

FY2012

SOLDIER SYSTEMS CENTER

Army Defense Environmental Restoration Program

Installation Action Plan

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the restoration manager, the US Army Environmental Command (USAEC), the Soldier Systems Center (SSC), the Installation Management Command (IMCOM), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

Acronyms

AEDB-R	Army Environmental Database - Restoration
AOC	Area of Concern
ARARS	Applicable or Relevant and Appropriate Requirements
ASTDR	Agency for Toxic Substances and Disease Registry
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CA	Cooperative Agreement
CLIN	Contract Line Item Number
COC	Contaminant of Concern
DCE	Dichloroethene
ER, A	Environmental Restoration, Army
ESD	Explanation of Significant Differences
FRA	Final Remedial Action
FY	Fiscal Year
HRS	Hazard Ranking System
IAP	Installation Action Plan
IC	Institutional Controls
IMCOM	Installation Management Command
IRA	Interim Remedial Alternatives
IRP	Installation Restoration Program
K	thousand
LTM	Long-Term Management
LTMP	Long-Term Monitoring Program
LUC	Land Use Control
MaDEP	Massachusetts Department of Environmental Protection
MNA	Monitored Natural Attenuation
MSO	Main Storm water Outfall
N/A	Not Applicable
NCTRF	Navy Clothing and Textile Research Facility
NFA	No Further Action
NPL	National Priorities List
NRDEC	Natick Research, Development and Engineering Center
OU	Operable Unit
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbons
PBA	Performance-Based Acquisition
PCB	Polychlorinated Biphenyls
PM-Soldier	Project Manager-Soldier
QAPP	Quality Assurance Project Plan
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RC	Response Complete
RIP	Remedy-in-Place
SSC	Soldier Systems Center

Acronyms

SSCOM	Soldier Systems Command
TAPP	Technical Assistance for Public Participation
TCE	Trichloroethylene
TRC	Technical Review Committee
USACE	US Army Corps of Engineers
USAEC	US Army Environmental Command
USATHAMA	US Army Toxic and Hazardous Materials Agency
USEPA	US Environmental Protection Agency
VOC	Volatiles

Installation Information

Installation Locale

Installation Size (Acreage): 78

City: Natick

County: Middlesex

State: Massachusetts

Other Locale Information

The SSC is located on a peninsula on the eastern shore of Lake Cochituate in the town of Natick, Massachusetts, approximately 20 miles west of Boston. The surface of the lake is approximately 138 feet above mean sea level. The town of Natick is a suburban area typified by light industry; the population is about 30,000.

Installation Mission

The mission of the SSC is to research, develop, field, and manage food, clothing, shelters, airdrop systems, and Soldier support items, thus providing America's Soldiers with the best equipment in the world. To achieve this goal, the Natick team has consolidated full life cycle management of Soldier items into a one-stop Soldier support organization.

Lead Organization

IMCOM

Lead Executing Agencies for Installation

US Army Garrison, Natick, Environmental and Health Office

Regulator Participation

Federal

US Environmental Protection Agency (USEPA), New England

State

Massachusetts Department of Environmental Protection (MaDEP)

National Priorities List (NPL) Status

A score of 50 was recorded on 01-MAY-94.

Date for RA(C) Completion:

201201

Date for NPL Deletion: TBD

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

RAB established 199508

Installation Program Summaries

IRP

Primary Contaminants of Concern: Polychlorinated Biphenyls (PCB), Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Affected Media of Concern: Groundwater, Sediment, Soil

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Complete	200603	200701	2007
Complete	201105	201204	2012

Last Completed 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
T-25(Warehouse)Groundwater	NRDEC-05

Results The remedy for OU1 (pump and treat for groundwater) is currently protective. Exposure pathways are being controlled through institutional controls.

Actions Evaluate shutdown of the air stripper and vapor-phase GAC treatment steps and plan for implementation with EPA. Continue to evaluate monitoring of COCs below cleanup goals.

Plans Complete planned actions by dates presented in the narrative text box (between 2012 and 2017).

Recommendations and Implementation Plans:

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Land Use Control (LUC) Summary

LUC Title: Private water well exclus

Site(s): NRDEC-05

ROD/DD Title: T-25(Warehouse)Groundwater

Location of LUC

On Installation, Master Plan Control to prohibit drinking water well installation.

Off Installation, Town of Natick Board of Health regulation requiring permitting and no installation of private drinking water wells north of the Installation

Land Use Restriction: Media specific restriction - restrict drinking water well installation

Types of Engineering Controls: None

Types of Institutional Controls: Local Use ordinances, Notations in Master Plan, Restrictions on Groundwater Withdrawal, Zoning

Date in Place: 199906

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: VOC

Additional Information

N/A

Cleanup Program Summary

Installation Historic Activity

Since 1983, Natick Laboratory was one of two facilities (along with the US Army Belvoir Research, Development and Engineering Center) under the US Army Troop Support Command. During 1992 Natick Laboratory was consolidated under US Army Aviation and Troop Command. In 1994 the Soldier Systems Command (SSCOM) was established. In 1998 the SSCOM merged with the Chemical and Biological Defense Command to form the Soldier and Biological Chemical Command. The Natick Site (SSC) currently includes Headquarters and Headquarters Detachment, the Natick Soldier Center, the Integrated Logistics Support Center, as well as Product Manager-Soldier Support. The command also has elements of the Project Manager-Soldier (PM-Soldier). The current mission of the SSC at Natick is to develop, integrate, acquire, and sustain Soldier and related support systems to modernize, balance, and improve the Soldier's war fighting capabilities, performance, and quality of life.

Natick Research, Development and Engineering Center (NADEC) was officially established in 1953 as the Quartermaster Research and Development Center, a major US Army laboratory whose primary mission was the research and development of food, clothing, and personal and organizational equipment vital to the support of the individual combat Soldier. Prior to that time, particularly during World Wars I and II, research had been scattered at different facilities across the country under the Quartermaster Command.

Most of the 78-acre site on Lake Cochituate was donated by the town of Natick. The site was selected in part for its proximity to Boston, 20 miles away, and for its abundant and inexpensive water supply. Construction began in November 1952 and the facility, consisting of 10 reinforced concrete buildings, began operation in the summer of 1954.

The laboratory complex buildings, completed in 1954 and 1955, included five major research and administrative buildings:

- Building 1: the Administration Building (also known as the Headquarters Building);
- Building 2: the Climatic Chambers;
- Building 3: the Research Building;
- Building 4: the Development Building; and
- Building 5: the Technology Engineering Building.

Among the support buildings constructed were:

- Building 19, a boiler house;
- An enlisted men's barracks (expanded in 1978-1979);
- Building 8, the Hazardous Research Building, now a research and development building; and
- Building 7, the Laboratory Test Building.

Major additions to the original facility included the 1964 engineering building (Building 36). The environmental medicine building and the Navy research facility were built in 1990.

The Natick Center carries out research, development, testing and engineering in food and food service systems, shelters, clothing systems, airdrop systems, and field service equipment to sustain and support combat Soldiers.

Activities are housed in five prime directorates:

- Combat Feeding Directorate,
- Individual Protection Directorate,
- Airdrop/Aerial Delivery Directorate,
- Collective Protection Directorate and
- Supporting Science Directorate.

Responsibilities also include the development of specifications and standards for products and commodities with military applications.

In addition to the facilities mentioned above, the laboratory includes the Navy Clothing and Textile Research Facility (NCTRF). The NCTRF presently has a laboratory facility in Building 7, with Headquarters in Building 86. Established in 1967, the facility conducts research, design, and development of all protective clothing, dress uniforms, and utility garments worn by most Navy and Coast Guard personnel. The Coast Guard, Bureau of Engraving and Printing, and the US Army Research Institute of Environmental Medicine are additional tenant agencies located on the post.

