FY2015

FORT BELVOIR

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 disseminate planning information between the restoration manager, the US Army Environmental Command (USAEC), Fort Belvoir, 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 tentative 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

2,4-DNT	2,4-Dinitrotoluene
AA	Anti-Aircraft
AC	Administrative Closure
ACOE	Army Corps of Engineers
AEDB-CC	Army Environmental Database - Compliance-related Cleanup
AEDB-R	Army Environmental Database - Restoration
AOC	Area of Concern
AOPC	Area of Potential Concern
AS	Air Sparging
AST	Aboveground Storage Tank
Bldg	Building
BRAC	Base Realignment and Closure
BTAG	Biological Technical Assistance Group
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAP	Corrective Action Plan
CC	Compliance-related Cleanup
CDC	Child Development Center
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CLIN	Contract Line Item Number
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operations)
CMS	Corrective Measures Study
COC	Contaminants of Concern
CR	Compliance Restoration
CS	Confirmatory Sampling
CTC	Cost-to-Complete
CTT	Closed, Transferred or Transferring
DD	Decision Document
DDT	Dichloro-diphenyl-trichloroethane
DERP	Defense Environmental Restoration Program
DES	Design
DLA	Defense Logistics Agency
DMM	Discarded Military Munitions
DoD	Department of Defense
DPDO	Defense Property Disposal Office
DPE	Dual-Phase Extraction
DPW	Directorate of Public Works
DRMO	Defense Reutilization and Marketing Office
DRO	Diesel Range Organics
EBS	Environmental Baseline Survey
EE/CA	Engineering Evaluation and Cost Analysis
EIP	Environmental Investigation Plan
EIS	Environmental Impact Statement
ENRD	Environmental and Natural Resources Division
EOD	Explosive Ordnance Disposal

Acronyms

EPG	Engineer Proving Ground
ER,A	Environmental Restoration, Army
ERL	Environmental Research Laboratories
ERM	Environmental Restoration Manager
ERTC	Engineer Replacement Training Center
FATTS	Former Aboveground Test Tank Site
FBNA	Fort Belvoir North Area, formerly Engineer Proving Ground
FRA	Final Remedial Action
FS	Feasibility Study
FTBL	Fort Belvoir AEDB-R site designation
FY	Fiscal Year
GIS	Geographic Information System
GRO	Gasoline Range Organics
GW	Groundwater
HE	High Explosive
HEC	Humphreys Engineer Center
HMIS	Hazardous Materials Information System
HRR	Historical Records Review
HW	Hazardous Waste
IA	Indoor Air
IAP	Installation Action Plan
IM	Interim Measure
IMCOM	Installation Management Command
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operations)
INV	Investigation
IR	Installation Restoration
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
ISR	Investigation Summary Report
K	Thousand
LFG	Landfill Gas
LPH	Liquid Petroleum Hydrocarbons
LTM	Long-Term Management
LUC	Land Use Control
LUCIP	Land Use Control Implementation Plan
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
mg/kg	milligrams per kilogram
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MP	Main Post

Acronyms

MR	Munitions Response
MRA	Munitions Response Area
MRS	Munitions Response Site
MW	Monitoring Well
NFA	No Further Action
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRWQC	Natural Resources Water Quality Criteria
O&M	Operations and Maintenance
ODUSD (I&E)	Office of the Deputy Under Secretary of Defense for Installations and Environment
OE	Ordnance and Explosives
OESS	Unexploded Ordnance Safety Specialists
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbon
PBA	Performance-Based Acquisition
PBC	Performance-Based Contract
PC	Pollution Complaint
PCB	Polychlorinated Biphenyl
PCC	Post-Closure Care
PCE	Tetrachloroethylene
PHC	Petroleum Hydrocarbons
PID	Photoionization Detector
POL	Petroleum, Oil and Lubricants
PP	Proposed Plan
ppm	parts per million
PRG	Preliminary Remediation Goals
PSA	Petroleum Storage Area
RA	Remedial Action
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RAC	Risk Assessment Code
RBC	Risk Based Concentrations
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RDX	Cyclotrimethylenetrinitramine
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
ROTC	Reserve Officers Training Corps
ROW	Right-of-Way
RRSE	Relative Risk Site Evaluation

Acronyms

RSL	Risk Screening Level
RV	Recreational Vehicle
SCR	Site Characterization Report
SDZ	Surface Danger Zone
SI	Site Inspection
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCE	Trichloroethylene
TD	Transferred
TO	Task Order
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
UAO	Unilateral Administrative Order
ug/L	microgram per liter
USACE	US Army Corps of Engineers
USAEC	US Army Environmental Command
USAEHA	United States Army Environmental Hygiene Agency
USATHAMA	US Army Toxic and Hazardous Materials Agency (currently called USAEC)
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VAC	Virginia Administrative Code
VDEQ	Virginia Department of Environmental Quality
VDOT	Virginia Department of Transportation
VOC	Volatile Organic Compounds
VSI	Visual Site Inspection
WWI	World War I
WWII	World War II
XRF	X-Ray Fluorescence

Acronym Translation Table

CERCLA		RCRA
Preliminary Assessment(PA)	=	RCRA Facility Assessment(RFA)
Site Inspection(SI)	=	Confirmation Sampling(CS)
Remedial Investigation/Feasibility Study(RI/FS)	=	RCRA Facility Investigation/Corrective Measures Study(RFI/CMS)
Remedial Design(RD)	=	Design(DES)
Remedial Action (Construction)(RA(C))	=	Corrective Measures Implementation (Construction)(CMI(C))
Remedial Action (Operation)(RA(O))	=	Corrective Measures Implementation (Operation)(CMI(O))
Long Term Management(LTM)	=	Long Term Management(LTM)
Interim Remedial Action(IRA)	=	Interim Measure(IM)

CERCLA		RCRA Underground Storage Tank (UST) Site Phase Terms
Preliminary Assessment(PA)	=	Initial Site Characterization(ISC)
Remedial Investigation(RI)	=	Investigation(INV)
Feasibility Study(FS)	=	Corrective Action Plan(CAP)
Remedial Design(RD)	=	Design(DES)
Remedial Action (Construction)(RA(C))	=	Implementation (Construction)(IMP(C))
Remedial Action (Operation)(RA(O))	=	Implementation (Operations)(IMP(O))
Long Term Management(LTM)	=	Long Term Management(LTM)
Interim Remedial Action(IRA)	=	Interim Remedial Action(IRA)

Installation Information

Installation Locale

Installation Size (Acreage): 9094
City: Washington, D.C.
County: Fairfax
State: Virginia
Other Locale Information

Fort Belvoir is located in southeastern Fairfax County, Virginia, approximately 18 miles southwest of Washington, DC and 95 miles north of Richmond, Virginia. The installation's major landholdings are within two separate areas: the 7,678-acre Main Post and the 807-acre Fort Belvoir North Area (FBNA) formerly referred to as Engineer Proving Ground or EPG. Together with the 581-acre Humphreys Engineer Center (HEC) and the 28-acre Rivanna Station, Fort Belvoir has management responsibility for a total of 9,094 acres.

Installation Mission

Fort Belvoir's mission is to:
- operate and maintain our installations,
- provide quality installation support and services to our customers, and
- execute mobilization requirements, military operations, and contingency/force protection missions.

Lead Organization

IMCOM

Lead Executing Agencies for Installation

US Army Corps of Engineers (USACE) - Baltimore District

Mission and Installation Contracting Command - Fort Sam Houston

Regulator Participation

Federal	US Environmental Protection Agency (USEPA), Region 3
State	Virginia Department of Environmental Quality (VDEQ)

National Priorities List (NPL) Status

FORT BELVOIR is not on the NPL

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

The community has expressed no sufficient, sustained interest in a RAB.

Installation Information

Installation Program Summaries

IRP

Primary Contaminants of Concern: Explosives, Pesticides, Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Other (Vapor), Sediment, Soil

MMRP

Primary Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC), Polycyclic Aromatic Hydrocarbons (PAH)

Affected Media of Concern: Groundwater, Soil

CR

Primary Contaminants of Concern: Metals, Pesticides, Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Sediment, Soil, Surface Water

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Complete	201111	201211	2013
Planned	201611	201709	2017

Last Completed 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
SWMU M-26 and FATTS	FTBL-68
SWMU M-27	FTBL-69

Results The remedy at FTBL-68 and 69 are currently protective because no evidence of exposure exists. However, groundwater monitoring needs to be resumed in order to ensure the remedy is protective in the long-term.

Actions GW Monitoring proposed in October 2007 GW Monitoring Plan for both FTBL-68 and 69 is not resumed. Evaluate if FTBL-68 can be administratively closed out. Analyte specific performance standards need to derived for several contaminants.

Plans Derive analyte specific performance standards for several contaminants by Dec 2012. Resume GW monitoring by December 2012.

Recommendations and Implementation Plans:
The next five-year/periodic review will cover projects or sites installation wide.

Land Use Control (LUC) Summary

LUC Title: A05

Site(s): CC-A05

ROD/DD Title: Internal Decision Document for A05

Location of LUC

CC-A05, located on Fort Belvoir's Main Post.

Land Use Restriction: Media specific restriction - Prohibit groundwater extraction that interferes with Remedial Action system, Media specific restriction - Prohibit, or otherwise manage excavation, Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media specific restriction - restrict drinking water well installation, Media specific restriction - restrict withdrawal or use of groundwater for agricultural/irrigation purposes, Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

Types of Engineering Controls: Signs

Types of Institutional Controls: Dig Permits, Hazardous substance easement, Notations in Master Plan, Restrictions on Groundwater Withdrawal, Restrictions on land use

Date in Place: 201410

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

LUC Title: A06, A07/A25, A26, N23

Site(s): CC-A025, CC-A06, CC-A07, CC-A26, CC-N23

ROD/DD Title: Internal DD for A25, A06, A07, A26, N23

Location of LUC

Multiple SWMUs on Fort Belvoir's Main Post

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Landfill restriction - Prohibit excavation on LF cap or cover system, Landfill restriction - Prohibit installation of utility system lines through the site, Landfill restriction - Restrict construction of buildings that may interfere with LF cap or cover system, Landfill restriction - Restrict plantings that interfere LF cap or cover system (roots that penetrate the cap or cover system), Media specific restriction - Prohibit, or otherwise manage excavation, Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media specific restriction - restrict drinking water well installation, Media specific restriction - restrict withdrawal or use of groundwater for agricultural/irrigation purposes, Media specific restriction - restrict withdrawal or use of groundwater w/out treatment, Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

Types of Engineering Controls: Signs

Types of Institutional Controls: Dig Permits, Hazardous substance easement, Notations in Master Plan, Restrictions on Groundwater Withdrawal, Restrictions on land use

Date in Place: 201307

Modification Date: N/A

Date Terminated: N/A

Land Use Control (LUC) Summary

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: METALS, ORGANICS, PAH

Additional Information

N/A

LUC Title: A08/A09 and A11/A12

Site(s): CC-A08A16, CC-A09, CC-A11, CC-A12

ROD/DD Title: Internal Dec Doc for A08 A09 A11 A12

Location of LUC

Multiple SWMUs on Fort Belvoir's Main Post

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Landfill restriction - Prohibit excavation on LF cap or cover system, Landfill restriction - Prohibit installation of utility system lines through the site, Landfill restriction - Restrict construction of buildings that may interfere with LF cap or cover system, Landfill restriction - Restrict plantings that interfere LF cap or cover system (roots that penetrate the cap or cover system), Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media specific restriction - restrict drinking water well installation, Media specific restriction - restrict withdrawal or use of groundwater for agricultural/irrigation purposes, Media specific restriction - restrict withdrawal or use of groundwater w/out treatment, Restrict land use - Mitigation area(s) protection, Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

Types of Engineering Controls: Signs

Types of Institutional Controls: Dig Permits, Hazardous substance easement, Notations in Master Plan, Restrictions on Groundwater Withdrawal, Restrictions on land use

Date in Place: 201410

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: METALS, VOC

Additional Information

N/A

LUC Title: FTBL-68, M-26-FATTS LUC

Site(s): FTBL-68

ROD/DD Title: SWMU M-26 and FATTS

Location of LUC

LUCs prohibiting groundwater usage. Fairfax County Parkway completed in June 2010.

