphis (ASCE-IW, August 1996), Termination Radiological Survey for Defense Distribution Depot Memphis Building 319, Bay 6 (ASCE-IW, April 1997), Asbestos Reinspection (DDC-WP, October 1996), Final Environmental Assessment for Master Interim Lease (Tetra Tech, September 1996), DDMT Radiological Survey (Administrative Support Center East, August 1996), Remedial Investigation Soil Sampling Letter Report (CH2M Hill, May 1997), OUs 2, 3 and 4 Field Sampling Plans (CH2M Hill, September 1995), Asbestos Identification Survey (Pickering, December 1993 and January 1994), RCRA Facilities Assessment (A.T. Kearney, Inc., January 1990), Final Remedial Investigation Report (Law Environmental, August 1990) and the Installation Assessment (USAEHA, March 1981).

### 3.1 Environmental Condition of Property Categories

The Department of Defense (DOD) Environmental Condition of Property (ECP) Categories for the property are as follows:

- |                 |  |
|-----------------|--|
| ECP Category 1: | Parcel 30.4 - Building 949   |
| ECP Category 2: | Parcel 20.1 - Spill area on north dock of Building 489   |
|                 | Parcel 23.9 - Spill area northwest of Building 995   |
|                 | Parcel 26.2 - Building 970   |
|                 | Parcel 33.6 - Spill area west of Building 737  |
| ECP Category 3: | Parcel 15.2 - Building 308   |
|                 | Parcel 15.4 - Building 702 concrete foundation   |
|                 | Parcel 18.2 - Open land area surrounding Building 560  |
|                 | Parcel 19.1 - Building 468 and open land area surrounding Buildings 465, 468 and 469 (Building 467, fabric tension structure, removed in 1996) |
|                 | Parcel 19.2 - Building 465   |
|                 | Parcel 23.6 - Open land area surrounding Buildings 783, 787 and 793, Gates 6, 7 and 8, and extending to Ball Road                              |
|                 | Parcel 23.7 - Building 783   |
|                 | Parcel 23.8 - Building 793   |
|                 | Parcel 23.10 - Open storage area X01   |
|                 | Parcel 28.1 - Open storage area X04 and open land area extending to Perry Road   |
|                 | Parcel 33.8 - Building 863   |
|                 | Parcel 34.2 - Open land area surrounding Building 360  |
| ECP Category 4: | Parcel 15.3 - Building 319   |
|                 | Parcel 19.3 - Building 469   |
|                 | Parcel 25.1 - Building 873   |
|                 | Parcel 30.2 - Spill area between Buildings 925 and 949   |
| ECP Category 5: | Parcel 24.1 - Former material reclamation area at southeast corner of Building 873   |

- ECP Category 6:
- Parcel 15.5 - Former waste material storage area west of Buildings 308 and 309
  - Parcel 25.2 - Building 875 and open land area surrounding Buildings 873 and 875
  - Parcel 28.2 - Building 1089 and surrounding open land area extending to Perry Road
  - Parcel 35.1 - Building 1090
  - Parcel 35.2 - Building 1084, Building 1085 concrete foundation and surrounding open land area
  - Parcel 35.3 - Building 1086
  - Parcel 35.4 - Building 1087, metal-roofed shed south of Building 1088 and open land area surrounding south ends of these buildings
  - Parcel 35.5 - Buildings 1088 and 1091 and surrounding open land area extending to Perry Road

- ECP Category 7:
- Parcel 3.5 - Recreational area including the golf course, playground, softball field, volleyball and tennis courts, wading pool, Buildings 194, 197 and 398, and open land area surrounding the community club complex extending to Ball Road
  - Parcel 3.6 - Lake Danielson
  - Parcel 3.7 - Lake Danielson storm drain ditch
  - Parcel 3.8 - Golf course pond
  - Parcel 3.9 - Golf course pond storm drain ditch
  - Parcel 3.10 - Former pistol range near Hole 9
  - Parcel 3.11 - Former flamethrower test site west of Hole 9
  - Parcel 13.5 - Building 211, Gates 23, 24 and 25, and surrounding open land area extending to Airways Boulevard
  - Parcel 14.2 - Building 209 concrete foundation and surrounding open land area extending to Airways Boulevard and to Dunn Road
  - Parcel 15.6 - Open storage areas X09, Y10 and Y50, Buildings 301, 309, T416, T417, 701 and 717 and surrounding open land area extending to Dunn Road
  - Parcel 20.5 - Open land area surrounding Buildings 470, 489 and 670
  - Parcel 20.6 - Spill area between Buildings 489 and 490
  - Parcel 21.5 - Open land area surrounding Buildings 490, 689 and 690
  - Parcel 22.1 - Open land area between east ends of Buildings 689 and 690
  - Parcel 22.2 - Spill area east of Building 685
  - Parcel 23.11 - Open land area surrounding Building 995
  - Parcel 24.2 - Open storage area X03
  - Parcel 26.1 - Open land area surrounding Building 970
  - Parcel 27.1 - Open land area surrounding Building 972

- Parcel 29.2 - Open storage areas X27 and X30, Buildings 801 and 802, and surrounding open land area extending to Dunn Road and to Perry Road
- Parcel 29.3 - Storm drain ditch adjacent to Gate 9
- Parcel 30.3 - Open storage area X23 and open land area surrounding Buildings 925 and 949
- Parcel 30.5 - Former spray paint area south of Building 949
- Parcel 31.1 - Open storage areas X17, X19, X20 and X21
- Parcel 32.3 - Open storage area X02, Building 865 and surrounding open land area
- Parcel 33.7 - Former aboveground storage tank east of Building 770
- Parcel 33.9 - Open storage areas X05, X06, X07, X08, X10, X11 and X12, Buildings 720 and 737, and open land area surrounding Buildings 720, 737, 753, 755, 756, 860 and 863

A summary of the ECP Categories for specific buildings or parcels is provided in Table 1 -- Description of Property (Enclosure 2).

### 3.2 Storage, Release or Disposal of Hazardous Substances

Hazardous substances were stored at the following locations: Buildings 194, 308, 319, 469, 720, 737, 783, 793, 865, 873, 875, 1084, 1086, 1087, 1089, 1090 and 1091; open storage areas X03, X07, X08, X10, X11, X12, X17, X19, X20, X21, X23, Y10 and Y50; former waste material storage area west of Buildings 308 and 309 (Parcel 15.5); former material recoupment area at southeast corner of Building 873 (Parcel 24.1); and open land area surrounding Buildings 925 and 949. It is assumed this storage was in excess of the 40 CFR Part 373 reportable quantities. Hazardous substances were also stored in Building 702 (Parcel 15.4/demolished in 1998), the officer's hobby shop, in small quantities for use by military officers. Hazardous substances were released at the following locations: inside Buildings 465, 469, 737, 863, 865, 873, 1086 and 1087; open storage area X10; Lake Danielson (Parcel 3.6) and associated storm drain ditch (Parcel 3.7); golf course pond (Parcel 3.8) and associated storm drain ditch (Parcel 3.9); former pistol range near Hole 9 (Parcel 3.10); former flamethrower test site west of Hole 9 (Parcel 3.11); storm drain ditch adjacent to Gate 9 (Parcel 29.3); spill area between Buildings 489 and 490 (Parcel 20.6); spill area east of Building 685 (Parcel 22.2); spill area between Buildings 925 and 949 (Parcel 30.2); former waste material storage area west of Buildings 308 and 309 (Parcel 15.5); former material recoupment area at southeast corner of Building 873 (Parcel 24.1); open land area surrounding Buildings 873 and 875 (Parcel 25.2); and former spray paint area south of Building 949 (Parcel 30.5).

In the past, all grassed areas (Parcels 3.5, 3.10, 3.11, 13.5, 14.2, 15.6, 18.2, 20.5, 21.5, 23.6, 23.10, 23.11, 28.1, 28.2, 29.2, 33.9, 34.2 and 35.5) were sprayed with pesticides and herbicides. In the past, all gravel areas (15.5, 15.6, 19.1, 20.5, 21.5, 22.1, 22.2, 23.6, 23.10, 23.11, 24.1, 24.2, 25.2, 26.1, 27.1, 28.1, 28.2, 29.2, 30.3, 32.3, 33.7, 33.9, 35.2, 35.4 and 35.5) were sprayed with pesticides, herbicides and waste oil containing pentachlorophenol (PCP). In the past, all gravel open storage areas (X01, X02, X03, X04, X05, X06, X07, X08, X09, X10,

X11, X12, X17, X19, X20, X21, X23, X27, X30, Y10 and Y50) were sprayed with pesticides, herbicides and waste oil containing pentachlorophenol (PCP). In the past, all railroad tracks (Parcels 13.5, 14.2, 15.6, 18.2, 19.1, 20.5, 23.6, 24.2, 25.2, 26.1, 29.2, 30.3, 31.1, 33.9 and 34.2) were sprayed with pesticides, herbicides and waste oil containing pentachlorophenol (PCP). Existing records do not support the determination that releases exceeded the 40 CFR Part 373 reportable quantities unless otherwise noted in Table 2. The release of hazardous substances was either remediated at the time of the release or is currently under evaluation as part of the installation restoration program. There is no risk to human health and the environment so long as the tenant adheres to the Environmental Protection Provisions (Enclosure 5) with particular reference to Provision 14 regarding ground disturbing activities. These activities shall not be allowed without prior written approval from the Government. A summary of the buildings or areas in which hazardous substance activities occurred is provided in Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3).

Results from the Preliminary Risk Evaluation (PRE) (CH2M Hill, April 1998) indicated industrial reuse scenario carcinogenic risks were within or below (i.e., even less risk) the acceptable exposure level [(40 CFR 300.430 (e)(2)(i)(A)(2))] as defined by the Environmental Protection Agency for the following parcels included in this FOSL: 13.5, 14.2, 15.2, 15.3, 15.4, 15.5, 15.6, 18.2, 19.1, 19.2, 19.3, 20.1, 20.5, 20.6, 21.5, 22.1, 22.2, 23.6, 23.7, 23.8, 23.9, 23.10, 23.11, 24.1, 24.2, 25.1, 25.2, 26.1, 26.2, 27.1, 28.1, 28.2, 29.2, 29.3, 30.2, 30.3, 30.4, 30.5, 31.1, 32.3, 33.6, 33.7, 33.8, 33.9, 34.2, 35.1, 35.2, 35.3, 35.4 and 35.5. Risk assessment information for the Parcel 3 is contained in subsequent paragraphs of this FOSL.

Results from the PRE (CH2M Hill, April 1998) indicated industrial reuse scenario non-carcinogenic risks were within or below (i.e., even less risk) the acceptable exposure level [(40 CFR 300.430 (e)(2)(i)(A)(1))] as defined by the Environmental Protection Agency for the following parcels included in this FOSL: 13.5, 14.2, 15.2, 15.3, 15.5, 15.6, 18.2, 19.1, 19.2, 19.3, 20.1, 20.5, 20.6, 21.5, 22.1, 22.2, 23.6, 23.7, 23.8, 23.9, 23.10, 23.11, 24.1, 24.2, 25.1, 25.2, 26.1, 26.2, 27.1, 29.2, 30.2, 30.3, 30.4, 31.1, 32.3, 33.6, 33.7, 33.8, 33.9, 34.2, 35.1, 35.2, 35.3, 35.4 and 35.5.

Results from the PRE (CH2M Hill, April 1998) indicated Parcels 15.4, 28.1, 28.2, 29.3, 30.5 and 35.4 industrial reuse scenario non-carcinogenic risks were above the acceptable exposure level [(40 CFR 300.430 (e)(2)(i)(A)(1))] as defined by the Environmental Protection Agency. One sample for Parcel 15.4 taken adjacent to the remaining concrete pad from the demolition of Building 702 was above acceptable exposure levels and will be further evaluated under the installation restoration program. One sample for Parcel 28.1 was taken adjacent to a railroad track and was on the threshold of the acceptable exposure level. All railroad tracks will be further evaluated under the installation restoration program. Samples for Parcel 30.5 were collected adjacent to Screening Site 83 and will be further evaluated under the installation restoration program. Parcel 28.2 and 35.4 include Remedial Investigation Site 32 and Screening Sites 31, 33 and 89 all of which are included in a proposed removal action that, if approved, is anticipated to occur in 1999. Parcel 29.3 is a concrete lined stormwater drainage ditch at which no beneficial occupancy will occur. There is no risk to human health and the environment so long as the tenant adheres to the Environmental Protection Provisions (Enclosure 5) with particular reference to Provision 14 regarding ground disturbing activities. These activities shall not be allowed without prior written approval from the Government.

In an effort to evaluate health risks associated with the historical use of pesticides at the recreational area of the Depot, which includes parcels 3.5, 3.6, 3.7, 3.8, 3.9, 3.10 and 3.11, the BRAC Cleanup Team had a streamlined risk assessment conducted. Results of this assessment are contained in the Final Streamlined Risk Assessment Parcel 3 Technical Memorandum (CH2M Hill, January 1999). The assessment is unique in that it has been expedited when compared to the typical "Superfund" process. From late 1996 through 1998, over fifty surface soil samples from throughout these parcels were collected, analyzed, and the results processed through several risk assessment scenarios reflected of intended, like reuse of the recreational area. The assessment concluded that risks associated with pesticides on the softball field or the playground for small children or adolescence youths were below the acceptable exposure level [(40 CFR 300.430 (e)(2)(i)(A)(2))] as defined by the Environmental Protection Agency. The assessment also concluded that risks associated with pesticides on the golf course for golfers were within the acceptable exposure level [40 CFR 300.430 (e)(2)(i)(A)(2)] as defined by the Environmental Protection Agency. When compared with other golf courses, pesticide levels at the Depot were typical. Golf courses in the city of Memphis usually notify course users about the application of pesticides by posting signs and flyers. Therefore, the Lessee is required to comply with Environmental Protection Provision 20 (Enclosure 5) regarding the posting of signs regarding historical and current pesticide use.

Health risks associated with surface water, sediments and aquatic animals in Lake Danielson (Parcel 3.6) and the Golf Course Pond (Parcel 3.8) were also assessed in an expedited manner. Final results are included in the final Baseline Risk Assessment for Golf Course Impoundments at the Defense Distribution Depot Memphis, Tennessee (Radian International, May 1999). The surface water, sediments and aquatic animals from these two impoundments were sampled, analyzed, and evaluated to determine the risk associated with consumption of the fish and the frog legs. It is important to note that the only aquatic animals collected from either impoundment were frogs, goldfish and a forage fish known as a shiner (*Notropis girardi*). Many different sample collection techniques were utilized to collect aquatic animals including angling, trapping and electroshocking. Frogs, goldfish and shiners were the only species collected. In correspondence from a certified Piscivarian Wildlife Biologist from the Tennessee Valley Authority (TVA), the Lessee was advised that no appreciable/viable populations of game fish species were within either impoundment. The assessment indicated risks associated with consumption of non-game fish and frog legs from the impoundments were below the acceptable exposure level [40 CFR 300.430 (e)(2)(i)(A)(2)] as defined by the Environmental Protection Agency. The assessment also indicates risks posed by exposure to surface water and sediments through swimming in the impoundments were below the acceptable exposure level [40 CFR 300.430 (e)(2)(i)(A)(2)] as defined by the Environmental Protection Agency. In 1986 due to unsupervised swimming and proximity to golf course fairways as well as preliminary sampling results, fishing and swimming in both impoundments was banned and signs to this effect were posted. Further sampling and risk assessments efforts have determined that there is no health risk reason from substances in surface water, sediments or aquatic life in the impoundments for this ban to continue. However, the Lessee should maintain the signage around the impoundments as the Lessee may decide to continue the ban on fishing and swimming for safety reasons.

### 3.3 Petroleum and Petroleum Products

#### 3.3.1 Storage, Release, or Disposal of Petroleum Products

Petroleum products were stored in excess of 55 gallons at following locations: Buildings 209 (Parcel 14.2/demolished in 1998), 465, 469, 865, 873, 875, 970, 1085 (in Parcel 35.2/demolished in 1988), 1090 and 1091; open storage areas X03, X07, X10, X11, X12, X17, X19, X20, X21, X23 and Y10; former waste material storage area west of Buildings 308 and 309 (Parcel 15.5); former material recoupment area at southeast corner of Building 873 (Parcel 24.1); former aboveground storage tank (Tank 765) east of Building 770 (Parcel 33.7); in Parcel 13.5 at the current aboveground storage tank for the emergency generator associated with Building 211; in Parcel 15.6 at a former underground storage tank adjacent to Building 319; in Parcel 33.9 at a former aboveground storage tank (Tank 721) adjacent to Building 720 and at a former underground storage tank adjacent to Building 754 (Building 754 is Parcel 33.2 and is not included in this FOSL). Small quantities of petroleum products were stored and used at former Building 702 (Parcel 15.4/demolished in 1998), the officer's hobby shop. See Section 3.3.2 for more information regarding underground and aboveground storage tanks.

There is evidence that petroleum or petroleum products were released at the following locations: inside Buildings 465, 468, 469, 863, 873 and 970; at open storage areas X03, X11, X27 and X30; the spill area on north dock of Building 489 (Parcel 20.1); spill area northwest of Building 995 (Parcel 23.9); spill area west of Building 737 (Parcel 33.6); former flamethrower test site west of Hole 9 (Parcel 3.11); open land area surrounding Buildings 689 and 690 (Parcel 21.5); in open storage area X03 between Buildings 771 and 873 (Parcel 24.2); open land area surrounding Buildings 873 and 875 (Parcel 25.2); open land area surrounding Building 972 (Parcel 27.1).

In the past, all gravel areas (15.5, 15.6, 19.1, 20.5, 21.5, 22.1, 22.2, 23.6, 23.10, 23.11, 24.1, 24.2, 25.2, 26.1, 27.1, 28.1, 28.2, 29.2, 30.3, 32.3, 33.7, 33.9, 35.2, 35.4 and 35.5) were sprayed with pesticides, herbicides and waste oil containing pentachlorophenol (PCP). In the past, all gravel open storage areas (X01, X02, X03, X04, X05, X06, X07, X08, X09, X10, X11, X12, X17, X19, X20, X21, X23, X27, X30, Y10 and Y50) were sprayed with pesticides, herbicides and waste oil containing pentachlorophenol (PCP). In the past, all railroad tracks (Parcels 13.5, 14.2, 15.6, 18.2, 19.1, 20.5, 23.6, 24.2, 25.2, 26.1, 29.2, 30.3, 31.1, 33.9 and 34.2) were historically sprayed with pesticides, herbicides and waste oil containing pentachlorophenol (PCP).

It is assumed, unless otherwise noted in Table 3 and with the exception of the waste oil sprayed on gravel areas and railroad tracks, that releases were in excess of 55 gallons. The release of petroleum products was either remediated at the time of the release or is currently under evaluation as part of the installation restoration program. There is no risk to human health and the environment so long as the tenant adheres to the Environmental Protection Provisions (Enclosure 5) with particular reference to Provision 14 regarding ground disturbing activities. These activities shall not be allowed without prior written approval from the Government. A summary of the buildings or areas in which petroleum product activities occurred is provided in Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).

### 3.3.2 Underground and Aboveground Storage Tanks (UST/AST)

There were eight underground storage tanks (UST) and two aboveground storage tanks (AST) on the property that were used for storage of petroleum products. There is no evidence of release or disposal at the following UST/AST sites: In Parcel 14.2 on north side of Building 209: 12,000-gallon heating oil UST removed in July 1994, 500-gallon heating oil UST removed in July 1995, and 500-gallon boiler blow down UST removed in July 1995. In Parcel 13.5 west of Building 211: 500-gallon diesel fuel AST that remains active. In Parcel 15.6 north of Building 319: 4,000-gallon heating oil UST removed in July 1994. In Parcel 33.9 west of Building 720: 12,000-gallon AST removed in July 1997. In Parcel 33.9 on east side of Building 754: 200-gallon gasoline UST removed in 1986. In Parcel 25.2 on east side of Building 875: 1,000-gallon heating oil UST closed in place in 1994. In Parcel 35.2 on east side of former Building 1085 that was demolished by 1988: 1,000-gallon waste oil UST removed in 1988 and 100-gallon hydraulic fluid UST closed in place in 1995. A summary of the buildings or areas in which petroleum product activities occurred is provided in Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).

### 3.4 Polychlorinated Biphenyls (PCB) Equipment

There are no PCB containing transformers or other PCB containing equipment, except hermetically sealed fluorescent light bulb ballasts that may contain PCBs, located on the property listed in this FOSL. There has been no evidence of release from this equipment. There is evidence that PCBs or PCB contaminated fluids were released from PCB-containing equipment, that has since been removed, at Building 469.

On December 16, 1993, approximately 4 to 6 ounces of PCB (PCB-1242) contaminated fluid was spilled on a small portion of the southern interior wall and floor (2 square feet on wall and 2 square feet on floor) of Building 469. The Spill Team responded, applied absorbent and disposed of all residue in accordance with federal, state and local regulations. The sheet rock wall and concrete floor absorbed some of the fluid. According to the Spill Team Leader, the effected sheet rock and concrete floor were removed during sampling efforts. The BRAC Cleanup Team performed a visual inspection and identified no remaining contamination and determined no further action was required to address the spill. There is no risk to human health and the environment. The lease will include the PCB notification provision in the Environmental Protection Provisions (Enclosure 5).

### 3.5 Asbestos

The EBS and the Asbestos Identification Survey (Pickering, December 1993 and January 1994) indicate Asbestos Containing Materials (ACM) are present in the following buildings:

|               |   |
|---------------|---|
| Building 308: | Roof flashing: non-friable  |
| Building 309: | Roof flashing: non-friable  |
|               | Asphalt built-up roof: non-friable  |
|               | Cement asbestos wall panels: assessment does not indicate friability, indicates poor condition/heavy damage |

Building 319: Asphalt built-up roof: non-friable

Building 398: Dry wall leveling compound: non-friable

Building T416: Cement asbestos siding shingles: non-friable  
Interior window frame putty: non-friable  
Exterior door frame putty: non-friable

Building T417: Cement asbestos siding shingles: non-friable  
Exterior window and door frame putty: non-friable

Building 717: Window and door frame putty: non-friable

Building 720: 12 x 12 brown vinyl floor tile and mastic: non-friable  
Exterior window and door putty: non-friable  
Asphalt built-up roofing: non-friable  
Roof flashing: non-friable

Building 737: Cement asbestos shingle siding/exterior gables: non-friable

Building 783: Mastic crack sealant: non-friable

Building 801: Exterior window and door frame putty: non-friable

Building 873: Asphalt built-up roofing: non-friable  
Roof flashing: non-friable

Building 875: Cement asbestos wall board/breakroom heater: non-friable  
Cement asbestos shingles/Bay 4 office exterior: non-friable  
Restroom floor tile mastic: non-friable  
Thermal system pipe insulation: non-friable  
12 x 12 brown floor tile and mastic in office: non-friable  
Boiler room pipe insulation: non-friable  
Boiler room pipe joint insulation: non-friable  
Boiler room tank insulation: non-friable  
Asphalt built-up roofing: non-friable  
Roof flashing: non-friable

Building 1084: Roof flashing: non-friable

Building 1087: Thermal system duct insulation/paint booth: non-friable

Building 1090: Mastic/sealant coating roof bolts: non-friable

Building 1091: Mastic/sealant coating roof bolts: non-friable

The ACM does not currently pose a threat to human health or the environment because all friable asbestos that posed an unacceptable risk to human health has been removed or encapsulated. The lease will include the asbestos warning and covenant included in the Environmental Protection Provisions (Enclosure 5).

### 3.6 Lead-Based Paint (LBP)

Based on the age of the buildings (constructed prior to 1978), the following buildings are presumed to contain lead-based paint: 194, 197, 301, 308, 309, 319, 398, T416, T417, 465, 468, 469, 717, 720, 783, 793, 801, 802, 863, 865, 873, 875, 970, 1084, 1086, 1087, 1088, 1089, 1090 and 1091. The lease will include the lead-based paint warning and covenant provided in the Environmental Protection Provisions (Enclosure 5).

### 3.7 Radiological Materials

The following buildings were used for radiological activities:

- Building 319, Bay 6 - storage of lantern mantles containing thorium-232; smoke detectors containing americium 241; electron tubes containing thorium-232, tritium (H-3) and radium-226; wrist watches containing tritium (H-3) and radium-226; indicator and toggles switches containing radium-226; and compasses containing tritium (H-3).

A radiological field survey was conducted in 1996 at those sites having radiological activities. The survey indicated Building 319 had several wall surfaces with alpha radiation above the alpha background radiation level and recommended additional characterization be performed to determine the cause of the slightly elevated alpha radiation before being released for unrestricted use. The characterization study was completed in April 1997 and concluded that the higher levels of alpha radiation resulted from naturally occurring radioactivity in the pre-cast concrete building materials. The characterization study concluded that Building 319 could be released for unrestricted use. In a letter dated April 16, 1999, the NRC approved the Defense Distribution Center's request to amend the Depot's license and released Building 319 for unrestricted use.

### 3.8 Radon

In accordance with the Department of Defense Memorandum, Subject: Asbestos, Lead Paint and Radon Policies at BRAC Properties, dated October 31, 1994, no radon surveys were conducted in the buildings included in this FOSL as their intended use will not be residential.

### 3.9 Unexploded Ordnance

Based on a review of existing records and available information, none of the buildings or land proposed for lease are known to contain unexploded ordnance.

### 3.10 Other Hazardous Conditions

There are no other known hazardous conditions that present an unacceptable threat to human health or the environment on the property.

#### 4. REMEDIATION

In October 1992, the U.S. Environmental Protection Agency (EPA) placed the Depot on the National Priorities List (NPL) for environmental restoration. The Depot has since entered into a Federal Facilities Agreement (FFA) with the Tennessee Department of Environment and Conservation (TDEC) and the EPA. Environmental contamination on the property described in this document does not present a hazard to persons leasing it. In addition, environmental conditions on adjacent federal government property do not present a hazard to the leasing of the property. Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4) provide details regarding environmental conditions for each individual parcel or building contained within this FOSL. The EPA has concurred that the areas and buildings included in this Finding of Suitability to Lease are suitable to lease provided that the property uses are consistent with the Depot Redevelopment Plan and that the lessee strictly adheres to the Environmental Protection Provisions (Enclosure 5).

#### 5. REGULATORY/PUBLIC COORDINATION

The U.S. EPA Region 4, TDEC and the public were notified of the initiation of this FOSL. EPA and TDEC were provided copies of the draft for review and comment. EPA, DLA and the Department of Army have provided comments. All comments and responses are located at Enclosure 6.

#### 6. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND CONSISTENCY WITH LOCAL REUSE PLAN

The environmental impacts associated with proposed lease of the property have been analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for Master Interim Lease, Defense Distribution Depot Memphis, Tennessee, dated September 1996. The environmental effects of the activities anticipated under the proposed lease were determined not to be significant. In addition, the proposed use of the property is consistent with the intended reuse of the property set forth in the Depot Redevelopment Corporation Reuse Plan.

#### 7. ENVIRONMENTAL PROTECTION PROVISIONS

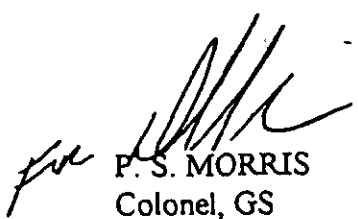
On the basis of the above results from the site-specific EBS and other environmental studies and in consideration of the intended use of the property, certain terms and conditions are required for the proposed lease. These terms and conditions are set forth in the attached Environmental Protection Provisions (Enclosure 5) and will be included in the lease.

#### 8. FINDING OF SUITABILITY TO LEASE

Based on the above information, I have concluded that all Department of Defense (DOD) requirements to reach a Finding of Suitability to Lease (FOSL) to the Depot Redevelopment Corporation for light industrial and recreational use have been fully met for the property subject to the terms and conditions in the attached Environmental Protection Provision (Enclosure 5). As required by CERCLA section 120(h)(3)(B), I have determined that the property is suitable for lease for the intended purpose, the uses contemplated for the lease are consistent with protection

of human health and the environment, and there are adequate assurances that the United States will take any additional remedial action found to be necessary that has not been taken on the date of the lease.

As required under the DOD FOSL Guidance, notification of hazardous substance activities and petroleum product activities shall be provided in the lease documents. Refer to Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).



P. S. MORRIS  
Colonel, GS  
Deputy Chief of Staff  
for Engineering,  
Housing, Environment  
and Installation Logistics

7 Enclosures

- Encl 1 Site Maps of Property
- Encl 2 Table 1 - Description of Property
- Encl 3 Table 2 - Notification of Hazardous Substance Storage, Release or Disposal
- Encl 4 Table 3 - Notification of Petroleum Product Storage, Release or Disposal
- Encl 5 Environmental Protection Provisions
- Encl 6 Regulatory/Public Comments and Responses
- Encl 7 Reference Materials



DEPARTMENT OF THE ARMY  
HEADQUARTERS, U.S. ARMY MATERIEL COMMAND  
5001 EISENHOWER AVENUE, ALEXANDRIA, VA 22333 - 0001

863 383

REPLY TO  
ATTENTION OF

AMCIS-R

23 FEB 2001

MEMORANDUM THRU Commander, U.S. Army Engineers Division, South  
Atlantic, ATTN: CESAD-RE, Room 9M7, 60 Forsyth  
Street, SW, Atlanta, GA 30303-8801

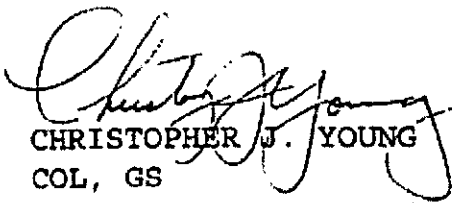
FOR Commander, U.S. Army Corps of Engineer, Mobile District, ATTN:  
CESAM-RE-MM, New Federal Building, 109 Saint Joseph St.,  
Mobile, AL 36628-0001

SUBJECT: Finding of Suitability to Transfer (FOST-1), Revised for  
Transfer of Property at Defense Distribution Depot Memphis,  
Tennessee (DDMT)

1. Reference memorandum, DDSP-F, 31 Oct 00, SAB.
2. Enclosed for your action is a copy of the FOST-1, Revised documents for the transfer of approximately 6.51 acres that include seven (7) parcels at DDMT. The enclosed pages are to replace the corresponding pages on the previously approved FOST-1, 7 Jun 00.
3. Request a deed be executed in accordance with the enclosed approved documents.
4. Points of contact for this action are Mr. John Farrar, AMCIS-R, commercial (703) 617-0726, DSN 767-0726, and Mr. Joe Goetz, AMCIS-R, commercial (703) 617-9282, DSN 767-9282.
5. AMC - Army READINESS Command... Supporting Every Soldier Every Day.

FOR THE COMMANDER:

4 Encls  
as

  
CHRISTOPHER J. YOUNG  
COL, GS  
Deputy Chief of Staff  
for Installations

FINDING OF SUITABILITY TO TRANSFER  
(FOST)

#1

*(Parcel 2.1, Parcel 2.2, Parcel 2.3, Parcel 2.4,  
Parcel 2.5, Parcel 2.6, Parcel 2.7)*

at the former Defense Distribution Depot Memphis, Tennessee

January 2000  
(Corrected September 2000)

## 1. PURPOSE

The purpose of this Finding Of Suitability To Transfer (FOST) is to document the environmental suitability of Parcels 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 and 2.7 at the former Defense Distribution Depot Memphis, Tennessee (Depot) for transfer for residential use consistent with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 120(h), Department of Defense (DOD) and Army policy. This FOST has been developed in accordance with the Depot Redevelopment Corporation's (DRC) Reuse Plan. In addition, this FOST identifies use restrictions as specified in the attached Environmental Protection Provisions necessary to protect human health or the environment after such transfer.

## 2. PROPERTY DESCRIPTION

The proposed property to be transferred consists of 6.51 acres that includes seven (7) parcels. Included in these parcels are six buildings and the open land area surrounding these buildings. Site maps of the property proposed for transfer can be found at Enclosure 1.

## 3. ENVIRONMENTAL CONDITION OF THE PROPERTY

A determination of the environmental condition of the facilities has been made based on the Post Removal Report Family Housing Memphis Depot Tennessee, the Comprehensive Environmental Response Facilitation Act (CERFA) letter to EPA dated December 5, 1997 and the Environmental Baseline Survey (EBS) dated November 6, 1996. The information provided is a result of a complete search of agency files during the development of these environmental surveys. The following documents also provided information on environmental conditions of the property: Revised BRAC Parcel Summary Reports (CH2M Hill, October 1998), Final BRAC Cleanup Plan Version 2 (DDSP-FE, October 1998), Asbestos Reinspection (DDRE-WP, October 1996), Final Environmental Assessment for BRAC 95 Disposal and Reuse (Tetra Tech, February 1998), Lead-Based Paint Risk Assessment for the Defense Distribution Depot Memphis, Tennessee (Barge, Waggoner, Sumner and Cannon, April 1996), Lead-Based Paint Survey Letter Report (Memphis/Shelby County Health Department, August 2, 1997), Asbestos Identification Survey (Pickering, December 1993 and January 1994).