Cleanup Program Summary

Installation Program Cleanup Progress

IRP

- Prior Year Progress:** Groundwater treatment and semiannual groundwater monitoring continued. The restoration advisory board (RAB), which meets periodically, entered its 16th year. Sediment remediation was concluded in accordance with the 2011 ROD. A groundwater ROD amendment was prepared to include NRDEC-11,16 and enhanced in situ bioremediation to the existing groundwater ROD. Two monitoring wells were converted to extraction wells.
- Future Plan of Action:** Operation of the groundwater treatment system will continue. Groundwater monitoring and update of the groundwater model also will continue. Public availability sessions and RAB meetings will continue.

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IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 17/13

Installation Site Types with Future and/or Underway Phases

- 3 Contaminated Ground Water
(NRDEC-11, NRDEC-16, PBC @ SSC)
- 1 Storage Area
(NRDEC-05)

Most Widespread Contaminants of Concern

Polychlorinated Biphenyls (PCB), Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Media of Concern

Groundwater, Sediment, Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
NRDEC-08	TANKS LIQUID NITROGEN	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1993
NRDEC-10	BLDG 5,PCB CONTAMINATION SITE & PAD	IRA	WASTE REMOVAL - SOILS	1993
NRDEC-02	BUILDING 30 INCINERATOR	FRA	OTHER	1994
NRDEC-02	BUILDING 30 INCINERATOR	IRA	OTHER	1994
NRDEC-12	BUILDING 13 CLASSIFIED INCINERATOR	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1998
NRDEC-14	BOILER PLANT AREA	IRA	WASTE REMOVAL - SOILS	2002
NRDEC-05	T25 BULK HAZ WASTE STORAGE AREA	FRA	GROUND WATER TREATMENT	2004
NRDEC-06	FORMER PROPOSED GYMNASIUM SITE	IRA	REMOVAL	2004
NRDEC-03	T62,T68 LAB PACK WASTE STORAGE	IRA	WASTE REMOVAL - SOLIDS (NON-SOILS)	2005
NRDEC-03	T62,T68 LAB PACK WASTE STORAGE	IRA	WASTE REMOVAL - SOILS	2006
NRDEC-09	BLDG 14 POL HAZARDOUS SITE	IRA	WASTE REMOVAL - SOILS	2007
NRDEC-11	POST DRINKING WATER WELLS	IRA	ALTERNATE WATER SUPPLY/WATER SUPPLY TREATMENT	2007
NRDEC-12	BUILDING 13 CLASSIFIED INCINERATOR	IRA	REMOVAL	2007
PBC @ SSC	PBC	FRA	OTHER	2007
NRDEC-11	POST DRINKING WATER WELLS	FRA	GROUND WATER TREATMENT	2009
NRDEC-10	BLDG 5,PCB CONTAMINATION SITE & PAD	FRA	REMOVAL	2012

Duration of IRP

Date of IRP Inception: 198901

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201201/202901

Date of IRP completion including Long Term Management (LTM): 203409

IRP Contamination Assessment

Contamination Assessment Overview

A Hazard Ranking System (HRS) score of 28.5 or higher dictates inclusion on the National Priorities List (NPL). The USEPA proposed NRDEC for inclusion on the NPL after they scored 50 using HRS II, soliciting comments in the Federal Register. The Army sent comments to the proposed listing explaining why NRDEC should not be listed, but in the May 31, 1994 issue of the Federal Register, NRDEC was officially included on the NPL. NRDEC was placed on the NPL because of the groundwater contamination (TCE) in the T-25 Area (NRDEC-05). The contamination has moved off-site. NRDEC currently shows levels of TCE above the maximum contaminant level (MCL) in off-post groundwater. A pump-and-treat system was installed in 1998 to control the movement and to clean up the TCE plume.

Sediment contaminated with polychlorinated biphenyls (PCB), pesticides, and polycyclic aromatic hydrocarbons (PAH) has been identified in Lake Cochituate at three locations. This contamination is being investigated under NRDEC-07, NRDEC-10, and NRDEC-17. A ROD for limited sediment removal at NRDEC-10 and no action at NRDEC-07 and -17 was signed in 2009. Dredging at NRDEC-10 was conducted from May through August 2010.

The installation lies within Zone II of Natick's municipal drinking water supply system, which has the effect of limiting the options available for remediating contaminated groundwater.

Cleanup Exit Strategy

Areas of contaminated soil have been identified and are being addressed via a series of removal actions that have been completed.

Groundwater in the T-25 Area (NRDEC-05) has been contained and treated since 1998 by a pump-and-treat system, in accordance with a ROD signed in 2001. Expansion of the groundwater treatment system to two other sites, NRDEC-11 and NRDEC-16, is complete, and groundwater in those areas is contained. A remedial optimization study to evaluate the effectiveness and feasibility of conducting limited in situ groundwater treatment is in progress in the T-25 area, and if successful may be expanded to other areas.

Three areas of lake sediment contaminated with PCB and PAH compounds have been identified at the three storm water outfalls. A ROD for limited sediment removal was signed autumn 2009, and sediment removal and off-site disposal for NRDEC-10 was completed autumn 2010.

IRP Previous Studies

Year	Title	Author	Date
1978	Analysis of Existing Facilities/Environmental Assessment Report, US Army NRDEC, Natick, Massachusetts	Dames & Moore	NOV-1978
1980	Installation Assessment of U.S. Army NRDEC, Report # 170	USATHAMA	MAY-1980
1990	Phase II Petrix Gas Survey conducted at U.S. Army NRDEC	Northeast Research Institute	APR-1990
1993	Final Report Master Environmental Plan for the U.S. Army NRDEC	USAEC	JAN-1993
	Interim Remedial Action Study, Remedial Investigation/Feasibility Study (RI/FS) for T-25 Area at the U.S. Army NRDEC, Natick, Massachusetts	ADL	MAR-1993
	EPA Final Hazard Ranking System (HRS), U.S. Army NRDEC	USEPA	MAY-1993
	Draft Report, Assessment of Location-Specific Applicable or Relevant and Appropriate Requirements (ARARS) for the U.S. Army NRDEC, Natick, Massachusetts	USAEC	JUN-1993
1994	Draft Feasibility Study Report, T-25 Area at the U.S. Army NRDEC, Natick, Massachusetts	ADL	JUL-1994
	Draft Remedial Investigation (RI) Addendum T-25 Area and Water Supply Wells at the U.S. Army Natick Research, Development and Engineering Center (NRDEC)	ADL	SEP-1994
	Agency for Toxic Substances and Disease Registry, Department of Health and Human Services, Public Health Service Site Visit Summary for the U.S. Army NRDEC, Natick, Massachusetts	ATSDR	SEP-1994
1995	Draft Geophysical Investigation, NRDEC, Natick, Massachusetts	Weston	JAN-1995
	Draft Work Plan Remedial Investigation/Feasibility Study (RI/FS) and Interim Remedial Alternatives (IRA) Study and Design for the T-25 Area at the U.S. Army NRDEC	ADL	MAR-1995
	Prepare Ground Water Model for NRDEC, Draft Technical Plan	ETA	MAR-1995
1996	Draft Stepped Rate Aquifer Test Design, T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ADL	MAR-1996
	Final Work Plan - Phase II Remedial Investigation (RI) for T-25 Area at the U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts	ADL	JUN-1996
	Final Quality Assurance Project Plan - Phase II Remedial Investigation (RI) for T-25 Area at the U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts - Volume I of II	ADL	JUN-1996