Land Use Restriction: Media specific restriction - Prohibit, or otherwise manage excavation, Media specific restriction - Prohibit, or otherwise manage excavation below a specified depth, Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media specific restriction - restrict drinking

water well installation, Media specific restriction - restrict withdrawal or use of groundwater for agricultural/irrigation purposes

Types of Engineering Controls: None

Types of Institutional Controls: Dig Permits, Hazardous substance easement, Notations in Master Plan, Restrictions on Groundwater Withdrawal, Restrictions on land use

Date in Place: 200610

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: PETROLEUM HYDROCARBON

Additional Information

N/A

LUC Title: FTBL-69, SWMU M27

Site(s): FTBL-69

ROD/DD Title: SWMU M-27

Location of LUC

Fort Belvoir North Area, formerly EPG, USAG Fort Belvoir, Fairfax County

Land Use Restriction: Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media specific restriction - restrict drinking water well installation

Types of Engineering Controls: None

Types of Institutional Controls: Dig Permits, Hazardous substance easement, Notations in Master Plan, Restrictions on Groundwater Withdrawal, Restrictions on land use

Date in Place: 200811

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 200811

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: Unexploded Ordnance(UXO)

Additional Information

N/A

LUC Title: Interim MMRP LUCs

Site(s): FTBL-001-R-02, FTBL-003-R-01, FTBL-005-R-01, FTBL-007-R-01, FTBL-014-R-01, FTBL-018-R-01, FTBL-024-R-01, FTBL-026-R-01, FTBL-027-R-01

ROD/DD Title: Action Memorandum Land Use Controls

Location of LUC

US Army Garrison Fort Belvoir

Land Use Control (LUC) Summary

Land Use Restriction: Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

Types of Engineering Controls: Fences, Guards, Signs

Types of Institutional Controls: Dig Permits, Education programs, Notations in Master Plan, Public Advisories

Date in Place: 201406

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, Markers

Contaminants: Unexploded Ordnance(UXO)

Additional Information

N/A

LUC Title: NFA Part 1 Landfills

Site(s): CC-A13, CC-A27, CC-A28, FTBL-38

ROD/DD Title: Internal Decision Document for NFA SWMUs

Location of LUC

Various throughout Fort Belvoir's Main Post

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Landfill restriction - Prohibit excavation on LF cap or cover system, Landfill restriction - Prohibit installation of utility system lines through the site, Landfill restriction - Restrict construction of buildings that may interfere with LF cap or cover system, Landfill restriction - Restrict plantings that interfere LF cap or cover system (roots that penetrate the cap or cover system), Media specific - Prohibit activities that results in contact with contaminated sediments, Media specific restriction - Prohibit, or otherwise manage excavation, Restrict land use - No residential use

Types of Engineering Controls: Signs

Types of Institutional Controls: Dig Permits, Hazardous substance easement, Notations in Master Plan, Restrictions on land use, Restrictive covenants

Date in Place: 201410

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: METALS, PAH, VOC

Additional Information

N/A

LUC Title: NFA Part 2 - A15

Site(s): CC-A15

ROD/DD Title: Internal Decision Document for NFA SWMUs

Land Use Control (LUC) Summary

Location of LUC

CC-A15

Land Use Restriction: Media specific restriction - Prohibit, or otherwise manage excavation, Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

Types of Engineering Controls: Fences, Signs

Types of Institutional Controls: Dig Permits, Hazardous substance easement, Notations in Master Plan, Restrictions on land use

Date in Place: 201410

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: METALS, PAH, PESTICIDES, VOC

Additional Information

N/A

LUC Title: NFA Part 3 -- other

Site(s): CC-A04A23, CC-C08D10, CC-C11D11, CC-E06, CC-E09, CC-E14, CC-F06, CC-I02, CC-L33, CC-N03F09, CC-N05, CC-N20

ROD/DD Title: Internal Decision Document for NFA SWMUs

Location of LUC

Multiple throughout Fort Belvoir's Main Post

Land Use Restriction: Media specific restriction - Prohibit, or otherwise manage excavation, Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Dig Permits, Hazardous substance easement, Notations in Master Plan, Restrictions on land use

Date in Place: 201410

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: METALS, PAH, PCBs, PESTICIDES, VOC

Additional Information

N/A

LUC Title: NFA Part 4 -- A24

Site(s): CC-A24

ROD/DD Title: Internal Decision Document for NFA SWMUs

Land Use Control (LUC) Summary

Location of LUC

Located at CC-A24

Land Use Restriction: Media specific - Prohibit activities that results in contact with contaminated sediments, Media specific restriction - Prohibit, or otherwise manage excavation, Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

Types of Engineering Controls: Fences, Signs

Types of Institutional Controls: Dig Permits, Hazardous substance easement, Notations in Master Plan, Restrictions on land use

Date in Place: 201410

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: PCBs

Additional Information

N/A

Cleanup Program Summary

Installation Historic Activity

US Army Garrison Fort Belvoir is made up of the Main Post, FBNA, Rivanna Station, the Mark Center to the north in Alexandria, Virginia, and the Humphreys Engineer Center, which was transferred (TD) to US Army Corps of Engineers (USACE). Military activities began at Fort Belvoir in 1915, when the US Army Engineer School, located at Washington Barracks (now Fort McNair), began conducting summer training exercises on a 1,500-acre tract. After the outbreak of World War I (WWI), a temporary cantonment area named Camp A. A. Humphreys was constructed on the peninsula between Accotink Creek and Dogue Creek. Housing and training facilities were built to accommodate 20,000 enlisted soldiers and officers stationed at Camp A.A. Humphreys while they trained.

Training facilities included the Engineer Replacement and Training Camp, the Engineer Officers' Training Center, the Army Gas School, which provided gas and flamethrower operations training, and the School of Military Mining. Most training was conducted in the area south of US Route 1 between Accotink Bay and Dogue Creek, although parts of the installation west of Accotink Bay were used for rifle ranges.

In 1919, the Army Engineer School moved permanently from Washington Barracks, and the camp was renamed Fort Humphreys in 1922. The Army Engineering School provided training in forestry, road and railroad construction, camouflage, mine warfare, surveying, pontoon bridge construction, photography, printing and cooking. The site also served as a summer training camp for the Reserve Officers Training Corps (ROTC). The ROTC cadets received training in bayonet fighting, target practice, military administration and law, first aid and sanitation, bridge construction, demolition, reconnaissance, and railroad construction.

In 1924, the Army Engineer Board, the forerunner to the Army Research, Development and Engineering Center, relocated to Fort Humphreys. The Army Engineer Board developed many innovations, including assault boats, portable steel bridges and mine detectors. During the 1920s, the fort was heavily built up with most of the temporary WWI era buildings being replaced with more permanent structures; as wells as officers' and enlisted family quarters.

In 1935, Fort Humphreys was renamed Fort Belvoir. Fort Belvoir was heavily expanded in the early-1940s due to the outbreak of World War II (WWII). An additional area of 3,000 acres was acquired for a new Engineer Replacement Training Center (ERTC). The ERTC continued to train soldiers in reconnaissance, unit coordination, road and obstacle construction and demolition. Engineering specialists were trained in carpentry, drafting, surveying and operating construction machinery. Specialized courses were offered in operation of weapons such as tanks, flamethrowers and anti-aircraft (AA) weapons. The Davison Army Airfield was constructed in the western quadrant of North Post.

From WWII to the 1980s, the types of training offered reflected shifts in warfare technology. A close combat range was constructed and a Chemical/Biological/Radiological School started. In the 1950s, the Engineer Research Laboratories developed and tested new techniques for electrical power generation, camouflage and deception, materiel and fuel handing methods, bridging, and mine detection. They experimented with portable copying machines, tropical fungicides, prefabricated buildings, and heavy earth moving equipment. The installation's nuclear plant, SM-1 (stationary medium power, first prototype), became operational in 1957 and was the nation's first national nuclear training facility for military personnel.

In 1988, the Army Engineer School relocated to Fort Leonard Wood, Missouri and control of FTBL was transferred from US Army Training and Doctrine Command to the US Army Military District of Washington. Fort Belvoir's mission changed from training soldiers to administrative and logistics support for the National Capital Region.

FBNA, formerly called EPG, is an 840-acre parcel, about 1.5 miles north of Fort Belvoir, and was acquired in the early-1940s for use by the Army Research, Development, and Engineering Center. The principal mission of the FBNA was the testing of military engineering equipment, and land mine material testing.

Testing on the eastern portion of FBNA was primarily non-munitions-related and generally included: construction related training; fuels and fuel handling and storage equipment, mobile water purification equipment and waste and sewage structures, dynamometer courses, and fire suppression.

Research on the western portion of FBNA generally included training on the deployment, detection and neutralization of land mines, climatic effects on paints, tactical sensors and anti-mine systems and techniques, and the development and testing of anti-tank, anti-personnel, and sensory mines.

Most research and testing activities ceased between the 1970s and 1980s when local housing areas began encroaching on

Cleanup Program Summary

Installation Historic Activity

FBNA.

Fort Belvoir currently provides essential administrative and basic operations support to its tenant organizations.

Due to its location, Fort Belvoir has been a receiving installation for many organizations under the several Base Realignment and Closure (BRAC) Act announcements. Organizations from all five services, as well as Department of Defense (DoD) organizations have transferred to Fort Belvoir. DoD Logistics Agency Headquarters Complex was relocated to Fort Belvoir, as well as the US Army Materiel Command.

Other organizations which have relocated to Fort Belvoir include:
- US Army Intelligence Security Command Headquarters
- US Army Management Staff College
- US Army Community and Family Support Center, and
- Defense Threat Reduction Agency

As a result of the most recent BRAC announcement in 2005, Fort Belvoir gained approximately 20,000 additional soldiers and civilians. Rivanna Station, in Charlottesville, VA and the Marks Center, in Alexandria, VA were both included under Fort Belvoir once construction of those facilities was completed. Additionally, both Main Post and FBNA underwent a major construction effort, starting in 2007, with new buildings, a new road network at FBNA, and the required infrastructure to support these facilities. The most recent BRAC construction was, for the most part, completed in 2011.

Installation Program Cleanup Progress

IRP

Prior Year Progress: Operation and maintenance of a dual-phase extraction system (DPE) and soil vapor extraction (SVE)/air sparging (AS) system at FTBL-51 is complete. Site is now under LTM and is planned for completion in September 2014. Groundwater monitoring at FTBL-68 began. FS for FTBL-66 planned. Fort Belvoir reevaluated remedies at FTBL-69.