### 3.1 Environmental Condition of Property Categories

The Department of Defense (DOD) Environmental Condition of Property (ECP) Categories for the property are as follows:

|                 |   |
|-----------------|---|
| ECP Category 1: | Parcel 2.1 - Family housing unit Building 176 |
|                 | Parcel 2.2 - Detached garage Building S178    |
|                 | Parcel 2.3 - Family housing unit Building 179 |
|                 | Parcel 2.4 - Family housing unit Building 181 |
|                 | Parcel 2.5 - Detached garage Building S183    |
|                 | Parcel 2.6 - Family housing unit Building 184 |

|                 |   |
|-----------------|---|
| ECP Category 4: | Parcel 2.7 - Open land area surrounding these buildings and |
|-----------------|---|

extending to the installation fenceline south of N Street.

A summary of the ECP Categories for specific buildings or parcels is provided in Table 1 - Description of Property (Enclosure 2).

### **3.2 Storage, Release or Disposal of Hazardous Substances**

Hazardous substances were released or disposed of in excess of the 40 CFR Part 373 reportable quantities in the following area: northern portion of Parcel 2.7 - open land area surrounding the family housing units. The release or disposal of these hazardous substances was remediated as part of the installation restoration program. All necessary response actions have been taken at this site. A summary of the area in which hazardous substance activities occurred is provided in Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3).

### **3.3 Petroleum and Petroleum Products**

#### **3.3.1 Storage, Release, or Disposal of Petroleum Products**

There is no evidence that any petroleum or petroleum products in excess of 55 gallons at one time were stored, released or disposed of on the property. Accordingly, there is no need for any notification of petroleum product storage, release or disposal.

#### **3.3.2 Underground and Above-Ground Storage Tanks (UST/AST)**

There is no evidence that petroleum products were stored in underground or above-ground storage tanks on the property.

### **3.4 Polychlorinated Biphenyls (PCB) Equipment**

There are no PCB containing transformers or other PCB containing equipment located on the property and no evidence of unremediated releases from PCB equipment.

### **3.5 Asbestos**

The EBS and the Asbestos Identification Survey (Pickering, December 1993 and January 1994) indicate Asbestos Containing Materials (ACM) are present in the following buildings:

**Building 176 -** Rolled flooring in kitchen areas - non-friable  
Thermal pipe insulation and pipe joint insulation  
in basement - non-friable/encapsulated  
Pipe insulation between basement ceiling and upstairs  
bathroom (Encased in exterior wall) - non-friable

**Building S178 -** Cement siding shingles - non-friable

Building 179 - Rolled flooring in kitchen areas - non-friable  
 Thermal pipe insulation and pipe joint insulation  
 in basement - non-friable/encapsulated  
 Pipe insulation between basement ceiling and upstairs  
 bathroom (Encased in exterior wall) - non-friable

Building 181 - Rolled flooring in kitchen areas - non-friable  
 Thermal pipe insulation and pipe joint insulation  
 in basement - non-friable/encapsulated  
 Pipe insulation between basement ceiling and upstairs  
 bathroom (Encased in exterior wall) - non-friable

Building 183 - Cement siding shingles - non-friable

Building 184 - Thermal pipe insulation and pipe joint insulation  
 in basement - non-friable/encapsulated  
 Pipe insulation between basement ceiling and upstairs  
 bathroom (Encased in exterior wall) - non-friable

The ACM does not currently pose a threat to human health or the environment because all friable asbestos that posed an unacceptable risk to human health has been either removed or encapsulated. The deed will include the asbestos warning and covenant included in the Environmental Protection Provisions (Enclosure 5).

### 3.6 Lead-Based Paint (LBP)

Based on the following LBP surveys, Lead-Based Paint Risk Assessment for the Defense Distribution Depot Memphis Tennessee, revised April 1996, and Memphis/Shelby County Health Department LBP Survey letter report dated August 2, 1997, the following buildings were determined to contain lead-based paint on the exterior and bathroom surfaces only: 176, 179, 181 and 183. Subsequent to these surveys, the exterior LBP was abated by removal of all painted trim pieces. The Lead-Based Paint Risk Assessment for the Defense Distribution Depot Memphis Tennessee, revised April 1996 indicated that the LBP present in the bathrooms was in good condition and posed no risk while in good condition. Subsequent to the exterior LBP abatement, an October 1999 inspection of the interior bathrooms found the painted surfaces remained in good condition. Only encapsulated LBP is on the garages, Building S178 and S183. The deed will include the lead-based paint warning and covenant provided in the Environmental Protection Provisions (Enclosure 5).

### 3.7 Radiological Materials

There is no evidence that radiological material or sources were used or stored on the property included in this FOST.

### 3.8 Radon

Radon surveys were conducted in the following buildings: 176, 179, 181 and 184. Radon was not detected at above the EPA residential action level of 4 picocuries per liter (pCi/L) in these buildings.

### 3.9 Unexploded Ordnance

Based on a review of existing records and available information, none of the buildings or surrounding land proposed for transfer are known to contain unexploded ordnance.

### 3.10 Other Hazardous Conditions

There are no other known hazardous conditions which required remediation or a response action for the property to be suitable for transfer for the intended use.

## 4. REMEDIATION

In October 1992, the U.S. Environmental Protection Agency (EPA) placed DDMT on the National Priorities List (NPL) for environmental restoration. The following environmental orders/agreements are applicable to the property: Federal Facilities Agreement (FFA) among the Defense Logistics Agency, the Tennessee Department of Environment and Conservation (TDEC) and the Environmental Protection Agency, Region IV. All necessary remediation activities on the property by such agreement or order are completed. A removal action to remove soil impacted by the pesticide dieldrin was completed in the winter of 1998. The Post Removal Reports for Family Housing Units are available at the Depot's Information Repositories. In addition, environmental conditions on adjacent government property do not present a hazard to the transfer of the property. Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4) provide details regarding environmental conditions for each individual parcel or building contained within this FOST.

## 5. REGULATORY/PUBLIC COORDINATION

TDEC has provided comments and has generally concurred with this FOST. TDEC comments have been resolved and incorporated. EPA has provided comments. These comments have generally been resolved and incorporated. A portion of EPA comment #3 is no longer applicable. The public comment period began on December 9, 1999 and closed on January 17, 2000. All public comments are included and addressed in Enclosure 6.

## 6. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND CONSISTENCY WITH LOCAL REUSE PLAN

The environmental impacts associated with proposed transfer of the property have been analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for BRAC 95 Disposal and Reuse, Defense Distribution Depot Memphis, Tennessee, dated February 1998. Any encumbrances or conditions identified in such analysis as necessary to protect human health and

the environment have been incorporated into the FOST. Conditions are provided in Enclosures 3, 4, and 5 while encumbrances are detailed in Enclosure 5. In addition, the proposed transfer is consistent with the intended reuse of the property set forth in the Depot Redevelopment Corporation Reuse Plan.

## 7. ENVIRONMENTAL PROTECTION PROVISIONS

On the basis of the above results from the site-specific EBS and other environmental studies and in consideration of the intended use of the property, certain terms and conditions are required for the proposed transfer. These terms and conditions are set forth in the attached Environmental Protection Provisions (Enclosure 5) and will be included in the deed.

## 8. FINDING OF SUITABILITY TO TRANSFER

Based on the above information, I have concluded that all Department of Defense (DOD) requirements to reach a Finding of Suitability to Transfer (FOST) to the Depot Redevelopment Corporation for residential use have been fully met for the property subject to the terms and conditions in the attached Environmental Protection Provision (Enclosure 5). All removal or remedial actions necessary to protect human health and the environment have been taken and the property is transferable under CERCLA Section 120(h)(3).

In addition to the Environmental Protection Provisions, the deed for this transaction will contain:

- The covenant under CERCLA 120(h)(3)(A)(ii)(I) warranting that all remedial actions under CERCLA necessary to protect human health and the environment with respect to hazardous substances remaining on the property have been taken before the date of transfer.
- The covenant under CERCLA 120(h)(3)(A)(ii)(II) warranting that any remedial action under CERCLA found to be necessary after the date of transfer with respect to such hazardous substances remaining on the property shall be conducted by the United States.
- The clause as required by CERCLA 120(h)(3)(A)(iii) granting the United States access to the property in any case in which remedial action or corrective action is found to be necessary after the date of transfer.

As required under the CERCLA Section 120(h) and DOD FOST Guidance, notification of hazardous substance activities and petroleum product activities shall be provided in the deed. Refer to Table 2 - Notification of Hazardous Substance Storage, Release or Disposal (Enclosure 3) and Table 3 - Notification of Petroleum Product Storage, Release or Disposal (Enclosure 4).



P.S. MORRIS

Colonel, GS

Deputy Chief of Staff

for Engineering, Housing,

Environment and Installation

Logistics

7 Enclosures

Encl 1 Site Maps of Property

Encl 2 Table 1 - Description of Property.

Encl 3 Table 2 - Notification of Hazardous Substance Storage, Release or Disposal

Encl 4 Table 3 - Notification of Petroleum Product Storage, Release or Disposal

Encl 5 Environmental Protection Provisions

Encl 6 Regulatory/Public Comments . . . . .

Encl 7 References



DEPARTMENT OF THE ARMY  
HEADQUARTERS, U.S. ARMY MATERIEL COMMAND  
5001 EISENHOWER AVENUE, ALEXANDRIA, VA 22333-0001

863 391

REPLY TO  
ATTENTION OF

27 JUL 2001

AMCIS-R

MEMORANDUM THRU Commander, U.S. Army Engineers Division, South Atlantic (CESAD-ET-R), Room 9N15, 60 Forsyth Street, S.W., Atlanta, GA 30303-8801

FOR Commander, U.S. Army Corps of Engineer, Mobile District (CESAM-RE-MM),  
P.O. Box 2288, Mobile, AL 36628-0001

SUBJECT: Base Realignment and Closure (BRAC) Disposal Support Package-2 (BDSP-2) and Finding of Suitability to Transfer (FOST-2) for Transfer of Property at Defense Distribution Depot Memphis, Tennessee (DDMT)

1. References:

a. Memorandum, DDSP-F, 23 July 01, subject: FOST #2 (Parcel #1).

b. Approved Memorandum of Agreement (MOA) among U.S. Army, Tennessee State Historic Preservation Officer, and Advisory Council on Historic Preservation, dated 12 Jun 98.

2. Enclosed for your action is a copy of the BDSP-2, FOST-2 and Record of Non-Applicability Concerning the General Conformity Rule (RONA) for the transfer of approximately 15.55 acres that include seven (7) buildings at DDMT.

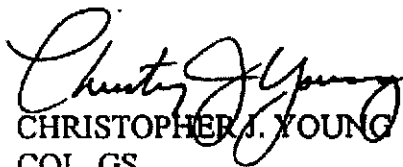
3. Request a deed be executed in accordance with the enclosed approved documents.

4. Points of contact for this action are Mr. John Farrar, AMCIS-R, commercial (703) 617-0726, DSN 767-0726, and Mr. Joe Goetz, AMCIS-R, commercial (703) 617-9282, DSN 767-9282.

5. AMC -- Army READINESS Command . . . Supporting Every soldier Every Day.

FOR THE COMMANDER:

Encls  
as

  
CHRISTOPHER J. YOUNG  
COL, GS  
Deputy Chief of Staff  
for Installations

**FINDING OF SUITABILITY  
TO TRANSFER  
(FOST #2)**

**Former Defense Distribution Depot Memphis, Tennessee**

**Parcel 1.1, Parcel 1.2, Parcel 1.3, Parcel 1.4, Parcel 1.5, Parcel 1.6, Parcel 1.7, Parcel  
1.8**

**May 2001**

**FINDING OF SUITABILITY TO TRANSFER #2**  
**Former Defense Distribution Depot Memphis, Tennessee**  
**Parcels 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7 and 1.8**  
**May 2001**

## **1. PURPOSE**

The purpose of this Finding Of Suitability To Transfer (FOST) is to document the environmental suitability of certain parcels or property at the former Defense Distribution Depot Memphis, Tennessee (Depot) for transfer to the Depot Redevelopment Corporation (DRC) consistent with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120(h) and Department of Defense policy

## **2. PROPERTY DESCRIPTION**

The property consists of 15.55 acres that includes eight (8) parcels. Within these parcels are seven (7) buildings, the open land area surrounding Building 144 and two paved parking lots. The property was previously used for administrative purposes. The property is intended to be transferred for industrial reuse and is consistent with the intended reuse of the property as set forth in the DRC's Memphis Depot Redevelopment Plan. A site map of the property is attached (Enclosure 1).

## **3. ENVIRONMENTAL DOCUMENTATION**

A determination of the environmental condition of the property has been made based on the Comprehensive Environmental Response Facilitation Act (CERFA) letter to EPA dated December 5, 1997 and the Environmental Baseline Survey (EBS) dated November 6, 1996. The information provided is a result of a complete search of agency files during the development of these environmental surveys. A complete list of documents that provide information on environmental conditions of the property is attached (Enclosure 2).

## **4. ENVIRONMENTAL CONDITION OF PROPERTY**

### **4.1 Environmental Condition of Property Categories**

The Department of Defense (DOD) Environmental Condition of Property (ECP) Categories for the property is as follows:

ECP Category 1:      Parcel 1.1 – Sentry Station Building 1  
                                 Parcel 1.2 – Sentry Station Building 2

Parcel 1.3 – Waiting Shelter Building 129  
 Parcel 1.4 – Waiting Shelter Building 139  
 Parcel 1.5 – Administrative Building 144  
 Parcel 1.6 – Security Building 145  
 Parcel 1.7 – Waiting Shelter Building 155 (demolished in 1999)

ECP Category 3: Parcel 1.8 – Open land area surrounding the buildings in Parcel 1, including two parking lots and grassy areas, flagpole (Building 143), switch station building (Building 147) and the antenna tower (Building 146)

A summary of the ECP Categories for specific buildings, parcels, or study areas/operable units is provided in Table 1 – Description of Property (Enclosure 3).

## **4.2 Storage, Release, or Disposal of Hazardous Substances**

### **4.2.1 Hazardous Substance Storage, Release, or Disposal**

There was no evidence of hazardous substance storage for one year or more in excess of 40 CFR Part 373 reportable quantities on the property. In addition, there was no evidence of release or disposal of hazardous substances in excess of 40 CFR 373 reportable quantities on the property. Accordingly, there is no need for any notification of any hazardous substance storage, release, or disposal activities.

### **4.2.2 Investigation/Remediation Sites**

There were environmental investigations conducted on the property. A summary of the investigations is as follows:

- Screening Site 73. The Main Installation Remedial Investigation baseline risk assessment included Screening Site 73. Pesticides were applied to the grassed areas of the property (Parcel 1.8) as part of routine grounds maintenance activities. All grassed areas on the Depot were incorporated into Screening Site 73, and the pesticide dieldrin was investigated on a Depot-wide basis. Dieldrin levels on the property were not inconsistent with unrestricted reuse; therefore, no remediation (to include institutional controls) is required on the property.

There are no other investigation/remediation sites located on the property. In addition, there is no evidence of contaminated soil or groundwater on the property. A summary of the investigation site is provided on in Table 1 – Description of Property (Enclosure 3).

## **4.3 Petroleum and Petroleum Products**

#### 4.3.1 Underground and Above-Ground Storage Tanks (UST/AST)

There was no evidence that petroleum products were stored in underground or aboveground storage tanks on the property. Accordingly, there is no need for any notification of any UST/AST petroleum product storage, release, or disposal.

#### 4.3.2 Non-UST/AST Storage, Release, or Disposal of Petroleum Products

There was no evidence that any petroleum or petroleum products in excess of 55 gallons at one time were stored, released, or disposed on the property as the result of non-UST/AST petroleum activities. Accordingly, there is no need for any notification of non-UST/AST petroleum product storage, release, or disposal.

#### 4.4 Polychlorinated Biphenyls (PCB) Equipment

The following PCB containing equipment is located on the property: hermetically sealed fluorescent light bulb ballasts that may contain PCBs. This equipment is operational and has been determined not to be leaking. There is no evidence of past releases from the fluorescent light bulb ballasts on the property.

#### 4.5 Asbestos

There is asbestos containing material in the following buildings:

- Building 1: Roof flashing. Renovation accomplished without removing original roofing system
- Building 2: Roof flashing and 12 x 12 floor tile mastic
- Building 139: Window caulk and cement kick panels
- Building 144: 9 x 9 vinyl floor tiles, 12 x 12 vinyl floor tiles, window frame putty, rolled linoleum flooring in the BX restroom, and the mastic used to install the 12x12 acoustical ceiling tiles in the basement through second floors, with the exception of the BX area
- Building 145: 12 x 12 floor tile and mastic, vibration dampers (assumed/no analysis to confirm) and gypsum board leveling compound

The ACM does not currently pose a threat to human health or the environment because all friable asbestos that posed an unacceptable risk to human health has been removed or encapsulated. The deed will include the asbestos warning and covenant included in the Environmental Protection Provisions (Enclosure 4).

#### 4.6 Lead-Based Paint (LBP)

Based on the age of the buildings (constructed prior to 1978), all of the buildings are presumed to contain lead-based paint. The property was not used for residential purposes and the transferee does not intend to use the property for residential purposes in the future. The deed will include the lead-based paint warning and covenant provided in the Environmental Protection Provisions (Enclosure 4).

#### **4.7 Radiological Materials**

There was no evidence that any radioactive material or sources were used or stored on the property.

#### **4.8 Radon**

Radon surveys were not conducted in the buildings proposed for transfer. Radon surveys were only conducted in the military family housing units, but those results indicated that radon was not detected at or above the EPA residential action level of 4 picocuries per liter (pCi/L) in these buildings.

#### **4.9 Unexploded Ordnance**

Based on a review of existing records and available information, none of the buildings or surrounding land proposed for transfer is known to contain unexploded ordnance. The open land area surrounding the buildings in Parcel 1 was either paved for parking lots or landscaped when the Depot opened and was never used for firing or testing military munitions. The buildings proposed for transfer were used for administrative, sentry and employee transportation purposes and were not used for ammunition storage purposes.

#### **4.10 Other Hazardous Conditions**

There are no other hazardous conditions that present an unacceptable risk to human health or the environment.

### **5. ADJACENT HAZARDOUS CONDITIONS**

There are the following hazardous conditions adjacent to the property:

**Groundwater contamination.** In the Groundwater Feasibility Study (July 2000), two distinct groundwater plumes were delineated in the fluvial aquifer on the main installation (MI), one in the southwest part of the MI and one in the southeast portion. The groundwater contaminants of concern are PCE and TCE. The selected groundwater remedy at the MI is enhanced bioremediation, which includes institutional controls and long-term monitoring.

These conditions do not make the property proposed for transfer unsuitable to transfer because the groundwater is currently not used as potable water and city and county zoning restricts use of the groundwater. In addition, the ground water hydrology is such that the adjacent contamination will not migrate to the property (Enclosure 6). The fluvial aquifer lies at a depth of 80 to 100 ft below ground surface and is believed to have been impacted by Depot operations. The groundwater plume located on the southeast portion of the MI is located down gradient of Parcel 1. Groundwater flows from northeast to southwest on this portion of the MI, away from Parcel 1, towards the center of the MI. Groundwater flow on the southwest portion of the MI flows from southwest to northeast, towards the center on the MI. Groundwater flow in the center portion of the MI appears to flow to the south.

## **6. ENVIRONMENTAL AGREEMENTS**

The following environmental orders/agreements are applicable to the property: Federal Facilities Agreement (FFA) among the Defense Logistics Agency, the Tennessee Department of Environment and Conservation (TDEC) and the Environmental Protection Agency, Region IV and Main Installation Record of Decision. The deed will include a provision reserving the Government's right to conduct remediation activities (See Enclosure 4).

## **7. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND CONSISTENCY WITH LOCAL REUSE PLAN**

The environmental impacts associated with proposed transfer of the property have been analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for BRAC 95 Disposal and Reuse of Defense Distribution Depot Memphis, Tennessee. Any encumbrances or condition identified in such analysis as necessary to protect human health or the environment have been incorporated into the FOST.

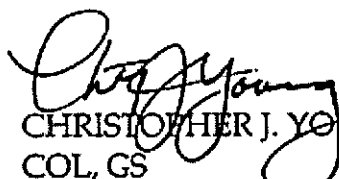
## **8. REGULATORY/PUBLIC COORDINATION**

The U.S. EPA Region IV, the Tennessee Department of Environment and Conservation, and the public were notified of the initiation of the FOST. Regulatory and public comments received during the FOST development were reviewed and incorporated as appropriate. All regulatory comments were resolved. A copy of the regulatory/public comments is included in the FOST (Enclosure 5).

## **9. FINDINGS OF SUITABILITY TO TRANSFER**

Based on the above information, I conclude that all removal or remedial actions necessary to protect human health and the environment have been taken and the property is transferable under CERCLA section 120(h)(3). In addition, all Department of Defense requirements to reach a finding of suitability to transfer have been met subject to the terms

and conditions set forth in the attached Environmental Protection Provisions (Enclosure 4), which shall be included in the deed for the property. The Environmental Protection Provisions also include the CERCLA 120(h)(3) covenant and access provisions.

  
CHRISTOPHER J. YOUNG  
COL, GS  
Deputy Chief of Staff for Installations

6 Enclosures

Encl 1 Site Map of Property

Encl 2 Environmental Documentation

Encl 3 Table 1 - Description of Property

Encl 4 Environmental Protection Provisions/Deed Restrictions

Encl 5 Regulatory/Public Comments

Encl 6 Groundwater Flow Directions Map

# Memphis Depot

## Main Installation

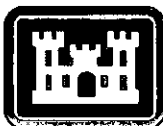
# Finding of Suitability to Transfer



**Defense Distribution Center (Memphis)**  
**May 2004 — Rev. 3**



**CH2MHILL**



**U.S. Army Engineering  
and Support Center, Huntsville**

U.S. Army Engineering and Support Center, Huntsville  
Contract No. DACA87-02-D-0006  
Task Order No. 05

**Revision 3**

**FINDING OF SUITABILITY TO TRANSFER  
(FOST)**

**Defense Distribution Center (Memphis)  
FOST 3**

(Subparcels 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 6.1, 6.2, 6.3, 6.4, 7.1, 7.2, 8.1, 8.2, 8.3, 8.4, 8.5, 9.1, 9.2, 9.3, 9.4, 9.5, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 11.1, 11.2, 11.3, 11.4, 12.1, 12.2, 13.1, 13.2, 13.3, 13.4, 13.5, 14.1, 14.2, 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 16.1, 16.2, 17.1, 17.2, 17.3, 18.1, 18.2, 19.1, 19.2, 19.3, 20.1, 20.2, 20.3, 20.4, 20.5, 20.6, 21.1, 21.2, 21.3, 21.4, 21.5, 22.1, 22.2, 23.1, 23.2, 23.3, 23.4, 23.6, 23.7, 23.8, 23.10, 24.4, 29.4, 33.1, 33.2, 33.3, 33.4, 33.7, 33.10, 33.11, 33.12, 33.13, 34.1 and 34.2)

**May 2004**

# 1.0 Purpose

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The purpose of this Finding of Suitability to Transfer (FOST) is to document the environmental suitability of certain property (Subparcels 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 6.1, 6.2, 6.3, 6.4, 7.1, 7.2, 8.1, 8.2, 8.3, 8.4, 8.5, 9.1, 9.2, 9.3, 9.4, 9.5, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 11.1, 11.2, 11.3, 11.4, 12.1, 12.2, 13.1, 13.2, 13.3, 13.4, 13.5, 14.1, 14.2, 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 16.1, 16.2, 17.1, 17.2, 17.3, 18.1, 18.2, 19.1, 19.2, 19.3, 20.1, 20.2, 20.3, 20.4, 20.5, 20.6, 21.1, 21.2, 21.3, 21.4, 21.5, 22.1, 22.2, 23.1, 23.2, 23.3, 23.4, 23.6, 23.7, 23.8, 23.10, 24.4, 29.4, 33.1, 33.2, 33.3, 33.4, 33.7, 33.10, 33.11, 33.12, 33.13, 34.1 and 34.2) at Former Defense Distribution Depot Memphis, Tennessee (Depot), currently known as the Defense Distribution Center (Memphis), for transfer to the Depot Redevelopment Corporation for light industrial, commercial (except daycare), and recreational (Parcel 3 only) use consistent with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120(h), Department of Defense (DOD) policy, and the Depot Redevelopment Corporation's Memphis Depot Redevelopment Plan. In addition, the FOST identifies use restrictions as specified in Enclosure 1 necessary to protect human health and the environment after such transfer.

## 2.0 Property Description

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The property proposed for transfer consists of approximately 356.68 acres, which includes 65 buildings encompassing 70.02 acres, 37.45 acres of recreational property, and approximately 249.21 acres of open land areas (including open storage areas, paved areas, and grassed areas around buildings). A site map of the property is attached (Enclosure 2).

### 3.0 Environmental Condition of Property

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A determination of the environmental condition of the facilities has been made based on the Environmental Baseline Survey (EBS) (Woodward-Clyde, November 1996), Main Installation (MI) Remedial Investigation (RI) Report (CH2M HILL, January 2000), MI Record of Decision (ROD) (CH2M HILL, February 2001), MI Land Use Control and Implementation Plan (LUCIP) (CH2M HILL, March 2004) Base Realignment and Closure (BRAC) Cleanup Plan Version 7 (Labat-Anderson, December 2003), Final Environmental Assessment for BRAC 95 Disposal and Reuse of Defense Depot Memphis, Tennessee (Tetra Tech, September 1998), Ordnance and Explosive Waste Chemical Warfare Materials Archives Search Report for Memphis Defense Depot (U. S. Army Corps of Engineers - St. Louis, 1995), Asbestos Identification Survey (Pickering, December 1993 and January 1994), Environmental Baseline Study, Radiological Survey, Defense Distribution Depot Memphis, Tennessee (Defense Distribution Center Radiological Health Group, Safety and Occupational Health Office, 1996). The information provided herein is a result of a complete search of agency files during the development of these environmental surveys. A comprehensive list of documents that provide information on environmental conditions of the property is attached (Enclosure 3).

Residual contamination remains in soils at the property proposed for transfer. Residual soil contamination levels do not present an unacceptable risk for the proposed reuse, as overall human health risks and non-carcinogenic hazards to workers are within acceptable limits for carcinogenic and non-carcinogenic end points. Levels are not protective of human health for residential or child-occupied facilities, including daycare operations.

Residual soil contamination levels do not present an unacceptable risk to the environment. The natural habitat in the MI area is very limited to non-existent. Ecological receptors, such as terrestrial or aquatic animals and plants in the ponds and streams, are not being exposed to the site groundwater, and are not likely to be exposed in the future. Occasional terrestrial animals visiting the facility or living nearby are not subject to a significant threat from the site media. A screening level Ecological Risk Assessment conducted across the MI indicated little potential for significant ecological impacts or adverse effects to wildlife. No ecological contaminants of concern were identified at the facility. The land uses on the MI are expected to remain unchanged in the future; therefore, the potential for wildlife exposure is low. There are no unacceptable risks posed to ecological receptors at the MI.

Residual contamination remains in groundwater beneath the property proposed for transfer. Results from groundwater samples collected beneath these areas indicate contaminant levels do not exceed the Safe Drinking Water Act maximum contaminant levels (MCLs). As a result of the remedy selected in the MI ROD, dated September 2001, residual groundwater contamination levels do not present an unacceptable risk because of the lack of exposure.

At current contamination levels, the property is not safe for residential or child-occupied facilities, including daycare operations; nor is groundwater safe for production/consumptive use or for drilling groundwater wells that may allow contamination to migrate or move to the deeper drinking water aquifer. There is no unacceptable risk to human health and the environment so long as the Transferee, and any subsequent lessee(s) or sublessee(s), adheres to the Environmental Protection Provisions (Enclosure 1), which include the institutional controls required by the MI ROD. These activities shall not be allowed without prior written approval from the Army. The institutional controls shall be implemented and monitored in accordance with the MI LUCIP (Enclosure 4).

### 3.1 Environmental Condition of Property Categories

The complete list of the DOD Environmental Condition of Property (ECP) Categories for the property proposed for transfer is located in Enclosure 5.

ECP Category 4:

- Subparcel 3.1 - Building 193
- Subparcel 3.2 - Building 195
- Subparcel 3.3 - Building 196
- Subparcel 3.4 - Building 198
- Subparcel 3.5 - Recreational area including the golf course, playground, softball field, volleyball and tennis courts, wading pool, Buildings 194, 197, and 398, and open land area surrounding the community club complex extending to Ball Road, Site 73 (2,4-dichlorophenoxyacetic acid, all grassed areas)
- Subparcel 3.6 - Lake Danielson, Site 26
- Subparcel 3.7 - Lake Danielson Outlet Ditch, Site 51
- Subparcel 3.8 - Golf Course Pond, Site 25
- Subparcel 3.9 - Golf Course Pond Outlet Ditch, Site 52
- Subparcel 3.10 - Former pistol range near Hole 9
- Subparcel 3.11 - Former flamethrower test site west of Hole 9, Site 69
- Subparcel 6.1 - Open land area surrounding Buildings 250, 349, and 350
- Subparcel 6.2 - Building 250
- Subparcel 6.3 - Building 349
- Subparcel 6.4 - Building 350
- Subparcel 7.1 - Open land area surrounding Building 249

- Subparcel 7.2 - Building 249, Site 65 (XXCC-3)
- Subparcel 8.1 - Open land area surrounding Buildings 229, 230, 329, and 330
- Subparcel 8.2 - Building 229
- Subparcel 8.3 - Building 230
- Subparcel 8.4 - Building 329
- Subparcel 8.5 - Building 330
- Subparcel 9.1 - Open land area surrounding Buildings 429, 430, 449 and 450
- Subparcel 9.2 - Building 429
- Subparcel 9.3 - Building 430
- Subparcel 9.4 - Building 449
- Subparcel 9.5 - Building 450
- Subparcel 10.1 - Building 649
- Subparcel 10.2 - Open land area surrounding Buildings 549, 550, 649, and 650
- Subparcel 10.3 - Spill location between the southern corners of Buildings 550 and 650
- Subparcel 10.4 - Building 549
- Subparcel 10.5 - Building 550
- Subparcel 10.6 - Building 650
- Subparcel 11.1 - Open land area surrounding Buildings 529, 530, and 630
- Subparcel 11.2 - Building 529
- Subparcel 11.3 - Building 530
- Subparcel 11.4 - Building 630
- Subparcel 12.1 - Open land area surrounding Building 629
- Subparcel 12.2 - Building 629, Site 57 (Building 629 Spill Area)
- Subparcel 13.1 - Sentry Station/Gate 23
- Subparcel 13.2 - Sentry Station/Gate 24
- Subparcel 13.3 - Sentry Station/Gate 25
- Subparcel 13.4 - Building 210, Site 41 (Satellite Drum Accumulation Area)
- Subparcel 13.5 - Building 211 and open land area surrounding Building 211, Sentry Stations 23, 24, and 25

- Subparcel 14.1 - Sentry Station/Gate 22
- Subparcel 14.2 - Building 209 (demolished) and open land area surrounding Building 209 and Sentry Station 22
- Subparcel 15.1 - Sentry Station/Gate 15
- Subparcel 15.2 - Building 308, Site 35 (Hazardous Waste Storage)
- Subparcel 15.3 - Building 319, Site 74 (Flammables, Toxics)
- Subparcel 15.4 - Building 702 (demolished)
- Subparcel 15.5 - Open gravel storage area Y50 (west of Buildings 308 and 309), Site 36 (Defense Reutilization and Marketing Office [DRMO] Hazardous Waste Concrete Storage Pad), Site 37 (DRMO Hazardous Waste Gravel Storage Pad), Site 38 (DRMO Damaged/Empty Hazardous Materials Drum Storage Area), and Site 39 (DRMO Damaged/Empty Lubricant Container Area)
- Subparcel 15.6 - Open storage areas Y10, Y11, Y50, and Y60; Buildings 301, 304, 305, 306, 307, 309, T416 (demolished), T417 (demolished), 701 and 717, Site 54 (DRMO East Stormwater Runoff Canal), Site 55 (DRMO North Stormwater Runoff Canal), Site 72 (Waste oil for dust control in Property Disposal Office Yard), and Site 79 (Fuels, Miscellaneous Liquids, Wood and Paper - Vicinity 702)
- Subparcel 16.1 - Open land area surrounding Building 559
- Subparcel 16.2 - Building 559
- Subparcel 17.1 - Land area where temporary Building 459 once stood
- Subparcel 17.2 - Open land area surrounding Building 359
- Subparcel 17.3 - Building 359, Site 49 (Medical Waste Storage Area)
- Subparcel 18.1 - Building 560
- Subparcel 18.2 - Open land area surrounding Building 560
- Subparcel 19.1 - Buildings 467 (fabric tension structure removed in 1996), 468, and open land area surrounding Buildings 465, 467, 468, and 469
- Subparcel 19.2 - Building 465
- Subparcel 19.3 - Building 469, Site 40 (Safety Kleen Units), Site 41 (Satellite Drum Accumulation Areas)
- Subparcel 20.1 - Building 489
- Subparcel 20.2 - Building 670
- Subparcel 20.3 - Building 470
- Subparcel 20.4 - Building 489

- Subparcel 20.5 - Open land area surrounding Buildings 470, 489, and 670
- Subparcel 20.6 - Spill area between western ends of Buildings 489 and 490
- Subparcel 21.1 - Building 690
- Subparcel 21.2 - Building 490, Site 40 (Safety Kleen Units)
- Subparcel 21.3 - Building 689, Site 78 (Alcohol, Acetone, Toluene, Naphtha, Hydrofluoric Acid Spills), Site 40 (Safety Kleen Units)
- Subparcel 21.4 - Building 685
- Subparcel 21.5 - Open land area surrounding Buildings 490, 685, 689, and 690
- Subparcel 22.1 - Open land area between east ends of Buildings 689 and 690
- Subparcel 22.2 - Spill area east of Building 685 between Buildings 689 and 690, Site 77 (Unknown Wastes Near Buildings 689 and 690)
- Subparcel 23.1 - Sentry Station/Gate 7
- Subparcel 23.2 - Sentry Station/Gate 8
- Subparcel 23.3 - Building 787 (demolished)
- Subparcel 23.4 - Waiting Shelter/ Building 795
- Subparcel 23.6 - Open land area south of Buildings 690 and 490 and surrounding Buildings 783, 787, and 793 and Sentry Stations 8 and 7
- Subparcel 23.7 - Building 783 (demolished), Site 82 (Flammables)
- Subparcel 23.8 - Building 793, Site 82 (Flammables)
- Subparcel 23.10 - Area X01
- Subparcel 24.4 - Open storage area X03
- Subparcel 29.4 - Eastern side of Parcel 29 (portion of open storage area X30)
- Subparcel 33.1 - Building 727
- Subparcel 33.2 - Building 754 (demolished)
- Subparcel 33.3 - Building 755
- Subparcel 33.4 - Building 756
- Subparcel 33.7 - Former aboveground storage tank, Site 81 (Fuel Oil Building 765)
- Subparcel 33.10 - Building 753 (demolished)
- Subparcel 33.11 - Aboveground storage tank outside Building 756
- Subparcel 33.12 - Open land area surrounding Subparcels 33.1, 33.2, 33.3, 33.4, 33.7, 33.10, and 33.11

- Subparcel 33.13 - Open storage areas X08 and X09, Building 720, open land area surrounding Buildings 720 and 727, Site 80 (Fuel and Cleaner Dispensing at Building 720)
- Subparcel 34.1 - Building 360
- Subparcel 34.2 - Open land area surrounding Building 360

### 3.2 Storage, Release, or Disposal of Hazardous Substances

Hazardous substances were stored for one year or more in excess of the 40 CFR Part 373 reportable quantities on the property proposed for transfer. All hazardous substance storage operations have been terminated on the property. A summary of the buildings or areas in which hazardous substances were stored is provided in Enclosures 5 and 6.