IRP Previous Studies

1996

Title	Author	Date
Final Health and Safety Plan, Remedial Investigation/Feasibility Study (RI/FS) for T-25 Area at U.S. Army NRDEC, Natick, Massachusetts	ADL	JUN-1996
Final Quality Assurance Project Plan - Phase II Remedial Investigation (RI) for T-25 Area at the U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts - Volume II of II	ADL	JUN-1996
Draft Final Community Relations Plan - U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts	ADL	JUL-1996
Final Quality Assurance Project Plan Remedial Investigation/Feasibility Study (RI/FS) and Interim Remedial Alternatives (IRA) Study and Design for T-25 Area at U.S. Army NRDEC, Natick, Massachusetts	ADL	JUL-1996
Draft Final Letter Report Survey of Local Properties - Remedial Investigation/Feasibility Study (RI/FS) for T-25 Area at the U.S. Army NRDEC, Natick, Massachusetts	ADL	JUL-1996
Draft Final Quarterly Groundwater Monitoring Report (Summer & Fall 1995) - T-25 Area, Water Supply Well Area and Former Proposed Gymnasium Area at U.S. Army Soldier Systems Command (SSCOM) Natick, MA	ADL	AUG-1996
Phase I Final Work Plan - Remedial Investigation/Feasibility Study (RI/FS) and Interim Remedial Alternatives (IRA) Study and Design for T-25 Area at the U.S. Army NRDEC, Natick, Massachusetts	ADL	AUG-1996
Final Phase I Remedial Investigation (RI) Report Volume III of III Appendices - T-25 Area at the U.S. Army NRDEC, Natick, Massachusetts	ADL	AUG-1996
Final Phase I Remedial Investigation (RI) Report Volume I of III Sections 1.0 through 8.0 - T-25 Area at the U.S. Army NRDEC, Natick, Massachusetts	ADL	AUG-1996
Final Phase I Remedial Investigation (RI) Report Volume II of III Appendices - T-25 Area at the U.S. Army NRDEC, Natick, Massachusetts	ADL	AUG-1996
DRAFT Action Memorandum Storage Area, U.S. Army Soldier Systems Command (SSCOM) Natick, Massachusetts, Revision 1	ADL	NOV-1996
Draft Quarterly Groundwater Monitoring Report (Winter 1996 & Spring 1996) - T-25 Area, Water Supply Well Area and Former Proposed Gymnasium Area and Boiler Plant Area at U.S. Army SSCOM, Natick, MA	ADL	DEC-1996

1997

Phase II Field Investigation Data, Remedial Investigation (RI) of the T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ABB ES	JAN-1997
Draft Quality Assurance Project Plan-Addendum, Sections 1.0 - 15.0, U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ABB ES	MAY-1997
Draft Health and Safety Plan-Addendum Former Proposed Gymnasium Site, SSCOM Water Supply Wells Remedial Investigation (RI) Data Item A003	ABB ES	MAY-1997
Draft Quarterly Groundwater Monitoring Report (Summer 1996, Fall 1996 & Winter 1996\1997) - T-25	ADL	JUN-1997

IRP Previous Studies

1997

Title	Author	Date
Area, Water Supply Well Area & Former Proposed Gymnasium Area & Boiler Plant Area at U.S. Army SSCOM		
Final Report Groundwater Model for Soldier Systems Command (SSCOM), Natick, Massachusetts	ETA	JUN-1997
Draft Final Work Plan, Former Proposed Gymnasium Site, SSCOM Water Supply Wells Remedial Investigation (RI) Data Item A003	ABB ES	JUN-1997
Agency for Toxic Substance and Disease Registry Public Health Assessment for Natick Laboratory Army Research a/k/a U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ATSDR	JUL-1997
Final Site Safety and Health Plan for Storage Area Removal Action T-25 Area, U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	Weston	AUG-1997
Final Removal Action Work Plan for Storage Area Removal Action T-25 Area, U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	Weston	AUG-1997
Final Treatability Study Work Plan - T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ADL	OCT-1997
Final Work Plan Former Proposed Gymnasium Site, Soldier Systems Command (SSCOM) Water Supply Wells Remedial Investigation (RI) Data Item A003	ABB ES	DEC-1997

1998

Draft Final Quarterly Groundwater Sampling Report Event 14 (July 1997) at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ABB ES	MAR-1998
Health Consultation for the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ATSDR	MAR-1998
Public Health Assessment for the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ATSDR	MAR-1998
Draft Technical Work Plan, Groundwater Modeling at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	Hydro Geologic	APR-1998
Draft Work Plan for Site Investigation for Boiler Plant, Former Hazardous Materials Storage Building, Former Piggery, and Building T-23	HLA	JUN-1998
Draft Final Quarterly Groundwater Sampling Report Event 15 (January 1997) at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ABB ES	JUN-1998
Storm Water Sampling Report, Contract No. DAAK60-97-P-4847, prepared for Soldier Systems Command (SSCOM)	Scilab	AUG-1998
Draft Final Work Plan for Site Investigation for Boiler Plant, Former Hazardous Materials Storage Building, Former Piggery and Building T-23, U.S. Army Soldier Systems Command (SSCOM), Natick, MA	HLA	SEP-1998
Draft Final Quarterly Groundwater Sampling Report Event 16 (April 1998) at the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	HLA	OCT-1998
Draft Addendum to Quality Assurance Project Plan, Tier II Ecological Risk Assessment & Treatability Study Operation & Maintenance for T-25 Area at U.S. Army Soldier Systems Center (SSC), Natick, MA	ADL	NOV-1998

IRP Previous Studies

1998	Title	Author	Date
	Tier II Ecological Risk Assessment Work Plan, T-25 Area at the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	NOV-1998
	Final Phase II Remedial Investigation (RI) Report Volume II sections 5.0 through 9.0 - T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ADL	DEC-1998
	Final Phase II Remedial Investigation (RI) Report Volume I sections 1.0 through 4.0 - T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	ADL	DEC-1998
1999			
	Draft Remedial Investigation Report (RI), Former Proposed Gymnasium Site, Data Item A013, Volume II of II-Appendices A through V	HLA	JAN-1999
	Draft Remedial Investigation Report (RI), Former Proposed Gymnasium Site, Data Item A013, Volume I of II-Text, Figures And Tables	HLA	JAN-1999
	Final Removal Action Report, Storage Area Removal Action T-25 Area at the U.S. Army Soldier Systems Command (SSCOM), Natick, Massachusetts	Weston	FEB-1999
	Draft Final Quarterly Groundwater Sampling Report Event 17 (August 1998) U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	HLA	FEB-1999
	Draft Remedial Investigation (RI) Report Soldier Systems Center (SSC) Water Supply Wells Site, Volume I of II: Text, Tables & Figures	HLA	MAR-1999
	Draft Remedial Investigation (RI) Report Soldier Systems Center (SSC) Water Supply Wells Site, Volume II of II: Appendices A through R	HLA	MAR-1999
	Draft Final Quarterly Groundwater Sampling Report Event 18 (December 1998) U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	HLA	MAY-1999
	Draft Final Quarterly Groundwater Sampling Report Event 19 (March 1999) U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	HLA	JUN-1999
	Transcript of Public Hearing, Re: U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts Proposed Plan to Clean Up Groundwater at the T-25 Area	ADL	SEP-1999
	Final Focused Feasibility Study/Treatability Study, T-25 Area at the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	SEP-1999
	Tier II Ecological Risk Assessment Work Plan, Main Storm water Outfall (MSO) Area, U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	OCT-1999
2000			
	1999 Storm Water Sampling Report; U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	JAN-2000
	Draft Final Quarterly Groundwater Sampling Report Event 20 (July 1999) U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	FEB-2000
	Working Draft, Interim Technical Memorandum, T-25 Area Storm water Outfall, Tier II Ecological Risk	ADL	APR-2000

IRP Previous Studies

2000

Title	Author	Date
Assessment		
Draft Preliminary Phase II Site Investigation Report, Boiler Plant Site, Soldier Systems Center (SSC), Natick, Massachusetts, Data Item A003	HLA	MAY-2000
Draft, T-25 Area Tier II Ecological Risk Assessment Report for the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	JUN-2000
Draft, Quarterly Groundwater Monitoring Report Event 21 (October 1999), Soldier Systems Center (SSC), Natick, Massachusetts	HLA	JUN-2000
Draft Work Plan, Building 22 Remedial Investigation (RI), Soldier Systems Center (SSC), Natick, Massachusetts	HLA	SEP-2000
Draft Technical Memorandum, Building 22, Soldier Systems Center (SSC), Natick, Massachusetts	HLA	SEP-2000