Future Plan of Action: Continue groundwater monitoring at FTBL-68 until cleanup levels are achieved. Prepare an FS for FTBL-66 and select final remedy, which is assumed to be LUCs and groundwater monitoring. Resume groundwater monitoring at FTBL-69.

Planned evaluation of risks at FTBL-24. Future requirements will be determined upon completion of this activity.

MMRP

Prior Year Progress: FS for several Munitions Response (MR) sites underway. Finalized action memorandum for interim LUCs at several sites in accordance with CERCLA. Coordinated Applicable or Relevant Appropriate Requirements (ARAR) discussions for sites FTBL-014-R-01 and FTBL-001-R-02. Held numerous discussions regarding Draft Final FS for site FTBL-005-R-01 with VDEQ. Award contract for remedial investigation (RI)/FS for FTBL-005-R-10.

Future Plan of Action: Achieve response complete (RC) at six sites. FTBL anticipates LUCs as final remedy. Begin monitoring of LUCs at FTBL-005-R-01 and at FTBL-005-R-05, and begin groundwater monitoring at FTBL-005-R-05.

CR

Prior Year Progress: Received case closures for sites CCBLDG-1124, CCBLDG-3161, and CCBLDG-2209. Main Post (MP) work included negotiations with the USEPA for no further action (NFA) on previously investigated sites and administrative closure (AC) of approx 15 sites. Developed and received regulator concurrence on CMS for five sites. USEPA review of risk assessment for CC-MPS2009 completed; however, the site will likely be managed under RCRA. Additional groundwater monitoring will likely be needed.

Future Plan of Action: Finalize land use control implementation plans (LUCIP) for all applicable solid waste management units (SWMU) on main post, continue investigation phase for approximately 10 sites and negotiate

closure where applicable. Implement corrective measures at five sites. Conduct groundwater monitoring at CC-MPS2009.

FORT BELVOIR

Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 53/47

Installation Site Types with Future and/or Underway Phases

1 Explosive Ordnance Disposal Area
(FTBL-69)
1 Fire/Crash Training Area
(FTBL-66)
1 Landfill
(FTBL-38)
1 Sewage Treatment Plant
(FTBL-24)
1 Spill Site Area
(FTBL-68)
1 Underground Tank Farm
(FTBL-51)

Most Widespread Contaminants of Concern

Explosives, Pesticides, Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Other (Vapor), Sediment, Soil

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

Site ID	Site Name	Action	Remedy	FY
FTBL-66	Sites M-07/18 and AOPC-4	IRA	REMOVAL	1995
FTBL-62	PETROLEUM CONTAMINATION - BUILDING 1803	IRA	GROUND WATER TREATMENT	1997
FTBL-62	PETROLEUM CONTAMINATION - BUILDING 1803	FRA	AIR SPARGING	1997
FTBL-62	PETROLEUM CONTAMINATION - BUILDING 1803	FRA	SOIL VAPOR EXTRACTION	1997
FTBL-63	EPG SOLIDWASTE MANAGEMENT UNITS(28)	FRA	WASTE REMOVAL - SOILS	1999
FTBL-51	TANK FARM - BLDG 324, 325	FRA	GROUND WATER TREATMENT	2004
FTBL-51	TANK FARM - BLDG 324, 325	FRA	SOIL VAPOR EXTRACTION	2004
FTBL-51	TANK FARM - BLDG 324, 325	FRA	AIR SPARGING	2004
FTBL-68	M-26, Hydrocarbon Spill Area	IRA	REMOVAL	2006
FTBL-69	M-27, Waste Ordnance Pit at Range 1	IRA	REMOVAL	2007
FTBL-51	TANK FARM - BLDG 324, 325	FRA	CHEMICAL REDUCTION/OXIDATION	2008
FTBL-66	Sites M-07/18 and AOPC-4	IRA	REMOVAL	2008
FTBL-68	M-26, Hydrocarbon Spill Area	FRA	INSTITUTIONAL CONTROLS	2008
FTBL-68	M-26, Hydrocarbon Spill Area	FRA	NATURAL ATTENUATION	2008
FTBL-69	M-27, Waste Ordnance Pit at Range 1	FRA	INSTITUTIONAL CONTROLS	2009
FTBL-69	M-27, Waste Ordnance Pit at Range 1	FRA	NATURAL ATTENUATION	2009
FTBL-65	Septic Tank & Leach Field (B2075)	FRA	OTHER	2011

IRP Summary

Duration of IRP

Date of IRP Inception: 198009

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201809/204509

Date of IRP completion including Long Term Management (LTM): 204509

IRP Contamination Assessment

Contamination Assessment Overview

Fort Belvoir has five active IR sites: FTBL-51, FTBL-68, FTBL-69, FTBL-66 and FTBL-24.

Site FTBL-51 consists of a former petroleum tank farm and a generator testing facility at Building (Bldg) 324, and was identified following closure activities and a site characterization study. In 1996, 10 underground storage tanks were removed, five of which were identified as leaking or potentially having leaked. A subsequent site assessment identified contaminated groundwater and a plume that discharges to surface water. In May 1999, a corrective action plan (CAP) was completed. In November 1999 a three-zone SVE system and sparge points were installed in accordance with the CAP to address the source area and the surface water discharge area. The system was operational in December 1999.

In 2008, Fort Belvoir petitioned the VDEQ for case closure of the pump and treat portion of the system because there had been no free-phase product at the site in over a year. On March 4, 2008, the VDEQ approved this petition and the pump-and-treat portion of the DPE system was shut down.

As of 2013, FTBL-51 (Bldg 324) is in post-operational mode and will be so for one more year. No remediation is occurring at this site at this time, only monitoring and sampling and evaluation of contaminant rebound.

In 2005, in response to the 2005 BRAC announcement, the USEPA issued a Resource Conservation and Recovery Act (RCRA) Section 3013 Unilateral Administrative Order (UAO) to Engineer Proving Ground (now called FBNA), requiring the Army to investigate numerous potential releases of contamination. While the inspections officially began at that time, Fort Belvoir had already been conducting investigations at known releases of contamination due to planned Fairfax County Parkway construction. As a result, investigations at FTBL-68 and FTBL-69 were already underway when the UAO was issued.

Decision documents (DD) recommending groundwater monitoring and monitored natural attenuation (MNA) at FTBL-68 and FTBL-69 were signed in 2006 and 2007, respectively. Groundwater MNA at each site was performed every two years, after which time Fort Belvoir submitted a natural attenuation evaluation report to the USEPA. Both sites were within the Fairfax County Parkway Extension right of way (ROW) and groundwater wells were abandoned to allow for BRAC and Fairfax County Parkway construction. Fort Belvoir determined that groundwater MNA at FTBL-68 is effective; however, it is not effective at FTBL-69. Fort Belvoir then conducted a risk assessment at FTBL-69, which showed no unacceptable risks at the site, and will recommend closure of the site to the USEPA.

Investigations at FTBL-66 were completed in 2008, but remedial activities were put on hold due to BRAC and parkway construction. A risk assessment is currently under USEPA review for FTBL-66. An FS is planned for FY15.

FTBL-24, also known as SWMU L-11, is a closed sewage treatment plant which is being managed under the installation's RCRA permit. RCRA facility investigations (RFI) completed in 2013 indicated contamination existed in groundwater at the site and in sediment/soil located within the unit's structures. While groundwater contamination was below screening values, a site-specific risk assessment will need to be completed to address pesticide contamination within the structure. Future requirements will be determined based on the conclusions of this risk assessment.

Cleanup Exit Strategy

Monitoring at FTBL-51 (Bldg 324) will remain in post-operational monitoring through FY15, assuming that no elevated contaminant or liquid petroleum hydrocarbon (LPH) rebound occurs. Once that has been completed, Fort Belvoir will request case closure for the site.

Groundwater monitoring at site FTBL-68 will continue until remedial end points are met. Fort Belvoir will work with the USEPA for site closeout at FTBL-69. An FS is planned for FTBL-66.

Future requirements for FTBL-24 will be determined upon completion of the planned risk assessment.

IRP Previous Studies

	Title	Author	Date
1988			
	Phase II RCRA Facility Assessment (RFA) at US Army Garrison Fort Belvoir	AT Kearney	JAN-1988
1990			
	Environmental Baseline Study at Engineer Proving Grounds	USATHAMA	JAN-1990
	Environmental Baseline Study at EPG Volume I: Phase I, Scope Definition. and Phase II, Environmental Survey	USATHAMA	SEP-1990
	Environmental Baseline Study, EPG, Volume II to Phase III Sampling	USATHAMA	SEP-1990
1992			
	SWMU Study	CH2MHill	JAN-1992
	Solid Waste Management Unit Study Appendix D DRAFT RFA Report	AT Kearney	JUL-1992
1993			
	Environmental Impact Statement	USACE	MAR-1993
1994			
	Fort Belvoir Solid Waste Management Units Vol 1	Department of the Army	JAN-1994
	Fort Belvoir Solid Waste management Units Vol 2	Department of the Army	JAN-1994
1995			
	Site Characterization Report of Building 1803 Area	Koester Environmental	FEB-1995
1996			
	Environmental Investigation at SWMU A-03, DRMO Stump Dump Vol 1	Dewberry & Davis	FEB-1996
	Environmental Investigation at SWMU A-03, DRMO Stump Dump Vol 2	Dewberry & Davis	FEB-1996
1997			
	Underground Storage Tank Activity Reports	Koester Environmental	AUG-1997
1998			
	Site Characterization Report	LAW Environmental	MAR-1998
1999			
	Corrective Action Plan Building 324	LAW Environmental	MAY-1999
2000			
	Site Characterization Report Addendum Building 324	LAW Environmental	JUN-2000
2001			
	Corrective Action Plan Addendum Building 324	LAW Environmental	JUN-2001
2002			
	Closure Plan Site M-27, Waste Ordnance Pits at Range 1 Engineer Proving Ground	Dewberry	APR-2002
2005			
	Addendum to the Investigation Summary Report SWMU M-27 at EPG	Dewberry	JAN-2005
	Groundwater Investigation Summary Report, SWMU M-27 at Engineer Proving Ground	Dewberry	MAR-2005

IRP Previous Studies

	Title	Author	Date
2005			
	Site Investigation Summary Hydrocarbon Spill Area SWMU M-26	Dewberry	APR-2005
	SWMU M-26 Site Investigation Summary Report	Dewberry	MAY-2005
	Groundwater Investigation Summary, SWMU M-27 at Engineer Proving Ground	Dewberry	MAY-2005
	Groundwater Investigation Summary-SWMU M-27 at EPG	Dewberry	JUN-2005
	Phase III Soil and Groundwater Investigation Report, SWMU M-26	Mactec	OCT-2005
	Stakeholder Draft: Historical Records Review, Fort Belvoir	Malcolm Pirnie	NOV-2005
2006			
	Groundwater Investigation Summary Report, Phase III, SWMU M-27	TetraTech, Inc.	JAN-2006
	Environmental Investigation and Removal Action at SWMU M-27, Part 1 of 2	Conti	MAR-2006
	Environmental Investigation and Removal Action: EPG, Fort Belvoir, Final Site Safety and Health Plan August 27, 2003; Addendum No 1	Conti	MAR-2006
	Phase III Groundwater Investigation Summary Report	TetraTech, Inc.	APR-2006
	Environmental Investigation Plans-Areas of Potential Concern Volume 3	TetraTech, Inc.	DEC-2006
	Environmental Investigation Plans-SWMU-East Volume 1	TetraTech, Inc.	DEC-2006
	Environmental Investigation Plans-PSA Volume 4	TetraTech, Inc.	DEC-2006
	Environmental Investigation Plans-SWMU-West Volume 2	TetraTech, Inc.	DEC-2006
	Environmental Investigation Plans-PSA Volume 5	TetraTech, Inc.	DEC-2006
2007			
	Investigation Summary Report SWMU M41 at EPG	Tidewater	APR-2007
	Final Environmental Investigation Summary Report SWMU M-7/M-18	Tidewater/Mactec	MAY-2007
	Final Environmental Investigation Summary Report AOPC-04	Mactec	MAY-2007
	Final Environmental Investigation Summary Report PSA-2000	Tidewater	MAY-2007
	Phase 2 Environmental Investigation Plan M-41 EPG	Tetra Tech	JUN-2007
	Phase 2 Environmental Investigation Action Plan IHL	Tetra Tech	JUN-2007
	Phase 2 Environmental Investigation Plan PSA-2000 at EPG	Tetra Tech	JUN-2007
	Phase 2 Environmental Investigation Plan Fire Training Area EPG	Tetra Tech	JUN-2007
	Phase III Environmental Investigation Plan, SWMU M-7/M-18	Tetra Tech	SEP-2007
	Phase 2 Environmental Investigation Report PSA-2000 at EPG	Tetra Tech	DEC-2007
	Phase III Investigation Summary Report FTA	Tetra Tech	DEC-2007
2008			