In the past:

- All grassed areas (Parcels 3.5, 3.10, 3.11, 6.1, 7.1, 8.1, 9.1, 10.2, 11.1, 12.1, 13.5, 14.2, 15.6, 16.1, 17.2, 18.2, 19.1, 20.5, 21.5, 22.1, 23.6, 23.10, 33.12, and 34.2) were sprayed with pesticides (dieldrin, DDT) and herbicides and were investigated as part of the MI RI (Site 73 - 2,4-dichlorophenoxyacetic acid, all grassed areas).
- All gravel areas (15.5, 15.6, 19.1, 20.5, 21.5, 22.1, 22.2, 23.6, 23.10, 24.4, 29.4, 33.7, 33.12, and 33.13) were sprayed with pesticides (dieldrin, DDT), herbicides, and waste oil containing pentachlorophenol (PCP) and were investigated as part of the MI RI.
- All railroad tracks (Parcels 6.1, 7.1, 8.1, 9.1, 10.2, 11.1, 12.1, 13.5, 14.2, 15.6, 16.1, 17.2, 18.2, 19.1, 20.5, 21.5, 23.6, 24.4, 29.4, 33.12, 33.13 and 34.2) were sprayed with pesticides, herbicides, and waste oil containing PCP and were investigated as part of the MI RI (Site 70 - POL/various chemical leaks, railroad tracks, Site 71 - Herbicides, all railroad tracks). The railroad tracks and ballasts were removed from 1999 through 2001.

Existing records do not support a conclusion that releases in these areas exceeded the 40 CFR Part 373 reportable quantities unless otherwise noted in Table 2. The release of hazardous substances was either remediated at the time of the release or was evaluated as part of the Installation Restoration Program (IRP). There is no risk to human health and the environment so long as the Transferee, and any subsequent lessee(s) or sublessee(s), adheres to the Environmental Protection Provisions (Enclosure 1), which include the institutional controls required by the MI ROD (Enclosure 4).

State of Tennessee law, Memphis/Shelby County ordinances, and local zoning regulations provide a high level of control, preventing drilling of groundwater wells, production/consumptive use of groundwater, and use of the property for residential or child-occupied facilities, including daycare operations (see Enclosure 4 for more information).

### 3.2.1 Solid Waste Management Units (SWMUs)

There are 29 SWMUs located within the boundaries of the property. The SWMUs have been addressed, as required by CERCLA. Enclosure 5 provides a summary of the remedial actions at each of the 29 SWMUs, as well as a description of the activities conducted to date at each site. The level of cleanup to be undertaken at each of the SWMUs is consistent with the intended reuse identified in the Memphis Depot Redevelopment Plan for light industrial, commercial (except daycare), and recreational (Parcel 3 only).

Due to the restrictions described in Enclosure 1, the transfer will not affect ongoing remediation efforts. Additionally, the Transferee will not conduct activities that will adversely affect ongoing remedial activities or human health or cause further degradation of the environment.

### 3.2.2 Groundwater Contamination

Groundwater contamination was discovered under portions of the Memphis Depot. Results from groundwater samples collected from areas beneath the property proposed for transfer indicate contaminant levels do not exceed the Safe Drinking Water Act MCLs, except at a monitoring well south of Building 308 in Subparcel 15.6 and a monitoring well south of Building 360 in Subparcel 34.2. Samples from these monitoring wells indicate levels of tetrachloroethene (PCE) and trichloroethene (TCE) that slightly exceed the MCLs. Due to the relatively low concentrations, the MI ROD, dated February 2001, did not include these areas for active remediation. The remedy selected in the MI ROD, which includes land use controls prohibiting the drilling of groundwater wells and production/consumptive use of groundwater, provides sufficient protection of human health. Groundwater beneath the property is not currently used for potable purposes and as long as the land use controls are enforced groundwater does not pose a threat to human health.

## 3.3 Petroleum and Petroleum Products

### 3.3.1 Storage, Release, or Disposal of Petroleum Products Not in Underground or Above-Ground Storage Tanks (USTs or ASTs)

Petroleum products in excess of 55 gallons were stored in the following buildings or areas (subparcel in parenthesis): 629 (12.2), 308 (15.2), 319 (15.3), Y50 (15.5), Y10 (15.6), 416 (demolished, 15.6), 468 (19.1), 469 (19.3), 690 (21.1), 490 (21.2), 689 (21.3), X03 (24.4), and X08 (33.13). There was no evidence that any petroleum or petroleum products in excess of 55 gallons at one time were released or disposed of on the property as the result of non-UST/AST petroleum activities. Accordingly, there is no need for any notification of non-UST/AST petroleum product storage, release, or disposal.

### 3.3.2 USTs and ASTs

Current UST/AST Sites - There are no USTs on the property. The only UST on the property is currently used for storage of petroleum products. There is no evidence of petroleum releases from this site.

**Former UST/AST Sites** - There were 11 USTs and 2 ASTs on the property that were used for storage of petroleum products. There is no evidence that petroleum product releases occurred at the former UST/AST sites. A summary of the petroleum product activities is provided in Enclosure 7.

### 3.4 Polychlorinated Biphenyls (PCBs)

Based on a review of existing records and available information, the following PCB-containing equipment is located on the property: hermetically sealed fluorescent light bulb ballasts that may contain PCBs. This equipment is operational, properly labeled in accordance with federal and state regulations, and has been determined not to be leaking. There is evidence that PCBs or PCB-contaminated fluids were released from PCB-containing equipment at: Y50 (15.5) and 469 (19.3) The PCBs or PCB-contaminated fluids were remediated at the time of the release or as part of the IRP. The deed/easement will include the PCB notification and covenant contained in Enclosure 1.

### 3.5 Asbestos

Based on the Asbestos-Containing Material (ACM) Survey Report (1993 and 1994), ACM was found in the following buildings:

- Building 195 (3.2): 9-inch x 9-inch floor tile in old dining hall and lounge area, 12-inch by 12-inch floor tile in dance floor bar area and exterior AHU duct mastic; non-friable and in good condition.
- Building 196 (3.3): 12-inch by 12-inch floor tile and asphalt built-up roofing; non-friable and in good condition.
- Building 198 (3.4): 12-inch by 12-inch floor tile and mastic; non-friable and in fair condition
- Building 398 (3.5): dry wall leveling compound; non-friable and in good condition
- Building 250 (6.2): 12-inch by 12-inch floor tile, domestic water pipe insulation, domestic water pipe joint insulation, cement asbestos wall panels, putty, and roof flashing; non-friable and in good/fair condition. **Abatement:** Removed 25 linear feet (lf) of 2-inch pipe insulation in dock janitorial closet.
- Building 349 (6.3): Domestic water pipe joint insulation in janitor's closet and pipe chase, 12-inch by 12-inch floor tile and mastic in office area, cement asbestos wall board and putty on raised roof, and roof flashing; non-friable and in good condition. **Abatement:** Removed 25 lf of 2-inch pipe insulation in dock janitor's closet.
- Building 350 (6.4): Domestic water straight run pipe insulation, domestic water pipe joint insulation in janitor's closet, cement asbestos wall board and putty on raised roof, and roof flashing; non-friable and in good condition. **1997 Abatement:** Removed 25 lf of 2-inch pipe insulation in dock janitor's closet.

- Building 249 (7.2): 12-inch by 12-inch floor tile, 9-inch by 9-inch floor tile, cement asbestos wall panels, putty, and roof flashing; non-friable and in good condition.
- Building 229 (8.2): Thermal system pipe insulation, thermal system pipe joint insulation, cement asbestos wall board, 12-inch by 12-inch floor tile, window putty, domestic water pipe joint insulation, window frame putty, putty, and roof flashing; non-friable and in good/fair condition. **1997 Abatement:** Removed total of 3 lf of 4-inch pipe insulation from Bays 1, 3, and 5.
- Building 230 (8.3): Cement asbestos wall board, 12-inch by 12-inch floor tile, putty, and roof flashing; non-friable and in good condition.
- Building 329 (8.4): 12-inch by 12-inch floor tile and mastic in office area, 12-inch by 12-inch floor tile mastic in break room, cement asbestos products on raised roof, putty on raised roof, and roof flashing; non-friable and in good condition. **1997 Abatement:** Removed 25 lf of 2-inch pipe in the dock janitor closet.
- Building 330 (8.5): 12-inch by 12-inch black floor tile mastic in office and break room, cement asbestos wall board on raised roof; non-friable and in good condition.
- Building 429 (9.2): Domestic water pipe joint insulation, 12-inch by 12-inch floor tile in office area, exterior window putty, cement asbestos wall board and putty on raised roof, and roof flashing; non-friable and in good/fair condition. **1997 Abatement:** Removed 25 lf of 2-inch pipe insulation in dock janitor's closet.
- Building 430 (9.3): Domestic water pipe joint insulation, window frame putty, cement asbestos wall board and putty on raised roof, and roof flashing; non-friable and in good/fair condition. **1997 Abatement:** Removed 15 lf of 2-inch pipe insulation in dock janitor's closet.
- Building 449 (9.4): Domestic water straight run pipe joint insulation, domestic water pipe joint insulation, 12-inch by 12-inch beige vinyl floor tile and mastic in office area, concrete sealant putty, window frame putty, 12-inch by 12-inch brown floor tile in food inspection office, cement asbestos wall board and putty on raised roof section, and roof flashing; non-friable and in good/fair condition. **1997 Abatement:** Removed 25 lf of 2-inch pipe insulation in dock janitor's closet.
- Building 450 (9.5): Domestic water straight run pipe joint insulation, domestic water pipe joint insulation, exterior window putty, old door frame putty, 12-inch by 12-inch floor tile in office and break room area, cement asbestos wall board and putty on raised roof, and roof flashing; non-friable and in good/fair condition. **1997 Abatement:** Removed 25 lf of 2-inch pipe insulation in dock janitor's closet.
- Building 649 (10.1): Domestic water pipe joint insulation, 12-inch by 12-inch floor tile mastic in office area, and cement asbestos wall boards and putty on raised roof; non-friable and in good/fair condition. **1997 Abatement:** Removed 25 lf of 2-inch pipe insulation in dock janitor's closet.
- Building 549 (10.4): Domestic water pipe joint insulation, 12-inch by 12-inch floor tile in office area and break room, and cement asbestos wall boards and putty on raised

roof; non-friable and in good/fair condition. **1997 Abatement:** Removed 15 lf of 2-inch pipe insulation in dock janitor's closet.

- Building 550 (10.5): Domestic water straight run pipe joint insulation, domestic water pipe joint insulation, and 12-inch by 12-inch floor tile mastic in office area; non-friable and in good/fair condition. **1997 Abatement:** Removed 25 lf of 2-inch pipe insulation in dock janitor's closet.
- Building 650 (10.6): Domestic water pipe joint insulation, exterior window frame putty on raised roof; non-friable and in good/fair condition. **1997 Abatement:** Removed 25 lf of 2-inch pipe insulation in dock janitor's closet.
- Building 529 (11.2): Domestic water pipe joint insulation, 12-inch by 12-inch floor tile and mastic in office area, and cement asbestos wall board and putty on raised roof; non-friable and in good/fair condition. **1997 Abatement:** Removed 25 lf of 2-inch pipe insulation in dock janitor's closet.
- Building 530 (11.3): 12-inch by 12-inch floor tile and mastic in office area, and cement asbestos wall boards and putty on raised roof; non-friable and in good condition.
- Building 630 (11.4): Domestic water pipe joint insulation, interior window frame putty, exterior window frame putty, 12-inch by 12-inch floor tile in office area, and cement asbestos wall boards and putty on raised roof; non-friable and in good/fair condition. **1997 Abatement:** Removed 25 lf of 2-inch pipe insulation in dock janitor's closet.
- Building 629 (12.2): Domestic water straight run pipe joint insulation, 12-inch by 12-inch floor tile in office area, 12-inch by 12-inch beige vinyl floor tile in break room and smoking room, and cement asbestos wall boards and putty on raised roof; non-friable and in good/fair condition. **1997 Abatement:** Removed 30 lf of 2-inch pipe insulation in dock janitor's closet.
- Sentry Station/Gate 23 (13.1): Asphalt built-up roofing and roof flashing; non-friable and in good condition.
- Building 210 (13.4): Thermal system pipe insulation, thermal system pipe joint insulation, 9-inch by 9-inch floor tile, gypsum leveling compound, 12-inch by 12-inch orange floor tile south entrance Bay 3, cement asbestos panels exterior cooling tower Bay 4 mechanical room, thermal system tank insulation mechanical room Bay 5, boiler feed pipe insulation, and AHU duct insulation Bay 6; non-friable and in good/fair condition. **1994 Abatement:** Removed ACM around air handling units in Bays 1-6. **1997 Abatement:** Installed HEPA vacuum around air handling units, sprayed encapsulant around air handling units, and removed pipe insulation for approximately 20 feet from air handling units.
- Sentry Station/Gate 22 (14.1): Door and window putty, asphalt built-up roofing and roof flashing; non-friable and in good condition.
- Sentry Station/Gate 15 (15.1): Cement exterior kick panels, asphalt built-up roofing and roof flashing; non-friable and in good condition.

- Building 308 (15.2): Roof flashing; non-friable and in good condition.
- Building 319 (15.3): Asphalt built-up roof; non-friable and in good condition.
- Building 309 (15.6): Roof flashing, asphalt built-up roofing, and cement asbestos wall panels; non-friable and in good condition, except cement asbestos wall panels in poor condition.
- Building 717 (15.6): Cement asbestos wall boards on interior walls and ceiling, window putty and door frame putty; non-friable and in good/fair condition. **1997 Abatement:** Removed cement asbestos wallboards on walls and ceiling.
- Building 670 (20.2): 12-inch by 12-inch vinyl floor tile and mastic in break room and office areas; non-friable and in good condition. **1995 Abatement:** During window replacement project, window caulk was found to contain 2-5% chrysotile and was removed.
- Building 470 (20.3): 12-inch by 12-inch floor tile and mastic in break room and office areas and vibration dampers on air handling units in mechanical room; non-friable and in good condition **1995 Abatement:** During window replacement project, window caulk was found to contain 2-5% chrysotile and was removed.
- Building 489 (20.4): 12-inch by 12-inch floor tile mastic and duct insulation mastic; non-friable and in good condition **1995 Abatement:** During window replacement project, window caulk was found to contain 2-5% chrysotile and was removed.
- Building 690 (21.1): 12-inch by 12-inch brown and white floor tile and mastic in break room and office area, 12-inch by 12-inch black vinyl floor tile and mastic in Bay 1 temporary offices, thermal system pipe insulation on steam lines in Bay 1 and tunnel area and duct insulation in mechanical room; non-friable and in good condition. **1995 Abatement:** During window replacement project, window caulk was found to contain 2-5% chrysotile and was removed.
- Building 490 (21.2): Thermal system pipe insulation, 12-inch by 12-inch grey vinyl floor tile and mastic in Bay 1, 12-inch by 12-inch beige vinyl floor tile and mastic in temporary offices in Bays 2 and 3, 12-inch by 12-inch off-white floor tile and mastic in strip office area, and 9-inch by 9-inch brown vinyl floor tile and mastic in break room of strip office area; non-friable and in good condition. **1995 Abatement:** During window replacement project, window caulk was found to contain 2-5% chrysotile and was removed.
- Building 689 (21.3): 12-inch by 12-inch brown vinyl floor tile and mastic in strip office break room, 12-inch by 12-inch light brown vinyl floor tile and mastic in Bay 3 office area, and 12-inch by 12-inch beige vinyl floor tile mastic on top of Bay 1 office area; non-friable and in good condition. **1995 Abatement:** During window replacement project, window caulk was found to contain 2-5% chrysotile and was removed.
- Building 685 (21.4): Roof flashing; non-friable and in good condition

- Sentry Station/Gate 8 (23.2): 12-inch by 12-inch floor tile, cement board on soffits; non-friable and in good condition.
- Building 720 (33.13): Interior window putty, exterior window putty, door putty asphalt built-up roof, roof flashing, and 12-inch by 12-inch brown vinyl floor tile and mastic in break room, kitchen, and bathrooms; non-friable and in good condition.

The ACM does not currently pose a threat to human health or the environment because all friable asbestos that posed an unacceptable risk to human health has been removed or encapsulated. The deed/easement will include the asbestos warning and covenant included in Enclosure 1.

### 3.6 Lead-Based Paint (LBP)

Based on the age of the buildings (constructed prior to 1978), the following buildings (subparcels) are presumed to contain LBP: 195 (3.2), 196 (3.3), 198 (3.4), 398 (3.5), 250 (6.2), 349 (6.3), 350 (6.4), 249 (7.2), 229 (8.2), 230 (8.3), 329 (8.4), 330 (8.5), 429 (9.2), 430 (9.3), 449 (9.4), 450 (9.5), 649 (10.1), 549 (10.4), 550 (10.5), 650 (10.6), 529 (11.2), 529 (11.3), 630 (11.4), 629 (12.2), 23 (13.1), 24 (13.2), 25 (13.3), 210 (13.4), 22 (14.1), 15 (15.1), 308 (15.2), 319 (15.3), 301 (15.6), 309 (15.6), 717 (15.6), 468 (19.1), 465 (19.2), 469 (19.3), 670 (20.2), 470 (20.3), 489 (20.4), 690 (21.1), 490 (21.2), 689 (21.3), 685 (21.4), 8 (23.2), 795 (23.4), 793 (23.8), 720 (33.13). The deed/easement will include the LBP warning and covenant provided in Enclosure 1.

### 3.7 Radiological Materials

The following buildings were used for radiological activities: 319 Bay 6, 629 Bay 2, and 359 Bay 3 (demolished). These buildings were used for storage of low level radiological materials including, but not limited to, lantern mantels containing thorium-232, smoke detectors containing americium-241, electron tubes containing thorium-232, watch dials containing tritium (H-3) and radium-226, indicator and toggle switches containing radium-226, and compasses containing tritium (H-3). Evidence of a release of radiological materials in Building 319 was indicated in the Environmental Baseline Study Radiological Survey, Defense Distribution Depot, Memphis, Tennessee, 1996. The area was remediated and the follow-up radiological survey concluded the area was suitable for unrestricted use (Termination Radiological Survey for Defense Distribution Depot Memphis, Building 319, Bay 6, 1997).

### 3.8 Radon

Radon surveys were not conducted in the buildings included on the property proposed for transfer. In 1996, radon surveys conducted in the former military family housing units (Parcel 2) indicated that radon was not detected above the United States Environmental Protection Agency (EPA) residential action level of 4 picoCuries per liter (pCi/L).

### **3.9 Unexploded Ordnance**

Based on a review of existing records and available information, none of the buildings or surrounding land proposed for transfer are known to contain unexploded ordnance.

One site on the land proposed for transfer (Subparcel 3.10 - Former pistol range) was identified as possibly containing unexploded ordnance in the Ordnance and Explosive Waste Chemical Warfare Materials Archives Search Report for Memphis Defense Depot (U. S. Army Corps of Engineers - St. Louis, 1995). This site was investigated during the MI RI and no unexploded ordnance was discovered.

### **3.10 Adjacent Hazardous Conditions**

Hazardous conditions adjacent to the property proposed for transfer are discussed in the MI Remedial Design (RD) report. The presence of these hazardous conditions does not present an unacceptable risk to human health and the environment because the deed will contain the Environmental Protection Provisions (Enclosure 1) prohibiting the use of groundwater for any purpose.

## 4.0 Remediation

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The following environmental orders/agreements are applicable to the property proposed for transfer: Federal Facilities Agreement (FFA), MI ROD, and MI LUCIP, which will be included in the MI RD. The Institutional Controls (ICs) required by the MI ROD are in place via lease restrictions included in the Master Interim Lease and subsequent Findings of Suitability to Lease for MI property (EPA Letter dated February 4, 2003, Re: Proposed Category Changes for Environmental Condition of Property at the Memphis Depot). The deed/easement will include the Institutional Controls required by the MI ROD as well as a provision reserving the Army's right to conduct remediation activities (see Enclosures 1 and 4).

## 5.0 Regulatory/Public Coordination

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The EPA Region 4, the Tennessee Department of Environment and Conservation (TDEC), and the public were notified of the initiation of the FOST. Regulatory/public comments received during the FOST development were reviewed and incorporated, as appropriate. All regulatory comments were resolved. The public review period for this FOST extended from March 26 through April 26. No comments were received from the public during this period. A copy of all comments is included (Enclosure 8).

## **6.0 National Environmental Policy Act (NEPA) Compliance and Consistency with Local Reuse Plan**

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The environmental impacts associated with the proposed transfer of the property have been analyzed in accordance with the NEPA. The results of this analysis have been documented in the Final Environmental Assessment for BRAC 95 Disposal and Reuse of Defense Depot Memphis, Tennessee. Any encumbrances or conditions identified in such analysis as necessary to protect human health or the environment have been incorporated into the FOST. In addition, the proposed transfer is consistent with the intended reuse of the property as set forth in the Depot Redevelopment Corporation's Memphis Depot Redevelopment Plan.

## **7.0 Environmental Protection Provisions**

---

On the basis of the above results from the EBS and other environmental studies and in consideration of the intended use of the property, certain terms and conditions are required for the proposed transfer. These terms and conditions are set forth in Enclosure 1 and will be included in the deed/easement.

## 8.0 Finding of Suitability to Transfer

---

Based on the above information, I conclude that DOD requirements to reach a finding of suitability to transfer the property have been met, subject to the terms and conditions set forth in Enclosure 1. All removal or remedial actions necessary to protect human health and the environment have been taken and the property is transferable under CERCLA section 120(h)(3). In addition to the Environmental Protection Provisions, the deed/easement for this transaction will also contain:

- The covenant under CERCLA §120(h)(3)(A)(ii)(I) warranting that all remedial action under CERCLA necessary to protect human health and the environment with respect to hazardous substances remaining on the property has been taken before the date of transfer.
- The covenant under CERCLA §120(h)(3)(A)(ii)(II) warranting that any remedial action under CERCLA found to be necessary after the date of transfer with respect to such hazardous substances remaining on the Property shall be conducted by the United States.
- The clause as required by CERCLA §120(h)(3)(A)(iii) granting the United States access to the Property in any case in which remedial action or corrective action is found to be necessary after the date of transfer.

As required under the CERCLA Section 120(h) and DOD FOST Guidance, notification of hazardous substance activities and petroleum product activities shall be provided in the deed/easement (see Enclosures 6 and 7).

---

Thomas E. Lederle  
Director, Base Realignment and Closure  
Hampton Field Office

## 8.1 Enclosures

Enclosure 1 - Environmental Protection Provisions  
 Enclosure 2 - Environmental Condition of Property Map  
 Enclosure 3 - Environmental Documentation  
 Enclosure 4 - Summary of Land Use Controls and Monitoring Requirements  
 Enclosure 5 - Description of Property  
 Enclosure 6 - Notification of Hazardous Substance Storage, Release, or Disposal  
 Enclosure 6A - Hazardous Materials Stored at the Depot  
 Enclosure 7 - Petroleum Product Storage, Release, or Disposal  
 Enclosure 8 - Regulatory Comments

File:  
C.H. 212,700,000 b  
863 421  
AEA 825

# Finding of Suitability to Transfer 4 (FOST)

Defense Distribution Center (Memphis)

Dunn Field

March 2005

Subparcels 36.12, 36.13, 36.14, 36.24, 36.25, 36.26, 36.27, 36.30, 36.31  
and 36.32

PREPARED FOR



Air Force Center for Environmental Excellence

3300 Sidney Brooks

Brooks City-Base, TX 78235-5112

PREPARED BY

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Kennesaw, GA 30144



DEPARTMENT OF THE ARMY  
HAMPTON FIELD OFFICE, ARMY BASE REALIGNMENT AND CLOSURE  
102 MCNAIR DRIVE  
FORT MONROE VIRGINIA 23651

863 422

REPLY TO  
ATTENTION OF

DAIM-BD-H

MAR 04 2003

MEMORANDUM FOR Assistant Chief of Staff for Installation Management, 600 Army  
Pentagon, Washington, D.C. 20310-0600

SUBJECT: Finding of Suitability to Transfer at Former Memphis Depot – Dunn Field

1. Enclosed for your records: Finding of Suitability to Transfer 41.17 acres at the Former Memphis Depot. The document received Installation, Regulatory, Public, and Hampton Field Office (HFO) legal and environmental review. It is signed by the Director of the BRAC - Hampton Field Office.
2. Hampton – BRAC field office point of contact is Ms. Robin Mills, DSN 680 – 3846 or commercial (757) 788 – 3846.

THOMAS E. LEDERLE

Director, Base Realignment and Closure  
Hampton Field Office

CF: (w/encls)

HQDA (DAIM-BD/ Larry Beach)

DLA BRAC Office, (DSS-DB/Jeanne Master)

CESAM-RE-MD (Harold G. Duck)

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## Enclosures

- Enclosure 1 – Environmental Protection Provisions
- Enclosure 2 – Environmental Condition of Property Map
- Enclosure 3 – Environmental Documentation
- Enclosure 4 – Description of Property
- Enclosure 5 – Notification of Hazardous Substance Storage, Release, or Disposal
- Enclosure 6 – Notification of Petroleum Product Storage, Release, or Disposal
- Enclosure 7 – Regulatory Comments and Responses

**FINDING OF SUITABILITY TO TRANSFER  
(FOST)**

**Memphis Depot – Dunn Field**

**Subparcels 36.12, 36.13, 36.14, 36.24, 36.25, 36.26, 36.27, 36.30, 36.31 and 36.32**

**March 2005**

**1. PURPOSE**

The purpose of this Finding of Suitability to Transfer (FOST) is to document the environmental suitability of certain property (Subparcels 36.12, 36.13, 36.14, 36.24, 36.25, 36.26, 36.27, 36.30, 36.31 and 36.32) at Former Defense Distribution Depot Memphis, Tennessee (Dépot), currently known as the Defense Distribution Center (Memphis), for transfer as a public benefit conveyance (PBC) through the Department of Interior to the Memphis Depot Redevelopment Cooperation for recreational use and through the Department of Transportation to the Memphis Depot Redevelopment Cooperation for light industrial and commercial use consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120(h), Department of Defense policy and the Depot Redevelopment Corporation's Memphis Depot Redevelopment Plan. In addition, the FOST includes the CERCLA Notice, Covenant, and Access Provisions and other Deed Provisions and the Environmental Protection Provisions (EPPs) necessary to protect human health or the environment after such transfer (Enclosure 1)

**2. PROPERTY DESCRIPTION**

The proposed property proposed for transfer consists of approximately 41.17 acres, which includes open grassed areas, paved and gravel roads, and railroad tracks.

Low level residual contamination of herbicides, pesticides, and pentachlorophenol remains in surface and subsurface soils at the property proposed for transfer. Residual soil contamination levels do not present unacceptable risk to human health or the environment for the proposed light industrial, commercial and recreation uses. The Dunn Field ROD (April 2004) designated the property as available for unrestricted use with no further action required. Overall human health risks and non-carcinogenic hazards to potential residents, recreational users and industrial or commercial workers are within acceptable limits for carcinogenic and non-carcinogenic end points.

The natural habitat at Dunn Field is very limited to non-existent. Occasional terrestrial animals visiting the facility or living nearby are not subject to a significant threat from the site media. A screening level Ecological Risk Assessment conducted across Dunn Field indicated little potential for significant ecological impacts or adverse effects to wildlife. No ecological contaminants of concern were identified at the facility. The land uses on Dunn Field are expected to remain unchanged in the future; therefore, the potential for wildlife exposure is low. The property is intended to be transferred as a Public Benefit Conveyance through the Department of

Interior, National Park Service and the Department of Transportation, and is consistent with the intended reuse of the property as set forth in the Memphis Depot Redevelopment Corporation's Reuse Plan. A site map of the property is attached (Enclosure 2).

### 3. ENVIRONMENTAL DOCUMENTATION

A determination of the environmental condition of the facilities has been made based on the following:

- Dunn Field Record of Decision (CH2M Hill, April 2004)
- Dunn Field Remedial Investigation Report (CH2M Hill, July 2002)
- Rev. 2 BRAC Cleanup Plan Version 7 (Labat-Anderson, Inc., December 2003)
- Remediation Report Former Pistol Range Site 60 Dunn Field (Jacobs Federal Programs, April 2003)
- Final Report Chemical Warfare Materiel Investigation and Removal Action at Defense Depot Dunn Field (UXB International, 2001)
- Final Environmental Assessment for BRAC 95 Disposal and Reuse of Defense Depot Memphis, Tennessee (Tetra Tech, September 1998)
- Ordnance and Explosive Waste Chemical Warfare Materials Archives Search Report for Memphis Defense Depot - Findings (U. S. Army Corps of Engineers - St. Louis, 1995)

The information provided herein is a result of a complete search of agency files during the development of these environmental surveys.

A complete list of documents providing information on environmental conditions of the property is attached (Enclosure 3).

### 4. Environmental Condition of Property Categories

The DOD Environmental Condition of Property (ECP) Categories for the property are as follows:

ECP Category 3:

- 36.12 - Site 62 (Bauxite Storage removed in 1998)
- 36.13 - Site 62 (Bauxite Storage removed in 1998)
- 36.24 - Site 19 (Former Tear Gas Canister Burn Site)
- 36.25 - Site 20 (Asphalt Burial Site)
- 36.26 - Site 21 (XXCC-3 Burial Site)
- 36.27 - Site 50 (Concrete-lined Drainage Ditch)
- 36.30 - Site 63 (Fluorspar Storage removed in 1999) and the open land area east of the main railroad spur through Dunn Field and excluding existing subparcels

36.31 - 75-foot strip along Hays Rd. from Person Ave. to Dunn Ave for road widening project

36.32 - Open land area in northeast corner excluding existing subparcels

ECP Category 4: 36.14 - Site 60 (Pistol Range removed in 2003) and Site 85 (Building 1184 removed in 2003)

A summary of the ECP categories for specific buildings, parcels, or operable units and the ECP category definitions is provided in Table 1 - Description of Property (Enclosure 4).