2001

Water Resources Investigation Report, Pond-Aquifer Interaction at South Pond of Lake Cochituate, Natick, Massachusetts prepared in cooperation with U.S. Environmental Protection Agency (USEPA) and the U.S. Army	USGS	JAN-2001
Draft, Final Revised Quality Assurance Project Plan, Soldier Systems Center (SSC), Natick, Massachusetts, Volume II Appendix H Laboratory Quality Assurance Plan and Operating Procedures (Severn Trent Laboratory, Sparks, Maryland)	HLA	JAN-2001
Draft, Final Revised Quality Assurance Project Plan, Soldier Systems Center (SSC), Natick, Massachusetts, Volume III Appendix I Laboratory Quality Assurance Plan and Standard Operating Procedures (Datachem Laboratory, Salt Lake City, Utah)	HLA	JAN-2001
Draft Final, Revised Quality Assurance Project Plan, Soldier Systems Center (SSC), Natick, Massachusetts, Volume I Sections 1.0-14.0 and Appendices A through G	HLA	JAN-2001
Draft Final, Quarterly Groundwater Monitoring Report Event 26 (June 2001), Soldier Systems Center (SSC), Natick, Massachusetts	Harding ESE, Inc.	FEB-2001
Draft Final Quarterly Groundwater Monitoring Report, Event 23 (May 2000), Soldier Systems Center (SSC), Natick, Massachusetts	Harding ESE, Inc.	MAR-2001
Draft Final Quarterly Groundwater Monitoring Report, Event 22 (January 2000) U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	Harding ESE, Inc.	MAR-2001
Record of Decision, T-25 Area Ground Water (Operable Unit 1), U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	APR-2001
Draft Report Groundwater Flow and Transport Modeling Results for the T-25 Area at Soldier Systems Center (SSC), Natick, Massachusetts	Hydro Geologic	JUN-2001
Draft Main Storm Water Outfall (MSO) Tier II Ecological Risk Assessment Report for the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	AUG-2001

IRP Previous Studies

2001

Title	Author	Date
Draft Quality Assurance Project Plan Addendum, Tier III Ecological Risk Assessment, U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	AUG-2001
Draft Tier III Ecological Risk Assessment Work Plan, U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	AUG-2001
Draft Letter Report Historic Outfalls, U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	AUG-2001
Draft Quarterly Groundwater Monitoring Report, Event 24 (October 2000), Soldier Systems Center (SSC)	Harding ESE, Inc.	AUG-2001
Final Revised Quality Assurance Project Plan, U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts, Volume I, Sections 1.0-14.0 and Appendices A through G	Harding ESE, Inc.	AUG-2001
Final Work Plan, Buildings 22 and 36 Remedial Investigation (RI), Soldier Systems Center (SSC), Natick, Massachusetts	Harding ESE, Inc.	AUG-2001
Draft Final Remedial Investigation (RI) Report, Soldier Systems Center (SSC) Water Supply Wells Site, Volume II of II - Appendices A through R	Harding ESE, Inc.	AUG-2001
Draft Final Remedial Investigation (RI) Report, Soldier Systems Center (SSC) Water Supply Wells Site, Volume I of II - Text, Figures and Tables	Harding ESE, Inc.	AUG-2001
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NPDES Permit Exclusion - Chemical Data, July 1, 2001 to September 30, 2001, U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	OCT-2001
Draft Storm Water Sampling Report, U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ADL	OCT-2001
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Draft Final, Quarterly Groundwater Monitoring Report, Event 25 (March 2001), Soldier Systems Center (SSC), Natick, Massachusetts	Harding ESE, Inc.	FEB-2002
Draft Final Quarterly Groundwater Monitoring Report, Event 27 (August 2001), Soldier Systems Center (SSC), Natick, Massachusetts	Harding ESE, Inc.	JUN-2002
Draft Revised Risk Assessment Approach Technical Memorandum, Soldier Systems Center (SSC), Natick, Massachusetts	Harding ESE, Inc.	JUN-2002
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Interim Technical Memorandum, Tier III Ecological Risk Assessment, U.S. Army Soldier Systems Center (SSC)	ICF Consulting, Inc.	JUL-2002

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Title	Author	Date
Final Main Storm Water Outfall (MSO), Tier II Ecological Risk Assessment Report for the U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ICF Consulting, Inc.	AUG-2002
Final Draft, Storm water Sampling Report 2001 Sampling Event, U.S. Army Soldier Systems Center (SSC), Natick, Massachusetts	ICF Consulting, Inc.	AUG-2002
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Draft Final, Quarterly Groundwater Monitoring Report, Event 29 (March 2002), Soldier Systems Center (SSC), Natick, Massachusetts	ICF Consulting, Inc.	DEC-2002

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Final Soil Excavation and Off-Site Treatment/Disposal, and Installation of Oil Water Separator at Boiler Plant Site	Nobis Engineering, Inc.	MAR-2003
Quality Assurance Project Plan Addendum Bldg 14 and Former Bldg 13 Site Investigation/Remedial Investigation and Feasibility Study, US Army SSC, Natick, Massachusetts	ICF Consulting, Inc.	MAR-2003
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Draft Work Plan Buildings 2 and 45 Site Investigation Soldier Systems Center, Natick, Massachusetts	Harding ESE, Inc.	APR-2003
NPDES Permit Exclusion - Chemical Data, January 1, 2003 to March 31, 2003	ICF Consulting, Inc.	APR-2003
Final Removal Action Closure Report Soil Excavation and Off-Site Treatment/Disposal at the Former	Nobis Engineering, Inc.	MAY-2003

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Draft Final Quarterly Groundwater Sampling Report Event 30 (June 2002) US Army Soldier Systems Center Natick, Massachusetts	Harding ESE, Inc.	MAY-2003
Draft Final Remedial Investigation Report Building 22 and 36, US Army Soldier Systems Center, Natick, Massachusetts Volumes 1 and 2 of 2	Harding ESE, Inc.	JUN-2003
NPDES Permit Exclusion - Chemical Data, April 1, 2003 to June 30, 2003	ICF Consulting, Inc.	JUL-2003
Draft Final Quarterly Groundwater Sampling Report Event 31 (September 2002) US Army Soldier Systems Center, Natick, Massachusetts	Harding ESE, Inc.	AUG-2003
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Method 2 Risk Characterization and Class A-2 Response Action Outcome Statement	Harding ESE, Inc.	SEP-2003
Final Phase II Site Investigation Report, Volume I - Boiler Plant Site	Harding ESE, Inc.	SEP-2003
Final Phase II Site Investigation Report, Volume II Appendices - Boiler Plant Site	Harding ESE, Inc.	SEP-2003

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Final Work Plan Building 2 & 45 Site Investigation US Army Soldier Systems Center, Natick, Massachusetts	Harding ESE, Inc.	JAN-2004
Draft Final Quarterly Groundwater Sampling Report Even 33 (April 2003)	Harding ESE, Inc.	JAN-2004
Draft Final Site Investigation Work Plan, Buildings 62 & 68	Harding ESE, Inc.	JAN-2004
Draft Final Quarterly Groundwater Sampling Report Event 34 (June 2003)	Harding ESE, Inc.	FEB-2004
NPDES Permit Exclusion - Chemical Data, October 1, 2003 to December 31, 2003	ICF Consulting, Inc.	FEB-2004
New Long-Term Monitoring Well Letter Rport T-25 Area US Army Soldier Systems Center, Natick, Massachusetts	ICF Consulting, Inc.	FEB-2004
Long-Term Monitoring Plan T-25 (OU-1) Groundwater Treatment System US Army Soldier Systems Center, Natick, Massachusetts	ICF Consulting, Inc.	MAR-2004
Tier III Deterministic Ecological Risk Assessment Report	ICF Consulting, Inc.	MAR-2004
Draft Site Investigation Report, Building 14 and Former Building 13, US Army Soldier Systems Center (SSC), Natick, Massachusetts	ICF Consulting, Inc.	MAR-2004
New Extraction Well Letter Report T-25 Area US Army Soldier Systems Center, Natick, Massachusetts	ICF Consulting, Inc.	APR-2004
Draft Buildings 22 & 36 Feasibility Study Work Plan	Harding ESE, Inc.	APR-2004
T-25 Area (OU-1) Groundwater Treatment System Operation and Maintenance Manual Volume 1 and 2 of 2	ICF Consulting, Inc.	MAY-2004
Draft Final Quarterly Groundwater Sampling Report Event 35 (September 2003)	Harding ESE, Inc.	JUL-2004
Draft Final Quarterly Groundwater Sampling Report Event 36 (December 2003)	Harding ESE, Inc.	AUG-2004