IRP Previous Studies

	Title	Author	Date
2008			
	Phase 2 Environmental Investigation Plan M-41 EPG	Tetra Tech	JAN-2008
	Visual Site Inspection Report, Vol 1 Main Post SWMUs	Tetra Tech	FEB-2008
	Final Environmental Investigation Summary Report PSA-2064	Tidewater	MAR-2008
2009			
	Final Feasibility Study, SWMU M-41	Hydrogeologic, Inc.	APR-2009
	Final Remedial Action Work Plan, SWMU M-41	Hydrogeologic, Inc.	JUN-2009
	Proposed Plan, SMWU M-41	Hydrogeologic, Inc.	JUL-2009
	Final Phase I RCRA Facility Investigation, Main Post SWMUs A03	Tidewater, Inc and SCS Engineers	AUG-2009
	Final Removal Action Report, SWMU M-41	Hydrogeologic, Inc.	DEC-2009
2010			
	FTBL-51 / Bldg 324 - Annual Corrective Action Monitoring Report	Mactec Engineering and Consulting, Inc. for Fort Belvoir	AUG-2010
2011			
	FTBL-51 / Bldg 324 - Annual Corrective Action Monitoring Report	AMEC Environment & Infrastructure, Inc., for Fort Belvoir	AUG-2011
2012			
	FTBL-51 / Bldg 324 - Annual Corrective Action Monitoring Report	AMEC Environment & Infrastructure, Inc., for Fort Belvoir	AUG-2012

FORT BELVOIR

Installation Restoration Program

Site Descriptions

Site ID: FTBL-24
Site Name: SEWAGE TREATMENT PLANT 2

STATUS

Regulatory Driver: RCRA

RRSE: NOT EVALUATED

Contaminants of Concern: Pesticides

Media of Concern: Sediment

Phases	Start	End
RFA	198809	198909
CS	201109	201404
RFI/CMS	201402	201708
DES	201609	201709
CMI(C)	201609	201809

RIP Date: N/A

RC Date: 201809

SITE DESCRIPTION

FTBL-24, also known as SWMU L-11 in the RCRA permit, is a former wastewater treatment plant. The site is bordered by Dogue Creek to the east and Jadwin Road to the south. This former wastewater treatment plant operated from the mid-1940s through 1981 and is now inactive. Records indicate that the unit accepted hazardous constituents throughout its history, although the nature of those constituents is unknown. The site was identified as a SWMU in the 1988 Phase II RCRA Facility Assessment (RFA).

An Phase I RFI was completed in 2014 which recommended no further investigation of subsurface soil or groundwater. However, based on analytical results, site sediments were found to be contaminated with the pesticide dieldrin, which had detected concentrations recorded at or above its industrial residential screening level (RSL). Because these detected concentrations exceeded their corresponding industrial RSL values, the Phase I RFI recommended a site-specific risk assessment to determine if a corrective measures study (CMS) or further actions are warranted.

Currently, this site is contracted under a PBA through completion of RFI/CMS, which is underway. Existing data from the Phase I RFI will be evaluated in the ecological and human health risk assessment to be included in an RFI report and a CMS document.

Additional work to be performed under this contract includes the development of a work plan, completion of CMI fieldwork, and development of a RIP/RC report, and LUCIP.

Future requirements for this site will be determined based on the recommendations of the DD and LUCIP.

CLEANUP/EXIT STRATEGY

Upon completion of the risk assessment, Fort Belvoir will determine if additional requirements will be needed for this site.

Site ID: FTBL-38
Site Name: DRMO STUMP DUMP

STATUS

Regulatory Driver: RCRA

RRSE:

Contaminants of Concern: Other (Landfill Debris)

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	200803	201007
LTM	201402	204502

RIP Date: N/A

RC Date: 201007

SITE DESCRIPTION

FTBL-38, otherwise known as SWMU A-03 (formerly in Army Environmental Database - Compliance-related Cleanup (AEDB-CC) as CC-A03) was first identified in the 1988 Draft Phase II RFA as a suspected landfill based on personnel interviews and presence of debris. The site is located west of Old Beulah Street, south of Telegraph Road, and east of Beulah Street. The site measures roughly 300 feet wide by 600 feet long. Historical documentation suggests the site was used as a troop borrow pit and a landfill. The site was covered with dredge material from the Four Mile Run Army Corps of Engineers (ACOE) project in Arlington-Alexandria in the 1980s. Prior to road construction of Beulah Street in 1997, a portion of the landfill waste was excavated and taken off-site for disposal; however, a significant amount of the landfill still remains.

Based on this information, a Phase I RFI was performed at SWMU A-03 in September 2008. Field activities included landfill delineation by test pit investigations, soil borings, groundwater monitoring well (MW) installations, surface water and sediment sampling, and landfill gas (LFG) probe installations and monitoring. Upon initial delineation of the landfill limits, a series of five successful test pits were excavated around the perimeter of SWMU A-03 to investigate and confirm the horizontal extent of buried waste at the site. This effort identified the use of non-native soils as a landfill cap, as well as waste consisting of fill material, wood and concrete debris as well as, household waste (i.e. glass, metal, plastics, paper).

The soil boring, surface water and sediment samples were analyzed for target analyte list (TAL) metals, volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), and pesticide compounds. Groundwater samples were analyzed for tin as per the Commonwealth of VADEQ requirements. With the exception of benzo(a)pyrene, none of the SVOCs that were detected in soil were above their risk based criteria (RBC) residential screening criteria. Benzo(a)pyrene was detected above the residential soil RBC but below the industrial soil RBC screening criteria.

No VOCs or pesticide compounds were detected in soil above their corresponding risk screening levels. Lead was detected in sediment but was within Fort Belvoir's background levels for lead.

Eight LFG probes were monitored on and around the perimeter of SWMU A-03 to evaluate the presence of landfill decomposition gases (i.e. methane) and the potential for LFG migration from the existing probes and the newly installed probes. Over the three monitoring events completed, elevated concentrations of methane were detected in two probes.

Based on ecological and risk screenings of sample results from the Phase I investigation, Fort Belvoir recommended NFA at SWMU A-03. The USEPA Region III concurred with the recommendation in a letter dated July 30, 2010. Land use will be monitored to address the waste associated with the former landfill which will include annual inspections.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

CLEANUP/EXIT STRATEGY

Administrative LUCs will be established to address residual benzo(a)pyrene and lead that may be present in soil and sediment, as well as methane gas and waste debris. Annual inspections will be required.

Site ID: FTBL-51
Site Name: TANK FARM - BLDG 324, 325

STATUS

Regulatory Driver: RCRA

RRSE: HIGH

Contaminants of Concern: Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Media of Concern: Groundwater, Other (Vapor), Soil, Surface Water

Phases	Start	End
ISC	199605	199606
INV	199704	199806
CAP	199810	199905
DES	199905	199906
IMP(C)	199906	200802
IMP(O)	199912	201509

RIP Date: 200802

RC Date: 201509

SITE DESCRIPTION

Bldg 324 is a military generator testing and research building located south of Beach Road at Fort Belvoir. Leaking underground storage tanks (UST) were identified following closure activities and a site characterization study. Ten USTs were removed from the former tank farm. The tanks contained gasoline, diesel, fuel oil, and jet propellant fuels (JP5, JP6, JP7 and JP8). Five of the USTs were identified as leaking. Approximately 2,200 cubic yards of petroleum contaminated soils were removed from the subject site during tank removal activities. The release was reported to the VDEQ and Pollution Complaint (PC) No. 1998-3593 was assigned. In April 1998, a site characterization report (SCR) was completed which identified contaminated groundwater and a petroleum hydrocarbon (PHC) plume which reached surface water. The VDEQ mandated a CAP for the site.

The CAP was developed between October 1998 and May 1999 and was submitted to the VDEQ on May 18, 1999. It was approved by the VDEQ on May 26, 1999. CAP Tracking No.148 was assigned to the site. A three-zone SVE system and AS points were installed in accordance with the CAP to address the source area and the surface water discharge area. In November 1999 the system was installed and start-up was initiated in December. An SCR addendum was prepared in June 2001 to investigate potential additional source areas and delineate the plume on the northern and southern areas of the site. The relative risk site evaluation (RRSE) was revised in September 2002, (1A), incorporating the June 2002 data. A DPE system was constructed and started in April 2002 in accordance with approved CAP addendum. The DPE system recovered 1,644 gallons of free-product from April 2002 through March 2008, when this portion of the system was shut-down (with VDEQ approval). The SVE system has recovered approximately 10.77 tons of cumulative mass of hydrocarbons between December 1999 and September 2012. The DPE system has removed, in vapor phase, approximately 18.04 tons of cumulative mass of total petroleum hydrocarbons (TPH) between April 2002 and September 2012. No free-product has been gauged in any of the site wells since October 2006.

The closure report for FTBL-51 was submitted to VDEQ in August, 2014. After reviewing the report, VDEQ stated that FTBL-51 cannot be closed because there is still surface water contamination. VDEQ requested two more quarters of sampling. The two quarters of sampling will be completed and a revised closure report will be submitted to VDEQ in FY15.

CLEANUP/EXIT STRATEGY

A closure report requesting NFA for FTBL-51 will be submitted to VDEQ in FY15. If VDEQ concurs with the NFA for this site then Fort Belvoir will closeout the groundwater monitoring wells and remediation system.

Site ID: FTBL-66
Site Name: Sites M-07/18 and AOPC-4

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	198806	198809
SI	200610	200703
RI/FS	200706	201706
IRA	199506	200710

RIP Date: N/A

RC Date: 201706

SITE DESCRIPTION

This site includes site M-07, Inactive Fire Equipment Test Area, and Site M-18, Abandoned Underground POL Tanks identified by the USEPA Phase II RFA, prepared by A.T. Kearney in 1988. It was further discussed in the 1990 US Army Toxic and Hazardous Materials Agency (USATHAMA) Phase I/II Environmental Baseline Survey (EBS). Site M-7 was used as a fire equipment test area, where fuel was pumped into a large shallow tank partially filled with water and ignited. Once the fire was suppressed, the remaining water and product was drained into a nearby creek. Site M-18 was identified as the fuel storage area for this testing facility. The report recommended additional sampling for both sites. The report recommended further sampling which resulted in the additional recommendation to delineate the soil contamination. A closure plan was developed in 1993, and was implemented in 1995, during which time the tanks were excavated. Soil samples collected at that time exhibited TPH concentrations above the VDEQ action levels [100 milligram per kilogram (mg/kg)].