#### 4.1 Environmental Remediation Sites

##### Solid Waste Management Units (SWMUs)

There are 8 Solid Waste Management Units (SWMUs) located within the boundaries of the property included in this FOST. The SWMUs are also designated IRP sites as described in Section 3.1 above and are identified as subparcels on Enclosure 2, Environmental Condition of Property Map: 36.12 and 36.13 - Site/SWMU 62, Bauxite Storage; 36.14 - Site/SWMU 60, Pistol Range and Site/SWMU 85, Building 1184; 36.24 - Site/SWMU 19, Former Tear Gas Canister Burn Site; 36.25 - Site/SWMU 20, Asphalt Burial Site; 36.26 - Site/SWMU 21, XXCC-3 Burial Site; 36.27 - Site/SWMU 50, Concrete-lined Drainage Ditch; 36.30 - Site/SWMU 63, Fluorspar Storage. The SWMUs have been addressed under CERCLA, as required by the Federal Facilities Agreement. A non-time critical removal action of lead in soil at SWMU 60 (Pistol Range) was completed in March 2003. This action also included removal of Building 1184 (SWMU 85). The Dunn Field ROD (April 2004) specifies no further action for SWMUs 60 and 85.

Enclosure 4 provides a summary of the remedial actions at each of the SWMUs, as well as a description of the activities conducted to date at each site. The Dunn Field ROD (April 2004) specifies no remedial actions are necessary at the SWMUs included in the property proposed for transfer.

##### Ground Water Contamination

None of the property proposed for transfer is situated above areas of groundwater contamination.

#### 4.2. Storage, Release or Disposal of Hazardous Substances

No hazardous substances were stored at the property proposed for transfer. A summary of the areas in which hazardous substances were released or disposed is provided in Enclosures 4 and 5. In the past:

- All grassed areas within subparcels 36.14, 36.24, 36.25, 36.26, 36.30, 36.31 and 36.32 were sprayed with pesticides and herbicides and were investigated as part of the Dunn Field RI.

- Railroad tracks within Subparcel 36.30 were sprayed with pesticides, herbicides and waste oil containing pentachlorophenol (PCP) and were investigated as part of the Dunn Field RI.

Existing records do not support a conclusion that releases in these areas exceeded the 40 CFR Part 373-reportable quantities unless otherwise noted in the Notification of Hazardous Substance Storage, Release, or Disposal (Enclosure 5). The release of hazardous substances was either remediated at the time of release or evaluated as part of the Installation Restoration Program (IRP). The Dunn Field ROD (April 2004) states remedial action is not necessary at the property proposed for transfer.

#### 4.3. Petroleum and Petroleum Products

##### 4.3.1. Storage, Release and Disposal of Petroleum Products (not in underground or above-ground storage tanks)

Based on a review of records there is not evidence that any petroleum or petroleum products in excess of 55 gallons were stored, released, or disposed at one time on the property. Accordingly, there is no need for any notification of petroleum product storage, release, or disposal.

##### 4.3.2. USTs and ASTs

Based on a review of records there is not evidence that petroleum or petroleum products were stored in underground or above-ground storage tanks on the property.

#### 4.4 Polychlorinated Biphenyls (PCB)

Based on a review of records and visual inspection, there are no PCB containing transformers, fluorescent light ballasts or other PCB containing equipment located on the property and no evidence of unremediated releases from PCB equipment.

#### 4.5 Asbestos

There are no buildings or structures with asbestos-containing material located on the property.

#### 4.6 Lead Based Paint (LBP)

There are no buildings or structures with LBP located on the property.

#### 4.7 Radiological Materials

Based on a review of records, there is no indication that radioactive material or sources were ever used or stored on the property.

#### 4.8 Radon

There are no buildings or structures on this property; therefore, a radon survey is unnecessary.

#### 4.9 Munitions and Explosives of Concern (MEC)

Based on a review of existing records and available information, none of the land proposed for transfer are known to contain Munitions and Explosives of Concern (MEC). Two sites on the land proposed for transfer (Subparcels 36.14 - Former Pistol Range and 36.24 - Former Tear Gas Canister Burn Site) were identified as possibly containing MEC in the Ordnance and Explosive Waste Chemical Warfare Materials Archives Search Report for Memphis Defense Depot. These sites were investigated during the Dunn Field Engineering Evaluation and Cost Analysis (EE/CA) for Removal of Chemical Warfare Material and the Dunn Field RI. No MEC was discovered.

### 5. ADJACENT PROPERTY CONDITIONS

The following are ongoing environmental investigations/remediations or other hazardous conditions adjacent to the property proposed for transfer: Disposal Sites remedial design and remedial action; Permeable Reactive Barrier (PRB) remedial design and remedial action; and Source Area (Soil Vapor Extraction [SVE]/Zero-Valent Iron [ZVI]) remedial design and remedial action. Tennessee Department of Environment and Conservation (TDEC) has initiated a pre-CERCLA screening of the suspected groundwater contamination source upgradient of Dunn Field, which affects the area along the northern fence line, named the Wabash Avenue Investigation. In 2004, the BCT concurred to change the subparcel boundaries to omit the area situated above groundwater contamination along the northern fence line. Boundaries of the northern subparcels now end about 225 feet south of the northern fence line. The presence of these hazardous conditions and the expected remedial activities adjacent to the property for transfer do not present an unacceptable risk to human health and the environment.

### 6. ENVIRONMENTAL REMEDIATION AGREEMENTS

The following environmental orders/agreements are applicable to the property: Federal Facilities Agreement between United States Environmental Protection Agency Region IV, Tennessee Department of Environment and Conservation, and United States Defense Logistics Agency at the Defense Distribution Depot Memphis (March 6, 1995) and Dunn Field ROD (April 2004). Environmental conditions of the property described in this FOST do not present a hazard for light industrial, commercial and recreational reuse. The Dunn Field ROD (April 2004) designated the property as available for unrestricted use with no further action required. Nevertheless, the property will be subject to zoning requirements and the uses identified in the terms of the transfer. The Transferee must also adhere to the Environmental Protection Provisions (Enclosure 1). Environmental conditions on adjacent federal government property do not present a hazard to the transfer of the property. The Description of Property (Enclosure 4) and Notification of Hazardous Substance Storage, Release, or Disposal (Enclosure 5) provide

details regarding environmental conditions for each individual subparcel contained within this FOST.

## 7. REGULATORY/ PUBLIC COORDINATION

The U.S. Environmental Protection Agency Region IV, the Tennessee Department of Environment and Conservation (TDEC) and the Restoration Advisory Board (RAB) were notified of the initiation of this FOST at the October 16, 2003 RAB meeting. The public review period was from January 24, 2005 through February 23, 2005. No public comments were received during this period. Regulatory comments received during the FOST development have been reviewed and incorporated, as appropriate. A copy of regulatory comments and responses are included at Enclosure 7.

## 8. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE

The environmental impacts associated with proposed transfer of the property have been analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis have been documented in the Final Environmental Assessment for BRAC 95 Disposal and Reuse of Defense Depot Memphis, Tennessee (Tetra Tech, September 1998). Any encumbrances or conditions identified in such analysis as necessary to protect human health or the environment have been incorporated into the FOST. In addition, the proposed transfer is consistent with the intended reuse of the property as set forth in the Depot Redevelopment Corporation's Memphis Depot Redevelopment Plan.

## 9. FINDING OF SUITABILITY TO TRANSFER

Based on the above information, I conclude that Department of Defense requirements to reach a finding of suitability to transfer the property have been met, subject to the terms and conditions set forth in the attached Environmental Protection Provisions (Enclosure 1). All removal or remedial actions necessary to protect human health and the environment have been taken and the property is transferable under CERCLA Section 120(h)(3). In addition to the Environmental Protection Provisions, the deed for this transaction will also contain:

- The covenant under CERCLA §120(h)(3)(A)(ii)(I) warranting that all remedial action under CERCLA necessary to protect human health and the environment with respect to hazardous substances remaining on the Property has been taken before the date of transfer.
- The covenant under CERCLA §120(h)(3)(A)(ii)(II) warranting that any remedial action under CERCLA found to be necessary after the date of transfer with respect to such hazardous substances remaining on the Property shall be conducted by the United States.
- The clause as required by CERCLA §120(h)(3)(A)(iii) granting the United States access to the Property in any case in which remedial action or corrective action is found to be

necessary after the date of transfer. As required under the CERCLA Section 120(h) and DOD FOST Guidance, notification of hazardous substance activities and petroleum product activities shall be provided in the deed. See the Notification of Hazardous Substance Storage, Release, or Disposal (Enclosure 5) and Notification of Petroleum Product Storage, Release, or Disposal (Enclosure 6)



Thomas E. Lederle

Director, Base Realignment and Closure,  
Hampton Field Office

MAR 04 2005

4 MARCH 2005

Date of Signature

7 Enclosures

- Enclosure 1 - Environmental Protection Provisions
- Enclosure 2 - Environmental Condition of Property Map
- Enclosure 3 - Environmental Documentation
- Enclosure 4 - Table 1 - Description of Property
- Enclosure 5 - Table 2 - Notification of Hazardous Substance Storage, Release, or Disposal
- Enclosure 6 - Table 3 - Notification of Petroleum Product Storage, Release, or Disposal
- Enclosure 7 - Regulatory/Public Comments

## **Appendix E**

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**Contains summaries of the following documents. Complete copies located at Memphis Depot information repositories:**

### **Table E-1**

**Administrative Record Site File Index**

**Conceptual Model**

**DLA Compliance with Executive Order 12898 on Environmental Justice**

**1997 CERFA Concurrence Letter**

**1998 CERFA Concurrence Letter**

**Radiological Release Letter**

**Summaries of Radiological Surveys**

**Radon Survey**

**Transformer Record**

**Wetlands Determination**

**Section 106 Notification**

**Subparcel Designation Letters**

**Termination of NPDES permit**

**Termination of Permitted Container Storage Permit**

**Denial to Reissue Hazardous Waste Corrective Action Permit**

**TABLE E-1**  
**ASBESTOS IDENTIFICATION SURVEY RESULTS**

| SUBPARCEL | BUILDING | FACILITY USE                            | YEAR<br>CONSTRUCTED | RESULTS |
|-----------|----------|---|---------------------|---------|
| 1.4       | 139      | Bus Stop/Waiting Shelter                | 1959                | A       |
| 1.5       | 144      | Office Space                            | 1942                | A       |
| 1.8       | 145      | Main Security Office                    | 1943                | A       |
| 1.8       | 147      | Switch Gear Station                     | 1981                | N       |
| 1.7       | 155      | DEMOLISHED                              | 1960                | NA      |
| 2.1       | 176      | Military Family Housing                 | 1948                | A       |
| 2.2       | 178      | Garage                                  | 1948                | A       |
| 2.3       | 179      | Military Family Housing                 | 1948                | A       |
| 2.4       | 181      | Military Family Housing                 | 1948                | A       |
| 2.5       | 183      | Garage                                  | 1948                | A       |
| 2.6       | 184      | Military Family Housing                 | 1948                | A       |
| 3.5       | 194      | Pool Pump House                         | 1948                | N       |
| 3.2       | 195      | Golf Clubhouse                          | 1949                | A       |
| 3.3       | 196      | Office Space                            | 1952                | A       |
| 3.5       | 197      | Golf Cart Shed                          | 1959                | N       |
| 3.4       | 198      | Cooler Shed                             | 1959                | A       |
| 14.2      | 209      | DEMOLISHED                              | 1942                | NA      |
| 13.4      | 210      | Warehouse/Office Space                  | 1942                | A       |
| 13.5      | 211      | Generator/Uninterrupted Power<br>Supply | 1988                | N       |
| 8.2       | 229      | Warehouse Space                         | 1942                | A       |
| 8.3       | 230      | Warehouse Space                         | 1942                | A       |
| 7.2       | 249      | Warehouse Space                         | 1942                | A       |
| 6.2       | 250      | Warehouse Space                         | 1942                | A       |
| 4.12      | 251      | DEMOLISHED                              | 1942                | NA      |
| 4.1       | 252      | DEMOLISHED                              | 1942                | NA      |
| 4.11      | 253      | DEMOLISHED                              | 1952                | NA      |
| 4.6       | 254      | DEMOLISHED                              | 1944                | NA      |
| 4.7       | 257      | DEMOLISHED                              | 1942                | NA      |
| 4.4       | 260      | Paint Shop                              | 1952                | A       |
| 4.8       | 263      | Garage                                  | 1964                | N       |
| 4.13      | 265      | Shop Building                           | 1942                | A       |
| 4.9       | 267      | DEMOLISHED                              | NA                  | NA      |
| 4.2       | 270      | Engineering                             | 1945                | A       |
| 4.3       | 271      | Former Golf Pro Shop                    | 1958                | A       |
| 5.1       | 272      | Lumber Shed                             | 1942                | N       |
| 5.2       | 274      | Cafeteria                               | 1989                | A       |
| 5         | 275      | DEMOLISHED                              | NA                  | NA      |
| 15.6      | 304      | Electric Switchgear                     | NI                  | N       |

**TABLE E-1**  
**ASBESTOS IDENTIFICATION SURVEY RESULTS**

| SUBPARCEL | BUILDING | FACILITY USE                       | YEAR<br>CONSTRUCTED | RESULTS |
|-----------|----------|------------------------------------|---------------------|---------|
| 15.2      | 308      | Warehouse/Storage                  | 1944                | A       |
| 15.6      | 309      | Warehouse/Storage                  | 1944                | A       |
| 15.3      | 319      | Warehouse/Storage                  | 1942                | A       |
| 8.4       | 329      | Warehouse Space                    | 1942                | A       |
| 8.5       | 330      | Warehouse Space                    | 1942                | A       |
| 6.3       | 349      | Warehouse Space                    | 1942                | A       |
| 6.4       | 350      | Warehouse Space                    | 1942                | A       |
| 17.3      | 359      | DEMOLISHED                         | 1942                | NA      |
| 3.5       | 398      | Restroom                           | 1962                | A       |
| 15.6      | T416     | DEMOLISHED                         | 1943                | NA      |
| 15.6      | T417     | DEMOLISHED                         | 1943                | NA      |
| 9.2       | 429      | Warehouse Space                    | 1942                | A       |
| 9.3       | 430      | Warehouse Space                    | 1942                | A       |
| 9.4       | 449      | Warehouse Space                    | 1942                | A       |
| 9.5       | 450      | Warehouse Space                    | 1942                | A       |
| 19.2      | 465      | Forklift Wash Rack (Shop Building) | 1984                | N       |
| 19.1      | 468      | Warehouse/Storage                  | 1960                | N       |
| 19.3      | 469      | Maintenance Shop                   | 1960                | N       |
| 20.3      | 470      | Warehouse Space                    | 1954                | A       |
| 20.4      | 489      | Warehouse Space                    | 1954                | A       |
| 21.2      | 490      | Warehouse Space                    | 1954                | A       |
| 11.2      | 529      | Warehouse Space                    | 1942                | A       |
| 11.3      | 530      | Warehouse Space                    | 1942                | A       |
| 10.4      | 549      | Warehouse Space                    | 1942                | A       |
| 10.5      | 550      | Warehouse Space                    | 1942                | A       |
| 16.2      | 559      | DEMOLISHED                         | 1942                | NA      |
| 18.1      | 560      | Warehouse Space                    | 1990                | N       |
| 12.2      | 629      | Warehouse Space                    | 1942                | A       |
| 11.4      | 630      | Warehouse Space                    | 1942                | A       |
| 10.1      | 649      | Warehouse Space                    | 1953                | A       |
| 10.6      | 650      | Warehouse Space                    | 1942                | A       |
| 20.2      | 670      | Warehouse Space                    | 1953                | A       |
| 21.4      | 685      | Shipping Office                    | 1985                | A       |
| 21.3      | 689      | Warehouse Space                    | 1953                | A       |
| 21.1      | 690      | Warehouse/Shipping                 | 1953                | A       |
| 15.4      | 702      | DEMOLISHED                         | NA                  | NA      |
| 15.6      | 717      | Ice House/Public Restroom          | 1951                | A       |
| 33.9      | 720      | Maintenance Shop                   | 1942                | A       |
| 33.9      | 737      | Pesticide Storage                  | 1961                | A       |

**TABLE E-1**  
**ASBESTOS IDENTIFICATION SURVEY RESULTS**

| SUBPARCEL | BUILDING | FACILITY USE                    | YEAR<br>CONSTRUCTED | RESULTS |
|-----------|----------|---------------------------------|---------------------|---------|
| 33.10     | 753      | DEMOLISHED                      | 1956                | A       |
| 33.3      | 755      | San. Sewer Pump Station         | 1953                | A       |
| 33.4      | 756      | Fire Pump House                 | NI                  | A       |
| 24.3      | 770      | Base Maintenance Shop           | 1952                | A       |
| 24.3      | 771      | Restroom/Storage Space          | 1945                | A       |
| 23.7      | 783      | DEMOLISHED                      | 1942                | NA      |
| 23.3      | 787      | DEMOLISHED                      | 1988                | NA      |
| 23.8      | 793      | Underground Bunker (Shop Space) | 1942                | N       |
| 23        | 795      | Gate B Guard Shelter            | 1974                | N       |
| 29.2      | 801      | FE Storage Shop                 | 1956                | A       |
| 29.2      | 802      | Waiting Shelter                 | 1981                | N       |
| 32.2      | 835      | Hazardous Materials Warehouse   | 1988                | N       |
| 33.5      | 860      | DEMOLISHED                      | 1944                | NA      |
| 33.8      | 863      | DEMOLISHED                      | 1943                | NA      |
| 32.3      | 865      | Hazardous Recoup Facility       | 1988                | N       |
| 25.1      | 873      | DEMOLISHED                      | 1942                | NA      |
| 25.2      | 875      | DEMOLISHED                      | 1942                | NA      |
| 26.2      | 970      | Open Storage                    | 1942                | A       |
| 27.2      | 972      | Open Storage                    | 1942                | A       |
| 35.2      | 1084     | DEMOLISHED                      | 1953                | NA      |
| 35.2      | 1085     | Abandoned Concrete Grease Rack  | NI                  | N       |
| 35.3      | 1086     | Paint Shed                      | 1959                | N       |
| 35.4      | 1087     | Paint Booth                     | 1952                | A       |
| 35.4      | 1088     | Sand Blasting Shed              | 1953                | N       |
| 35.1      | 1090     | Paint Storage Warehouse         | 1952                | A       |
| 35.5      | 1091     | Paint Storage Warehouse         | 1953                | A       |
| 36.14     | 1184     | Storage Building                | 1956                | N       |
| 36.14     | 1185     | Firing Range                    | NI                  | N       |
| 1.1       | 1        | Guard Station                   | 1959                | A       |
| 1.2       | 2        | Guard Station                   | 1958                | A       |
| 23.1      | 7        | Guard Station                   | NI                  | N       |
| 23.2      | 8        | Guard Station                   | 1969                | A       |
| 29.1      | 9        | Communication/ Restroom         | 1946                | A       |
| 15.1      | 15       | Guard Station                   | 1979                | A       |
| 14.1      | 22       | Guard Station                   | 1942                | A       |
| 13.1      | 23       | Guard Station                   | 1942                | A       |
| 13.2      | 24       | Guard Station                   | 1961                | N       |
| 13.3      | 25       | Guard Station                   | 1961                | N       |

**TABLE E-1**  
**ASBESTOS IDENTIFICATION SURVEY RESULTS**

| SUBPARCEL   | BUILDING | FACILITY USE               | YEAR<br>CONSTRUCTED | RESULTS |
|---|----------|----------------------------|---------------------|---------|
| <b>Buildings not included in the Asbestos Identification Survey</b> |          |                            |                     |         |
| 1.3   | 129      | Waiting Shelter            | 1980                | A(P)    |
| 4.7   | 256      | DEMOLISHED                 | 1943                | NA      |
| 4.5   | 261      | Vehicle Storage            | 1994                | A(P)    |
| 4.10  | 273      | Shed                       | 1942                | A(P)    |
| 34.1  | 360      | Warehouse                  | 1996                | A(P)    |
| 17.2 (moved<br>to 30.5)   | 459      | Portable Building          | 1990                | NA      |
| 19.1  | 467      | DEMOLISHED                 | 1987                | NA      |
| 25.2  | 874      | Sewage Pump Station        | 1949                | A(P)    |
| 30.4  | 949      | Portable Storage Structure | 1987                | NA      |
| 23.5  | 995      | Metal Handling             | 1985                | NA      |
| 28.2  | 1089     | General Purpose Warehouse  | 1960                | A(P)    |

**Notes:**

A: ACM test results positive

A(P): ACM possible based on the year of construction

ACM: Asbestos-containing materials

N: Negative. Building surveyed for ACM. If suspect materials were found, ACM test results were negative or less than 1%; no further action required.

NA: Not applicable (Building was built after survey or has been demolished since survey).

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| 15 Jul 46 | Newspaper Article, "German Gas Escapes Here"   | The Press-Scimitar  | 428  |
| 16 Jul 46 | Newspaper Article, "Bomb Squads at Work on Gas Leaks: Nine Casualties"                                       | The Press-Scimitar  | 429  |
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| 17 Jul 46 | Newspaper Article, "Gas Crew Still Busy"   | The Press-Scimitar  | 430  |
| Jul 82    | Installation Assessment Report   | Chemical Systems Laboratory                                       | 02   |
| 20 Jan 83 | Geologic Study   | US Army Environmental Hygiene Agency                              | 03   |
| 26 Sep 85 | TDHE Letter to Depot Concerning RA and Dioxin Contamination  | Patterson, Paul<br>Tennessee Department of Health and Environment | 04   |
| 25 Nov 85 | Environmental Audit Report   | US Army Environmental Hygiene Agency                              | 05   |
| 24 Feb 86 | Summary Report, On-Site Remedial Activities  | O H Materials Co.   | 06   |
| 30 Jul 86 | Water Quality Biological Study   | US Army Environmental Hygiene Agency                              | 07   |
| 07 Aug 87 | Groundwater Consultation Report, Collection and Analysis of Groundwater Samples                              | US Army Environmental Hygiene Agency                              | 08   |
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| Jan 89    | RI/FS, Final Work Plan   | Law Environmental, Inc.   | 09   |
| 05 Feb 89 | Newspaper Article, "Defense Depot Will be Tested for Toxic Waste"  | The Commercial Appeal   | 10   |
| 25 Feb 89 | Newspaper Article, "Depot Wells"   | The Commercial Appeal   | 434  |
| 05 Mar 89 | Newspaper Article, "Profile of Toxic Wastes Arising From New Data"   | The Commercial Appeal   | 11   |
| 06 Mar 89 | Newspaper Article, "Testing Continues at Defense Depot"  | The Daily News  | 12   |
| 14 Mar 89 | Newspaper Article, "Hazardous Material Moved"  | The Commercial Appeal   | 437  |
| 18 Jun 89 | EPA Letter to Depot Concerning RI/FS Revised Final Work Plans  | Scarborough, James H<br>EPA Region IV                             | 13   |
| 30 Oct 89 | Newspaper Article, "Depot to Get New Water, Soil Tests"  | UNK   | 14   |
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| 19 Jul 90 | EPA Letter to Depot Concerning RFA Report Findings   | Scarborough, James H<br>Tiesler, Tom<br>EPA Region IV             | 16   |
| Aug 90    | RI, Final Report, Vol I of II  | Law Environmental, Inc.   | 17   |
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| 08 Apr 91 | Newspaper Article, "Toxic Seep Heightens Risk Level to City Water"   | The Commercial Appeal   | 20   |
| May 91    | RI/FS, Report, Annex B for Follow On Investigation and Interim Remedial Measure for Contaminated Groundwater | Defense Distribution Depot Memphis<br>TN                          | 21   |
| 27 Nov 91 | EPA Letter to Depot Concerning Draft Interim Remedial Measures Work Plan                                     | Kutzman, James S<br>EPA Region IV                                 | 22   |
| 01 Mar 92 | Newspaper Article, "Soil Toxins at Depot Could Taint"  | The Commercial Appeal   | 23   |

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| Jul 92    | Final Work Plan, Pump Test   | Engineering-Science, Inc.   | 26  |
| 22 Jul 92 | TDEC Letter to EPA Concerning Draft Final Interim Remedial Measures Work Plan                        | English, Jordan<br>Tennessee Department of Environment and Conservation   | 27  |
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| 23 Mar 93 | Depot Letter to EPA Concerning NOTI of Draft RFI Work Plan   | Murphy, W F, COL<br>Defense Distribution Depot Memphis TN                 | 30  |
| 01 Apr 93 | Depot Letter to EPA Concerning NOTI of Draft RFI Work Plan   | Murphy, W F, COL<br>Defense Distribution Depot Memphis TN                 | 31  |
| 15 Apr 93 | Depot Letter to EPA Concerning FFA Negotiations  | Krueger, Margaret J<br>Defense Distribution Depot Memphis TN              | 32  |
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| Aug 93    | Focused FS, Report, Dunn Field   | Engineering-Science, Inc.   | 38  |
| Aug 93    | Depot Letter to MSPJC Concerning Public Exhibition and Discussion of Site Restoration                | Rust, C Michael, COL<br>Defense Distribution Depot Memphis TN             | 449 |
| 10 Aug 93 | Press Release, Public Exhibition and Discussion of Installation Environmental Restoration Activities | Defense Distribution Depot Memphis TN                                     | 442 |
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| 24 Sep 02 | BCT Meeting Minutes, 24 Sep 02  | The Memphis Depot                                       | 712        |
| Oct 02    | Action Memorandum, Rev 1, Site 60   | CH2M Hill, Inc.   | 713        |
| 12 Oct 02 | Newspaper Article, "RAB Meeting, 17 Oct 02"   | Tri-State Defender                                      | 714        |
| 17 Oct 02 | RAB Meeting Minutes, 17 Oct 02  | The Memphis Depot                                       | 715        |
| 17 Oct 02 | Memphis Depot Environmental Program Progress Report, 02   | The Memphis Depot                                       | 716        |
| 14 Nov 02 | Technical Memorandum Report, Analysis of Groundwater Data Collected During Main Installation Wide Baseline Groundwater Sampling Event | CH2M Hill, Inc.   | 744        |
| 21 Nov 02 | BCT Meeting Minutes, 21 Nov 02  | The Memphis Depot                                       | 717        |
| 25 Nov 02 | Pistol Range Site Remediation Work Plan Addendum, Site 60   | Smith, Kraig<br>Jacobs Engineering                      | 718        |
| Dec 02    | IRA, Semi-Annual Groundwater Quality Report, Year Four, Second Half   | Jacobs Federal Programs                                 | 719 Part 1 |
| Dec 02    | IRA, Semi-Annual Groundwater Quality Report, Year Four, Second Half   | Jacobs Federal Programs                                 | 719 Part 2 |
| Jan 03    | Five-Year Review Report   | CH2M Hill, Inc.   | 720        |
| Jan 03    | IRA, Annual Groundwater O&M Summary Report  | Jacobs Federal Programs                                 | 721        |
| Jan 03    | Fact Sheet, The Depot, Soil Removal Begins at Former Pistol Range on Dunn Field   | The Memphis Depot                                       | 722        |
| 13 Jan 03 | Fact Sheet, News Release, Soil Removal Begins at Former Pistol Range on Dunn Field  | Defense Logistics Agency                                | 723        |
| 16 Jan 03 | BCT Meeting Minutes, 16 Jan 03  | The Memphis Depot                                       | 724        |
| 22 Jan 03 | EPA Letter to Depot Concerning EPA Concurrence on Five-Year Review Report for IRA, Dunn Field   | Smith, Winston A<br>EPA Region IV                       | 725        |
| Feb 03    | FS, Report, Rev 1, Dunn Field   | CH2M Hill, Inc.   | 579        |
| 04 Feb 03 | EPA Letter to Depot Concerning Proposed Category Changes for Environmental Condition Property   | Ballard, Turpin<br>EPA Region IV                        | 745        |
| 12 Feb 03 | Newspaper Article, "Notice of RAB Meeting, 20 Feb 03"   | The Commercial Appeal                                   | 726        |
| 15 Feb 03 | Newspaper Article, "Notice of RAB Meeting, 20 Feb 03"   | Tri-State Defender                                      | 727        |
| 20 Feb 03 | RAB Meeting Minutes, 20 Feb 03  | The Memphis Depot                                       | 805        |
| Mar 03    | Fact Sheet, EnviroNews  | The Memphis Depot                                       | 728        |
| 25 Mar 03 | BCT Meeting Minutes, 25-26 Mar 03   | The Memphis Depot                                       | 746        |
| Apr 03    | Remediation Report, Removal Action, Site 60   | Jacobs Federal Programs                                 | 729        |
| May 03    | Proposed Plan, Dunn Field   | The Memphis Depot                                       | 730        |
| 07 May 03 | Newspaper Article, "Notice of Public Comment Period and Public Meeting, The Memphis Depot Proposed Cleanup Plan for Dunn Field"       | The Commercial Appeal                                   | 731        |
| 08 May 03 | RAB Member Letter to Depot Concerning Kids and Chemical-Facts of Law  | Brayon, Eugene H<br>RAB Member                          | 732        |
| 12 May 03 | DHHS Letter to Depot Concerning Health Consultation   | Howie, Max M<br>Department of Health and Human Services | 733        |