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Title	Author	Date
Final Letter Work Plan, Additional HHRA and ERA Activities to Support Sediment Risk Management at the U. S. Army Soldier Systems Center (SSC) Natick, MA	ICF Consulting, Inc.	AUG-2004
Final Work Plan Addendum - Building 14 and Former Building 13 Site Investigation	ICF Consulting, Inc.	SEP-2004
Building 14 and Former Building 13 Site Investigation Report	ICF Consulting, Inc.	SEP-2004
Draft T-25 Area Groundwater Treatment System January - June 2004 Semiannual Report	ICF Consulting, Inc.	OCT-2004
Draft Buildings 22 & 36 Feasibility Study Report	Harding ESE, Inc.	OCT-2004
Draft Quarterly Assurance Project Plan Addendum	ICF Consulting, Inc.	NOV-2004
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Draft Final Sediment Risk Management Technical Memorandum: Additional Assessment Activities to Support Sediment Risk Management at the U. S. Army Soldier Systems Center (SSC) Natick, MA	ICF Consulting, Inc.	DEC-2004

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Draft Study Area 2 Record Review Memorandum	Harding ESE, Inc.	FEB-2005
Final Quality Assurance Project Plan Addendum, Quarterly Groundwater Monitoring Program - U.S. Army Soldier Systems Center (SSC) Natick, MA	ICF Consulting, Inc.	FEB-2005
Application of an Updated Regional Groundwater Flow Model and an Updated T-25 Area Transport Model	ICF Consulting, Inc.	FEB-2005
Draft Buildings 62 and 68 Removal Action Work Plan	Harding ESE, Inc.	FEB-2005
Numerical Simulations of Remedial Alternatives for the PCE Plume Near Buildings 36 and 22	ICF Consulting, Inc.	FEB-2005
Draft Final Quarterly Groundwater Sampling Report Event 38 (June 2004)	Harding ESE, Inc.	FEB-2005
Final Record Review Memorandum SA2 Waste Oil Underground Storage Tank, SSC Natick, MA	Harding ESE, Inc.	FEB-2005
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U.S. Army Natick Laboratories The Science Behind the Soldier	Arcadia Publishing	APR-2005
Final Action Memorandum Building 62 and 68 Soldier Systems Center Natick, MA	MACTEC Engineering and Consulting, Inc.	MAY-2005
Draft Final Quarterly Groundwater Monitoring Report, Event 39 (September 2004) Soldier Systems Center, Natick, MA	Harding ESE, Inc.	MAY-2005
Draft Final Quarterly Groundwater Monitoring Report, Event 40 (December 2004) US Army Soldier Systems Center (SSC), Natick, MA	ICF Consulting, Inc.	MAY-2005
Draft Site Investigation Report Building 63, 2, and 45 US Army Soldier Systems Center Natick, MA Volume I of II Text, Figures, and Tables	Harding ESE, Inc.	JUN-2005

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Title	Author	Date
Draft Site Investigation Report Building 63, 2, and 45 US Army Soldier Systems Center Natick, MA Volume II of II Appendices A-M	Harding ESE, Inc.	JUN-2005
Final Site Investigation Report Addendum Building 14 and Former Building 13 U.S. Army Soldier Systems Center (SSC) Natick, MA	ICF Consulting, Inc.	JUL-2005
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Draft Final Quarterly Groundwater Monitoring Report, event 41 (April 2005) US Army Soldier Systems Center (SSC), Natick, MA	ICF Consulting, Inc.	SEP-2005
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Draft Final Quarterly Groundwater Monitoring Report, Event 42 (August 2005) US Army Soldier Systems Center (SSC), Natick, Massachusetts	ICF Consulting, Inc.	DEC-2005

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Draft Lake Cochituate Angler Survey Report, U.S. Army Soldier Systems Center (SSC), Natick, MA	ICF	JAN-2006
Final Removal Action Completion Report Buildings 62 and 68 Soldier Systems Center Natick, MA	MACTEC Engineering and Consulting, Inc.	FEB-2006
T-25 Area Groundwater Treatment System 2004 Annual Report U.S. Army Soldier Systems Center (SSC) Natick, MA	ICF Consulting, Inc.	MAR-2006
Final T-25 Area Groundwater Treatment System Semiannual Report January through June 2005 U.S. Army Soldier Systems Center (SSC) Natick, MA	ICF Consulting, Inc.	MAR-2006
Final Work Plan for First Five-Year Review U.S. Army Soldier Systems Center (SSC) Natick, MA	ICF Consulting, Inc.	MAR-2006
Draft Final Quarterly Groundwater Monitoring Report Event 43 (October 2005)	ECC	APR-2006
Final Work Plan Groundwater Remedial Optimization Study at the T-25 Area U.S. Army Soldier Systems Center (SSC) Natick, MA	ICF Consulting, Inc.	APR-2006
Draft Pilot Study Work Plan Groundwater Containment at Buildings 22 and 36 and Buildings 63, 2, and 45	ECC	APR-2006
Draft Final Quarterly Groundwater Monitoring Report Event 43 (October 2005)	ICF Consulting, Inc.	APR-2006
Final Removal Action Work Plan Building 14 and Former Building 13	ICF Consulting, Inc.	JUL-2006
Draft Final Explanation of Significant Differences for the T-25 Area Groundwater (Operable Unit 1)	ECC	AUG-2006
Draft Final Pilot Work Plan Groundwater Containment at Buildings 22 and 36 and Buildings 63, 2, and 45	ECC	AUG-2006
Draft Site Investigation Report Building 63, 2, and 45 US Army Soldier Systems Center, Natick, MA Volume I of II Text, Figures, and Tables	Harding ESE, Inc.	AUG-2006
Draft Site Investigation Report Building 63, 2, and 45 US Army Soldier Systems Center, Natick, MA Volume II of II Appendices A-M	Harding ESE, Inc.	AUG-2006
Draft Final Quarterly Groundwater Monitoring Report, Event 44	ECC	AUG-2006
Draft Final Remedial Investigation Report Former Proposed Gymnasium Site Data Item A013 Volume I of	MACTEC Engineering and Consulting, Inc.	AUG-2006

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Title	Author	Date
II Text, Figures, and Tables		
Draft Final Remedial Investigation Report Former Proposed Gymnasium Site Data Item A013 Volume II of II Appendices A through U	MACTEC Engineering and Consulting, Inc.	AUG-2006
Draft Final Supplemental Remedial Investigation Report Former Proposed Gymnasium Site	MACTEC Engineering and Consulting, Inc.	SEP-2006
Technical Specifications for Groundwater Containment Pilot Study Soldier Systems Center, Natick, MA	MACTEC Engineering and Consulting, Inc.	OCT-2006
Draft Final Buildings 22 and 36 Feasibility Study Report	Harding ESE, Inc.	OCT-2006
Draft Final Sediment Feasibility Study Work Plan	ICF Consulting, Inc.	NOV-2006
Final Remedial Investigation Report Former Proposed Gymnasium Site Data Item A013 Volume I of II Text, Figures, and Tables	MACTEC Engineering and Consulting, Inc.	DEC-2006
Final Remedial Investigation Report Former Proposed Gymnasium Site Data Item A013 Volume II of II Appendices A through U	MACTEC Engineering and Consulting, Inc.	DEC-2006
Final Supplemental Remedial Investigation Report Former Proposed Gymnasium Site	MACTEC Engineering and Consulting, Inc.	DEC-2006