In 2005, BRAC legislation identified Fort Belvoir as a gaining installation for approximately 20,000 civilians and service members; 8,500 of which were to be transferred to FBNA. A second project for the Fairfax County Parkway extension was planned concurrently with the BRAC construction. In response to the BRAC announcement, the USEPA issued a RCRA 3013 UAO in 2005 to FBNA, requiring the Army to investigate potential releases of hazardous substances. The Fort Belvoir had begun investigation activities at this site in 2005.

During the Phase II investigation for the above sites, area of potential concern (AOPC)-4 (carbon tetrachloride) was identified in groundwater approximately 100 feet south. Since there was no known source and the site was in proximity to the infrastructure of the former fire training area, AOPC-4 was combined with Sites M-07 and M-18 for management purposes.

In March 2008, the groundwater contamination was fully delineated; however, follow-on work was placed on hold until the 2005 BRAC related construction was completed. This site was heavily impacted by construction of an access control point and a stream crossing of utilities and a bridge required by BRAC construction. In 2009, while boring under the stream for utilities, construction workers identified an area of stained soils and odors in soils. Fort Belvoir conducted a minimal soil and groundwater investigation to determine the nature and extent of the contamination. The site was designated AOPC-20. Upon delineation of the contamination, Fort Belvoir conducted a soil removal. In 2011, Fort Belvoir submitted a risk assessment for review to the USEPA which indicated unacceptable risk to human health and the environment was present at this site.

An FS is planned for FY15. AOPC-20 is located within the boundaries of site FTBL-66.

Therefore, any costs associated with AOPC-20 will be captured under FTBL-66.

CLEANUP/EXIT STRATEGY

Feasibility studies will be funded in FY15. Groundwater monitoring and LUCs are anticipated as the final remedy.

Site ID: FTBL-68
Site Name: M-26, Hydrocarbon Spill Area

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	198809	198909
SI	199001	199009
RI/FS	200111	200512
IRA	200604	200607
RA(C)	200610	200712
RA(O)	200801	204509

RIP Date: 200801

RC Date: 204509

SITE DESCRIPTION

This site was identified as Site 26, Hydrocarbon Spill Area, in the 1990 USATHAMA Phase I/II EBS. The site is the location of a petroleum release that occurred in 1968, during which time 30,000 to 100,000 gallons of product were released and flowed into the adjacent stream and into Accotink Creek. The fuel was then ignited and the resulting fire destroyed numerous structures and caused several acres to burn. The report recommended further sampling which resulted in the additional recommendation to delineate the soil contamination. A closure plan was developed in 1993, and was implemented in 1995, when TPH concentrations above VDEQ action levels were noted. Additional investigations were performed in 2002 and 2005.

In 2005, BRAC legislation identified Fort Belvoir as a gaining installation for approximately 20,000 civilians and service members; 8,500 of which were to be transferred to FBNA. A second project for the Parkway extension was planned concurrently with the BRAC construction. In response to the BRAC announcement, the USEPA issued a RCRA Section 3013 UAO in 2005 to FBNA, requiring the Army to investigate potential releases of hazardous substances. Although Fort Belvoir had begun investigation activities at this site, it was cited as a potential release site in the UAO and was subsequently involved in the Fort Belvoir visual site inspection (VSI) for FBNA sites. This site is almost entirely within the Parkway ROW and subsequent Virginia Department of Transportation (VDOT) easement.

TPH was detected in soil samples collected at M-26 up to 11,000 mg/kg, in addition to VOCs and SVOCs. Free-product was never found in any M-26 groundwater well. Benzene, toluene, ethylbenzene, and xylene (BTEX) were detected above their corresponding maximum contaminant levels (MCL) in groundwater wells. Naphthalene was detected in groundwater wells above its USEPA, Region III tap water RBC.

In winter 2005-06 the Army developed a remediation plan for Site M-26. In November 2006, the DD was signed, committing groundwater monitoring and natural attenuation. Monitoring will be conducted until remedial goals are met. In 2007, approximately 13,000 tons of soils were removed from the M-26 area. A long-term groundwater monitoring plan was subsequently developed, where quarterly groundwater MNA was planned for two years, after which time Fort Belvoir would perform an MNA evaluation to determine whether the remedy was effective.

While performing soil remediation at M-26, additional underground piping and petroleum contamination was identified to the south at the Former Aboveground Test Tank Site (FATTS). Excavation of FATTS was completed in spring 2007 and GW monitoring wells were installed and monitored under the Site M-26 MNA program.

Quarterly sampling was completed in December 2008. Groundwater wells were abandoned shortly after to facilitate BRAC and Parkway construction. The last two quarters of the groundwater sampling at M-26 indicated that the remedial goals were met and Fort Belvoir proposed NFA; however, the USEPA requested additional sampling to capture any potential seasonal fluctuation. One well at the FATTS continued to exhibit groundwater contamination concentrations above cleanup levels and would require additional sampling.

BRAC and Parkway construction were completed in March 2011. Groundwater wells were reinstalled in fall 2011. In June 2012,

Site ID: FTBL-68
Site Name: M-26, Hydrocarbon Spill Area

Fort Belvoir submitted a revised groundwater MNA plan to the USEPA for review. Upon review, the new remediation manager at the USEPA indicated that the well network may be extensive and that additional sampling at M-26 may not be required. Levels at FATTS had not met their remedial goals upon completion of the quarterly sampling.

Groundwater sampling at the FATTS resumed in 3rd quarter FY14 under performance-based acquisition (PBA) contract No. 2, under AEDB-R site PBA@MR Belvoir through September 2014.

CLEANUP/EXIT STRATEGY

Continue groundwater MNA until remedial goals are achieved.

Site ID: FTBL-69
Site Name: M-27, Waste Ordnance Pit at Range 1

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Munitions constituents (MC)

Media of Concern: Groundwater

Phases	Start	End
PA	198809	198909
SI	200306	200311
RI/FS	200312	200606
IRA	200609	200703
RA(C)	200610	200908
RA(O)	200909	201510
LTM	201511	204509

RIP Date: 200909

RC Date: 201510

SITE DESCRIPTION

This site was originally identified in the 1990 Fort Belvoir Environmental Baseline Survey as a 20-foot diameter, 6-foot deep disposal pit on Range 1, located at FBNA, formerly called EPG. The pit was used during the mid- to late-1950s to 1960s to demilitarize a variety of ordnance or explosives.

In 2005, Fort Belvoir was identified as a gaining installation for the 2005 BRAC legislation, with approximately 20,000 personnel being transferred to the installation. As a result, construction of administrative space, parking, a child development center (CDC), and infrastructure began in 2005 to support the 8,500 personnel being relocated to FBNA. Additionally, the completion of the Parkway on the western side of FBNA was planned concurrent to BRAC construction. At that time, the Army planned to transfer the Parkway easement to Virginia, and FTBL-69 was located partially within the proposed easement. As a result, USEPA issued a RCRA Section 3013 UAO requiring Fort Belvoir to investigate, monitor, and report results of releases of contamination to the environment. Investigation for this site was conducted in accordance with the UAO; however, remedial actions were conducted in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). A closure plan for Range 1 was originally submitted to USEPA in June 2002 for approval; however, investigations did not begin until 2004 and were completed in 2006. In 2005, Fort Belvoir began munitions and explosives of concern (MEC) clearance at Range 1, which was completed in 2008. Investigations found no contaminants in soils above industrial screening levels, but did identify explosives in groundwater above drinking water levels. There are no MCLs for the contaminants of concern (COC) [cyclotrimethylenetrinitramine (RDX), 2,4-dinitrotoluene (-DNT)].

The DD was signed in May 2006, which stated the preferred remedy was groundwater MNA, and LUCs to limit exposure to groundwater. In May 2006, Fort Belvoir submitted a groundwater long-term monitoring plan recommending two years of groundwater and an evaluation of the effectiveness of the remedy after two years to USEPA. The groundwater long-term monitoring plan was later revised in August 2007 to define more clearly the risks at the site, and to include specific groundwater well data. Fort Belvoir began monitoring in the remedial action (operation) [RA(O)] phase during 1st quarter 2007. The first two years of quarterly monitoring was completed in December 2008.

Once the first two years of groundwater monitoring was completed, several groundwater wells at this site were abandoned to facilitate BRAC and Parkway related construction, which began in January 2009. In November 2009, Fort Belvoir submitted a groundwater MNA evaluation as required by the approved groundwater long-term monitoring plan, indicating the selected remedy was not effective as the contaminants were not attenuating, and that they were mobile in the groundwater. It was also realized at that time, that Fort Belvoir did not conduct a risk assessment of the site, as required by CERCLA. As a result, FTBL submitted a risk assessment to evaluate the actual risks at the site to USEPA in October 2011. In addition, Fort Belvoir contracted for a focused FS in 2011 to reevaluate remedial alternatives. The risk assessment indicated there were no risks to the hypothetical resident; however, it does discuss the fact that the plume is migrating. The USEPA approved the risk assessment in August 2012. Because the risk at the site is minimal, and explosives do not attenuate, the focused FS will evaluate no action, as required by CERCLA, and monitoring the plume migration.

Site ID: FTBL-69
Site Name: M-27, Waste Ordnance Pit at Range 1

A CERCLA five-year review was submitted to USEPA in June 2012, which indicated the site will be reevaluated and remedial strategy revised.