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| 14 May 03 | BCT Meeting Minutes, 14-15 May 03  | The Memphis Depot   | 734 |
| 15 May 03 | RAB Meeting Minutes, 15 May 03   | The Memphis Depot   | 735 |
| 20 May 03 | Depot Letter to EPA Concerning Former Pistol Range Verification of Demobilization, Site 60, Site 85                        | DeBack, John<br>The Memphis Depot   | 736 |
| Jun 03    | Fact Sheet, The Depot, Groundwater Sampling Scheduled for the Depot Community this Summer                                  | The Memphis Depot   | 737 |
| Jun 03    | IRA, Semi-Annual Groundwater Quality Report, Year Five, First Half   | Jacobs Federal Programs   | 747 |
| Jun 03    | Fact Sheet, The Depot, Pre-Design Investigation of Disposal Sites Begins at Dunn Field                                     | The Memphis Depot   | 748 |
| 11 Jun 03 | DHHS Letter to Depot Concerning Childhood Leukemia   | Crellin, John R<br>Department of Health and Human Services                        | 738 |
| 13 Jun 03 | EPA Letter to Depot Concerning Kids and Chemical-Facts of Law  | Ballard, Turpin<br>EPA Region IV  | 739 |
| 18 Jun 03 | Newspaper Article, "Notice of Extension of Public Comment Period, The Memphis Depot Proposed Cleanup Plan for Dunn Field"  | The Commercial Appeal   | 740 |
| 19 Jun 03 | Newspaper Article, "Notice of RAB Meeting, 19 Jun 03"  | Tri-State Defender  | 741 |
| 19 Jun 03 | RAB Meeting Minutes, 19 Jun 03   | The Memphis Depot   | 749 |
| 19 Jun 03 | BCT Meeting Minutes, 19 Jun 03   | The Memphis Depot   | 750 |
| 11 Jul 03 | Memphis and Shelby County Health Department Letter to Depot Concerning Public Comment on Dunn Field Proposed Clean-up Plan | Madlock, Yvonne<br>Memphis and Shelby County Health Department                    | 751 |
| 17 Jul 03 | TDEC Letter to Depot Concerning Hazardous Waste Inspection   | Nicholson, Herb<br>Tennessee Department of Environment and Conservation           | 752 |
| Aug 03    | PCP Dip Vat Soil Investigation Work Plan, Rev 1  | CH2M Hill, Inc.   | 753 |
| Aug 03    | Disposal Sites Pre-Design Investigation Data Collection Plan, Rev 2, Dunn Field  | CH2M Hill, Inc.   | 754 |
| 11 Aug 03 | TDEC Letter to Depot Concerning Status of NOV  | Bullington, Clayton A, PG<br>Tennessee Department of Environment and Conservation | 755 |
| 12 Aug 03 | Technical Memorandum Report, Installation of Up-Gradient Monitoring Wells, Dunn Field                                      | Jacobs Federal Programs   | 743 |
| 20 Aug 03 | BCT Meeting Minutes, 20 Aug 03   | The Memphis Depot   | 756 |
| 25 Aug 03 | USACE Letter to Depot Concerning Statement of Clearance for Dunn Field   | Rivenburgh, John D<br>US Army Corps of Engineers - Huntsville District            | 757 |
| 18 Sep 03 | BCT Meeting Minutes, 18 Sep 03   | The Memphis Depot   | 758 |
| Oct 03    | Fact Sheet, EnviroNews   | The Memphis Depot   | 759 |
| 06 Oct 03 | TDEC Letter to Depot Concerning Requirement to Submit Corrective Action Permit Application                                 | Bullington, Clayton A, PG<br>Tennessee Department of Environment and Conservation | 760 |
| 08 Oct 03 | Newspaper Article, "Notice of RAB Meeting, 16 Oct 03"  | The Commercial Appeal   | 761 |
| 16 Oct 03 | RAB Meeting Minutes, 16 Oct 03   | The Memphis Depot   | 550 |
| 16 Oct 03 | BCT Meeting Minutes, 16 Oct 03   | The Memphis Depot   | 762 |
| 22 Oct 03 | EPA E-mail to Depot Concerning Request for Extension   | Ballard, Turpin<br>EPA Region IV  | 763 |
| Dec 03    | BRAC Cleanup Plan (BCP), Version 7, Rev 2  | CH2M Hill, Inc.   | 764 |
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| 08 Dec 03 | EPA Letter to Depot Concerning Extension of EPA Review Period for the Intermediate RD Submittal  | Ballard, Turpin<br>EPA Region IV  | 766        |
| Jan 04    | IRA, Annual Groundwater O&M Summary Report, 03   | Jacobs Federal Programs   | 767        |
| Jan 04    | IRA, Semi-Annual Groundwater Quality Report, Year Five, Second Half  | Jacobs Federal Programs   | 768        |
| 06 Jan 04 | Depot Letter to EPA Concerning Notification of Field Activities  | DeBack, John<br>The Memphis Depot   | 769        |
| 15 Jan 04 | BCT Meeting Minutes, 15 Jan 04   | The Memphis Depot   | 778        |
| 21 Jan 04 | Technical Memorandum Report, Results of Soil Investigation at Former PCP Dip Vat and Underground PCP Storage Tank Sites, Main Installation | CH2M Hill, Inc.   | 551        |
| 27 Jan 04 | Depot Letter to EPA Concerning Adjustment of Delivery Dates for ROD and MI RD of FFA   | DeBack, John<br>The Memphis Depot   | 770        |
| Mar 04    | ROD, Final, Dunn Field   | CH2M Hill, Inc.   | 779        |
| 09 Mar 04 | TDEC Letter to Depot Concerning ARARs Requirements for Groundwater Contamination   | Haynes, Jim, PE<br>Tennessee Department of Environment and Conservation           | 780        |
| 12 Mar 04 | Depot Letter to EPA Concerning Notification of Change of BRAC Project Manager  | Dobbs, Michael A<br>The Memphis Depot   | 781        |
| 18 Mar 04 | BCT Meeting Minutes, 18 Mar 04   | The Memphis Depot   | 782        |
| 29 Mar 04 | Depot Letter to TDEC Concerning Corrective Action Permit Application   | Dobbs, Michael A<br>The Memphis Depot   | 783        |
| Apr 04    | RD, Final Report, Disposal Sites at Dunn Field, Rev 1  | CH2M Hill, Inc.   | 784        |
| 01 Apr 04 | Depot Letter to EPA and TDEC Concerning Request for Schedule Extension for PRB Intermediate Design, Dunn Field                             | Dobbs, Michael A<br>The Memphis Depot   | 785        |
| 20 Apr 04 | TDEC Letter to Depot Concerning Soil Investigation Report, PCP Dip Vat and UST PCP Sites   | Morrison, James W, PG<br>Tennessee Department of Environment and Conservation     | 786        |
| 21 Apr 04 | Depot Letter to EPA and TDEC Concerning Request for Schedule Extension for RD, Final Report, Main Installation                             | Dobbs, Michael A<br>The Memphis Depot   | 787        |
| 26 Apr 04 | Depot Letter to EPA and TDEC Concerning Draft Revised Master Schedule, Main Installation   | Dobbs, Michael A<br>The Memphis Depot   | 788        |
| 03 May 04 | EPA Letter to Depot Concerning Approval of Schedule Extension for RD, Final Report, Main Installation                                      | Ballard, Turpin<br>EPA Region IV  | 789        |
| 11 May 04 | EPA Letter to Depot Concerning Comments on Proposed Schedule Revision  | Ballard, Turpin<br>EPA Region IV  | 790        |
| 20 May 04 | BCT Meeting Minutes, 20 May 04   | The Memphis Depot   | 791        |
| 15 Jun 04 | BCT Teleconference Minutes, 15 Jun 04  | The Memphis Depot   | 792        |
| 24 Jun 04 | TDEC Letter to Depot Concerning Corrective Action Permit Application   | Bullington, Clayton A, PG<br>Tennessee Department of Environment and Conservation | 793        |
| Jul 04    | RD, Final Report, Main Installation, Rev 1   | CH2M Hill, Inc.   | 794 Part 1 |
| Jul 04    | RD, Final Report, Main Installation, Rev 1   | CH2M Hill, Inc.   | 794 Part 2 |
| 07 Jul 04 | EPA Letter to Depot Concerning Concurrence of Draft FOST No. 3   | Ballard, Turpin<br>EPA Region IV  | 795        |
| 12 Jul 04 | Depot Letter to EPA and TDEC Concerning Draft Revised Master Schedule, Main Installation and Dunn Field                                    | Dobbs, Michael A<br>The Memphis Depot   | 796        |
| 12 Jul 04 | Depot Letter to TDEC Concerning Requested Additional Information for Corrective Action Permit Application                                  | Dobbs, Michael A<br>The Memphis Depot   | 797        |
| 20 Jul 04 | BCT Meeting Minutes, 20 Jul 04   | The Memphis Depot   | 798        |

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| 08 Aug 04 | EPA Letter to Depot Concerning Approval of Revised Schedule for Primary Documents for DDMT   | Ballard, Turpin<br>EPA Region IV   | 799 |
| 09 Aug 04 | TDEC Letter to Depot Concerning Completeness Determination for Corrective Action Permit Application  | Apple, Mike<br>Tennessee Department of Environment and Conservation        | 806 |
| 10 Aug 04 | EPA Letter to Depot Concerning Approval of RD Final Report, Main Installation  | Ballard, Turpin<br>EPA Region IV   | 800 |
| 26 Aug 04 | BCT Meeting Minutes, 25-26 Aug 04  | The Memphis Depot  | 801 |
| 21 Sep 04 | BCT Meeting Minutes, 20-21 Sep 04  | The Memphis Depot  | 807 |
| 24 Sep 04 | Depot Letter to TDEC Concerning Withdraw of Submitted Corrective Action Permit Application   | Dobbs, Michael A<br>The Memphis Depot                                      | 802 |
| 14 Oct 04 | Technical Memorandum Report, Early Implementation of Selected Remedy Component to Address Groundwater Contamination West of Dunn Field, Rev 1                              | CH2M Hill, Inc.  | 808 |
| 15 Oct 04 | RA, Work Plan, Disposal Sites at Dunn Field, Rev 1   | MACTEC Engineering and Consulting, Inc.                                    | 809 |
| 20 Oct 04 | BCT Meeting Minutes, 20 Oct 04   | The Memphis Depot  | 810 |
| 21 Oct 04 | MOA, Technical Memorandum Report, Early Implementation of Selected Remedy Component to Address Groundwater Contamination West of Dunn Field, Rev 1 (atch found at AR #808) | Dobbs, Michael, A<br>Ballard, Turpin<br>Morrison, James W, PG              | 811 |
| Nov 04    | Work Plan, Early Implementation of Selected Remedy, Dunn Field, Rev 1  | MACTEC Engineering and Consulting, Inc.                                    | 812 |
| 12 Nov 04 | EPA Letter to Depot Concerning Comments on Work Plan, Early Implementation of Selected Remedy, Dunn Field, Rev 1   | Ballard, Turpin<br>EPA Region IV   | 813 |
| 15 Nov 04 | EPA Letter to TDEC Concerning Issues for Final RCRA Permit   | Johnston, Jon D<br>EPA Region IV   | 814 |
| 16 Nov 04 | Depot Letter to EPA and TDEC Concerning Mobilization for Early Implementation of Selected Remedy, Dunn Field   | Dobbs, Michael A<br>The Memphis Depot                                      | 815 |
| 22 Nov 04 | Depot Letter to EPA and TDEC Concerning Delay of Notice of Land Use Restrictions Report, Main Installation   | Dobbs, Michael A<br>The Memphis Depot                                      | 816 |
| 22 Nov 04 | Depot Letter to EPA and TDEC Concerning Extension Request for BCP, Version 8   | Dobbs, Michael A<br>The Memphis Depot                                      | 817 |
| Dec 04    | Community Involvement Plan   | MACTEC Engineering and Consulting, Inc.                                    | 818 |
| 19 Jan 05 | TDEC Letter to Depot Concerning Denial to Reissue Hazardous Waste Corrective Action Permit   | Burroughs, Charles<br>Tennessee Department of Environment and Conservation | 819 |
| 20 Jan 05 | BCT Meeting Minutes, 20 Jan 05   | The Memphis Depot  | 820 |
| 21 Jan 05 | Notice of Land Use Restrictions Report, Main Installation  | US Army Corps of Engineers - Mobile District                               | 821 |
| 11 Feb 05 | EPA Letter to Depot Concerning BCP, Version 8  | Ballard, Turpin<br>EPA Region IV   | 822 |
| 24 Feb 05 | BCT Meeting Minutes, 24 Feb 05   | The Memphis Depot  | 823 |
| Mar 05    | BRAC Cleanup Plan (BCP), Version 8, Rev 1  | MACTEC Engineering and Consulting, Inc.                                    | 824 |
| Mar 05    | Finding of Suitability to Transfer (FOST) 4, Dunn Field  | MACTEC Engineering and Consulting, Inc.                                    | 825 |
| 14 Mar 05 | MACTEC Letter to EPA and TDEC Concerning Mobilization for RA at Disposal Sites, Dunn Field   | Holmes, Thomas C<br>MACTEC Engineering and Consulting, Inc.                | 826 |

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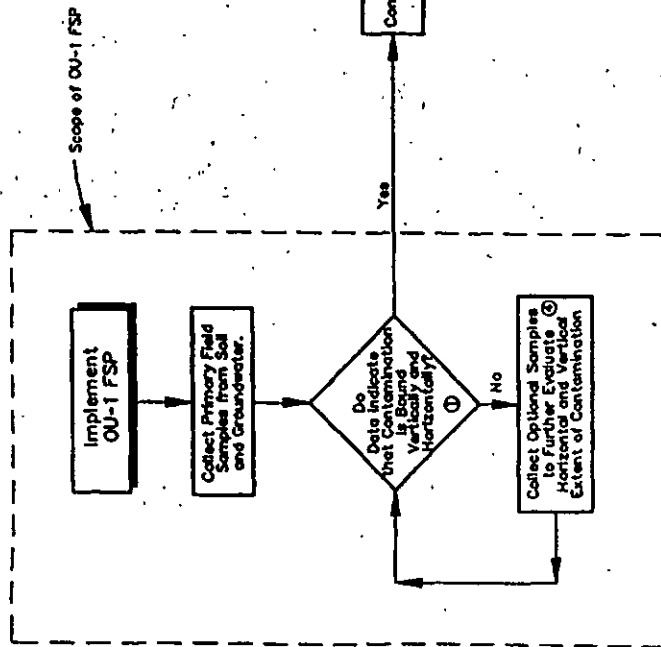
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| 24 Mar 05  | BCT Meeting Minutes, 24 Mar 05  | The Memphis Depot                                   | 827       |
| 19 Apr 05  | EPA Letter to Depot Concerning Concurrence with FOST 4, Dunn Field                          | Ballard, Turpin<br>EPA Region IV                    | 828       |
| 20 Apr 05  | BCT Meeting Minutes, 20 Apr 05  | The Memphis Depot                                   | 829       |
| 19 May 05  | BCT Meeting Minutes, 19 May 05  | The Memphis Depot                                   | 830       |
| 31 Jul 05  | Administrative Record File Index  | LABAT-ANDERSON<br>INCORPORATED                      | 01        |
| UNK        | SOW, Ordnance, Explosive Waste, and Chemical Warfare Materiel Sub-Surface Clearance         | US Army Corps of Engineers -<br>Huntsville District | 369       |
| 15 June 05 | BCT Meeting Minutes, 15 June 05   | The Memphis Depot                                   | Unscanned |
| 21 July 05 | BCT Meeting Minutes, 21 July 05   | The Memphis Depot                                   | Unscanned |
| Sep 05     | Early Implementation of Selected Remedy Interim Remedial Action Completion Report, Rev. 1   | MACTEC Engineering and<br>Consulting, Inc.          | Unscanned |
| Sep 05     | Main Installation Remedial Action Work Plan, Rev. 1   | MACTEC Engineering and<br>Consulting, Inc.          | Unscanned |
| Sep 05     | Dunn Field Remedial Design Investigation Work Plan, Rev. 1                                  | CH2M Hill   | Unscanned |
| 22 Sep 05  | EPA Letter to DDC concerning Approval of IRACR Phase 1 of the Selected Remedy at Dunn Field | LaPierre, Kenneth R.<br>EPA Region IV               | Unscanned |

## DOOs

**ACCOUNTS**

- DOOs - Data Quality Objectives
- TSC - Tennessee Soil Cleanup Levels
- RHBC - Region III Health Based Criteria
- GWPC - Groundwater Protection Criteria
- FBL - Fixed-Base Laboratory
- FSP - Field Sampling Plan
- FRL - Final Remediation Level
- PRG - Preliminary Remediation Goal
- IRA - Interim Remedial Action
- RAL - Removal Action Level
- FS - Feasibility Study

- o Collect the specified samples for each exposure pathway (site specific) to conduct a statistically based comparison to PRGs and FRLs.
- o Use Level 2 (field & lab) data to collect data quickly and economically.
- o Use Level 3 FBL data to confirm results of Level 2 data.
- o Characterize horizontal and vertical extent of contamination.



## NOTES:

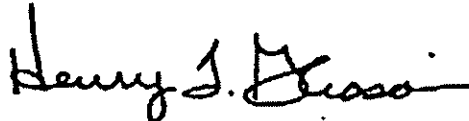
- ① The bounds of contamination refer to the extent of contamination equal to or less than background and/or PRGs.
- ② Background data set will be established by using criteria identified in the RI/FS WP. Comparison criteria are developed using TSC, RHBC and GWPC, and other applicable regulatory criteria. These criteria are used as PRGs based on a conservative approach from the standpoint of risk (exposure and assessment criteria). Section 3 of this FSP discusses the comparison criteria. Statistical comparison will be limited by the amount of data collected during the field investigation.
- ③ The RALs will be established based on acute criteria of risks and economic factors.
- ④ Optional work will not be initiated without prior approval of CEHND. Optional samples will be collected only after a field charge request form is signed by CEHND.



863 472

2.

Please make sure we execute our environmental and public health responsibilities in a manner which is fair, open, unbiased, and fully consistent with the President's direction. Contact Mr. Dennis Lillo, Director, Environmental Quality, CAAE, at DSN 427-6241, or Col Frank Esposito, Associate General Counsel for Environment, GC, at DSN 427-6079 for any additional information regarding the DLA environmental justice policy.



HENRY T. GLISSON  
Lieutenant General, USA  
Director

*H file*

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

345 COURTLAND STREET, N.E.  
ATLANTA, GEORGIA 30365  
March 13, 1997

4WD-FFB

Certified MailReturn Receipt Requested

Colonel Michael J. Kennedy, Commander  
Defense Distribution Depot Memphis  
2163 Airways Boulevard  
Memphis, Tennessee 38114-5210

SUBJ: Concurrence on CERFA Uncontaminated Parcels  
Defense Distribution Depot Memphis, Tennessee (DDMT)

Dear Col. Kennedy:

Under CERFA (Public Law 102-426), federal agencies are required to expeditiously identify real property that can be immediately reused and redeveloped. Satisfying this objective requires the identification of real property where no hazardous substances or petroleum products were released or disposed. At National Priorities List sites such as DDMT, the U.S. Environmental Protection Agency (EPA) must concur with such determinations.

EPA Region IV has reviewed the determination of uncontaminated parcels at DDMT as detailed in your letter of December 5, 1996 and the Environmental Baseline Survey (final revisions received by EPA December 20, 1996). EPA concurs that the following (BRAC) parcels are uncontaminated (qualified or unqualified) and ready for immediate reuse: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.3, 3.4, 4.1, 4.2, 4.3, 13.1, 13.2, 13.3, 14.1, 15.1, 17.1, 23.1, 23.2, 23.3, 23.4, 23.5, 29.1, 33.1, 33.2, 33.3, 33.4, 33.5, and 34.1.

EPA does **not** concur with the determination that Parcel 3.2 (Building 195) is uncontaminated because of the evidence, at that location, of groundwater contamination at levels above background and ARARs.

If you have any questions please contact me at 404.562.8552.

Sincerely,

A handwritten signature in cursive script, reading "Dann Spariosu", is written over the typed name.

Dann Spariosu, Ph.D  
Remedial Project Manager



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

863 474

received  
MAY 10 1998

October 20, 1998

4WD-FFB

Mr. Shawn Phillips  
BRAC Environmental Coordinator  
Defense Distribution Center Memphis  
2163 Airways Blvd.  
Memphis, TN 38114 - 5210

SUBJECT: Concurrence with CERFA Category 1 Properties.

Dear Mr. Phillips:

The United States Environmental Protection Agency (USEPA), Region 4, has reviewed the CERFA Letter Report from the Defense Depot Memphis Tennessee (DDMT) dated July 28, 1998. Based on the information presented in Table 2a, and at your request, the USEPA hereby concurs with the designations as proposed.

If you have any questions, please call me at 404/562-8553.

Sincerely yours,

Wm. Turpin Ballard, CHMM  
Remedial Project Manager

cc: file



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

File:

D.C. 660.420  
863 475

April 16, 1999

Docket No. 030-33261  
Control No. 125947

License No. 37-30062-01

Phyllis Campbell  
Deputy Commander  
Defense Logistics Agency  
Defense Distribution Center  
2001 Mission Drive  
New Cumberland, PA 17070-5000

Dear Deputy Commander Campbell:

This refers to your license amendment request. Enclosed with this letter is the amended license. The facility at Defense Distribution Depot Memphis, Tennessee may be released for unrestricted use.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Thank you for your cooperation.

Sincerely,

Pamela J. Henderson  
Nuclear Materials Safety Branch 2  
Division of Nuclear Materials Safety

Enclosure:  
Amendment No. 5

cc:  
Allen Hilsmeier, Radiation Safety Officer



**DEFENSE LOGISTICS AGENCY**  
DEFENSE DISTRIBUTION CENTER  
2001 MISSION DRIVE  
NEW CUMBERLAND, PA 17070-5000

Mike 863 476  
Dobbs  
DDC-TW

REPLY  
REFER TO

DDC-AH

**received**  
AUG 20 1998

Ms Pamela J. Henderson  
Nuclear Materials Safety Branch 2  
Division of Nuclear Materials Safety  
Nuclear Regulatory Commission, Region I  
475 Allendale Road  
King of Prussia, PA 19406-1415


Dear Ms Henderson:

Reference our March 6, 1997 memorandum that provided notification of our intent to conduct a termination radiological survey at the Defense Distribution Depot Memphis, TN (DDMT). Forwarded herewith are the radiological survey reports recommending that DDMT be released for unrestricted use.

All radiological activities have ceased and no radioactive material is on the premises at DDMT. We request that DDMT be removed from the Defense Distribution Center (formerly the Defense Distribution Region East) license 37-30062-01.

Point of contact for any additional information is Mr. Allen Hilsmeier, Radiation Safety Officer, (717) 770-4762, e-mail: [ahilsmeier@ddc.dla.mil](mailto:ahilsmeier@ddc.dla.mil).

Sincerely,

  
PAUL OKUM  
Director of Administration

Enclosures:

cc:  
CAA EH  
DDMT-D  
DDC-T(BRAC)



**DEFENSE DISTRIBUTION CENTER**

**TERMINATION RADIOLOGICAL SURVEY  
FOR  
DEFENSE DISTRIBUTION DEPOT MEMPHIS  
BUILDING 319, BAY 6**

**RADIOLOGICAL HEALTH GROUP  
SAFETY & OCCUPATIONAL HEALTH OFFICE  
DIRECTOR OF ADMINISTRATION**

**SURVEY CONDUCTED  
APRIL 7-11, 1997**

## EXECUTIVE SUMMARY

This document encompasses a historical search, the sampling protocol to conduct a termination radiological survey and the survey results for Building 319, Bay 6, at the Defense Distribution Depot Memphis, Tennessee (DDMT). The historical search involved discussions with key persons who were directly knowledgeable of the past radiological operations at DDMT. The radiological survey protocol was developed utilizing the guidance contained in reference 1, Appendix A. The survey results indicate that Building 319 can be released for unrestricted use.

The historical review of radiological activities at DDMT revealed that lantern mantles that contain naturally occurring radioactive thorium were primarily stored in Bay 6, Building 319. Discussion with current and former radiation protection officers and employees did not indicate any destruction of the mantles or contamination of any facility surfaces or the environment. A radiological environmental baseline study conducted at DDMT in August 1996 (see Appendix A, reference 4), concluded that all facilities could be released for unrestricted use with the exception of Building 319, Bay 6. The baseline data indicated that Building 319 had several wall surfaces with alpha radiation above the alpha background radiation level. The report recommended that additional characterization be performed to determine the cause of the slightly elevated alpha radiation in the facility.

The characterization study was completed on April 11, 1997. This report provides the data analysis of the study which concludes that the higher levels of alpha radiation are a result of naturally occurring radioactivity in pre-cast concrete.

## BACKGROUND

This characterization survey report is a continuation of the Environmental Baseline Study referenced in Appendix A. This Environmental Baseline Study identified a slight but elevated amount of alpha radiation on the South wall in Bay 6, Building 319. The study indicated that the alpha radiation level exceeded release criteria specified in Appendix A, reference 2, but was well below the release criteria specified in Appendix A, reference 3.

Reference 2 in the Study, Table B-1, specified a surface concentration limit of 114 dpm/100 cm<sup>2</sup> for Thorium 232 (Th-232) in equilibrium with its daughter products for unrestricted release of a building. This value corresponds to a dose rate for building occupancy of 3 mRem/year. The dose rate value has subsequently been superseded by a value of 25 mRem/year (Appendix A, reference 6). This new value corresponds to a surface concentration release limit of about 950 dpm/100 cm<sup>2</sup>, which is essentially the same limit that NRC adopted in their release criteria stated in reference 3, Appendix A, i.e., 1000 dpm/100 cm<sup>2</sup>.

The walls for Building 319 were pre-formed and then layered into place. The concrete sections are about 8 inches wide and 8 feet long. Natural background radioactivity in the concrete could vary if the ingredients came from different geographical locations. To test this potentiality, radiation measurements were taken on an exterior wall where no contamination could have occurred. Elevated alpha radiation readings were recorded at isolated spots which were similar to

the readings inside the building. Further, wipe tests on surfaces indicated that the radioactive material (RAM) was not removable. Reference 7, Appendix A, stated that Tennessee has a significantly higher Uranium concentration than most of the United States, i.e., 50-80 parts per million (ppm) to 1-2 ppm, respectively.

No maintenance work took place at DDMT that may have involved the alteration or destruction of RAM from the time of manufacture. Also, no repackaging or unwrapping of RAM occurred. Based upon this background information, DDC determined that Building 319 would be classified as an unaffected area as described in reference 1, Appendix A.

## **SITE DESCRIPTION**

Persons interviewed stated that Building 319, Bay 6 was primarily used to store lantern mantles but watches, electron tubes, smoke detectors and toggle switches were also stored in the facility. They stated that most items were stored in the Southeast corner which prompted biased sampling to take place there. One interviewee stated that lantern mantles at one time were stored throughout the bay. The East wall was believed to be installed sometime after RAM was already being stored. Furthermore, there was evidence that a wall was originally installed on the West side between Bays 6 and 7 but is now removed. Epoxy material was applied over the floor at some time after the RAM was present and probably after the RAM had been removed from the facility for subsequent storage of hazardous chemicals.

## **HISTORICAL REVIEW**

The historical review of Building 319 operations involving RAM indicated that NRC generally licensed and license exempt radioactive sources were stored in the building. Interviews were documented in Appendix A, reference 4. Interviewees stated that radiation surveys had not been conducted in the past.

## **TRAINING**

The persons performing this survey were trained on the use of the instrumentation and the procedures to follow during the survey prior to beginning work. The DDC Health Physicist was responsible overall for the accuracy and adequacy of the data. He was assisted by the DDMT RPO.

## **SURVEY PROCEDURES**

### **OVERVIEW**

Building 319, Bay 6, was treated as an unaffected area as defined in NUREG-5849. It was considered a single survey unit. After the slightly elevated alpha radiation measurements were observed during the environmental baseline study, the bay was reevaluated to determine if it should be reclassified to an affected area. The characterization data supported the position that the radioactive material was within the concrete walls and the bay could be treated as an unaffected area.

Stationary measurements were taken in the facility using a "box and X" pattern, i.e., 5 measurements were taken in each 1 square meter grid "box." Measurements were taken in each grid corner and in the center of the grid. For floor measurements, at least a 100 square centimeter area was sanded before the alpha/beta survey meter was placed on the surface. A gamma radiation scan was also made over the surface of the grid as recommended in reference 1, Appendix A.

Alpha radiation measurements were conducted using two techniques. Wall surfaces where the alpha radiation exceeded 3 times background as determined by the audio and ratemeter response, were counted for 1 minute using an integrated count. This type of measurement improved the Minimum Detectable Activity (MDA) and accuracy. Surfaces that indicated only background radiation were counted over at least 2 time constants, i.e., 8 seconds, in the ratemeter mode to expedite the survey. The MDA was higher but still below acceptable limits by a factor of 10.

Beta radiation measurements were conducted by using the ratemeter mode of the survey meter. The size of the detector, i.e., 100 cm<sup>2</sup>, provided an optimum MDA. Surfaces that indicated only background radiation were counted over at least 2 time constants, i.e., 8 seconds, in the ratemeter mode to expedite the survey.

Gamma radiation measurements were conducted by using the audio response and reading the meter of the survey meter. Readings were taken on contact with the surface and at one meter. A scan was also made of floor and wall surfaces. Particular attention was given to cracks in surfaces.

The guideline values specified in reference 3, Appendix A, could be observed using the instrumentation described below. Each instrument's MDA for various surfaces are provided in the Instrumentation Section.

Wipe tests were taken throughout the facility. Each alpha/beta-gamma wipe test was conducted by taking a 1.75 inch diameter filter paper and wiping about a 10 inch surface in an 'S' pattern. This test resulted in an area wiped of about 100 cm<sup>2</sup>. These wipe tests were counted in a scaler capable of measuring both alpha and medium energy beta radiation.

## **INSTRUMENTATION**

Instrumentation used for the surveys included a zinc sulfide scintillator for alpha detection, a plastic scintillator for beta detection and a sodium iodide crystal for gamma detection. Each instrument underwent standard quality assurance checks such as a daily source check, background

and efficiency determinations, establishment of a MDA and a flag value. Instruments were calibrated by a certified U.S. Army calibration facility on a six month basis.

Specific information on the types of instruments used are:

I. Fixed Contamination:

- a. Alpha Radiation
  - Ludlum Survey Meter, Model 2224, Serial Number 125598
  - Ludlum Detector, Model 43-89, Serial Number 134011
  - Calibration Date January 22, 1997
  - Background at site
    - Floor 11 dpm/ 100 cm<sup>2</sup>, (2.0 CPM)
    - Inner Concrete Block Wall 13 dpm/ 100 cm<sup>2</sup>, (2.3 CPM)
    - Pre-Cast Concrete Wall 35 dpm/ 100 cm<sup>2</sup>, (6.25 CPM)
    - Tile Wall 21 dpm/ 100 cm<sup>2</sup>, (3.8 CPM)
  - Efficiency 18 % for Th-230
  - Detector surface area 100 cm<sup>2</sup>
  - MDA
    - Floor 100 dpm/ 100 cm<sup>2</sup>
    - Inner Concrete Block Wall 107 dpm/ 100 cm<sup>2</sup>
    - Pre-Cast Concrete Wall 80 dpm/ 100 cm<sup>2</sup>
    - Tile Wall 138 dpm/ 100 cm<sup>2</sup>
  
- b. Beta Radiation
  - Ludlum Survey Meter, Model 2224, Serial Number 125598
  - Ludlum Detector, Model 43-89, Serial Number 134011
  - Calibration Date January 22, 1997
  - Background at site
    - Floor 2,071 dpm/ 100 cm<sup>2</sup> (290 CPM)
    - Inner Wall 1,628 dpm/ 100 cm<sup>2</sup> (228 CPM)
    - Concrete Wall 1,614 dpm/ 100 cm<sup>2</sup> (226 CPM)
    - Tile Wall 3,745 dpm/ 100 cm<sup>2</sup> (524 CPM)
  - Efficiency 14 % for Tc-99
  - Detector surface area 100 cm<sup>2</sup>
  - MDA
    - Floor 1,550 dpm/ 100 cm<sup>2</sup>
    - Inner Wall 1375 dpm/ 100 cm<sup>2</sup>
    - Concrete Wall 519 dpm/ 100 cm<sup>2</sup>
    - Tile Wall 2,085 dpm/ 100 cm<sup>2</sup>
  
- c. Gamma Radiation
  - Ludlum Survey Meter, Model 19, Serial Number 104568
  - Ludlum Detector, Model 19, Internal Mounted
  - Calibration Date January 22, 1997
  - Background at site

Floor Surface 6 uRem/hr; 1 Meter 6 uRem/hr  
 Inner Wall Surface 6 uRem/hr; 1 Meter 6 uRem/hr  
 Concrete Wall Surface 5 uRem/hr; 1 Meter 6 uRem/hr  
 Tile Wall Surface 12 uRem/hr; 1 Meter 10 uRem/hr

MDA about 1 uR/hr static measurement\*

MDA about 3 uR/hr scanning monitoring\*

\* Defined in Appendix A, reference 1, Table 5-6.

## II. Removable Contamination

Alpha/Beta Radiation Ludlum Dual Scaler Model 2929 Serial Number 39100  
 Ludlum Detector Model 43-10-1 Serial Number 133993  
 Calibration Date April 24, 1997

### Background

Alpha 1.0 dpm/ 100 cm<sup>2</sup> (0.35 CPM)

Beta 434 dpm/ 100 cm<sup>2</sup> (138 CPM)

### Efficiency

Alpha 34 %

Beta 31 %

### MDA

Alpha 5.5 DPM/ 100 cm<sup>2</sup>

Beta 132 DPM/ 100 cm<sup>2</sup>

## QUALITY ASSURANCE CHECK

A daily check for portable survey instruments consisted of a source check and comparison of the measurement to a reading determined after calibration. Measurements conducted before and at the end of the day's survey were within  $\pm 20\%$  of the initial value. Additionally, the physical condition of the instrument, to include battery, cables and probes were checked. A daily background check was performed.

The laboratory instrument's efficiency value and MDA were determined using National Institute of Standards and Technology traceable standards. The standards were measured just prior to the wipe tests being counted.

## SURVEY TECHNIQUES

This second phase, the characterization study, involved confirming the original slightly elevated alpha readings in the Environmental Baseline Study. Once the readings were confirmed, an area was sanded rigorously with a mechanical sander. Health physics precautions were implemented which included: donning of a full face respirator and protective outer garments; and covering the floor with plastic to collect the concrete dust. Measurements were retaken to determine if the alpha readings had been reduced. These data are presented in Appendix D.

Stationary surveys for alpha radiation were performed by holding the probe in contact with the surface surveyed for at least 2 time constants, i.e., 8 seconds. The time period was reasonable

and ensured that the MDA values were below the guideline value. As stated earlier, wall surfaces where the alpha radiation exceeded 3 times background were counted for 1 minute using an integrated count.

Stationary surveys for beta radiation were performed by holding the probe in contact with the surface surveyed for at least 2 time constants, i.e., 8 seconds. The MDAs for the various surfaces were slightly above the guideline value for Th-232 but below the guideline value for beta-gamma emitting radioisotopes, i.e., 1,000 dpm/100 cm<sup>2</sup> and 5,000 dpm/100 cm<sup>2</sup>, respectively.

Stationary surveys for gamma radiation were performed by holding the survey meter in contact with the surface and at a distance of 1 meter for about 8 seconds. This amount of time ensured that the meter had stabilized. The MDA, 1 uR/hr, is below the guideline value for gamma emitting radioisotopes, i.e., 5 uR/hr as stated in the Acceptance Criteria section below.

Scanning surveys for gamma radiation was performed by walking slowly through the area obtaining exposure rate readings on surfaces. The highest reading obtained at a survey point was recorded.