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Final Pilot Study Work Plan Groundwater Containment at Building 22 and 36 and Buildings 63, 2, and 45	ECC	JAN-2007
Draft Sediment Feasibility Study	ICF Consulting, Inc.	JAN-2007
Final Sediment Feasibility Study Work Plan	ICF Consulting, Inc.	JAN-2007
First Five-Year Review Report for U.S. Army Soldier Systems Center Natick, MA	ICF Consulting, Inc.	JAN-2007
Draft Focused Feasibility Study Former Proposed Gymnasium Site	MACTEC Engineering and Consulting, Inc.	JAN-2007
Draft Final Quarterly Groundwater Sampling Report Event 45 (June 2006)	ECC	MAR-2007
Draft T-25 Area Supplemental Remedial Investigation Report	ICF Consulting, Inc.	MAR-2007
Final Work Plan, T-25 Area Supplemental Remedial Investigation	ICF Consulting, Inc.	MAR-2007
Draft Final Sediment Feasibility Study	ICF Consulting, Inc.	MAR-2007
Draft Final Quarterly Groundwater Monitoring Report Event 46 (September 2006)	ECC	APR-2007
Final Quarterly Groundwater Monitoring Report Event 44 (March 2006)	ECC	MAY-2007
Draft Record of Decision for Former Proposed Gymnasium Site and Buildings T-62 and T-68	MACTEC Engineering and Consulting, Inc.	JUN-2007
Groundwater Remedial Optimization Study at the T-25 Area Summary of Event 02 Post HRC-A Injection Groundwater Monitoring	ICF Consulting, Inc.	JUN-2007
Draft 2007 Fish/Sediment Sampling Work Plan	ICF Consulting, Inc.	JUL-2007
Draft Removal Action Completion Report, Building 14 and Former Building 13	ICF Consulting, Inc.	JUL-2007
Draft Final T-25 Area Supplemental Remedial Investigation Report	ICF Consulting, Inc.	JUL-2007
Draft T-25 Area Groundwater Treatment System 2005 Annual Report	ECC	AUG-2007

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Title	Author	Date
Draft T-25 Area Groundwater Treatment System 2006 Annual Report	ECC	AUG-2007
Draft Quarterly Groundwater Monitoring Report Event 47 (Fourth Quarter 2006)	ECC	SEP-2007
Draft Final 2007 Fish/Sediment Sampling Work Plan	ICF Consulting, Inc.	SEP-2007
Final Record of Decision for Former Proposed Gymnasium Site and Buildings T-62 and T-68	MACTEC Engineering and Consulting, Inc.	SEP-2007
Draft Final Quarterly Groundwater Monitoring Report Event 45 (Second Quarter 2006)	ECC	OCT-2007
Final 2007 Fish/Sediment Sampling Work Plan	ICF Consulting, Inc.	OCT-2007
Draft Final Explanation of Significant Differences for T-25 Area Groundwater (Operable Unit 1)	ECC/MACTEC	NOV-2007
Draft Feasibility Study for Buildings 63, 2, and 45	MACTEC Engineering and Consulting, Inc.	NOV-2007

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Final Removal Action Completion Report, Building 14 and Former Building 13	ICF Consulting, Inc.	JAN-2008
Memorandum - Groundwater Remedial Optimization Study at the T-25 Area Summary of Event 04 Post HRC-A Injection Groundwater Monitoring	ICF Consulting, Inc.	JAN-2008
Draft Quarterly Groundwater Monitoring Data Transmittal - Event 49 (Second Quarter 2007)	ECC	FEB-2008
Draft Record of Decision for Soil at the T-25 Area, Building 14 and Former Building 13, and Boiler Plant	ICF Consulting, Inc.	FEB-2008
Draft Final Quarterly Groundwater Monitoring Data Transmittal, Event 48 (First Quarter 2007)	ECC	MAR-2008
Draft Remedy Optimization Report for the T-25 Area Groundwater	ICF	MAR-2008
Final Proposed Plan for Soils at the T-25 Area, Building 14 and Former Building 13, and Boiler Plant	ICF Consulting, Inc.	APR-2008
Final Groundwater Containment Demonstration Report for the Buildings 22 and 36 and Buildings 63, 2 and 45 Pilot Study	MACTEC	MAY-2008
Draft Long Term Monitoring Plan T-25 Area, Buildings 22 and 36 Area and Buildings 63, 2 and 45 Area	ECC	JUN-2008
Final Work Plan Lake Cochituate Angler Survey, U.S. Army Soldier Systems Center (SSC), Natick, MA	ICF	JUL-2008
Final Fall 2007 Fish and Sediment Sampling Program Memorandum	ICF	AUG-2008
Draft Final Quarterly Groundwater Monitoring Data Transmittal, Event 50 (Third Quarter 2007)	ECC	AUG-2008
Final Record of Decision for Soil at the T-25 Area, Building 14 and Former Building 13, and Boiler Plant - Operable Unit 4	ICF	SEP-2008
Draft Proposed Plan for Sediment at the T-25 and Building 2/45 Outfalls	ICF	SEP-2008
Final MW-114B Investigation Work Plan and Quality Assurance Project Plan (QAPP) Addendum	ICF	OCT-2008
Draft Technical Memorandum Work Plan extraction Well Installation at Existing MW-40B Monitoring Well	ECC	OCT-2008
Draft Final Quarterly Groundwater Monitoring Report Event 51 (Fourth Quarter 2007)	ECC	DEC-2008

2009

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2009

Title	Author	Date
Draft Final Quarterly Groundwater Monitoring Data Transmittal - Event 52 (First Quarter 2008)	ECC	FEB-2009
Draft Final Quarterly Groundwater Monitoring Data Transmittal - Event 53 (Second Quarter 2008)	ECC	MAR-2009
Draft Final Quarterly Groundwater Monitoring Data Transmittal - Event 54 (Third Quarter 2008)	ECC	MAR-2009
Draft Annual Groundwater Monitoring Data Transmittal - Event 55 (Fourth Quarter 2008)	ECC	MAY-2009
Final Proposed Plan for Sediment at the U.S. Army Natick Soldier Systems Center	ICF	MAY-2009
Draft Investigation Report: MW-114B Area	ICF	JUN-2009
Final Record of Decision for Sediment - Operable Unit 2	ICF	SEP-2009
Draft Final 2007 Annual T-25 Area Groundwater Treatment System Report	ECC	OCT-2009
Draft Quarterly Groundwater Monitoring Data Transmittal - Event 57 (Second Quarter 2009)	ECC	OCT-2009
Draft Final Quarterly Groundwater Monitoring Data Transmittal - Event 56 (First Quarter 2009)	ECC	OCT-2009
Draft Technical Memorandum Extraction Well at Former MW-40B Monitoring Well	ECC	OCT-2009
Capture Zone Assessment for Groundwater Plumes at Buildings 22 and 36 and Buildings 63, 2, and 45 Areas	ECC	OCT-2009
Response to USEPA Comments dated May 30, 2008	ECC	OCT-2009
Final Groundwater Containment Demonstration Report		

2010

LTMP Ammendment - Semiannual Sampling	ECC	JAN-2010
Draft Quarterly Groundwater Monitoring Data Transmittal - Event 58 (Third Quarter 2009)	ECC	FEB-2010
Draft Final Investigation Report MW-114B Area	ICF	FEB-2010
Draft Final T-25 Area Groundwater Treatment System 2008 Annual Report	ECC	APR-2010
Draft technical memorandum Work Plan, extraction Well at Existing MW-39B-HP4 Monitoring Well Tie-in	ECC	MAY-2010
Draft Technical Memorandum Work Plan Extraction Well MW-40BR Tie-in	ECC	MAY-2010
Sediment Remediation Program Iron Pretreatment	Charter/ICF	MAY-2010
Draft Quarterly Groundwater Monitoring Data Transmittal - Event 59 (Fourth Quarter 2009)	ECC	MAY-2010
Draft Final Sediment Remedial Design	Charter/ICF	JUN-2010
Draft Final Sediment Remediation Work Plan	Charter/ICF	JUN-2010
Final Memo Groundwater Remedial Optimization Study at the T-25 Area Summary of 3DMe and BDI Injections	ICF	SEP-2010
Draft Final Semiannual Groundwater Monitoring Data Transmittal - Event 60 (Semi-Annual Spring 2010)	ECC	SEP-2010
Draft Final Operations and Maintenance Manual OU-1 T-25 Area, Buildings 22 and 36 Area, and the Buildings 63, 2, and 45 Area Groundwater Treatment System and 1,4-Dioxane Treatment System	ECC	SEP-2010
Draft Final Groundwater Treatment System 2009 Annual Report	ECC	SEP-2010