CLEANUP/EXIT STRATEGY

Fort Belvoir anticipates that the site will be reevaluated and the remedial strategy revised based on a CERCLA five-year review submitted to the USEPA in June 2012.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
FTBL-01	CLOSED LANDFILL (REVEGETATED)	199010	Fort Belvoir was unable to determine the exact location and corresponding SWMU ID.
FTBL-02	INACTIVE LANDFILL(BORDERS ACCOTINK CREEK	199008	This site, known as SWMU A-12, was entered into the CC database in August 2005 under Site ID CC-A12. The Phase I RFI was performed under the CC database. The site was reopened in AEDB-R as CC-A12. Future costs will be programmed under CC-A12.
FTBL-04	BATTERY STORAGE AREA-BLDGS 324,1146	199008	This site includes SWMUs H-02 and H-03. H-02 was entered into the CC database as CC-H02. A Phase I investigation was performed and Fort Belvoir received formal NFA closure (USEPA) for H-02. H-03 received administrative closure USEPA formal letter) in July 2012. H-03 was not entered into the CC-database.
FTBL-05	LABORATORY STORAGE AREA,#305,307,357	199008	This site includes SWMUs B-17 (Bldg 305), B-18 (Bldg 307), and B-19 (Bldg 357). These sites received administrative closure (USEPA formal letter) in July 2012. These sites were not entered in the CC database.
FTBL-06	SEWAGE TREATMENT PLANT 1(INACTIVE)	199008	This site was closed in AEDB-R due to previous eligibility requirements and transferred to AEDB-CC. Additionally, it is unclear whether FTBL-06 encompassed the sewage treatment plant itself or the UST co-located with it. In time frame of 2010, restrictions on ER,A funding was revised and CC-L45 was opened in AEDB-R to cover investigation activities of the sewage treatment plant.
FTBL-07	FUEL STORAGE/AREA 300 BLDGS	199008	This site includes SWMUs L-14 and L-15. These sites received administrative closure (EPA formal letter) in July 2012. These sites were not entered in the CC database.
FTBL-08	OIL/WATER SEPARATOR (3)	199008	Fort Belvoir was unable to determine the exact location of this site and the corresponding SWMU ID.
FTBL-09	THOETE ROAD LANDFILL	199010	This landfill, designated SWMU A-02, is a closed landfill subject to Post Closure Care (PCC) under a permit issued by VDEQ. This site was transferred to -CC as CC-A02. Future groundwater monitoring requirements will be funded under the -CC database.
FTBL-10	LEAKING TRANSFORMERS(3)(NEAR DAVISON AF)	198208	This site is known as SWMU L-04. L-04 received administrative closure (USEPA formal letter) in July 2012. This site was

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			never in the CC database.
FTBL-11	FORMER GRENADE STG BUNKER	198208	It is unknown with certainty which site this is however, it may be SWMU M-22 located at Building 2095 (now 5095). This site was not entered in the CC database. Fort Belvoir has received NFA for this site.
FTBL-12	FIRE FIGHTING TRAINING/BURN AREA	198208	This site may potentially include the Davison Airfield Fire Training Area SWMUs K01-K05 or EPG's Fire Training Area SWMU M-07. M-07 was entered into the CC database under site ID CC-M07M18. M-07 was later transferred to -R as FTBL-66. Fort Belvoir received formal NFA closure (USEPA letter) for K01-K05 based on historical documentation in a letter dated September 2012. These sites were not entered in the CC database.
FTBL-13	PESTICIDE MIXING ROOM-BLDG 1490	199010	This site, known as SWMU B-16, was formerly a pesticide mixing area and is now an active Part B hazardous waste (HW) permitted storage facility. This site was not entered in the -CC database. B-16 received administrative closure (USEPA formal letter) in July 2012.
FTBL-14	HAZ WST STG BLDGS 317A,327C,362,362A,363	199010	This site most likely includes the hazardous waste storage areas at Bldg 363 (SWMUs B14, B15, B20, B21, & B22), Bldg 317A (SWMU B11), 327C (SWMU B12) & 362A (SWMU B13). None of the sites were entered in the CC database. These sites received administrative closure (USEPA formal letter) in July 2012.
FTBL-15	HAZARDOUS WASTE STORAGE 5 BRICK BLDGS	199010	Includes buildings 625 (SWMU B-1), 627 (SWMU B-2), 632 (SWMU B-3), 633 (SWMU B-4), 634 (SWMU B-5). None of these sites were entered in the CC database. These sites received formal NFA closure (USEPA letter) based on historical documentation in September 2012.
FTBL-16	DEMOLITION RANGE	199010	This site, known as SWMU A-15, may potentially be the site known as T6-A. Although described here as a range, this site was actually a disposal area within a range. This site was not entered in the CC database. A-15 received formal NFA closure (USEPA letter) based on historical documentation in March 2014.
FTBL-17	FORMER COAL STORAGE AREA	199008	This site, known as SWMU A-04, was combined with SWMU A-23 due to proximity and entered into the CC database as CC-A04A23. A Phase I investigation was performed for A-04

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			under the CC database. This site was later transferred to -R as CC-A04A23. A-04 received formal NFA closure (USEPA letter) based on the Phase I results in December 2012. Future costs for A-23 will be tracked under CC-A04A23 in -R.
FTBL-18	INSTALLATION MOTOR POOL	199008	Fort Belvoir was unable to determine the exact location and corresponding SWMU ID.
FTBL-19	VEHICLE WASH RACKS (10)	199008	This site may include ten of the SWMUs C-01 through C-12. C-08 and C-11 were entered into the AEDB-CC as CC-C08 and CC-C11D11, respectively. Fort Belvoir received formal NFA closure (EPA letters)for C-08 and C-11 based on Phase I results in December 2012 and January 2012, respectively. C-01-6,7, 9,10 and 12 received administrative closure (EPA formal letter) in July 2012.
FTBL-20	SUPPLY CENTER-BLDG 712	199008	This site is the UST at Building 712. The UST has been removed. This site was closed in the -R database under the petroleum program. It was closed in 2000 after the receipt of a VDEQ closure letter dated October 10, 2000.
FTBL-21	ACID NEUTRALIZATION UNITS (3) BLDG 707	199008	This site includes SWMU I-04. Fort Belvoir received formal NFA closure (USEPA letter) on this site based on historical documents in September 2012. This site was not entered into the CC database.
FTBL-22	INDOOR FIRING RANGE	199010	Fort Belvoir is unable to identify the exact location of this site. However, this site would not be eligible for -CC or -R funding.
FTBL-23	TRANSFORMER STORAGE AREA-BLDG 1430	199008	This site includes SWMU B-09. B-09 received administrative closure (EPA formal letter) in July 2012. This site was not entered in the -CC database.
FTBL-25	HAZARDOUS WASTE STORAGE-BLDG 1124	199008	This site is known as SWMU B-07. Fort Belvoir received formal NFA closure (USEPA letter) for B-07 based on historical documents in September 2012. This site was not entered into the -CC database.
FTBL-30	REACTOR CONTAINMENT BLDG	199008	This site is not eligible for DERP funding.
FTBL-32	RUNOFF DISCHARGE DITCH(FROM EQUIP AREA)	199008	This site includes SWMU L-02. L-02 received administrative closure (USEPA formal letter) in July 2012. This site was not entered into the -CC database.
FTBL-33	CULLUM WOODS LANDFILL (ACTIVE)	199010	This landfill is designated SWMU A-01. This site was entered as CC-A01 in the -CC database. A-01 received administrative closure (USEPA formal

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			letter) in July 2012 under the SWMU program. This site is managed as a closed landfill in Post Closure Care (PCC). The site is regulated by a permit issued by VDEQ.
FTBL-36	ACID NEUTRALIZATION PIT	199008	This site may include the following SWMUs: I01 - I03. Fort Belvoir received formal NFA closure (USEPA letter) for I-01 and I-02 based on historical documents in September 2012 and January 2012, respectively. Fort Belvoir received administrative closure for site I-03 in a letter dated July 2012. I-01 and I-03 were not entered in the -CC database.
FTBL-39	DRMO SALVAGE STORAGE AREA	199008	This site may include the following SWMUs: A14, L35, M20, and N11. SWMUs A14 & M20 were entered into the CC database under site IDs CC-A14 and CC-M20. Fort Belvoir received NFA for M-20. CC-A14 was opened in the -R database as CC-A14. N-11 and L-35 were not entered in the -CC database. Fort Belvoir has formal NFA closure on N-11 and is awaiting NFA closure on L-35.
FTBL-40	PESTICIDE STORAGE-BLDG 2505	199008	This site is known as SWMU L-46. This site was not entered in the -CC database. L-46 received administrative closure (USEPA formal letter) in July 2012.
FTBL-41	CULLUM WOODS LF CATCHMENT POND	199008	This site is known as A-20. This site is not eligible for DERP funding. A-20 was not entered in the -CC database. A-20 received administrative closure (USEPA formal letter) in July 2012. This site is subject to PCC under the Cullum Woods PCC permit issued by VDEQ and can be tracked under the CC database as CC-A01.
FTBL-42	AVIATION FUEL STORAGE AREA	199008	This site was unable to be properly identified upon searching Fort Belvoir's records.
FTBL-45	STEAM CLEANING UNIT (CINDER BLOCK BLDG)	199008	This site is known as SWMU M-19. This site was entered and closed in the -CC database as CC-M19.
FTBL-48	SHOP SWEEPER DUMP SITE	199008	This site is known as SWMU M-05. The site was entered and closed in the -CC database as CC-M05.
FTBL-49	EXCAVATED DRUMSITE (1985)	199008	This site is SWMU M-08. This site was entered and closed in the -CC database as CC-M08.
FTBL-50	DUMPS(2) (ABANDONED)	199008	Fort Belvoir was unable to determine the exact location of this site and the corresponding SWMU ID.
FTBL-52	UNDERGROUND STORAGE TANKS-INST WIDE	199909	This site was unable to be properly identified upon searching Fort Belvoir's records.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
FTBL-53	ELECTRICAL TRANSFORMERS(17)VAR LOCATIONS	199008	This site was unable to be identified upon searching Fort Belvoir's records. However, when taken out of service, all transformers are sampled and analyzed for polychlorinated biphenyls (PCB) and managed through Fort Belvoir's hazardous waste management program.
FTBL-54	AIRFIELD HANGERS-VARIOUS LOCATIONS	199008	This site was unable to be properly identified upon searching Fort Belvoir's records.
FTBL-55	FIRING RANGES-1 PISTOL,2 RIFLE	199008	This site may potentially include the following units: L-39, L-40 and L-41. These units, upon further review, were determined to not fall under the definition of a SWMU by the USEPA (55 FR 30809, July 27, 1990) and by the RCRA Facility Assessment Guidance Document. Fort Belvoir received formal administrative closure (USEPA letters)on L-39 and L-40 in July 2012. L-41 received formal NFA closure (USEPA letter) in January 2011. None of these sites were entered in the -CC database
FTBL-56	SILVER RECOVERY UNITS (9)	199008	This site may include 9 of the following SWMUs: L-19 (bldg 320-4 units), L-20 (bldg 1809), L-21 (bldg 2593), L-22 (bldg 2595), and N-12 (bldg 214-3 units). None of these sites were entered in the -CC database. L-19 received formal NFA (USEPA letter) in January 2011. L-20, L-21, and L-22 received administrative closure (USEPA formal letter) in July 2012. N-12 received formal NFA closure (USEPA letter)in January 2012.
FTBL-60	PAINTBOOTHS-BLDS 363,1115,1339,1349,1462	199008	Fort Belvoir was unable to properly identify these site locations and corresponding SWMU IDs. These buildings may still be active storage facilities.
FTBL-61	DOGUE CREEK FAMILY HOUSING AREA	199404	This site is known as Building 900. This site was entered and closed into the CC database under CC-BLDG900. .
FTBL-62	PETROLEUM CONTAMINATION - BUILDING 1803	200203	This site was caused by a leaking UST at Building 1803. This site was entered and closed to -R as FTBL-62. Fort Belvoir received formal NFA for this site in 2001 after the receipt of a VDEQ closure letter dated March 13, 2001.
FTBL-63	EPG SOLIDWASTE MANAGEMENT UNITS(28)	200009	This site contains various EPG SWMUs (44 total) all subject to the Unilateral Administrative Order issued in September 2005. Such sites are typically named M sites. All of these sites were entered into -CC or -R and are being managed appropriately according to their current

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			database.
FTBL-64	Leaching Cesspools- Bldg 2073- M37	200710	This site was entered in the -CC database as CC-M37. It was later transferred to -R as FTBL-64. Fort Belvoir received formal NFA from regulators for this site.
FTBL-65	Septic Tank & Leach Field (B2075)	201012	This site is known as SWMU M-41. It was entered in the -CC database as CC-M41 and transferred and closed in -R as FTBL-65. There is a decision document associated with this site. An unrestricted land use was achieved upon completion of selected remedy (soil and material removal).
FTBL-67	Petroleum Storage Area-Bldg. 2000	200709	This site underwent Phase I and Phase II site investigations in 2006-2007. This site was opened in -CC as CC-MPS2000 and transferred to -R as FTBL-67. Due to proximity to SWMU M-26, the groundwater will be monitored for natural attenuation as part of the M-26 monitoring program. As a result, this site was closed out in both AEDB-CC and -R.