### **BACKGROUND DETERMINATION**

Background determinations for gamma dose rate and alpha, beta count rate surveys were made prior to the beginning of the survey. Measurements were made in Building 319 in an adjoining room where RAM had not been stored but of similar construction as the facilities to be surveyed. Further, alpha radiation measurements were taken on the West exterior wall of Bay 6 to determine if any localized, elevated alpha radiation readings might be present. A total of 342 measurements were made using alpha, beta and gamma survey meters. The readings are shown in Appendix C.

The alpha measurements ranged from 0 to 1 counts per 8 seconds for the floor and inner wall. The alpha measurements for the concrete wall ranged from 2 to 5 CPM. The number of measurements required to be statistically accurate was about the same as the actual number of measurements taken. The background was verified each day the survey occurred.

Background readings were made prior to use of laboratory equipment. These measurements were used to determine the MDA for the several isotopes.

### **WIPE TESTS**

Because of the nature of the RAM stored in Building 319, the possibility of finding loose contamination was small. Nevertheless, wipe tests of the facilities were taken to determine if any residual contamination was present. Eighty two wipe tests were taken on the floor and walls. These wipe tests were counted in a scaler capable of measuring both alpha and medium energy beta radiation.

### **ACCEPTANCE CRITERIA**

The current standards for unrestricted use are contained in Appendix A, reference 3. These standards formed the basis for the acceptance criteria used by DDC in the evaluation of Building 319.

The acceptance criteria are detailed in the table below:

**Table 1: Acceptance Criteria**

| Radionuclide  | Exposure Rate (mRem/Hr) <sup>3</sup> | Ave. Gross Contamination <sup>1</sup>   | Max. Gross Contamination <sup>2</sup>    | Removable <sup>1</sup>                  |
|---|--------------------------------------|---|--|---|
| U-nat, U-235, U-238, and associated decay products                | N/A                                  | 5,000 DPM $\alpha$ /100 cm <sup>2</sup> | 15,000 DPM $\alpha$ /100 cm <sup>2</sup> | 1,000 DPM $\alpha$ /100 cm <sup>2</sup> |
| Transuranic, Ra-226, Ra-228, Th-230, Pa-231, Ac-227, I-125, I-129 | N/A                                  | 100 DPM/100 cm <sup>2</sup>             | 300 DPM/100 cm <sup>2</sup>              | 20 DPM/100 cm <sup>2</sup>              |
| Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133 | N/A                                  | 1,000 DPM/100 cm <sup>2</sup>           | 3,000 DPM/100 cm <sup>2</sup>            | 200 DPM/100 cm <sup>2</sup>             |
| Beta-gamma emitters except Sr-90 and other noted above            | 0.005 mrem/hr                        | 5,000 DPM/100 cm <sup>2</sup>           | 15,000 DPM/100 cm <sup>2</sup>           | 1,000 DPM/100 cm <sup>2</sup>           |

<sup>1</sup> As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

<sup>2</sup> The maximum contamination level applies to an area of not more than 100 cm<sup>2</sup>.

<sup>3</sup> The exposure rate criteria of 0.005 mrem/hr (5.0  $\mu$ R/hr) was obtained from a Nuclear Regulatory Commission internal memo dated October 29, 1986, from S. Block, Health Physicist, Region V to Peter Erickson, Special and Standardization Project, NRR, subject: Conversion of Regulatory Guide 1.86 Surface Contamination Limits Into Exposure Rate For Release For Unrestricted Use.

## SURVEY DATA ANALYSIS

Data obtained for Building 319, Bay 6 are provided in Appendix D.

Regarding the direct measurement for alpha contamination in Bay 6 of Building 319, all measurements were well below the guideline value, i.e., 1,000 dpm/100 cm<sup>2</sup>. All but one reading were at least a factor of 10 below the acceptance criteria. All individual readings were at least a factor of 10 below the maximum allowable limit, i.e., 3,000 dpm/100 cm<sup>2</sup>.

The readings obtained during this characterization study patterned the original data obtained for the Environmental Baseline Study. The areas where there were slightly elevated alpha readings continued to show readings at the same level and areas where no elevated alpha readings occurred were reconfirmed as not having readings above background. One area that had a slightly elevated alpha reading was sanded and resurveyed. The results, tabulated in Appendix D, show that the

readings taken before and after sanding were essentially unchanged. Two wall chips were sent to an independent laboratory for alpha/beta measurement and a gamma spectrum analysis. The laboratory confirmed the slightly elevated alpha reading on the South wall chip but no alpha reading on the West wall chip. A similar slightly elevated reading was measured for beta radiation. The gamma spectrum analysis did not reveal any peaks for thorium-230 or thorium-232 by analyzing for bismuth-214 and actinium-228, respectively. The data indicate that no significant, if any, fixed contamination was present from the storage of gas lantern mantles. The alpha readings were a result of natural background radioactivity in the concrete.

Regarding the direct measurement for beta contamination in the facility, only one average reading taken at the North Interior Wall, location NE1, slightly exceeded the guideline value for Th-232. This reading, 5 % over the limit, was attributed to the closeness of the guideline value to the statistical variation of background radiation. All individual readings were well below the maximum guideline value for Th-232, i.e., 3,000 dpm/100 cm<sup>2</sup>. The data indicate that no significant, if any, fixed contamination was present from beta emitting radioisotopes or Th-232.

Regarding the direct measurement for gamma contamination in the facility, the highest net value at any location was 4 uRem/hr, which is less than the acceptance criteria, i.e., 5 uRem/hr. The data indicate that no significant, if any, fixed contamination was present that emits gamma radiation.

Regarding the removable net alpha contamination measurements in the facility, all readings were well below the acceptance criteria for natural thorium, i.e., 200 dpm/ 100 cm<sup>2</sup>. The removable net beta contamination measurements were also well below the acceptance criteria. The data indicate that no significant removable contamination was present.

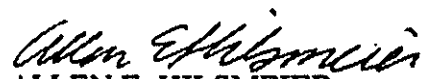
## CONCLUSION

The data indicate that Building 319, Bay 6, had several wall locations that had slightly elevated alpha radiation readings. These readings are attributed to the natural radioactivity found in building materials and is consistent with soil levels in the area. Regardless, the readings were well below the guideline values for unrestricted release of a facility. There is no internal or external radiation hazard in the facility. The data indicate that Building 319 can be released for unrestricted use.

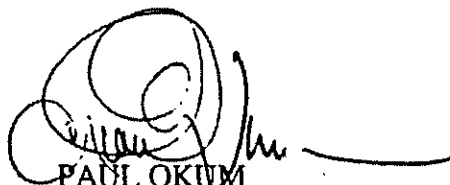
**RECOMMENDATION**

It is recommended that Building 319, Bay 6, be released for unrestricted use.

Submitted by:

  
ALLEN E. HILSMEIER  
DDC Health Physicist

Approved:

  
PAUL OKUM  
Director of Administration



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EN TO

**DEFENSE LOGISTICS AGENCY**  
ADMINISTRATIVE SUPPORT CENTER EAST  
14 DEDICATION DRIVE, SUITE 3  
NEW CUMBERLAND, PENNSYLVANIA 17070-5011

863 487



15 AUG 1996

ASCE-IW

MEMORANDUM FOR DDMT-D

THROUGH: ASCE-I

*Handwritten:* 8/15/96 J. H. H. 96

SUBJECT: DDMT Radiological Survey

Two copies of the environmental baseline radiological survey report are forwarded for dissemination. Recommend placing one copy of the report in the archives for DDMT and a copy retained by DDMT.

We would like to commend Mr. Paul Blake, Radiation Protection Officer for DDMT for the invaluable assistance he rendered to the survey officer. He made significant contributions in the coordination, preparation and accumulation of data contained in this report.

This report recommends that the DDMT facilities where radioactive material was previously stored, be released for unrestricted use with the exception of Building 319, Bay 6. This building will require decontamination of the South wall and a thorough radiological survey of the entire bay area before we could recommend its release for unrestricted use.

POC for any additional information is Mr. Allen Hilsmeier, DSN 977-4762 or COM (717) 770-4762.

*Handwritten signature: Allen Hilsmeier*  
JOHN STAMATELLOS

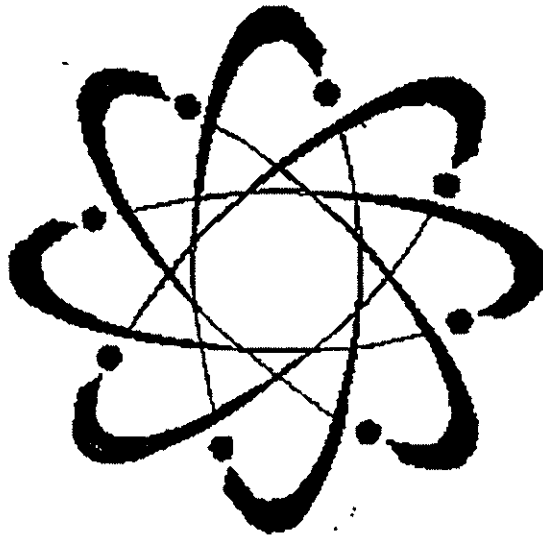
Regional Safety & Occupational Health Manager  
ASCE-IW

Attachment:

cc:  
DDRE-D/DD  
CAAEH  
ASCE-D  
ASCE-WP

**DEFENSE DISTRIBUTION REGION EAST**

**ENVIRONMENTAL BASELINE STUDY  
RADIOLOGICAL SURVEY  
FOR  
DEFENSE DISTRIBUTION DEPOT MEMPHIS**



**DDRE RADIOLOGICAL HEALTH GROUP  
SAFETY & OCCUPATIONAL HEALTH OFFICE**

**SURVEY CONDUCTED  
AUGUST 5-9, 1996**

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## EXECUTIVE SUMMARY

This document encompasses a historical search, the sampling protocol to conduct an environmental baseline radiological survey and the survey results for the Defense Distribution Depot Memphis, Tennessee (DDMT). The historical search involved discussions with key persons who were directly knowledgeable of the past radiological operations at DDMT. The radiological survey protocol was developed utilizing the guidance contained in various references that are listed in Appendix A. Also utilized were good health physics practices, and protocols developed by the Department of the Army during previous base closures. The survey results indicate that not all facilities that stored radioactive material can be released for unrestricted use at this time. Remediation of low level contamination in Building 319 must be accomplished before that facility can be released for unrestricted use.

The historical review of radiological activities at DDMT revealed that lantern mantles that contain naturally occurring radioactive thorium were the primary items in storage. Discussion with current and former radiation protection officers and employees did not indicate any evidence of breakage or contamination of any facilities surfaces or the environment. However, this survey identified the South interior wall of Building 319 as having alpha contamination present that was slightly above the release criteria for unrestricted use.

The three other buildings identified by previous and current employees at DDMT were found to be free of any residual contamination. The employees collectively stated that the bulk of the radioactive material was stored over the years in a conex container alongside Building 319. An attempt to locate the conex container was unsuccessful.

## BACKGROUND

DDMT was targeted for closure during a Base Realignment and Closure (BRAC) action. DDMT must remove all radioactive material currently in storage and ensure that facilities where radioactive material was stored can be released for unrestricted use.

The radioactive material (RAM) at DDMT was transferred to other DDRE depots. Further, action is underway to direct line item managers to no longer ship their radioactive commodities to DDMT. Any RAM forwarded to DDMT in the future will be regarded as a transshipment and immediately redirected to another Defense Logistics Agency (DLA) depot. They will perform no processing or repackaging of the RAM received.

The primary RAM stored at DDMT were lantern mantles that contain naturally occurring Thorium-232 (Th-232). The lantern mantles are exempt from licensing and control by the Nuclear Regulatory Commission (NRC) because of their low level of radioactivity.

Other radioactive commodities identified as having been stored at DDMT are:

1. Smoke detectors containing generally licensed amounts of americium 241(Am-241).
2. Electron tubes containing non-licensed amounts of Th-232, tritium (H-3), and radium-226 (Ra-226).
3. Wrist watches containing generally licensed amounts of H-3 and Ra-226.

4. Indicator and toggle switches containing Ra-226.
5. Compasses containing H-3.

No maintenance work took place at DDMT that may have involved the removal of radioactive material from the commodities and no repackaging or unwrapping of RAM occurred. Based upon this background information, DDRE determined that all areas identified as having stored radioactive commodities will be classified as unaffected areas as described in reference 1, Appendix A.

## SITE DESCRIPTION

DDMT was first activated as the Memphis General Depot in January 1942 under the U.S. Army. It became a DLA depot in January 1964. It was a primary distribution site for clothing and textiles. It is located in the extreme Southwestern corner of Tennessee in the southern part of the city of Memphis. DDMT occupies 630 acres with 6 million square feet of covered storage.

The four buildings located at DDMT that stored RAM consists of a concrete floor and concrete precast or reinforced concrete walls. Two of the buildings, i.e., Buildings 319 and 629, had an epoxy material covering the floors. The epoxy was probably added after the RAM was no longer stored in the buildings to accommodate other hazardous substances such as corrosives. A radiological survey of the floor for these two buildings would not detect any alpha or beta contamination.

## HISTORICAL REVIEW

The historical review of DDMT operations involving RAM indicated that NRC generally licensed and license exempt radioactive sources were stored at the Depot. Interviews were conducted on August 6-7, 1996, with Mr. Woodward Thomas, Radiation Protection Officer (RPO), from 1975 to 1983; Mr. Paul Blake, RPO from 1995 to the present; Mr. Harry Hartwig, Physical Scientist, from 1985 to the present; Mr. William Lovejoy, Chief, Recyclable Materials Branch, from 1981 to 1984 and 1986 to 1987; and Mr. Skip Wallace, Chief, Fire Inspection, from 1982 to the present. In addition, interviews were conducted with Mr. John Tibbels, RPO from 1983 to 1989; Mr. David Luscavage, RPO from 1989 to 1993; and Mr. Charles Crouch, Safety & Occupational Health Manager, from 1979 to 1987.

The interviewees stated that the RAM was primarily stored in a conex container near Building 319 and that no disassembly of items occurred to, in, or from the conex container. The conex container was removed long ago and could not be located. The surface below the conex container had been resurfaced with asphalt. Although the interviewees stated that they could not remember any incidents involving RAM, they had not conducted a radiation survey to verify their statement.

Interviewees stated that radiation surveys had not been conducted in the past because they did not have the necessary equipment. Also, the items were all generally licensed and license exempt which did not require any radiation surveys in accordance with NRC regulations.

At the time of this survey, the storage cage in Building 359 housed about 4000 watches that contained tritium. The watches were removed from the cage immediately and shipped to another DLA depot.

## TRAINING

The persons performing this survey were trained on the use of the instrumentation and the procedures to follow during the survey prior to beginning work. The DDRE Health Physicist was responsible overall for the accuracy and adequacy of the data. He was assisted by the DDRE alternate Radiation Safety Officer and the current DDMT RPO.

## SURVEY PROCEDURES

### OVERVIEW

The facilities identified as having stored radioactive commodities were treated as unaffected areas as defined in NUREG-5849. Each location was considered a separate survey unit. Walls were monitored only if they were in contact with the RAM.

Regarding Building 319, Bay 6, it was used to primarily store lantern mantles but watches, electron tubes, smoke detectors and toggle switches were also stored in the facility. The interviewees indicated that the RAM was mainly stored in the Southeast corner. One interviewee stated, however, that lantern mantles at one time was stored throughout the bay area. The East wall was believed to be installed sometime after RAM was already being stored. Furthermore, there was evidence that a wall was originally installed between Bays 6 and 7 but is now removed. Epoxy material was applied over the floor at some time after the RAM was present and probably after the RAM had been removed from the facility. Even though the area was categorized as an "unaffected area," one square meter grids were drawn on the floor and 2 meters up the wall at the Southeast corner to accurately measure any residual contamination. If no contamination was detected, ten square meter grids or less would be used for the remaining area in Bay 6.

Regarding Building 629, Bay 2, it served as an overflow facility when the conex container or Building 319 was full. The RAM was stored on pallets at least 5 meters from the nearest wall. Epoxy material was applied over the floor at some time after the RAM was present and probably after the RAM had been removed from the facility. The interviewee who remembered that RAM was stored in Building 629 also stated that only lantern mantles were stored there. The surface area was sectioned off in 3 meter grids and monitored for beta and gamma contamination even though it is recognized that the beta radiation would probably not penetrate the epoxy material.

Regarding Building 835, Section 6, a small room was used at one time to store small amounts of radioactive commodities. It was not used regularly and only the East side of the room was needed. Nevertheless, the entire room was monitored for residual alpha, beta, and gamma contamination.

Regarding Building 359, Section 3, the security vault and wire cage were used to store pilferable items such as watches and compasses. These radioactive commodities contained tritium. Reference 6 was a special survey of the vault to detect the presence of any tritium contamination.

The survey was performed in May 1988 by the U.S. Army Environmental Hygiene Agency. Survey results indicated tritium contamination exceeding the release limit, i.e., 5000 DPM/ 100 cm<sup>2</sup> on the outside of storage boxes but the floor, pallets and tables were well below the release limits. The items were removed and shipped to another depot. At the time of this survey, watches containing tritium were stored in the wire cage only and these items were removed before the conclusion of the survey.

Several interviewees indicated that watches containing RAM were stored in Building 360 at one time. This building has since been torn down. Sampling of the ground surface below and around the former facility was not considered necessary because of the unlikeliness of finding contamination.

Stationary measurements were taken in the facilities using a "box and X" pattern, i.e., 5 measurements were taken in each grid "box." Measurements were taken in each grid corner and in the center of the grid. A scan was also made over the surface of the grid as recommended in reference 1, Appendix A.

Alpha radiation measurements were conducted by using the audio response of a survey meter and counting the total number of clicks over a 30 second time period. This technique was used to reduce the Minimum Detectable Activity (MDA) to as low as possible and yet provide a reasonable time frame to collect the data. The surface was also scanned at a rate of about one detector width per second, i.e., 4 inches per second.

Beta radiation measurements were conducted by reading the meter of the survey meter. The size of the detector, i.e., 100 cm<sup>2</sup>, precluded taking an integrated count because of the relatively high background. The large detector provided, however, the optimum MDA. A scan was also made of the surface at the rate of about 4 inches per second.

Gamma radiation measurements were conducted by reading the meter of the survey meter. Readings were taken on contact with the surface and at one meter. A scan was also made of floor and wall surfaces and on stationary equipment such as shelves, conveyors, etc. Particular attention was given to cracks in surfaces. The audio was used to determine if any elevated contamination levels were present.

The guideline values specified in reference 3, Appendix A, could be observed using the instrumentation described below. The instruments used to measure alpha, beta and gamma radiation had MDAs of 70 DPM/ 100 cm<sup>2</sup>, 1,900 DPM/ 100 cm<sup>2</sup>, and 1 uR/hr, respectively.

At least one wipe test was taken within each grid. For small rooms, numerous wipe tests were taken to provide statistically meaningful results. Random wipe tests were taken on shelves where RAM was previously stored.

## **INSTRUMENTATION**

Instrumentation used for the surveys included a zinc sulfide scintillator for alpha detection, a plastic scintillator for beta detection and a sodium iodide crystal for gamma detection. Each instrument underwent standard quality assurance checks such as a daily source check, background and efficiency determinations, establishment of a MDA and a flag value. Instruments were calibrated by a certified U.S. Army calibration facility on a six month basis.

Specific information on the types of instruments used are:

**I. Fixed Contamination:**

- a. Alpha Radiation Ludlum Survey Meter, Model 2224, Serial Number 125598  
 Ludlum Detector, Model 43-89, Serial Number 134011  
 Calibration Date July 29, 1996  
 Background at site  
     Floor 6 DPM/ 100 cm<sup>2</sup>, (1.0 CPM)  
     Wall 16 DPM/ 100 cm<sup>2</sup>, (2.8 CPM)  
 Efficiency 18 % for Th-230  
 Detector surface area 100 cm<sup>2</sup>  
 MDA 70 DPM/ 100 cm<sup>2</sup>  
 Flag Value 75 DPM/ 100 cm<sup>2</sup>, (13 CPM)
- b. Beta Radiation Ludlum Survey Meter, Model 2224, Serial Number 125598  
 Ludlum Detector, Model 43-89, Serial Number 134011  
 Calibration Date July 29, 1996  
 Background at site  
     Floor 3,040 DPM/ 100 cm<sup>2</sup> (350 CPM)  
     Wall 4,870 DPM/ 100 cm<sup>2</sup> (560 CPM)  
 Efficiency 11.5 % for Tc-99  
 Detector surface area 100 cm<sup>2</sup>  
 MDA 1,900 DPM/ 100 cm<sup>2</sup>  
 Flag Value 3,750 DPM/ 100 cm<sup>2</sup>, (430 CPM)
- c. Gamma Radiation Ludlum Survey Meter, Model 19, Serial Number 104568  
 Ludlum Detector, Model 19, Internal Mounted  
 Calibration Date July 23, 1996  
 Background 6 uR/hr  
 MDA about 1 uR/hr static measurement\*  
 MDA about 3 uR/hr scanning monitoring\*

\* Defined in Appendix A, reference 1, Table 5-6.

**II. Removable Contamination**

- a. Alpha/Beta Radiation Tennelec Model LB-5100 Serial Number 7040614  
 Proportional Counter  
 Calibration Date August 5, 1996  
 Background  
     Alpha 3.0 DPM/ 100 cm<sup>2</sup> (0.74 CPM)  
     Beta 6.1 DPM/ 100 cm<sup>2</sup> (2.73 CPM)  
 Efficiency  
     Alpha 24.9%  
     Beta 44.7%  
 MDA  
     Alpha 2.7 DPM/ 100 cm<sup>2</sup>

Beta 2.7 DPM/ 100 cm<sup>2</sup>

## b. Tritium

Beckman Model 6500, Serial Number 7067417  
 Liquid Scintillation Counter  
 Calibration Date August 12, 1996  
 Background 20 DPM/ 100 cm<sup>2</sup>  
 Efficiency 67 %  
 MDA 10 DPM/ 100 cm<sup>2</sup>

**QUALITY ASSURANCE CHECK**

A daily check for portable survey instruments consisted of a source check and comparison of the measurement to a reading determined after calibration. Measurements conducted before and at the end of the day's survey were within  $\pm 20\%$  of the initial value. Additionally, the physical condition of the instrument, to include battery, cables and probes were checked. A daily background check was performed.

The laboratory instrument's efficiency value and MDA were determined using National Institute of Standards and Technology traceable standards. The standards were measured just prior to the wipe tests being counted.

**SURVEY TECHNIQUES**

Stationary surveys for alpha radiation were performed by holding the probe in contact with the surface surveyed for at least a 30 second count time. The count time was reasonable and ensured that the MDA value was below the guideline values. For example, the guideline values for Ra-226 for fixed contamination are 100 DPM/ 100 cm<sup>2</sup> and 324 DPM/ 100 cm<sup>2</sup>, per references 4 and 2, Appendix A, respectively. The guideline values for Th-232 for fixed contamination are 1,000 DPM/ 100 cm<sup>2</sup> and 114 DPM/ 100 cm<sup>2</sup>, per references 4 and 2, Appendix A, respectively. In both cases, the alpha radiation MDA, 70 DPM/ 100 cm<sup>2</sup> is less than the regulatory guideline values.

Stationary surveys for beta radiation were performed by holding the probe in contact with the surface surveyed for at least 8 seconds. This amount of time encompassed two time constants of the instrument and ensured that the reading had stabilized. The MDA, 1,900 DPM/ 100 cm<sup>2</sup>, is below the guideline value for beta emitting radioisotopes, i.e., 5,000 DPM/ 100 cm<sup>2</sup>, as stated in reference 4, Appendix A.

Stationary surveys for gamma radiation were performed by holding the survey meter in contact with the surface for about 8 seconds. This amount of time ensured that the meter had stabilized. The MDA, 1 uR/hr, is below the guideline value for gamma emitting radioisotopes, i.e., 5 uR/hr as stated in the Acceptance Criteria section below. A stationary survey was also made with a gamma meter on shelves where RAM was stored.

Scanning surveys were made for alpha and beta contamination by moving the probe less than 1 cm from the surface. Scanning surveys for gamma radiation was performed by walking slowly through the area obtaining exposure rate readings on surfaces. Scans were also made on shelves and nearby walls where RAM was stored. The highest reading obtained at a survey point was recorded. If any areas exhibited readings greater than the flag value, they would be subjected to stationary surveys on contact with the surface, and a wipe test conducted.

Survey of the walls was performed if the RAM was in contact with the surface.

## **BACKGROUND DETERMINATION**

Background determinations for gamma dose rate and alpha, beta count rate surveys were made prior to the beginning of the survey. Measurements were made in Building 319 in an adjoining room where RAM had never been stored but of similar construction as the facilities to be surveyed. Twenty measurements were made using alpha, beta and gamma survey meters. The average readings were shown in the Instrumentation section above. The variance of the measurements was such that the beta and gamma readings were within the 95 % confidence level.

The alpha measurements ranged from 0 to 3 CPM in a 30 second time period. This spread, although small in actual size, would nevertheless require over 180 measurements to be taken to establish a statistically accurate average background. This number of background readings is unrealistic to obtain and not considered necessary due to the background reading being a factor of ten below the guideline value for measuring alpha radiation in the storage locations. The background was verified each day the survey occurred.

Background readings were made prior to use of laboratory equipment. These measurements were used to determine the MDA for the several isotopes.

## **WIPE TESTS**

Because of the nature of the RAM stored at DDMT, the possibility of finding loose contamination was small. Nevertheless, wipe tests of the facilities were taken to determine if any residual contamination was present. About 30 wipe tests were taken on the floor and shelves at each storage location. Each alpha/beta-gamma wipe test was conducted by taking a 1.75 inch diameter filter paper and wiping a 10 inch surface in an 'S' pattern. This test resulted in an area wiped of about 100 cm<sup>2</sup>. These wipe tests were counted in a scaler capable of measuring both alpha and medium energy beta radiation.

A wet wipe test was also conducted using a 1 inch square filter paper and wiping a 16 inch surface in an 'S' pattern. The filter paper was dissoluble in a liquid scintillation counter medium. These wipe tests were counted in a liquid scintillation counter to measure any low energy beta emitting radioisotope such as tritium.

## **ACCEPTANCE CRITERIA**

Residual contamination is considered a low probability based upon the kinds and types of radioactive commodities previously located at DDMT. Nevertheless, DDRE believes it prudent to perform reasonable surveys to support this premise. The current standards for unrestricted use are contained in Appendix A, references 1 through 4. These standards formed the basis for the acceptance criteria used by DDRE in the evaluation of DDMT.

The primary acceptance criteria are detailed in the table below:

**Table 1: Acceptance Criteria**

| Radionuclide  | Exposure Rate (mRem/Hr) <sup>3</sup> | Ave. Gross Contamination <sup>1</sup>   | Max. Gross Contamination <sup>2</sup>    | Removable <sup>1</sup>                  |
|---|--------------------------------------|---|--|---|
| U-nat, U-235, u-238, and associated decay products                | N/A                                  | 5,000 DPM $\alpha$ /100 cm <sup>2</sup> | 15,000 DPM $\alpha$ /100 cm <sup>2</sup> | 1,000 DPM $\alpha$ /100 cm <sup>2</sup> |
| Transuranic, Ra-226, Ra-228, Th-230, Pa-231, Ac-227, I-125, I-129 | N/A                                  | 100 DPM/100 cm <sup>2</sup>             | 300 DPM/100 cm <sup>2</sup>              | 20 DPM/100 cm <sup>2</sup>              |
| Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133 | N/A                                  | 1,000 DPM/100 cm <sup>2</sup>           | 3000 DPM/100 cm <sup>2</sup>             | 200 DPM/100 cm <sup>2</sup>             |
| Beta-gamma emitters except Sr-90 and other noted above            | 0.005 mrem/hr                        | 5,000 DPM/100 cm <sup>2</sup>           | 15,000 DPM/100 cm <sup>2</sup>           | 1,000 DPM/100 cm <sup>2</sup>           |

<sup>1</sup> As used in this table, DPM (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

<sup>2</sup> The maximum contamination level applies to an area of not more than 100 cm<sup>2</sup>.

<sup>3</sup> The exposure rate criteria of 0.005 mrem/hr (5.0  $\mu$ R/hr) was obtained from a Nuclear Regulatory Commission internal memo dated October 29, 1986, from S. Block, Health Physicist, Region V to Peter Erickson, Special and Standardization Project, NRR, subject: Conversion of Regulatory Guide 1.86 Surface Contamination Limits Into Exposure Rate For Release For Unrestricted Use.

A secondary acceptance criteria is outlined in reference 2, Appendix A. These values are as follows for a projected Total Effective Dose Equivalent of 3 millirem per year from fixed and removable surface contamination for a building occupancy (Table B-1).

|        |                                 |
|--------|---------------------------------|
| H-3    | 5.29E6 DPM/ 100 cm <sup>2</sup> |
| Th-232 | 1.14E2 DPM/ 100 cm <sup>2</sup> |
| Ra-226 | 1.91E2 DPM/ 100 cm <sup>2</sup> |
| Am-241 | 3.71E1 DPM/ 100 cm <sup>2</sup> |

## SURVEY DATA ANALYSIS

Data obtained for the four locations are provided in Appendix C. The data were compared to both primary and secondary acceptance criteria.

Regarding the direct measurement for alpha contamination in Bay 6 of Building 319, three wall grids had an average net value that slightly exceeded the guideline values for all alpha emitting radioisotopes that were previously stored at DDMT. Repeat readings were taken at two of the grids and in general, the readings were in agreement. One of the repeat readings at grid W8, i.e., 328 net DPM/ 100 cm<sup>2</sup>, slightly exceeded the maximum allowable contamination level specified in reference 4, Appendix A. If either of these conditions occur during the course of the survey, the area must be reclassified from an "unaffected" to an "affected" area. The testing requirements become more rigorous as defined in reference 1, Appendix A. The direct measurement for alpha contamination in the other facilities were all below the regulatory requirements.

Regarding the direct measurement for beta contamination in the facilities, all the readings were within the statistical fluctuations of background radiation. The data indicate that no significant, if any, fixed contamination was present from beta emitting radioisotopes.

Regarding the direct measurement for gamma contamination in the facilities, the highest net value at any location was 1 uR/hr. The data indicate that no significant, if any, fixed contamination was present that emits gamma radiation.

Regarding the removable alpha/beta-gamma contamination measurements in all the facilities, all readings were below the primary acceptance criteria for Ra-226, i.e., 20 DPM/ 100 cm<sup>2</sup>. Radium-226 has the most stringent acceptance criteria. The data indicate that no significant removable contamination was present.

Regarding the removable tritium contamination measurements in the facilities and especially in Building 359 where the bulk of the items containing tritium was stored, all measurements were well below the primary and secondary acceptance criteria for tritium, i.e., 1,000 DPM/ 100 cm<sup>2</sup>, and 5.29E6 DPM/ 100 cm<sup>2</sup>, respectively.

## CONCLUSION

The data indicate that one of the DDMT facilities where RAM was stored in the past, i.e., Building 319, Bay 6, was slightly contaminated above allowable limits for fixed alpha radiation. In its present condition, it could not be released for unrestricted use. The facility does not present a health hazard because of the low level of contamination present which is not readily removable. The other facilities were all well within the limits and could be released for unrestricted use.

## RECOMMENDATION

It is recommended that: 1) Building 319, Bay 6, be restricted to limited access and controlled by the DDMT RPO until it can be decontaminated; 2) that the entire area undergo a termination survey as an "affected" area in accordance with reference 1, Appendix A; 3) The epoxied floor in Building 319, Bay 6, be scraped sufficiently to allow alpha measurements to be taken to determine

if residual contamination is on the floor; and 4) The other facilities at DDMT where RAM was previously stored be released for unrestricted use.

Submitted by:

*Allen E. Hilsmeier*  
ALLEN E. HILSMEIER  
DDRE Health Physicist

Approved by:

*J. O. Rimel, Sr.*  
J. O. RIMEL, Sr  
Director  
Public Safety Office

MAR 9 8 1996

ASCE-WP

## MEMORANDUM FOR COMMANDER, DDMT

SUBJECT: Radon Survey

The radon survey for the DDMT military housing area was completed on February 14, 1996. The Priority I (child care, hospitals, schools, and living quarters) radon assessment was conducted in accordance with AR 200-1, Chapter 11 (attachment).

On November 6, 1995, radon detectors were placed in eight military housing structures for ninety days to measure indoor radon gas levels. The objective of the assessment was to identify structures exceeding the Environmental Protection Agency (EPA) recommended action level of 4 pico Curies of radon per liter of air (pCi/l). Based on this screening, the buildings measured did not exceed the EPA action level (attachment), therefore, no additional sampling is required.

Since Priority I concentrations were not greater than 4 pCi/l, Priority 2 and 3 structures will not need to be measured, IAW AR 200-1.