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2010	Title	Author	Date
	Draft Memo - Summary of Event 08 Post HRC-A Injection Groundwater Monitoring Groundwater Remedial Optimization at the T-25 Area	ICF	SEP-2010
	Draft Memo - Summary of Event 09 Post HRC-A Injection Groundwater Monitoring Groundwater Remedial Optimization at the T-25 Area	ICF	NOV-2010
2011			
	Draft Final Long Term Monitoring Plan Amendment	ECC	FEB-2011
	Final Sediment Remedial Action Completion Report	Charter/ICF	APR-2011
	Draft Final Annual Groundwater Monitoring Report, Event 61 (Fall 2010)	ECC	JUL-2011
	Response to USEPA (EPA Region I) Review of the Ground Water Remedial Optimization Study at the T-25 Area - Draft Summary of Event 09 HRC-A Injection Groundwater Monitoring Memorandum	ICF	AUG-2011
	Draft Final T-25 Area Groundwater Treatment System 2010 Annual Report	ECC	SEP-2011
	Draft Sediment Dewatering Area Investigation Work Plan	ICF	NOV-2011
	Draft Sediment Dewatering Area Investigation Quality Assurance Project Plan Addendum	ICF	NOV-2011
	Response to Comments on Draft ARIEM Building Investigation Work Plan and QAPP Addendum	ICF	DEC-2011
	Draft Final ARIEM Building Investigation Work Plan	ICF	DEC-2011
	Draft Final ARIEM Building Investigation Quality Assurance Project Plan Addendum	ICF	DEC-2011
	Draft Final Semiannual Groundwater Sampling Data Transmittal Event 62 (Spring 2011)	ICF	DEC-2011

SOLDIER SYSTEMS CENTER
Installation Restoration Program
Site Descriptions

Site Name: T25 BULK HAZ WASTE STORAGE AREA

STATUS

Regulatory Driver: CERCLA
RRSE: HIGH
Contaminants of Concern: Volatiles (VOC)
Media of Concern: Groundwater, Soil

Table with 3 columns: Phases, Start, End. Rows include PA, SI, RI/FS, RA(C), RA(O), LTM with corresponding dates. Includes RIP Date: 200404 and RC Date: 202901.

SITE DESCRIPTION

This area is immediately south and extends southwest of building T-25, which was used to store unheated bulk waste, petroleum, solvents, antifreeze, and Freon 113 in drums from 1970 until about 1984 when all material was removed from the area.

Both NRDEC-05 and -07 represent contamination from the T-25 area. Groundwater contamination is addressed under NRDEC-05. Sediment contamination is addressed under NRDEC-07; however, NRDEC-07 is funded and tracked under NRDEC-10.

A soil gas study was performed in and around the surrounding area during 1989, yielding relative soil/gas results for benzene, toluene, ethylbenzene, and xylene (BTEX), Freon 11, Freon 113, trichloroethane (TCA), TCE, and PCE.

Groundwater contamination has been detected off-post and is in the same aquifer that is used for the municipal water supply. This groundwater is within the capture zone of a municipal drinking water well field.

The ROD requires the Army to maintain the on-post treatment system, monitor the groundwater and establish institutional controls (IC). The CA provided authority for the Army to compensate the town of Natick for a portion of the cost of the off-post operation and maintenance of the municipal water treatment system.

Three production wells and four monitoring wells were installed in FY03. In FY04 a long-term monitoring plan and an operations plan were finalized. To date, this on-post facility has processed over 300 million gallons of water.

Based on results of the T-25 area groundwater model update, an in situ optimization study to enhance groundwater treatment in the T-25 area commenced in FY06 and was completed in FY10. One monitoring well was converted to an extraction well to improve groundwater containment and cleanup in summer 2011.

Site ID: NRDEC-05

Site Name: T25 BULK HAZ WASTE STORAGE AREA

CLEANUP/EXIT STRATEGY

The pump-and-treat system will continue to be monitored and operated to ensure proper containment of contaminated groundwater in the vicinity of the facility. As a result of the five-year review in FY06, an additional extraction well was connected to the extraction system for optimization purposes in FY10. Currently, the model predicts active pumping through 2021, followed by 15 years of monitored natural attenuation (MNA) in order to reach the cleanup goals. Once cleanup goals are reached, five years of monitoring are required.

The current ROD covers groundwater in the T-25 area. Soil contamination in the T-25 area has been addressed through a separate ROD for soil (which includes NRDEC-09, -12, and -14).

Site Name: POST DRINKING WATER WELLS

STATUS

Regulatory Driver: CERCLA
RRSE: LOW
Contaminants of Concern: Volatiles (VOC)
Media of Concern: Groundwater

Table with 3 columns: Phases, Start, End. Rows include PA, SI, RI/FS, RD, IRA, RA(C), RA(O), LTM, RIP Date, and RC Date.

SITE DESCRIPTION

This site (also known as Buildings 63, 2 and 45) consists of two supply wells approximately 50 feet deep located on a peninsula on the south end of the post, exiting into Lake Cochituate.

Contaminants detected at the drinking water wells are TCE, PCE and dichloroethene (DCE), all at levels below MCLs. During the investigation, a second TCE groundwater plume was found that is believed to be coming from Buildings 2 and 45, extending to the lake.

There are no records of past spills of TCE at Building 2. In 1994, the Army discontinued the use of TCE and Freon 11, and 2,776 gallons of TCE were removed from the Building 2 climate control system.

In fall 2003, the Army installed 10 additional monitoring wells southeast and southwest of Buildings 2 and 45 to delineate the plume.

In September 2005, a PBC was put into place that covers quarterly monitoring and operation and maintenance of the groundwater treatment system. The PBC scope includes the groundwater portions of sites NRDEC-05, -11 and -16.

CLEANUP/EXIT STRATEGY

The Building 94 treatment system will be operated and maintained for the duration of the Performance-Based Acquisition (PBA) contract which concludes in 2015. Containment of volatile organic compounds (VOC) plumes in the T-25 area will be maintained, and containment of VOC plumes at sites NRDEC-11 and NRDEC-16 will be established.

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Soil

Phases	Start	End
PA.....	199804.....	199806
SI.....	199808.....	200010
RI/FS.....	200009.....	200709
RD.....	200603.....	200709
RA(C).....	200603.....	200906
RA(O).....	200712.....	202609
LTM.....	202609.....	203201

RIP Date: 200906

RC Date: 202609

SITE DESCRIPTION

During the site inspection (SI) of the boiler plant, a PCE groundwater plume was discovered associated with Building 22 which served from the 1950s to 1989 as the hazardous materials issue building. A remedial investigation (RI) was started in FY00 to delineate the contamination. Soil and sediment samples in the area also show PCE contamination. The plume (440 feet by 500 feet) now extends from Building 36 to Building 22 and discharges into the lake sediments on both sides of the peninsula. Diffusion samplers indicate the presence of PCE in sediment. Groundwater sampling results indicate up to 600 ppb of PCE.

Groundwater from this area is extracted and directed to the existing T-25 pump-and-treat system. Future use of enhanced in situ bioremediation is planned. The FS was submitted to and commented on by the USEPA. It will be finalized after completion of the pilot study. An ESD to the groundwater ROD for site NRDEC-05 added sites NRDEC-11 and -16 in June 2012.

CLEANUP/EXIT STRATEGY

The Building 94 treatment system will be operated and maintained for the duration of the PBA contract which concludes in 2016. Containment of VOC plumes in the T-25 area will be maintained, and containment of VOC plumes at sites NRDEC-11 and NRDEC-16 will be established. Remedial optimization of all three sites will be evaluated (e.g., in situ enhanced bioremediation). Following PBA contract completion, system operation is expected to continue for an additional 11 years (through 2026) with seven subsequent years of LTM.