IRP Schedule

Date of IRP Inception: 198009

Past Phase Completion Milestones

1982	
PA	(FTBL-11 - FORMER GRENADE STG BUNKER)
SI	(FTBL-11 - FORMER GRENADE STG BUNKER)
CS	(FTBL-10 - LEAKING TRANSFORMERS(3)(NEAR DAVISON AF), FTBL-12 - FIRE FIGHTING TRAINING/BURN AREA)
RFA	(FTBL-10 - LEAKING TRANSFORMERS(3)(NEAR DAVISON AF), FTBL-12 - FIRE FIGHTING TRAINING/BURN AREA)
1988	
PA	(FTBL-66 - Sites M-07/18 and AOPC-4)
1989	
PA	(FTBL-68 - M-26, Hydrocarbon Spill Area, FTBL-69 - M-27, Waste Ordnance Pit at Range 1)
RFA	(FTBL-24 - SEWAGE TREATMENT PLANT 2, FTBL-38 - DRMO STUMP DUMP, FTBL-64 - Leaching Cesspools- Bldg 2073- M37, FTBL-65 - Septic Tank & Leach Field (B2075))
1990	
RFA	(FTBL-01 - CLOSED LANDFILL (REVEGETATED), FTBL-02 - INACTIVE LANDFILL(BORDERS ACCOTINK CREEK, FTBL-04 - BATTERY STORAGE AREA-BLDGS 324,1146, FTBL-05 - LABORATORY STORAGE AREA,#305,307,357, FTBL-09 - THOETE ROAD LANDFILL, FTBL-13 - PESTICIDE MIXING ROOM-BLDG 1490, FTBL-14 - HAZ WST STG BLDGS 317A,327C,362,362A,363, FTBL-15 - HAZARDOUS WASTE STORAGE 5 BRICK BLDGS, FTBL-16 - DEMOLITION RANGE, FTBL-21 - ACID NEUTRALIZATION UNITS (3) BLDG 707, FTBL-22 - INDOOR FIRING RANGE, FTBL-23 - TRANSFORMER STORAGE AREA-BLDG 1430, FTBL-25 - HAZARDOUS WASTE STORAGE-BLDG 1124, FTBL-33 - CULLUM WOODS LANDFILL (ACTIVE), FTBL-36 - ACID NEUTRALIZATION PIT, FTBL-40 - PESTICIDE STORAGE-BLDG 2505, FTBL-41 - CULLUM WOODS LF CATCHMENT POND, FTBL-48 - SHOP SWEEPER DUMP SITE, FTBL-49 - EXCAVATED DRUMSITE (1985), FTBL-50 - DUMPS(2) (ABANDONED), FTBL-55 - FIRING RANGES-1 PISTOL,2 RIFLE, FTBL-60 - PAINTBOOTHS-BLDS 363,1115,1339,1349,1462)
SI	(FTBL-68 - M-26, Hydrocarbon Spill Area)
PA	(FTBL-06 - SEWAGE TREATMENT PLANT 1(INACTIVE), FTBL-07 - FUEL STORAGE/AREA 300 BLDGS, FTBL-08 - OIL/WATER SEPARATOR (3), FTBL-17 - FORMER COAL STORAGE AREA, FTBL-18 - INSTALLATION MOTOR POOL, FTBL-19 - VEHICLE WASH RACKS (10), FTBL-20 - SUPPLY CENTER-BLDG 712, FTBL-30 - REACTOR CONTAINMENT BLDG, FTBL-32 - RUNOFF DISCHARGE DITCH(FROM EQUIP AREA), FTBL-39 - DRMO SALVAGE STORAGE AREA, FTBL-42 - AVIATION FUEL STORAGE AREA, FTBL-45 - STEAM CLEANING UNIT (CINDER BLOCK BLDG), FTBL-53 - ELECTRICAL TRANSFORMERS(17)VAR LOCATIONS, FTBL-54 - AIRFIELD HANGERS-VARIOUS LOCATIONS, FTBL-56 - SILVER RECOVERY UNITS (9))
CS	(FTBL-64 - Leaching Cesspools- Bldg 2073- M37, FTBL-65 - Septic Tank & Leach Field (B2075))
1991	
CS	(FTBL-01 - CLOSED LANDFILL (REVEGETATED), FTBL-09 - THOETE ROAD LANDFILL, FTBL-13 - PESTICIDE MIXING ROOM-BLDG 1490, FTBL-14 - HAZ WST STG BLDGS 317A,327C,362,362A,363, FTBL-15 - HAZARDOUS WASTE STORAGE 5 BRICK BLDGS, FTBL-16 - DEMOLITION RANGE, FTBL-22 - INDOOR FIRING RANGE, FTBL-33 - CULLUM WOODS LANDFILL (ACTIVE))
1993	
ISC	(FTBL-62 - PETROLEUM CONTAMINATION - BUILDING 1803)
INV	(FTBL-62 - PETROLEUM CONTAMINATION - BUILDING 1803)
1994	
ISC	(FTBL-61 - DOGUE CREEK FAMILY HOUSING AREA)
1996	
RFA	(FTBL-63 - EPG SOLIDWASTE MANAGEMENT UNITS(28))
CAP	(FTBL-62 - PETROLEUM CONTAMINATION - BUILDING 1803)
ISC	(FTBL-51 - TANK FARM - BLDG 324, 325)

IRP Schedule

1997

IMP(C)	(FTBL-62 - PETROLEUM CONTAMINATION - BUILDING 1803)
ISC	(FTBL-52 - UNDERGROUND STORAGE TANKS-INST WIDE)
DES	(FTBL-62 - PETROLEUM CONTAMINATION - BUILDING 1803)
IRA	(FTBL-62 - PETROLEUM CONTAMINATION - BUILDING 1803)

1998

INV	(FTBL-51 - TANK FARM - BLDG 324, 325)

1999

CMI(C)	(FTBL-63 - EPG SOLIDWASTE MANAGEMENT UNITS(28))
CAP	(FTBL-51 - TANK FARM - BLDG 324, 325)
DES	(FTBL-51 - TANK FARM - BLDG 324, 325)

2000

CMI(O)	(FTBL-63 - EPG SOLIDWASTE MANAGEMENT UNITS(28))
IMP(O)	(FTBL-62 - PETROLEUM CONTAMINATION - BUILDING 1803)

2002

PA	(FTBL-67 - Petroleum Storage Area-Bldg. 2000)
LTM	(FTBL-62 - PETROLEUM CONTAMINATION - BUILDING 1803)

2004

SI	(FTBL-69 - M-27, Waste Ordnance Pit at Range 1)

2006

RI/FS	(FTBL-68 - M-26, Hydrocarbon Spill Area, FTBL-69 - M-27, Waste Ordnance Pit at Range 1)
IRA	(FTBL-68 - M-26, Hydrocarbon Spill Area)

2007

IRA	(FTBL-67 - Petroleum Storage Area-Bldg. 2000, FTBL-69 - M-27, Waste Ordnance Pit at Range 1)
SI	(FTBL-66 - Sites M-07/18 and AOPC-4, FTBL-67 - Petroleum Storage Area-Bldg. 2000)
RI/FS	(FTBL-67 - Petroleum Storage Area-Bldg. 2000)

2008

RA(C)	(FTBL-68 - M-26, Hydrocarbon Spill Area)
RFI/CMS	(FTBL-64 - Leaching Cesspools- Bldg 2073- M37)
IMP(C)	(FTBL-51 - TANK FARM - BLDG 324, 325)
IRA	(FTBL-66 - Sites M-07/18 and AOPC-4)

2009

RA(C)	(FTBL-69 - M-27, Waste Ordnance Pit at Range 1)
DES	(FTBL-65 - Septic Tank & Leach Field (B2075))
RFI/CMS	(FTBL-65 - Septic Tank & Leach Field (B2075))

2010

CS	(FTBL-38 - DRMO STUMP DUMP)

2011

CMI(O)	(FTBL-65 - Septic Tank & Leach Field (B2075))
CMI(C)	(FTBL-65 - Septic Tank & Leach Field (B2075))

2014

CS	(FTBL-24 - SEWAGE TREATMENT PLANT 2)

Projected Phase Completion Milestones

See attached schedule

IRP Schedule

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

Site ID	Site Name	ROD/DD Title	ROD/DD Date

Final RA(C) Completion Date: 201809

Schedule for Next Five-Year Review: 2017

Estimated Completion Date of IRP at Installation (including LTM phase): 204509

FORT BELVOIR IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-24	SEWAGE TREATMENT PLANT 2	RFI/CMS						
		DES						
		CMI(C)						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FTBL-38	DRMO STUMP DUMP	LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FTBL-66	Sites M-07/18 and AOPC-4	RI/FS						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FTBL-68	M-26, Hydrocarbon Spill Area	RA(O)						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FTBL-69	M-27, Waste Ordnance Pit at Range 1	RA(O)						
		LTM						

FORT BELVOIR

Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 37/23

Installation Site Types with Future and/or Underway Phases

1 Contaminated Ground Water
(FTBL-005-R-09)
1 Disposal Pit/Dry Well
(FTBL-005-R-10)
2 Explosive Ordnance Disposal Area
(FTBL-018-R-01, FTBL-025-R-01)
2 Firing Range
(FTBL-001-R-02, FTBL-027-R-01)
4 Small Arms Range
(FTBL-003-R-01, FTBL-004-R-01, FTBL-007-R-01, FTBL-014-R-01)
1 Storage Area
(FTBL-005-R-01)
3 Training and Maneuver Area
(FTBL-005-R-05, FTBL-024-R-01, FTBL-026-R-01)

Most Widespread Contaminants of Concern

Munitions and explosives of concern (MEC), Munitions constituents (MC), Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern

Groundwater, Soil

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

Site ID	Site Name	Action	Remedy	FY
FTBL-005-R-01	Fort Belvoir North Area (EPG)	IRA	UXO CLEARANCE	2008
FTBL-005-R-10	Munitions Disposal Pit at Range 5	IRA	UXO CLEARANCE	2009
FTBL-005-R-10	Munitions Disposal Pit at Range 5	IRA	REMOVAL	2009
FTBL-005-R-09	FBNA Soils and Groundwater	IRA	CAPPING	2013
PBA@MR Belvoir	PBA@MMRP Ft Belvoir	FRA	NATURAL ATTENUATION	2014
PBA@MR Belvoir	PBA@MMRP Ft Belvoir	IRA	REMOVAL	2014
PBA@MR Belvoir	PBA@MMRP Ft Belvoir	IRA	INSTITUTIONAL CONTROLS	2014
PBA@MR Belvoir	PBA@MMRP Ft Belvoir	FRA	INSTITUTIONAL CONTROLS	2014
FTBL-005-R-05	Inert Mine Testing Area at Range 5	FRA	NATURAL ATTENUATION	2015
FTBL-005-R-05	Inert Mine Testing Area at Range 5	FRA	INSTITUTIONAL CONTROLS	2015
FTBL-014-R-01	Tracy Road Range	IRA	INSTITUTIONAL CONTROLS	2015

Duration of MMRP

Date of MMRP Inception 200110

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201712/204609

Date of MMRP completion including Long Term Management (LTM): 204609

MMRP Contamination Assessment

Contamination Assessment Overview

In 2001, the Army conducted a Phase II inventory of active and inactive ranges at Fort Belvoir, which identified 18 active and inactive ranges. The Army later conducted a subsequent inventory of the Fort Belvoir's closed, transferred or transferring (CTT) ranges, which identified 15 CTT ranges. Ten of the CTT ranges were listed as closed, and five were listed as transferred. The transferred ranges were the portions of the adjacent closed ranges which were over water bodies, specifically Accotink Bay.