Two radon detectors were placed in each structure on November 6, 1995 with the anticipation of performing the Long Term Measurement (LTM) (one year), if the radon levels exceeded 4 pCi/l. Since the results of the 90 day monitoring are below the EPA established standards, the remaining detectors are not needed. ASCE-WP requests somebody from your installation retrieve and dispose of the additional detectors in your municipal waste stream.

If you have any questions or need further assistance contact Barbara Johns, ASCE-WP, DSN 977-4621.

**SIGNED**

LARRY V. NEIDLINGER, P.E.  
Director  
Office of Engineering and  
Equipment Management

## Attachments

Barbara Johns/ASCE-WP/4-4621/March 7, 1996/bj/WordPerfect

COORDINATION: ASCE-WP DATE MAR 8, 1996

"Official Reading File"

(717) 607-7032



## TCS INDUSTRIES

RADON GAS DETECTION

4326 Granting Road, Harrisburg, PA 17112

DEFENSE DISTRIBUTION REGION EAST  
ATTN: ASCE-WF (BARBARA JOHNS)  
BUILDING 1-1 SECOND FLOOR  
NEW CUMBERLAND, PA 17070

| Monitor Number | pCi/l | Test Location | Exposure Start | Exposure End Date | Reprint from |
|----------------|-------|---------------|----------------|-------------------|--------------|
| 095661         | 5.0   |               | 11/06/95       | 02/14/96          |              |
| 095662         | 5.4   |               | 11/06/95       | 02/14/96          |              |
| 095666         | 5.2   |               | 11/06/95       | 02/14/96          |              |
| 095701         | 1.7   |               | 11/06/95       | 02/14/96          |              |
| 095703         | 2.3   |               | 11/06/95       | 02/14/96          |              |
| 095705         | 0.6   |               | 11/06/95       | 02/14/96          |              |
| 095707         | 1.3   |               | 11/06/95       | 02/14/96          |              |
| 095709         | 0.9   |               | 11/06/95       | 02/14/96          |              |
| 095711         | 0.7   |               | 11/06/95       | 02/14/96          |              |
| 095713         | 0.3   |               | 11/06/95       | 02/14/96          |              |
| 095715         | 1.1   |               | 11/07/95       | 02/14/96          |              |
| 095717         | < 0.1 |               | 11/06/95       | 02/14/96          |              |
| 095720         | 0.2   |               | 11/09/95       | 02/14/96          |              |

Monitor Type: Alpha-track

## NOTICE TO CLIENTS

The Radon Certification Act requires that anyone who provides any radon-related service or product to the general public must be certified by the Pennsylvania Department of Environmental Protection. You are prohibited from offering or providing such services or products. You are also prohibited from offering or providing such services or products. All radon-related data will be sent to the Department as required by law and will be kept confidential. If you have any questions, comments or complaints, contacting persons who provide radon-related services, please contact the Department at the Bureau of Radon Detection, Department of Environmental Protection, P.O. Box 6469, Harrisburg, PA 17106-6469, (717) 632-3364.

*Jeannine J. Distefano*

OCT- 2-96 WED 4:58 PM

MAX-12-95 WED 2:08 PM

ASCE WP ENVIRONMENTAL

FAX NO. 717-7704439

P. 4  
2. 4

## DDMT RADON SURVEY

(90 DAYS) Nov 1995 - Feb 1996

| <u>DETECTOR ID NO.</u> | <u>LOCATION</u>             | <u>RESULTS</u><br>(Limits 4 pCi/l) |
|------------------------|-----------------------------|------------------------------------|
| 095701                 | Quarters 12                 | 1.7 pCi/l                          |
| 095702                 | Quarters 12 (HOLD in place) |                                    |
| 095703                 | Quarters 13                 | 2.3 pCi/l                          |
| 095704                 | Quarters 13 (HOLD in place) |                                    |
| 095705                 | Quarters 10                 | 0.6 pCi/l                          |
| 095706                 | Quarters 10 (HOLD in place) |                                    |
| 095707                 | Quarters 11                 | 1.3 pCi/l                          |
| 095708                 | Quarters 11 (HOLD in place) |                                    |
| 095709                 | Quarters 6                  | 0.9 pCi/l                          |
| 095710                 | Quarters 6 (HOLD in place)  |                                    |
| 095711                 | Quarters 7                  | 0.7 pCi/l                          |
| 095712                 | Quarters 7 (HOLD in place)  |                                    |
| 095713                 | Quarters 8                  | 0.3 pCi/l                          |
| 095714                 | Quarters 8 (HOLD in place)  |                                    |
| 095715                 | Quarters 9                  | 1.1 pCi/l                          |
| 095716                 | Quarters 9 (HOLD in place)  |                                    |

# TRANSFORMER RECORD

[illegible]

| LINE | LOCATION | INSTALLED | # | DWT   | KVA   | VOLTAGE    |           | PHASE | CONDITION | MOUNTING | MANUFACTURE | SERIAL #    | 1 DWT | WEIGHT | AIR COOLED |             |
|------|----------|-----------|---|-------|-------|------------|-----------|-------|-----------|----------|-------------|-------------|-------|--------|------------|-------------|
|      |          |           |   |       |       | PRIMARY    | SECONDARY |       |           |          |             |             |       |        | LB'S       | OIL (G) DRY |
| 4715 | 470      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | H113007     | 2.50  | 521    | 30.4       |             |
| 4716 | 470      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 467010164   | 2.50  | 1000   | 29.0       |             |
| 4717 | 470      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 467010584   | 2.00  | 1000   | 29.0       |             |
| 4718 | 470      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 467589694   | 3.00  | 1000   | 29.0       |             |
| 4719 | 470      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 4008570284  | 2.00  | 1000   | 29.0       |             |
| 4719 | 470      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 4659040883  | 2.00  | 1000   | 29.0       |             |
| 4719 | 470      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 4659040483  | 2.00  | 1000   | 29.0       |             |
| 4912 | 490      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/1200  | 470       | X     | GOOD      | SOLE     | MAGNETIC    | 1202870     | 2.30  | 1021   | 49.0       |             |
| 4912 | 490      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/1200  | 470       | X     | GOOD      | SOLE     | MAGNETIC    | 1202871     | 2.30  | 1021   | 49.0       |             |
| 6240 | 685      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 1202872     | 2.30  | 1021   | 49.0       |             |
| 6240 | 685      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 4639480282  | 1.80  | 990    | 29.1       |             |
| 6240 | 685      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 4639480182  | 1.80  | 990    | 29.1       |             |
| 6715 | 670      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 4639480682  | 1.80  | 990    | 29.1       |             |
| 6715 | 670      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 68AA2840    | 1.30  | 1050   | 52.5       |             |
| 6715 | 670      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | DC18121-50P | 2.20  | 1020   | 53.0       |             |
| 6718 | 670      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 68AA2842    | 1.50  | 1020   | 53.0       |             |
| 6718 | 670      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 6150300     | 3.10  | 1090   | 40.0       |             |
| 6719 | 670      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 6150305     | 3.10  | 1090   | 40.0       |             |
| 6719 | 670      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 611919      | 3.10  | 1090   | 40.0       |             |
| 6810 | 689      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 09469513DA  | 1.50  | 1250   | 40.0       |             |
| 6810 | 689      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 09469416DA  | 1.50  | 1250   | 40.0       |             |
| 6810 | 689      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 4659040783  | 2.00  | 100    | 29.0       |             |
| 6810 | 689      | 7/12/91   | 1 | 100.0 | 100.0 | 2200/12470 | 120/240   | X     | GOOD      | SOLE     | MAGNETIC    | 4659040583  | 2.00  | 100    | 29.0       |             |
| 6912 | 690      | 7/12/91   | 1 | 100.0 | 100.0 | 2200       |           |       |           |          |             |             |       |        |            |             |

OSWALDO LEE JAMES BROOKS JR.

# TRANSFORMER RECORD

[illegible]

INFORMATION NOT AVAILABLE

Page 3 of 4

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# TRANSFORMER RECORD

| KING #  | LOCATION | INSTALLED | # ENG | KVA   | VOLTAGE    | SECONDARY | PHASE  | CONDITION | MOUNTING | MANUFACTURE      | SERIAL #    | 1/2 DIA | HEIGHT | WTS   | DRY | AIR COOLED |
|---------|----------|-----------|-------|-------|------------|-----------|--------|-----------|----------|------------------|-------------|---------|--------|-------|-----|------------|
|         |          |           |       |       | PRIMARY    | SECONDARY | SINGLE | THREE     |          |                  |             |         |        |       |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | PENN             | 1261-8      | 2.30    | 1050   | 30.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MALAWAY          | 694006      | 3.50    | 850    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC         | 1211884     | 2.60    | 232    | 13.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | PENN             | 3363-2      | 2.60    | 330    | 21.3  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC ELEC    | 1211942     | 1.80    | 631    | 30.4  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC ELEC    | 1211912     | 1.80    | 631    | 30.4  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC ELEC    | 1211866     | 1.80    | 631    | 30.4  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | PENN             | 3364-1      | 2.30    | 650    | 30.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | PENN             | 3364-3      | 2.30    | 650    | 30.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | PENN             | 3364-2      | 2.30    | 650    | 30.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 37.5  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC ELEC    | 18005041    | 2.40    | 511    | 25.2  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 37.5  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC ELEC    | 18005040    | 2.40    | 511    | 25.2  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 37.5  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC ELEC    | 18005039    | 2.40    | 511    | 25.2  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8215140AA   | 1.30    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8208450AA   | 1.30    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8208750AA   | 1.80    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8196450AA   | 1.80    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8261570AA   | 1.80    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8261990AA   | 1.80    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8229680AA   | 1.80    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8208460AA   | 1.80    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8220716AA   | 1.80    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 25.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC         | 1212138     | 3.30    | 396    | 20.1  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 25.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC         | 1212137     | 3.30    | 396    | 20.1  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 25.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC         | 1212136     | 3.30    | 396    | 20.1  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8208410AA   | 1.80    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8203210AA   | 1.80    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | UNITED UTILITY   | 8208470AA   | 1.80    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 25.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC ELEC    | 1212134     | 3.30    | 396    | 20.1  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 25.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC ELEC    | 1212133     | 3.30    | 396    | 20.1  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 25.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MAGNETIC ELEC    | 1212135     | 3.30    | 396    | 20.1  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | DELTA STAR       | 5400213     | 2.50    | 590    | 30.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | MCGRAW EDISON    | 87ME246-012 | 1.80    | 575    | 29.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 50.0  | 7200/12470 | 120/240   | X      |           | PLATFORM | DELTA STAR       | 54002212    | 2.50    | 590    | 30.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 300.0 | 480        | 208/120   | X      | X         | PAD      | PARMEL'S SERVICE | 3853419C    | 5.40    | 4190   | 157.0 | X   |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 300.0 | 480        | 208/120   | X      | X         | PAD      | SQUARE D         | 194827-1*   | 2.75    | 4190   | 157.0 | X   |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 75.0  | 7200/12470 | 277/480   | X      |           | PAD      | ITE POWER        | 3731300     | 6.30    | 1320   |       |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 75.0  | 7200/12470 | 277/480   | X      |           | PAD      | MAGNETIC         | 1212341     | 1.50    | 998    | 52.1  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 75.0  | 7200/12470 | 277/480   | X      |           | PAD      | MAGNETIC         | 1809073     | 2.00    | 910    | 47.6  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 100.0 | 7200/12470 | 277/480   | X      |           | PAD      | UNITED UTILITY   | 095091260AA | 1.50    | 1068   | 40.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 100.0 | 7200/12470 | 277/480   | X      |           | PAD      | WESTINGHOUSE     | 985288016   | 2.40    | 1130   |       |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | HOWARD IND       | 359892279   | 2.00    | 1337   | 46.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | HOWARD IND       | 359872279   | 2.00    | 1337   | 46.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | HOWARD IND       | 359882279   | 2.00    | 1337   | 46.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | HOWARD IND       | 359902279   | 2.00    | 1337   | 46.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | HOWARD IND       | 359902279   | 2.00    | 1337   | 46.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | HOWARD IND       | 359912797   | 2.00    | 1337   | 46.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | MAGNETIC         | 8150791     | 2.50    | 650    | 28.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850103     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850108     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850110     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850112     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850114     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850116     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850118     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850120     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850122     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850124     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850126     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850128     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850130     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850132     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850134     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850136     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850138     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850140     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850142     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850144     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850146     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850148     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850150     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850152     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850154     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850156     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850158     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850160     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850162     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850164     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850166     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           | PAD      | JIMLEC           | 8850168     | 2.30    | 1420   | 80.0  |     |            |
| 982/933 | 972/470  | 1/1/89    | 1     | 167.0 | 7200/12470 | 277/480   | X      |           |          |                  |             |         |        |       |     |            |

NOT RECOMMENDED FOR AVAILABILITY

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CONFIDENTIAL

# TRANSFORMER RECORD

| ZONE #              | LOCATION | THREAILED | # INCH | KVA    | VOLTAGE    |           | PHASE  |       | CONDITION | MOUNTING | MANUFACTURE    | SERIAL #    | % DED | HEIGHT<br>LAS | AIR C<br>QIL(G) |
|---------------------|----------|-----------|--------|--------|------------|-----------|--------|-------|-----------|----------|----------------|-------------|-------|---------------|-----------------|
|                     |          |           |        |        | PRIMARY    | SECONDARY | SINGLE | THREE |           |          |                |             |       |               |                 |
| 560                 | 560      | 9/2/84    | 1      | 1500.0 | 7200/12470 | 120/240   | X      |       | GOOD      | PAD      | VANTRAN ELEC   | 9045252     | 5.75  | 1165          | 115.0           |
| 529                 | 529      | 8/2/84    | 1      | 1000.0 | 7200/12470 | 277/480   | X      |       | GOOD      | PAD      | ATLANTIC       | GF0715174   | 5.50  | 830           | 370.3           |
| 529                 | 529      | 8/2/84    | 1      | 1000.0 | 7200/12470 | 277/480   | X      |       | GOOD      | PAD      | ATLANTIC 1     | EF0827131   | 5.70  | 950           | 312.0           |
| 670                 | 670      | 2/8/91    | 1      | 100.0  | 7200/12470 | 120/240   | X      |       | GOOD      | PAD      | UNITED UTILITY | 094690610AA | 1.50  | 1250          | 40.0            |
| 689                 | 689      | 1/1/93    | 1      | 500.0  | 7200/12470 | 120/240   | X      |       | GOOD      | PAD      | ELEC EQUIPMENT | 279802076   | 2.30  | 2796          | 107.0           |
| 689                 | 689      | 1/1/93    | 1      | 500.0  | 7200/12470 | 240/480   | X      |       | GOOD      | PAD      | ELEC EQUIPMENT | 5628-378    | 2.00  | 2796          | 107.0           |
| 710                 | 710      | 1/1/89    | 1      | 100.0  | 7200/12470 | 120/240   | X      |       | GOOD      | POLE     | MAGNETIC       | 1202371     | 2.30  | 1021          | 48.9            |
| 770                 | 770      | 1/1/89    | 1      | 100.0  | 7200/12470 | 120/240   | X      |       | GOOD      | POLE     | MAGNETIC       | 1202370     | 2.30  | 1021          | 48.9            |
| 835                 | 835      | 1/1/89    | 1      | 1000.0 | 7200/12470 | 277/480   | X      |       | GOOD      | PAD      | GE             | 217994178   | 5.60  | 7600          | 360.0           |
| 925                 | 925      | 1/1/89    | 1      | 50.0   | 7200/12470 | 120/240   | X      |       | GOOD      | POLE     | MAGNETIC       | 1A00950     | 2.20  | 690           | 37.0            |
| 925                 | 925      | 1/1/89    | 1      | 50.0   | 7200/12470 | 120/240   | X      |       | GOOD      | POLE     | MAGNETIC       | 1A00290     | 2.20  | 690           | 37.0            |
| 925                 | 925      | 1/1/89    | 1      | 50.0   | 7200/12470 | 120/240   | X      |       | GOOD      | POLE     | MAGNETIC       | 1A00943     | 2.20  | 690           | 37.0            |
| 925                 | 925      | 1/1/89    | 1      | 25.0   | 7200/12470 | 277.0     | X      |       | GOOD      | POLE     | MAGNETIC       | 1B11159     | 1.20  | 376           | 20.1            |
| 925                 | 925      | 1/1/89    | 1      | 25.0   | 7200/12470 | 277.0     | X      |       | GOOD      | POLE     | MAGNETIC       | 2B11160     | 1.20  | 376           | 20.1            |
| 925                 | 925      | 1/1/89    | 1      | 25.0   | 7200/12470 | 277.0     | X      |       | GOOD      | POLE     | MAGNETIC       | 1B11158     | 1.20  | 376           | 20.1            |
| 350/3               | 350/3    | INA       | 1      | 1500.0 | 12470      | 277/480   | X      |       | GOOD      | EQUIP RM | INA            | INA         | INA   | INA           | INA             |
| 670/3               | 670/3    | 1/1/89    | 1      | 75.0   | 7200/12470 | 120/240   | X      |       | GOOD      | POLE     | UNITED UTILITY | 09233780AA  | 1.60  | 914           | 39.0            |
| 689/3               | 689/3    | 3/6/91    | 1      | 75.0   | 7200/12470 | 120/240   | X      |       | GOOD      | POLE     | UNITED UTILITY | 09423260AA  | 1.60  | 914           | 39.0            |
| 690/1               | 690/1    | 2/7/91    | 1      | 50.0   | 7200/12470 | 120/240   | X      |       | GOOD      | PAD      | MAGNETIC       | 1212146     | 2.30  | 1021          | 19.0            |
| 690/2               | 690/2    | 3/6/91    | 1      | 500.0  | 7200/12470 | 240/480   | X      |       | GOOD      | PAD      | ELEC EQUIPMENT | 27949-2076  | 2.00  | 2796          | 107.0           |
| 690/2               | 690/2    | 3/6/91    | 1      | 50.0   | 7200/12470 | 120/240   | X      |       | GOOD      | PAD      | MAGNETIC       | HH01882     | 1.80  | 650           | 28.0            |
| 690/2               | 690/2    | 3/6/91    | 1      | 75.0   | 7200/1200  | 120/240   | X      |       | GOOD      | PAD      | MAGNETIC       | HH13914     | 1.40  | 917           | 47.6            |
| 690/2               | 690/2    | 1/1/89    | 1      | 75.0   | 7200/1200  | 120/240   | X      |       | GOOD      | PAD      | MAGNETIC       | HH13915     | 1.40  | 917           | 47.6            |
| 690/2               | 690/2    | 1/1/89    | 1      | 75.0   | 7200/12470 | 277       | X      |       | GOOD      | POLE     | MAGNETIC       | HH13916     | 1.40  | 917           | 47.6            |
| 690/3               | 690/3    | 1/1/89    | 1      | 75.0   | 7200/12470 | 277       | X      |       | GOOD      | POLE     | MAGNETIC       | HH13916     | 1.90  | 891           | 48.0            |
| 690/4               | 690/4    | 3/3/91    | 1      | 1000.0 | 7200/1200  | 120/208   | X      |       | GOOD      | POLE     | MAGNETIC       | HH13914     | 1.90  | 891           | 48.0            |
| 690/5               | 690/5    | 1/1/89    | 1      | 100.0  | 7200/12470 | 120/240   | X      |       | GOOD      | POLE     | COOPER POWER   | 216005449   | 5.10  | 8118          | 341.0           |
| 238 26,533          |          |           |        |        |            |           |        |       |           |          |                |             |       |               |                 |
| TRANSFORMER RESERVE |          |           |        |        |            |           |        |       |           |          |                |             |       |               |                 |
| NOT ASSIGNED        | YARD     | STAND-BY  | 1      | 750    | 7200/12470 | 277/480   |        |       | NEW       | STORAGE  | PAUMEL CHANCE  | 89631519    | 5.75  | 4639          | 157.3           |
| NOT ASSIGNED        | YARD     | STAND-BY  | 1      | 100    | 7200/12470 | 120/240   | X      |       | NEW       | STORAGE  | MAGNETIC       | 1809497     | 2.30  | 1021          | 49.0            |
| NOT ASSIGNED        | YARD     | STAND-BY  | 1      | 100    | 7200/12470 | 120/240   | X      |       | NEW       | STORAGE  | MAGNETIC       | 1809494     | 2.30  | 1021          | 49.0            |
| NOT ASSIGNED        | YARD     | STAND-BY  | 1      | 100    | 7200/12470 | 120/240   | X      |       | NEW       | STORAGE  | MAGNETIC       | 1809496     | 2.30  | 1021          | 49.0            |
| NOT ASSIGNED        | YARD     | STAND-BY  | 1      | 100    | 7200/12470 | 120/240   | X      |       | NEW       | STORAGE  | MAGNETIC       | 1809493     | 2.30  | 1021          | 49.0            |
| NOT ASSIGNED        | YARD     | STAND-BY  | 1      | 100    | 7200/12470 | 120/240   | X      |       | NEW       | STORAGE  | MAGNETIC       | 1809491     | 2.30  | 1021          | 49.0            |
| NOT ASSIGNED        | YARD     | STAND-BY  | 1      | 75     | 7200/12470 | 480       | X      |       | NEW       | STORAGE  | MAGNETIC       | 1C07175     | 2.00  | 917           | 47.6            |
| NOT ASSIGNED        | YARD     | STAND-BY  | 1      | 75     | 7200/12470 | 480       | X      |       | NEW       | STORAGE  | MAGNETIC       | 1C07176     | 2.00  | 917           | 47.6            |
| NOT ASSIGNED        | YARD     | STAND-BY  | 1      | 75     | 7200/12470 | 480       | X      |       | NEW       | STORAGE  | MAGNETIC       | 1C07177     | 2.00  | 917           | 47.6            |

TRANSFORMER NUMBERING NOT YET DETERMINED

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NO INFORMATION NOT AVAILABLE

925

# TRANSFORMER RECORD

| LINE # | LOCATION    | INSTALLED   | INCHES | KVA | PRIMARY | VOLTAGE | SECONDARY | SINGLE          | THREE | PHASE | CONDITION | MOUNTING | MANUFACTURE | SERIAL # | WGT. LBS | WGT. LBS | WGT. LBS | WGT. LBS |
|--------|-------------|-------------|--------|-----|---------|---------|-----------|-----------------|-------|-------|-----------|----------|-------------|----------|----------|----------|----------|----------|
| LINE # | LOCATION    | INSTALLED   | INCHES | KVA | PRIMARY | VOLTAGE | SECONDARY | SINGLE          | THREE | PHASE | CONDITION | MOUNTING | MANUFACTURE | SERIAL # | WGT. LBS | WGT. LBS | WGT. LBS | WGT. LBS |
| 1      | 2364-9      | Transformer | 36     | 4   | 51      | 75      | 10        | Pennsylvania    | 1060  | 102   | 1260      |          |             |          |          |          |          |          |
| 2      | 7012490     | Transformer | 36     | 4   | 50      | 75      | 60        | ESCO            | 1329  | 102   | 1260      |          |             |          |          |          |          |          |
| 3      | 7012499     | Transformer | 36     | 4   | 50      | 75      | 60        | ESCO            | 1329  | 102   | 1260      |          |             |          |          |          |          |          |
| 4      | 7012497     | Transformer | 36     | 4   | 50      | 75      | 60        | ESCO            | 1329  | 102   | 1260      |          |             |          |          |          |          |          |
| 5      | H62033708AA | Transformer | 38     | 4   | 50      | 100     | 53        | Gen Electric    | 1020  | 102   | 1260      |          |             |          |          |          |          |          |
| 6      | 5353363     | Transformer | 28     | 4   | 43      | 15      | 17        | Wagner Electric | 420   | 102   | 1260      |          |             |          |          |          |          |          |
| 7      | 1781784     | Transformer | 28     | 4   | 43      | 15      | 17        | Wagner Electric | 420   | 102   | 1260      |          |             |          |          |          |          |          |
| 8      | 6113313     | Transformer | 32     | 4   | 53      | 37      | 5         | Allis Chalmers  | 550   | 102   | 1260      |          |             |          |          |          |          |          |
| 9      | 68AC616     | Transformer | 28     | 4   | 16      | 15      | 20        | Westinghouse    | 550   | 102   | 1260      |          |             |          |          |          |          |          |
| 10     | 68AC616     | Transformer | 28     | 4   | 16      | 15      | 20        | Westinghouse    | 550   | 102   | 1260      |          |             |          |          |          |          |          |
| 11     | 373923      | Transformer | 24     | 4   | 40      | 15      | 20        | Wagner Electric | 350   | 102   | 1260      |          |             |          |          |          |          |          |
| 12     | 69AC9094    | Transformer | 28     | 4   | 36      | 15      | 20        | Wagner Electric | 350   | 102   | 1260      |          |             |          |          |          |          |          |
| 13     | 2195345     | Transformer | 42     | 4   | 52      | 15      | 20        | Westinghouse    | 350   | 102   | 1260      |          |             |          |          |          |          |          |
| 14     | 6150504     | Transformer | 32     | 4   | 53      | 37      | 5         | Allis Chalmers  | 920   | 102   | 1260      |          |             |          |          |          |          |          |
| 15     | 6150506     | Transformer | 32     | 4   | 53      | 37      | 5         | Allis Chalmers  | 920   | 102   | 1260      |          |             |          |          |          |          |          |
| 16     | 3971195     | Transformer | 24     | 4   | 44      | 15      | 16        | Wagner Electric | 420   | 102   | 1260      |          |             |          |          |          |          |          |
| 17     | 3971194     | Transformer | 24     | 4   | 44      | 15      | 16        | Wagner Electric | 420   | 102   | 1260      |          |             |          |          |          |          |          |
| 18     | 6147271     | Transformer | 36     | 4   | 52      | 37      | 5         | Westinghouse    | 950   | 102   | 1260      |          |             |          |          |          |          |          |
| 19     | 6021196     | Transformer | 24     | 4   | 44      | 15      | 16        | Wagner Electric | 420   | 102   | 1260      |          |             |          |          |          |          |          |
| 20     | 2147330     | Transformer | 34     | 4   | 53      | 37      | 5         | Allis Chalmers  | 920   | 102   | 1260      |          |             |          |          |          |          |          |
| 21     | 3944196     | Transformer | 36     | 4   | 50      | 75      | 50        | ESCO            | 1329  | 102   | 1260      |          |             |          |          |          |          |          |
| 22     | 620802      | Transformer | 31     | 4   | 44      | 25      | 37        | Maloney Elec.   | 813.5 | 23    | 1260      |          |             |          |          |          |          |          |
| 23     | 6150486     | Transformer | 31     | 4   | 44      | 25      | 37        | Maloney Elec.   | 813.5 | 23    | 1260      |          |             |          |          |          |          |          |
| 24     | 6150486     | Transformer | 31     | 4   | 44      | 25      | 37        | Maloney Elec.   | 813.5 | 23    | 1260      |          |             |          |          |          |          |          |
| 25     | 6150486     | Transformer | 31     | 4   | 44      | 25      | 37        | Maloney Elec.   | 813.5 | 23    | 1260      |          |             |          |          |          |          |          |



## United States Department of the Interior

## FISH AND WILDLIFE SERVICE

446 Neal Street  
Cookeville, Tennessee 38501

July 23, 1996

Mr. Roger A. Burke  
Chief, Environment and Resources Branch  
U.S. Army Corps of Engineers  
P.O. Box 2288  
Mobile, Alabama 36628-0001

Dear Mr. Burke:

Thank you for your letter and enclosures of July 10, 1996, regarding the cleanup activities at the Defense Distribution Depot Memphis in Shelby County, Tennessee. The Fish and Wildlife Service (Service) has reviewed the information submitted and offers the following comments.

Information available to the Service does not indicate that wetlands exist in the vicinity of the proposed project. However, our wetland determination has been made in the absence of a field inspection and does not constitute a wetland delineation for the purposes of Section 404 of the Clean Water Act or the wetland conservation provisions of the Food Security Act. The Corps of Engineers or the Natural Resources Conservation Service should be contacted if other evidence, particularly that obtained during an on-site inspection, indicates the potential presence of wetlands.

Endangered species collection records available to the Service do not indicate that federally listed or proposed endangered or threatened species occur within the impact area of the project. We note, however, that collection records available to the Service may not be all-inclusive. Our data base is a compilation of collection records made available by various individuals and resource agencies. This information is seldom based on comprehensive surveys of all potential habitat and thus does not necessarily provide conclusive evidence that protected species are present or absent at a specific locality. However, based on the best information available at this time, we believe that the requirements of Section 7 of the Endangered Species Act of 1973, as amended, are fulfilled. Obligations under Section 7 of the Act must be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Thank you for the opportunity to comment on this action. If you have any questions, please contact Timothy Merritt of my staff at 615/528-6481.

Sincerely,

  
Lee A. Barclay, Ph.D.

**Advisory  
Council On  
Historic  
Preservation**

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The Old Post Office Building  
1100 Pennsylvania Avenue, NW, #809  
Washington, DC 20004

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JUN 15 1998

Colonel Earle C. Richardson, GS  
Deputy Chief of Staff for  
Engineering, Housing, Environment and Installation Logistics  
U.S. Army Materiel Command  
Department of the Army  
5001 Eisenhower Avenue  
Alexandria VA 22333-0001

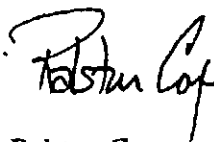
REF: Closure of Defense Distribution Depot  
Memphis, Shelby County, Tennessee

Dear Coloney Richardson:

The enclosed Memorandum of Agreement for the referenced project has been accepted by the Council. This acceptance completes the requirements of Section 106 of the National Historic Preservation Act and the Council's regulations. We recommend that you provide a copy of the fully-executed Agreement to the Tennessee State Historic Preservation Officer.

Should you have any questions, please contact me at (202) 606-8528.

Sincerely,



Ralston Cox  
Historic Preservation Analyst  
Office of Planning and Review

Enclosure



DEFENSE LOGISTICS AGENCY  
DEFENSE DEPOT SUSQUEHANNA, PENNSYLVANIA  
MEMPHIS DEPOT CARETAKER DIVISION  
2163 AIRWAYS BOULEVARD  
MEMPHIS, TENNESSEE 38114-5210

o DDSP-F

August 26, 1999

Turpin Ballard  
Environmental Protection Agency  
Office of Solid Waste  
Federal Facilities Branch  
61 Forsyth Street, SW  
Atlanta, GA 30303

Dear Mr. Ballard;

This letter is to notify you of our intent to designate a 75-foot strip along Hayes Road on the east side of Dunn Field as a separate BRAC parcel. This is a necessary step to the Department of Defense making this strip available to the City of Memphis for a roadway widening project. This project was discussed at the June 1999 BRAC Cleanup Team meeting.

This redesignation of that strip will be established and defined in the upcoming BRAC Cleanup Plan. The parcel map will also be updated to reflect this change.

For more information, please contact me at (901) 544-0611.

Sincerely,

SHAWN PHILLIPS

BRAC Environmental Coordinator

Cc:

John DeBack, DDSP-F  
Mike Dobbs, DDC  
Jim Covington, DRC



DEFENSE LOGISTICS AGENCY  
DEFENSE DEPOT SUSQUEHANNA, PENNSYLVANIA  
MEMPHIS DEPOT CARETAKER DIVISION  
2163 AIRWAYS BOULEVARD  
MEMPHIS, TENNESSEE 38114-5210

863 511

IN REPLY  
REFER TO

DDSP-F

August 23, 2000

Mr. Turpin Ballard  
Environmental Protection Agency, Region IV  
Office of Solid Waste  
Federal Facilities Branch  
61 Forsyth Street, SW  
Atlanta, GA 30303

Dear Mr. Ballard:

This letter is to notify you of our intent to designate a 2-acre plot south of Parcel 2 (Housing Area) as a separate BRAC parcel. This plot is currently included in Parcel 3.5. This is a necessary step to the Department of Defense making this plot available to the Depot Redevelopment Corporation for an entrance roadway from Ball Road to the Housing Area. This project was discussed at the July 2000 BRAC Cleanup Team meeting.

This plot will be redesignated Parcel 2.8. This plot will be established and defined in the upcoming BRAC Cleanup Plan Version 4. The Location of MDRA and BRAC Parcels map (Figure 1-3) and the Environmental Condition of Property Main Installation map (Figure 3-5) will also be updated to reflect this change.

For more information, please contact me at (901) 544-0617.

Sincerely,

SHAWN PHILLIPS  
BRAC Environmental Coordinator

cc:  
John DeBack, DDSP-F  
Mike Dobbs, DDC  
Jim Covington, DRC

From: HokieTrout@aol.com  
Sent: Wednesday, September 13, 2000 11:53 AM  
To: ballard.turpin@epa.gov; jmorrisson2@mail.state.tn.us; dcooper@ddc.dla.mil  
Cc: JohnPDB@aol.com; debackjp@acq.osd.mil  
Subject: FYI, Parcel 2.7 and 2.8

Gentlemen,

I have had a conversation with the Army regarding my redesignation of about a two acre portion of Parcel 3.5 as a new Parcel 2.8. Please refer to my letter dated August 23, 2000, that designated this area as Parcel 2.8. This is the area south of the housing units that is required by the transferee for city road frontage and the area that Dr.'s Simon and Mylavarapu did an exposure point calculation regarding.