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Polychlorinated Biphenyls (PCB),
Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern: Groundwater

Phases	Start	End
PA.....	200409.....	200503
RD.....	200503.....	200606
RA(C).....	200508.....	200704
RA(O).....	200508.....	201509

RIP Date: 200704

RC Date: 201509

SITE DESCRIPTION

A PBC was awarded in August 2005. The PBC covers remedial system operation and maintenance for site NRDEC-05 and installation-wide groundwater sampling [Site NRDEC-05 remedial action (operation) (RA(O) phase)]. The contract also includes remedial system construction and operation for sites NRDEC-11 and NRDEC-16 through 2015.

CLEANUP/EXIT STRATEGY

The Building 94 treatment system will be operated and maintained for the duration of the PBC contract (through 2015). Containment of VOC plumes in the T-25 area will be maintained, and containment of VOC plumes at sites NRDEC-11 and NRDEC-16 will be established. Remedial optimization of all three sites (e.g., in situ enhanced bioremediation) will be evaluated.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
NRDEC-02	BUILDING 30 INCINERATOR	199404	Not ER,A eligible - interior space in building
NRDEC-03	T62,T68 LAB PACK WASTE STORAGE	200709	This site was consolidated with several other sites (NRDEC-03, 06, 13) for a no further action ROD
NRDEC-04	PIT AREA WASTE OIL STORAGE TANK	200507	Letter from EPA, dated July 2005
NRDEC-06	FORMER PROPOSED GYMNASIUM SITE	200709	This site was consolidated with several other sites (NRDEC-03, 06, 13) for a no further action ROD
NRDEC-07	TRANSITORY SHELTER AREA OF T-25	200909	NFA ROD (Sediment) September 2009
NRDEC-08	TANKS LIQUID NITROGEN	199305	Not ER,A eligible - no cleanup required at the site
NRDEC-09	BLDG 14 POL HAZARDOUS SITE	200808	NFA ROD August 2008.
NRDEC-10	BLDG 5,PCB CONTAMINATION SITE & PAD	201201	
NRDEC-12	BUILDING 13 CLASSIFIED INCINERATOR	200808	NFA ROD August 2008.
NRDEC-13	PAH CONTAMINATION	200504	This site was closed and is currently tracked under- NRDEC-03
NRDEC-14	BOILER PLANT AREA	200808	NFA ROD August 2008.
NRDEC-15	CHLORADANE CONTAMINATION	199909	Letter from EPA, dated Sept 1999
NRDEC-17	BUILDING NO. 2 & 45 PARKING LOT OUT	200909	NFA ROD (sediment) September 2009.

IRP Schedule

Date of IRP Inception: 198901

Past Phase Completion Milestones

1990

PA (NRDEC-04 - PIT AREA WASTE OIL STORAGE TANK)

1991

PA (NRDEC-10 - BLDG 5,PCB CONTAMINATION SITE & PAD)

1992

PA (NRDEC-05 - T25 BULK HAZ WASTE STORAGE AREA, NRDEC-06 - FORMER PROPOSED GYMNASIUM SITE, NRDEC-07 - TRANSITORY SHELTER AREA OF T-25, NRDEC-09 - BLDG 14 POL HAZARDOUS SITE, NRDEC-11 - POST DRINKING WATER WELLS)

1993

SI (NRDEC-05 - T25 BULK HAZ WASTE STORAGE AREA, NRDEC-07 - TRANSITORY SHELTER AREA OF T-25)

IRA (NRDEC-10 - BLDG 5,PCB CONTAMINATION SITE & PAD)

PA (NRDEC-08 - TANKS LIQUID NITROGEN, NRDEC-12 - BUILDING 13 CLASSIFIED INCINERATOR, NRDEC-13 - PAH CONTAMINATION, NRDEC-14 - BOILER PLANT AREA, NRDEC-15 - CHLORADANE CONTAMINATION)

RA(C) (NRDEC-08 - TANKS LIQUID NITROGEN)

1994

CMI(C) (NRDEC-02 - BUILDING 30 INCINERATOR)

PA (NRDEC-03 - T62,T68 LAB PACK WASTE STORAGE)

IRA (NRDEC-02 - BUILDING 30 INCINERATOR)

RFA (NRDEC-02 - BUILDING 30 INCINERATOR)

1997

SI (NRDEC-15 - CHLORADANE CONTAMINATION)

1998

PA (NRDEC-16 - BUILDING 22)

SI (NRDEC-10 - BLDG 5,PCB CONTAMINATION SITE & PAD, NRDEC-11 - POST DRINKING WATER WELLS)

1999

SI (NRDEC-12 - BUILDING 13 CLASSIFIED INCINERATOR)

2000

PA (NRDEC-17 - BUILDING NO. 2 & 45 PARKING LOT OUT)

2001

SI (NRDEC-16 - BUILDING 22)

2002

RI/FS (NRDEC-05 - T25 BULK HAZ WASTE STORAGE AREA)

IRA (NRDEC-14 - BOILER PLANT AREA)

SI (NRDEC-17 - BUILDING NO. 2 & 45 PARKING LOT OUT)

2004

IRA (NRDEC-06 - FORMER PROPOSED GYMNASIUM SITE)

RA(C) (NRDEC-05 - T25 BULK HAZ WASTE STORAGE AREA)

SI (NRDEC-09 - BLDG 14 POL HAZARDOUS SITE)

2005

SI (NRDEC-04 - PIT AREA WASTE OIL STORAGE TANK, NRDEC-13 - PAH CONTAMINATION)

PA (PBC @ SSC - PBC)

2006

IRA (NRDEC-03 - T62,T68 LAB PACK WASTE STORAGE)

RD (PBC @ SSC - PBC)

2007

RI/FS (NRDEC-03 - T62,T68 LAB PACK WASTE STORAGE, NRDEC-06 - FORMER PROPOSED GYMNASIUM SITE, NRDEC-11 - POST DRINKING WATER WELLS, NRDEC-16 - BUILDING 22)
 RD (NRDEC-11 - POST DRINKING WATER WELLS, NRDEC-16 - BUILDING 22)
 IRA (NRDEC-09 - BLDG 14 POL HAZARDOUS SITE, NRDEC-11 - POST DRINKING WATER WELLS, NRDEC-12 - BUILDING 13 CLASSIFIED INCINERATOR)
 RA(C) (PBC @ SSC - PBC)

2008

RI/FS (NRDEC-09 - BLDG 14 POL HAZARDOUS SITE, NRDEC-12 - BUILDING 13 CLASSIFIED INCINERATOR)
 SI (NRDEC-14 - BOILER PLANT AREA)

2009

RA(C) (NRDEC-11 - POST DRINKING WATER WELLS, NRDEC-16 - BUILDING 22)
 RI/FS (NRDEC-07 - TRANSITORY SHELTER AREA OF T-25, NRDEC-10 - BLDG 5,PCB CONTAMINATION SITE & PAD, NRDEC-17 - BUILDING NO. 2 & 45 PARKING LOT OUT)

2010

RD (NRDEC-10 - BLDG 5,PCB CONTAMINATION SITE & PAD)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date
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Final RA(C) Completion Date: 201201

Schedule for Next Five-Year Review: 2012

Estimated Completion Date of IRP at Installation (including LTM phase): 203409

SOLDIER SYSTEMS CENTER IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
NRDEC-05	T25 BULK HAZ WASTE STORAGE AREA	RA(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
NRDEC-11	POST DRINKING WATER WELLS	RA(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
NRDEC-16	BUILDING 22	RA(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
PBC @ SSC	PBC	RA(O)						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 200608

Restoration Advisory Board (RAB): RAB established 199508

RAB Adjournment Date: N/A

RAB Adjournment Reason: None

Additional Community Involvement Information

The RAB meets four to seven times per year as needed to review documents and provide input on restoration program plans and progress.

Administrative Record is located at

US Army Soldier Systems Center
IMNE-SSC-PWE
Kansas Street
Natick, MA 01760-5049
508-233-5368

Information Repository is located at

Morse Institute Public Library
14 East Central Street
Natick, Ma 01760
508-647-6521

Current Technical Assistance for Public Participation (TAPP):N/A

TAPP Title: N/A

Potential TAPP: N/A