Designating this as a new parcel was one approach, however it makes more sense to include this area in the current parcel 2.7. These contiguous properties are still part of a single real estate transfer. Accordingly, I will change the boundary of parcel 2.7 to include the southern property discussed above. I will also designate this expanded parcel as ECP category 4 (areas where releases occurred, but all remedial actions have been taken), which is appropriate. Denise will merely note in the BCP tables describing the environmental actions taken on the parcel that only the northern portion underwent the 1998 soil removal.

There will be no further correspondence from me on this unless either Jim or Turpin require it. Please attach this email to my August 23 letter to amend that letter.

Thanks, Shawn



**DEFENSE LOGISTICS AGENCY**  
DEFENSE DEPOT SUSQUEHANNA PENNSYLVANIA  
OL, MEMPHIS  
2163 AIRWAYS BOULEVARD  
MEMPHIS, TENNESSEE 38114

863 513

IN REPLY  
REFER TO

DDSP-D (Memphis)  
Mr. Turpin Ballard  
Environmental Protection Agency, Region IV  
Federal Facilities Branch  
61 Forsyth Street  
Atlanta, GA 30303

August 9, 2002

Dear Mr. Ballard:

This letter is to notify you of parcel boundary changes at Dunn Field. These changes are needed to facilitate the Dunn Field finding of suitability to lease/transfer process.

- Create Parcel 36.32 to delineate the Recreation Area as defined by JDB. Parcel 36.32 description will read: "open land area not included in other parcels in northeast corner of Dunn Field surrounding Building 1185, the former pistol range and the drainage ditches." Boundaries for this parcel will be: bounded on the north by fence line, bounded on the east by Parcel 36.31 (75-foot wide strip along Hays Road), bounded on the west by top of the ridgeline inside the dirt/gravel road, and bounded on the south by inside of gravel road.
- Parcel 36.15: Change description from "fluvial aquifer groundwater contamination beneath Dunn Field" to "open land area surrounding disposal sites in northwest corner of Dunn Field." Change map boundaries to: bounded on the north by the fence line, on the east by the inside of the road that runs along the railroad tracks, on the south by the southern edge of the asphalt pad (intersecting but excluding Parcel 36.29), and on the west by the fence line. This area basically coincides with the Disposal Area identified in the Dunn Field Remedial Investigation – eastern boundary in the DF RI for the Disposal Area along foot of ridgeline on east side of railroad tracks, so that the Disposal Area includes the railroad track and paved road.
- Parcel 36.30: Change description and map boundaries to: "all open land areas of Dunn Field not included in other parcels." This parcel coincides with areas on Dunn Field that appear to be available for unrestricted reuse based on the DF RI.

These changes were incorporated into the Rev. 0 BRAC Cleanup Plan Version 6 (BCPV6) document. All pertinent maps will also be updated to reflect this change.

For more information, please contact Clyde Hunt or me at (901) 544-0617.

JOHN P. DEBACK  
DOD Base Transition Coordinator

Cc:  
Mike Dobbs, DDC  
Jim Covington, DRC



**DEFENSE LOGISTICS AGENCY**  
DEFENSE DEPOT SUSQUEHANNA PENNSYLVANIA  
OL, MEMPHIS  
2163 AIRWAYS BOULEVARD  
MEMPHIS, TENNESSEE 38114

863 514

IN REPLY  
REFER TO

DDSP-D (Memphis)  
Mr. Turpin Ballard  
Environmental Protection Agency, Region IV  
Federal Facilities Branch  
61 Forsyth Street  
Atlanta, GA 30303

August 9, 2002

Dear Mr. Ballard:

This letter is to notify you of parcel boundary changes at the Main Installation. These changes will facilitate a finding of suitability to transfer for the Main Installation. Below are the descriptions for the four new sub parcels we are creating in this year's BCP based on the areas identified for the next Finding of Suitability to Transfer for the Main Installation (MI FOST 3).

- Sub parcel Number and Label 24.4(4) HS/PS  
CERFA Map Location 12,6  
This sub parcel is associated with the eastern side of open storage area X03 extending from the recently constructed W.E. Freeman Drive to 6th Street. The Depot created this sub parcel in 2003 upon request from the DRC in order to facilitate transfer of this area. This sub parcel consists of a gravel area that was used to store mission stock chemicals and POLs in 55-gallon drums. This area was also historically sprayed with waste oil containing PCP, pesticides and herbicides. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The MI ROD calls for remedial action in the form of ICs to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this sub parcel be a Category 4 based on implementation of the ICs.
- Sub parcel Number and Label 29.4(4)  
CERFA Map Location 4,18  
This sub parcel is associated with the eastern end of open storage area X30 extending from the recently constructed W.E. Freeman Drive to C Street. The Depot created this sub parcel in 2003 upon request from the DRC in order to facilitate transfer of this area. This sub parcel contains railroad tracks and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. In addition, this sub parcel is associated with a 1.25-gallon hydraulic fluid spill that was reported on September 12, 1995. The spill reportedly spread north, through Gate 15, and across Dunn Avenue (DDMT 1995). The Spill Team responded, applied absorbent, removed any stained soil and disposed of all residues in accordance with federal, state and local regulations. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The MI ROD calls for remedial action in the form of ICs to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this sub parcel be Category 4 based on implementation of the ICs.
- Sub parcel Number and Label 33.12(4)  
CERFA Map Location 14,9  
This sub parcel is associated with the open land area surrounding Sub parcels 33.2, 33.4, 33.3, 33.7, 33.10 and 33.11 at the southern end of Parcel 33 extending from the Memphis Depot Parkway and W.E. Freeman Drive to 6th Street. The Depot created this

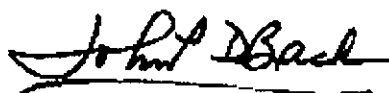
sub parcel in 2003 upon request from the DRC in order to facilitate transfer of this area. This sub parcel contains railroad tracks and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The MI ROD calls for remedial action in the form of ICs to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this sub parcel be Category 4 based on implementation of the ICs.

- Sub parcel Number and Label 33.13(4)  
CERFA Map Location 12,15

This sub parcel is associated with the open storage areas X09 and X08 as well as the open land area surrounding Buildings 720 and 727 at the northern end of Parcel 33 extending from W.E. Freeman Drive to 6th Street. The Depot created this sub parcel in 2003 upon request from the DRC in order to facilitate transfer of this area. This area contains gravel areas where mission stock chemical items were stored in 55-gallon drums. This sub parcel contains railroad tracks and gravel areas that were historically sprayed with pesticides, herbicides and waste oil containing PCP. The railroad tracks and ballasts were removed in 1999/2000. This subparcel also contained a 12,000-gallon diesel aboveground storage tank west of Building 720 that was removed in 1997. The MI RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial reuse, but did present unacceptable risks for residential reuse. The MI ROD calls for remedial action in the form of ICs to prevent residential or daycare operations reuse. In 2003, the BCT concurred that this sub parcel be Category 4 based on implementation of the ICs.

These changes are incorporated into the Rev. 0 BRAC Cleanup Plan Version 7 document. All pertinent maps will also be updated to reflect this change.

For more information, please contact me at (901) 544-0622.



JOHN P. DEBACK  
DOD Base Transition Coordinator

CC:  
Mike Dobbs, DDC  
Jim Covington, DRC

**DEFENSE LOGISTICS AGENCY**

DEFENSE DISTRIBUTION CENTER  
2001 MISSION DRIVE  
NEW CUMBERLAND, PA 17070-5000

IN REPLY  
REFER TO

DDC J-3/J-4E

July 30, 2004

Mr. Turpin Ballard  
Environmental Protection Agency, Region 4  
Office of Solid Waste  
Federal Facilities Branch  
61 Forsyth Street, SW  
Atlanta, Georgia 30303

Subject: Sub-Parcel Boundary Changes, Dunn Field

Dear Mr. Ballard:

This letter is to notify you of subparcel boundary changes at Dunn Field, Parcel 36. These changes will facilitate a finding of suitability to transfer for Dunn Field and were discussed at the BRAC Cleanup Team meeting on March 18, 2004. Below are descriptions for the subparcels affected by this change. The map locations refer to BRAC Cleanup Plan Figure 3-6, Environmental Condition of Property Map Dunn Field.

- Subparcel Number and Label 36.27(3)  
Map Location 31,12  
This subparcel is associated with Site 50 (Dunn Field Northeast Quadrant Drainage Ditch); a concrete-lined drainage ditch collects stormwater runoff from surrounding areas. In 2004, the BCT concurred to change the subparcel boundary to eliminate the area situated above groundwater contamination along the northern fence line (north subparcel boundary now ends about 225 feet south of the northern fence line). The Dunn Field RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential, recreational and industrial reuse. The Dunn Field ROD does not contain Remedial Action Objectives for this site. In 2004, the BCT concurred to change this subparcel from Category 6 to Category 3.
- Subparcel Number and Label 36.30 (3)  
Map Location 28,12  
This subparcel is associated with the open land area east of the railroad tracks of Dunn Field excluding Subparcels 36.12 and 36.13 and includes Site 63 (8 Fluorspar storage mounds removed by the Defense National Stock Pile in 1999). In 2004, the BCT concurred to change the subparcel boundary to eliminate the

area situated above groundwater contamination along the northern fence line (north subparcel boundary now ends about 225 feet south of the northern fence line). The BCT also changed the western boundary to coincide with the area identified in the Dunn Field ROD as available for unrestricted reuse. This subparcel contains railroad tracks that were historically sprayed with pesticides, herbicides, and waste oil containing PCP. This subparcel also contains grassed and gravel areas that were historically sprayed with pesticides and herbicides. The Dunn Field RI Report indicated several constituents exceeding BCT screening criteria that did not present unacceptable risks for industrial or residential reuse, except for arsenic levels that presented unacceptable risks for residential reuse, but were similar to levels identified throughout Shelby County and will not require remedial action. The Dunn Field ROD does not contain Remedial Action Objectives for this area or for Site 63. In 2004, the BCT concurred to change this subparcel from Category 6 to Category 3.

- Subparcel Number and Label 36.31 (3)

Map Location 28,13

This subparcel is associated with an open land area of Dunn Field along Hays Street from Person Avenue to Dunn Avenue excluding Subparcel 36.26. The DRC requested this subparcel due to a Memphis road works project to expand Hays Street. In 2004, the BCT concurred to change the subparcel boundary eliminating the area situated above groundwater contamination along the northern fence line (northeast corner of subparcel boundary now ends about 116 feet south of the northern fence line and northwest corner of subparcel boundary now ends about 163.37 south of the northern fence line). This subparcel contains grassy areas that were historically sprayed with pesticides and herbicides. The Dunn Field RI Report indicated levels of several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential or industrial reuse. The Dunn Field ROD does not contain Remedial Action Objectives for this subparcel. In 2004, the BCT concurred to change this subparcel from Category 6 to Category 3.

- Subparcel Number and Label 36.32 (3)

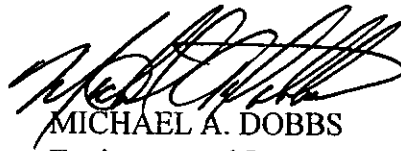
Map Location 36,13

This subparcel is associated with the open land area in the northeast corner of Dunn Field, excluding Subparcels 36.14, 36.25, 36.26 and 36.27. The Depot created this subparcel due to interest in the area as a future recreation/park area. In 2004, the BCT concurred to change the subparcel boundary eliminating the area situated above groundwater contamination along the northern fence line (north subparcel boundary now ends about 225 feet south of the northern fence line). This subparcel contains grassy areas that were historically sprayed with pesticides and herbicides. The Dunn Field RI Report indicated several constituents exceeding BCT screening criteria that did not present unacceptable risks for residential, recreational or industrial reuse. The Dunn Field ROD does not contain

Remedial Action Objectives for this area. In 2004, the BCT concurred to change this subparcel from Category 6 to Category 3.

These changes will be incorporated into the text and figures of the next version of the BRAC Cleanup Plan. Should you have any questions, please contact ma at (717) 770-6950 or Tom Holmes of MACTEC at (770) 421-3373.

Sincerely,

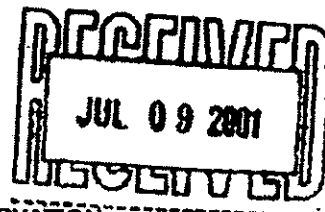
A handwritten signature in black ink, appearing to read 'Michael A. Dobbs', with a stylized, cursive script.

MICHAEL A. DOBBS  
Environmental Program Manager

cc: Jim Morrison, TDEC  
Jim Covington, DRC  
Tom Holmes , MACTEC



863 519



STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

401 CHURCH STREET  
L & C ANNEX 6TH FLOOR  
NASHVILLE TN 37243-1534

June 29, 2001

Mr. Cyde Hunt  
Remedial Program Manager  
Defense Distribution Depot Memphis  
2163 Airways Boulevard  
Memphis, TN 38114

Subject: **TERMINATION OF NPDES Permit No. TN0022322**  
**Defense Distribution Depot Memphis**  
**Memphis, Shelby County, Tennessee**

Dear Mr. Hunt:

This letter is to inform you the Division of Water Pollution Control is terminating the above referenced permit effective as of the date of this letter. The reason for this action is that the facility is being leased by the City of Memphis and Shelby County which has been transferred to Depot Redevelopment Corporation (DRC) per your letter dated April 9, 2001.

If you should decide to discharge again, you must reapply for an NPDES permit at least 180 days prior to any proposed discharge.

If you have questions concerning this correspondence or if we may be of assistance to you in any way, please contact Ms. Ranjana Chopra Sharp at (615) 532-0644 or by E-mail at [rsharp@mail.state.tn.us](mailto:rsharp@mail.state.tn.us).

Sincerely,

Saya Ann Qualls, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

SAQ/RCS  
P/WAT-29  
Termination Final Letter TN0022322.DOC

Enclosure

cc: Division of Water Pollution Control, Permit Section  
Environmental Assistance Center - Memphis, Division of Water Pollution Control  
Enforcement and Compliance Section, Nashville

received

OCT 27 1998



STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
Division of Solid Waste Management  
Fifth Floor, L & C Tower  
401 Church Street  
Nashville, Tennessee 37243 - 1535

October 22, 1998

CERTIFIED MAIL P 446 336 049  
RETURN RECEIPT REQUESTED

Mr. M.J. Kennedy  
Colonel, USMC  
Commander  
Defense Logistics Agency  
Defense Distribution Depot Memphis  
2163 Airways Boulevard  
Memphis, Tennessee 38114-5210

RE: Termination of Permitted  
Container Storage  
Defense Logistics Agency  
Defense Distribution Depot Memphis  
2163 Airways Boulevard  
Memphis, Tennessee 38114-5210  
EPA ID No.: TN4 21 002 0570  
Permit No.: TNHW-053

Dear Mr. Kennedy:

The purpose of this letter is to notify you that pursuant to Tennessee Rule 1200-1-11-.07(9)(d), I have terminated only the operational container storage portions of your permit. This termination action does not affect the remainder of the permit (TNHW-053) or any permit condition, including any corrective action requirements. Termination of the container storage portion of your permit signifies that, by this action, the present permit (TNHW-053) is modified to reflect that only the container storage portion no longer has any valid authority to either be constructed or operated.

This termination and the subsequent modification of the operating permit is effective on October 22, 1998. After this date, the container storage can no longer be constructed or operated for the management of hazardous waste unless a new permit is sought and obtained in accordance with Rule 1200-1-11-.07.

This decision can be appealed pursuant to the Hazardous Waste Management Act, T.C.A. 68-212-113, and Rule 1200-1-11-.07(7)(k).

If you have any questions, please contact Ms. Hymelia Craig of my staff at (615) 532-0828.

Sincerely,



Tom Tiesler, Director  
Division of Solid Waste Management

Enclosure (1)

cc: Ms. Jamie Burroughs, Manager, Treatment and Storage Section  
Mr. Otis Johnson, EPA, Region IV  
Mr. Narindar Kumar, EPA, Acting Chief, RCRA Branch  
Mr. Mark Thomas, Memphis Field Office  
Mr. O.J. Wingfield, Chief, Financial Compliance  
Mr. Bill Krispin, Manager, Land TSD Section

State of Tennessee  
Department of Environment and  
Conservation  
Division of Solid Waste Management

Hazardous Waste Management  
Program  
5th Floor, L & C Tower  
401 Church Street  
Nashville, TN 37243-1535  
(615) 532-0828

**NOTICE OF TERMINATION OF A PERMITTED ACTIVITY AND  
MODIFICATION OF THE OPERATIONAL PERMIT**

Permittee: U.S. Department of Defense and Defense  
Logistics Agency, Defense Depot Memphis

Facility Location: 2163 Airways Blvd.  
Memphis, Tennessee 38114-5210

EPA ID No.: TN4 21 002 0570

Permitted Activity: Container Storage (S01)

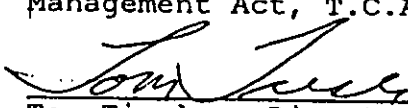
Permitted Capacity: 154,440 gallons

Permit Number: TNHW-053

Pursuant to the Tennessee Hazardous Waste Management Act of 1977, as amended (Tennessee Code Annotated 68, Chapter 212, Part 1) and the regulations promulgated thereunder by the Tennessee Solid Waste Disposal Control Board (found at Tennessee Rule Chapter 1200-1-11), it has been decided to terminate only the portion of the operational permit that allowed the construction and operation of a 154,440 gallon hazardous waste container storage area. This decision is based on the Permittee's request, dated June 30, 1997, to remove this from the permitted activities as identified in Permit Number: TNHW - 053.

Only activities authorized in the permit as part of the container storage operation will terminate on the effective date this document is signed. Terminated portions of the permit include Section III and Attachments 1 through 10. This action does not affect the remainder of the permit or any permit condition, including any corrective action requirements. After the effective date, no further activities involving the container storage portion of the permit is effective and if, in the future, the Permittee wishes to conduct such operations, a permit must be applied for and obtained from this Department in accordance with Rule 1200-1-11-.07.

This permit termination action is being processed as set forth in Rule 1200-1-11-.07(7) and can be appealed pursuant to the Hazardous Waste Management Act, T.C.A. 68-212-113 and Rule 1200-1-11-.07(7)(k).

  
Tom Tiesler, Director  
Division of Solid Waste Management  
Tennessee Department of Environment  
and Conservation

10/22/98  
Effective Date

AR 819



STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
Division of Solid Waste Management  
Fifth Floor, L & C Tower  
401 Church Street  
Nashville, Tennessee 37243-1535

January 19, 2005

Mr. Michael A. Dobbs  
Environmental Program Manager  
Defense Logistics Agency (DLA)  
Defense Distribution Center  
2001 Mission Drive  
New Cumberland, PA 17070-5000

CERTIFIED MAIL 7003 1680 0005 5753 4556  
RETURN RECEIPT REQUESTED

RE: Denial to Reissue the Hazardous Waste Corrective Action Permit  
Defense Depot Memphis Tennessee (DDMT)  
EPA LD. Number: TN4 210 020 570  
TN Permit Number: TNHW-053

Dear Mr. Dobbs:

Enclosed is a copy of the Notice to Deny the Renewal of a Corrective Action Permit, which terminates the requirement for the permittee to continue corrective action under the hazardous waste management regulations at DDMT. Included is the Response to Comments on the Draft Corrective Action Permit. Denial of this permit is in accordance with Tennessee Hazardous Waste Management Rule 1200-1-11-.07(7) and it is effective as of January 19, 2005. All corrective action activities shall continue to be performed under CERCLA authority.

Please note that Rule 1200-1-11-.07(7)(k) outlines the process for appeals to a final permit decision. If you have any questions or comments, please contact Clayton Bullington at (615) 532-0859 or at [clayton.bullington@state.tn.us](mailto:clayton.bullington@state.tn.us).

Sincerely,

  
Charles Burroughs  
Manager, Corrective Action Section

cc: Jon Johnston, Chief, RCRA Branch, EPA, Region 4  
Thomas Holmes, MACTEC  
David M. Buxbaum, Regional Attorney, US Army SREO  
William Krispin, Manager, Permitting Sections, DSWM  
Jamie Burroughs, Manager, TSD Section, DSWM  
Phil Davis, Memphis Field Office, DSWM

State of Tennessee  
Department of Environment and  
Conservation  
Division of Solid Waste Management

Hazardous Waste Management Program  
5th Floor L & C Tower  
401 Church Street  
Nashville, Tennessee 37243-1535

### NOTICE OF DENIAL TO RENEW CORRECTIVE ACTION PERMIT

Permittee: U.S. Defense Logistics Agency  
Facility: Defense Depot Memphis Tennessee  
Identification Number: TN4 210 020 570  
Owner: U.S. Department of the Army  
Operator: Defense Logistics Agency  
Permit Number: TNH-053

Pursuant to the Tennessee Hazardous Waste Management Act of 1977, as amended (Tennessee Code Annotated 68, Chapter 212, Part 1) and the regulations promulgated thereunder by the Tennessee Solid Waste Disposal Control Board (found at Tennessee Rule Chapter 1200-1-11), it has been decided to deny renewal of the above referenced permit that required corrective action. This decision resulted from the Permittee's request to withdraw the permit application, as per letter dated September 24, 2004, and with agreement between the US Environmental Protection Agency and the Tennessee Department of Environment and Conservation to allow corrective action at Defense Depot Memphis Tennessee to continue under the authority of an enforceable CERCLA Federal Facilities Agreement.

All activities authorized in the permit as part of the corrective action requirements will terminate on the effective date this document is signed. After the effective date, all corrective action shall continue to be performed as authorized under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Federal Facility Agreement as entered into by the Defense Logistics Agency, the US Environmental Protection Agency and the State of Tennessee on March 6, 1995.

This permit termination action is being processed as set forth in Rule 1200-1-11-.07(7) and can be appealed pursuant to the Hazardous Waste Management Act, T.C.A. 68-212-113 and Rule 1200-1-11-.07(7)(k).

January 19, 2005  
Effective Date

  
Mike Apple, Director  
Division of Solid Waste Management

**NOTICE OF FINAL DECISION TO DENY A HAZARDOUS WASTE CORRECTIVE ACTION  
PERMIT UNDER THE TENNESSEE HAZARDOUS WASTE MANAGEMENT ACT**

The Tennessee Department of Environment and Conservation's (TDEC), Division of Solid Waste Management (DSWM) has made a final decision, effective as of January 19, 2005, to deny the renewal of hazardous waste permit (Permit Number: TNHW-053, EPA ID Number: TN4 210 020 570) for Defense Depot Memphis Tennessee (DDMT). This decision is based on the Defense Logistics Agency's (DLA) request to withdraw the RCRA (hazardous waste) permit renewal application (as per the reasons in the request letter dated September 24, 2004). This action follows a 45-day public comment period, which ended on September 27, 2004. It included a public hearing held on September 21, 2004. Two comments were received from the public during this comment period. This decision can be appealed pursuant to the Hazardous Waste Management Act, T.C.A. 68-212-113 and Rule 1200-1-11-.07(7)(k).

The draft permit identified known solid waste management units (SWMUs) and areas of concern (AOCs) at DDMT and required DLA to investigate any releases of hazardous waste or hazardous constituents pursuant to the permit, regardless of the time at which waste was placed in a unit, and to take appropriate corrective action for any such releases. The DLA, EPA and TDEC entered into a Federal Facility Agreement (FFA), effective March 6, 1995, to investigate and implement appropriate response actions at the DDMT, as necessary to protect the public health and the environment. In accordance with the FFA, all corrective action under the permit was deferred to, and being performed under, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. As part of the request to withdraw their application, DLA updated the status of the SWMUs and AOCs listed in the draft permit attachment. All the units and areas at DDMT have been investigated and now have a selected remedy under CERCLA. Since no hazardous waste activity that would require a permit is being performed at DDMT and because TDEC and EPA will have full authority to continue to enforce implementation of the selected remedies under CERCLA, DSWM will not issue the renewal permit.

A copy of the Response to Comments is available for public inspection at the Memphis/Shelby County Public Library - Cherokee Branch, 3300 Sharpe Ave., Memphis, Tennessee 38111(901-743-3655). These materials are also available for public inspection during normal business hours, 8:00 a.m. to 4:30 p.m., Monday through Friday, except legal holidays, at the TDEC Memphis Environmental Assistance Center, Public Access Area, Perimeter Park, 2510 Mt. Moriah, Suite E-645, Memphis, TN 38115 (901-368-7939).

For further information contact: Mr. Clayton Bullington; Corrective Action Section; Division of Solid Waste Management; Tennessee Department of Environment and Conservation; 5th Floor, L & C Tower; 401 Church Street; Nashville, Tennessee 37243-1535; telephone 615-532-0859; fax 615-532-0886 or e-mail to [clayton.bullington@state.tn.us](mailto:clayton.bullington@state.tn.us).

TDEC is committed to principles of equal opportunity, equal access and affirmative action. Contact the EEO/AA Coordinator or the ADA Coordinator at 1-888-867-2757 for further information. Hearing impaired callers may use the Tennessee Relay Service (1-800-848-0298).

Persons who wish to be added to the DSWM's mailing list should request a Mailing List Request form by calling or writing: Public Participation Officer; Division of Solid Waste Management; Tennessee Department of Environment and Conservation; 5th Floor, L & C Tower; 401 Church Street; Nashville, Tennessee 37243-1535; telephone 615-532-0798; or e-mail [Solid.Waste@state.tn.us](mailto:Solid.Waste@state.tn.us).

**PUBLIC NOTICE ISSUED: \_\_\_\_\_**

## RESPONSE TO COMMENTS ON DRAFT CORRECTIVE ACTION PERMIT

This document has been prepared in accordance with Tennessee Rule 1200-1-11-.07(7)(j). It has resulted from the Tennessee Department of Environment and Conservation (TDEC) Division of Solid Waste Management's (DSWM) public notice of intent to reissue a draft corrective action permit to the U.S. Department of Army, owner of Defense Depot Memphis Tennessee (DDMT), and the Defense Logistics Agency (DLA). The facility is located in Memphis, Tennessee and is identified by EPA Installation I.D. Number TN4 210 020 570.

The draft permit identified known solid waste management units (SWMUs) and areas of concern (AOCs) at DDMT. The owner and operator (permittee) would be required to investigate any releases of hazardous waste or hazardous constituents pursuant to the permit, regardless of the time at which waste was placed in a unit, and to take appropriate corrective action for any such releases. The DLA, EPA and TDEC entered into a Federal Facility Agreement (FFA), effective March 6, 1995, to conduct investigation and implement appropriate response actions at the DDMT as necessary to protect the public health and the environment. In accordance with the FFA, all corrective action under the permit would be deferred to, and be performed under, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. Part A of this document describes the efforts made by the DSWM to obtain public input. Part B summarizes and responds to all significant comments received.

### A. Public Involvement Opportunities

DSWM issued a public notice of the proposed reissuance of the corrective action permit in the August 13, 2004 edition of the Commercial Appeal. Three 30-second announcements of the action, referencing the notice published in the newspapers, were also provided over each of the following radio stations: WJRK (FM) and WDIA (AM) both in Memphis. The public notice advised that copies of the draft permit and modification with associated materials were available for review at the TDEC Memphis Environmental Assistance Center and Memphis/Shelby County Public Library - Cherokee Branch. The public notice also advised that copies of the fact sheet and draft permit were available. It further announced a public hearing set for September 21, 2004 at the South Memphis Senior Citizens Center, established a 45-day comment period (ending September 27, 2004) and described how interested persons could comment in writing or at the hearing on the proposed action.

### B. Public Comment/Response Summary

Based on discussions with TDEC and EPA, the Defense Logistics Agency submitted a request to withdraw their permit application after the draft permit and a notice for a public hearing were issued. Five local members of the community attended the public hearing and three college students filmed the proceedings. Only one attendee provided oral comments at the hearing. A member of the facility Restoration Advisory Board provided a comment by e-mail during the 45-day draft permit comment period. A brief summary of the comments that are relevant to the permit decision and responses to those comments on the draft permit follow.

**FACILITY COMMENT**

**COMMENT:** The following paragraphs, as excerpted from the September 24, 2004 letter from DLA to TDEC, provide the request to withdraw their application:

Due to recent discussions between TDEC and U.S. Environmental Protection Agency (EPA) Region 4 Chief Resource Conservation and Recovery Act (RCRA) Programs, on behalf of Defense Logistics Agency (DLA) and the Department of Army (permittee), I respectfully withdraw the RCRA permit renewal application submitted for the DDMT on March 29, 2004.

It my understanding that all parties have agreed that the permit is not necessary considering: 1) the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) cleanup being conducted pursuant to a Federal Facilities Agreement (FFA), effective March 6, 1995, between DLA, TDEC and EPA; 2) the fact that permittee does not operate a hazardous waste management unit; and 3) the EPA policy to integrate RCRA and CERCLA cleanup programs at sites such as DDMT.

We are pleased the parties acknowledge that any corrective action which otherwise might be required under a RCRA permit for releases from all of the known SWMUs and areas of concern (AOCs) has been and shall continue to be deferred to the CERCLA response action process consistent with the FFA Section IX. RCRA/CERCLA INTEGRATION.

**RESPONSE:** The State agrees to allow DLA to withdraw their application for a corrective action permit. Prior to finalizing the decision to terminate the correction action permit, the State solicited comments from EPA on DLA's request, including submitting a draft copy of this Response to Comments for EPA's review. On November 24, 2004, the DSWM received a letter from EPA supporting TDEC's decision not to require a permit for DDMT. EPA agreed with the circumstances DLA cited as described in the above comment and as follows:

In accordance with the FFA, all corrective action under this permit is deferred to, and being performed under, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. At the time the permit application was submitted in March, 2004, the Record of Decision for Dunn Field had not been finalized. Also, the list of solid waste management units (SWMUs) and areas of concern (AOCs) did not appear to agree with the Record of Decision (ROD) when it was finalized in April, 2004. The summary table in the ROD said that several SWMUs had remedial action planned, though the permit application stated that no further action was required. As part of the request to withdraw their application, DLA updated the status of the SWMUs and AOCs listed in the draft permit attachment. All the units and areas at DDMT have been investigated and now have a selected remedy under CERCLA. Since no hazardous waste activity that would require a permit is being performed at DDMT and because TDEC and EPA have full authority to continue to enforce implementation of the selected remedies under the FFA, DSWM will not issue the renewal permit. The cleanup of DDMT under CERCLA pursuant to the FFA satisfies the requirements of RCRA Section 3004(u) and (v), as well as TCA 68-212-101 et seq. and TDEC regulations [Chapter 1200-1-11-.06(6)(1)].

**PUBLIC COMMENTS**

**WRITTEN COMMENT:** As a Restoration Advisory Board Member and community representative, I am in favor of the renewal of the correction action permit as detailed in the Notice of Public Meeting on September 21, 2004 fact sheet.

**RESPONSE:** TDEC has decided not to proceed with issuance of the permit. The draft permit was an administrative tool for corrective action that incorporated the work as performed under CERCLA. As all remedy selections are in place, the Commissioner of TDEC can fully enforce the implementation of those remedies under the state's Division of Superfund and/or the Division of Solid Waste Management. As the hazardous waste corrective action permit would only incorporate the work and decisions already made by the Division of Superfund and EPA in accordance with the FFA, and since all remedies are already selected, TDEC has decided not to renew the permit.

**ORAL COMMENT:** The commenter requested a 90-day waiting period before issuing the permit. She claimed the public had very limited involvement during past investigations and cleanups at the facility, nor during the final selection process. Also, the venue for review and input from the public was not conducive with the government overseeing the meetings. She would like the time to review the records of decisions and remedial design plans, and to allow her to organize and head a community meeting. Another comment concerned leaving contaminated media in place and not returning the site to pristine and safe for residential uses.

**RESPONSE:** TDEC has not received any notice for a community meeting, but will attend a meeting if one is held and provide assistance to the community in understanding the remedial selections. At the public hearing for the draft hazardous waste corrective action permit, TDEC noted receipt of DLA's request to withdraw their permit application and explained that TDEC intended to grant the withdrawal. As noted and for the reasoning in the previous responses, TDEC is not renewing the permit.

TDEC agrees that the facility will not be returned to pristine state. The cleanup levels for each area have been selected to limit any unreasonable exposures for on-site workers, members of the surrounding community or the environment. The site will be remediated to a level that is protective of human health and the environment based on the current and future uses of the property.

**FINAL PAGE**

**ADMINISTRATIVE RECORD**

**FINAL PAGE**