As a result of the 2002 Defense Authorization Act, which modified the Defense Environmental Restoration Program (DERP) to establish the Military Munitions Response Program (MMRP), the Phase III CTT inventory report was expanded to include an inventory of ranges where UXO, discarded military munitions (DMM), and munitions constituents (MC) may have been used. The Phase III inventory identified 15 sites which were DERP eligible and created site identifications and calculated a risk assessment code (RAC) for each of them.

A site inspection (SI) was completed in 2008, which identified a total of 21 MMRP-eligible sites. During the SI, soil samples were collected and evaluated for MC, and a magnetometer surface sweep was performed to identify potential UXO and DMM. A UXO clearance had already begun at FTBL-005-R-01, FBNA; therefore, the SI recommended remedial investigation (RI), but did not collect any samples. Based on the results of the SI, the contractor recommended 10 sites for RI and FS and NFA for 11 sites.

The MEC clearance was completed at FTBL-005-R-01 in 2009. RIs at several Main Post sites were completed in 2012. Feasibility studies were started in 2012 at FTBL-005-R-01 and on the Main Post sites in 2014. Additionally, site FTBL-026-R-01, which previously was recommended for NFA was recommended for RI because MEC was encountered by hunters. The RI began in FY14 and is expected to be completed in FY16.

Cleanup Exit Strategy

MEC clearance at FTBL-005-R-01, FBNA was completed in 2009. Fort Belvoir anticipates LUCs to be finalized by the end of 2016. Two sites are scheduled for remedy-in-place (RIP) by April 2016. Fort Belvoir anticipates RIP/RC for all MR sites by October 2017.

MMRP Previous Studies

	Title	Author	Date
2006			
	Final Historical Records Review for Fort Belvoir	Malcolm Pirnie, Inc.	MAR-2006
	Final Work Plan for Fort Belvoir	Malcolm Pirnie, Inc.	AUG-2006
2008			
	Final Site Inspection for Fort Belvoir	Malcolm Pirnie, Inc.	JAN-2008
	Draft Final AOPC-16 Addendum	Hydrogeologic, Inc.	NOV-2008
	Final EIP SWMU M-32	Hydrogeologic, Inc.	DEC-2008
	Final Investigation Summary Report SWMU M-32	Hydrogeologic, Inc	DEC-2008
	Environmental Investigation Plan, SWMU M-33	Hydrogeologic, Inc.	DEC-2008
2009			
	Final Technical Memo Sampling Plan -- MEC Burial Pits AOPC-17 and AOPC-18 and Final Tech Memo Sampling Plan additional Soil Stockpile from AOPC-17 and AOPC-18	Hydrogeologic, Inc.	APR-2009
	Final Technical Memo Sampling Plan -- MEC Burial Pits 2O-16 and 2P-16 (AOPC-19)	Hydrogeologic, Inc.	MAY-2009
	Final Environmental Investigation Plan for Engineer Proving Ground (FTBL-005-R-001)	Hydrogeologic, Inc.	MAY-2009
	Final Investigation Summary Report-- MEC Burial Pits 2O-16 and 2P-16 (AOPC-19)	Hydrogeologic, Inc.	JUN-2009
	Final Investigation Summary Report for Engineer Proving Ground (FTBL-005-R-001)	Hydrogeologic, Inc.	JUN-2009
	Final Investigation Summary Report, AOPC-17 and AOPC-18	Hydrogeologic, Inc.	JUN-2009
	Final Investigation Summary Report, AOPC-16	Hydrogeologic, Inc.	AUG-2009
	Removal Action Work Plan-Booby Trap Site (FTBL-024-R-01)	Shaw Environmental Inc.	NOV-2009
2010			
	Final Site Specific MEC Removal Action Report	Hydrogeologic, Inc.	MAR-2010
	Site Specific Removal Action Report, Booby Trap Site, Booby Trap Fence Extension	Shaw Environmental, Inc.	APR-2010
2011			
	Remedial Investigation Report, T-16 (FTBL-027-R-01)	Shaw Environmental, Inc.	JUL-2011
2012			
	Final Investigation Summary Report Solid Waste Management Unit M-33	Hydrogeologic, Inc.	MAY-2012
	Remedial Investigation Report for Four Munitions Response Sites: Demolition Area-01, Demolition Area-USACE TD, Grenade Court, and Booby Trap Site	Shaw Environmental, Inc.	DEC-2012
	Remedial Investigation for Combat Range Complex	Shaw Environmental, Inc.	DEC-2012
2013			
	Remedial Investigation/Feasibility Study Report for the Infiltration Course and Tracy Road Range	Shaw Environmental, Inc.	JAN-2013
	Final Focused Feasibility Study FTBL-005-R-05, Inert Mine Testing Area at Range 5 (M-33) Fort Belvoir North Area, Fort Belvoir, Virginia	Hydrogeologic, Inc	SEP-2013

MMRP Previous Studies

2014

Title	Author	Date
Final Action Memorandum Land Use Controls Fort Belvoir Military Munitions Response Program	URS Group	JUN-2014
Final Proposed Plan for Chemical Contamination, Seven Sites in the Fort Belvoir North Area, US Army Garrison	Hydrogeologic, Inc.	JUN-2014
Final Decision Document for Chemical Contamination Seven Sites in the Fort Belvoir North Area, US Army Garrison	Hydrogeologic, Inc.	AUG-2014
Final Proposed Plan Groundwater at FTBL-005-R-05, Inert Mine Testing Area at Range 5 (M-33) Fort Belvoir North Area, Fort Belvoir, Virginia	Hydrogeologic, Inc.	NOV-2014

FORT BELVOIR

Military Munitions Response Program

Site Descriptions

Site ID: FTBL-001-R-02
Site Name: Infiltration Course

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 06

Contaminants of Concern: Munitions constituents (MC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	200907	201606
RD	200907	201607
IRA	201006	201605
RA(C)	200907	201607
LTM	201608	204509

RIP Date: N/A

RC Date: 201607

SITE DESCRIPTION

This site was originally part of the FTBL-001-R-01 site, but as a result of observations made during the SI field activities, the Small Arms Range Complex site was separated into two munitions response sites (MRS): the Small Arms Range Complex and the Infiltration Course. The Infiltration Course is located north of Accotink Bay and adjacent to the Pig Farm Range. The range first appears on the installation maps in 1943, and a memo from the same year states that three machine guns mounted on tripods and explosives were available for use. A 1944 memorandum shows three machine gun emplacements along an enemy trench behind the control tower. Firing occurred from the enemy trench downrange toward the starting trench. Barbed wire is stretched along the course in two locations. According to the 1944 memorandum, the circles on the diagram are craters in which explosives were set. The charges were not to exceed one-half pound and were required to be set in pits below ground.

The Infiltration Course appears on multiple installation maps between 1943 and 1956. The site is currently undeveloped. No MEC or munitions debris (MD) was observed during SI field activities. Remnants of a possible machine gun emplacement were observed. The soil sample did not exceed the lead preliminary remediation goals (PRG). Due to the historical use of explosives at the Infiltration Course and the uncertainty associated with the lack of explosive MC data there, the final SI report (2008) recommended further investigation for MC at the site.

The RI/FS for this site was approved by VDEQ in December 2012. During the RI, lead and copper were identified in soils above USEPA action levels. However, the risk assessment indicates there are no unacceptable risks at the site. Surface water samples indicate that Virginia water quality standards are exceeded for lead and copper. The FS evaluated no action, LUCs, rerouting the stream, and soil removal. In August 2014, VDEQ indicated that they do not agree with the risk assessment and may request a RI addendum for additional data and risk calculations.

CLEANUP/EXIT STRATEGY

This site will be at RC by August 2016. LUCs, managed under LTM will be required indefinitely.

Site ID: FTBL-003-R-01
Site Name: Combat Range Complex

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 02

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	200907	201701
RD	201303	201703
IRA	201103	201612
RA(C)	201303	201704
LTM	201705	204609

RIP Date: N/A

RC Date: 201704

SITE DESCRIPTION

This 320-acre site includes the downrange portion of three overlapping closed ranges. Historical documentation indicates the ranges were primarily operational in the 1940s and 1950s, but references to operational use between the 1930s and 1970s have been identified. This site is part of the Accotink Bay Wildlife refuge and is undeveloped. Munitions reported in historical documentation included: fragmentation grenades, rifle grenades, mortars, and small arms. The Fort Belvoir 2008 SI reported observation bunkers, MD, including small arms. No explosives were detected in surface soil samples, but numerous metals exceeded Biological Technical Assistance Group (BTAG) benchmarks.

The SI recommended RI, which was completed in December 2012. Limited MEC and MD were identified on one of the 25 sample grids, which appear to have been used as a limited MEC disposal point. A small arms disposal area was identified adjacent to the discussed grid. Soil samples collected exhibited elevated metals. Additionally, the site is located across Accotink Creek from the Tracy Road Range, site FTBL-014-R-01. The sample results from the RI were compared to the Tracy Road Range fan which suggests that some MC contamination is a result of small arms impact fired from the Tracy Road Range.

A contract was awarded to perform an FS in FY13 and reach RC by FY16 for sites in Fort Belvoir's MMRP, including FTBL-003-R-01. However, the contract is approximately 12 months behind and the site is scheduled to reach RC by April 2017. Fort Belvoir anticipates the final remedy for FTBL-003-R-01 to be soil removal, off-site disposal, and LUCs. Fort Belvoir will manage these LUCs under the LTM phase as well as installation-wide CERCLA five-year reviews beginning in FY17.

To address the immediate threat to human health until the final remedy can be selected, USAEC coordinated a contract in 2010 to develop interim LUCs as a non-time critical removal action in accordance with the CERCLA. Implementation of LUCs under the interim removal action (IRA) phase is underway and scheduled to be completed by the end of FY17.

CLEANUP/EXIT STRATEGY

Site is anticipated to reach RC in FY17. LUCs will be managed under LTM phase.

Site ID: FTBL-004-R-01
Site Name: Combat Range Complex-Water

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 05

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Soil

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	200907	201712

RIP Date: N/A

RC Date: 201712

SITE DESCRIPTION

The Combat Range Complex-Water was originally identified as part of the 566-acre Combat Range Complex, which consisted of the convergence of the downrange portion of three closed overlapping range fans. At the completion of the 2008 site inspection, the portion of the converging range fans that overlapped the Accotink Bay was separated from the Combat Range Complex MRS (FTBL-003-R-01), and was given a new site ID (FTBL-004-R-01). Review of additional historical documentation during the 2012 RI for the adjacent site, FTBL-003-R-01, indicates that small arms were fired from the Tracy Road Range over Accotink Bay into FTBL-003-R-01. There is no evidence that the range was used specifically as a target or impact area. No additional investigation has been completed for this site. Fort Belvoir plans to contract for a RI in FY15.

CLEANUP/EXIT STRATEGY

Complete RI and FS for site.

Site ID: FTBL-005-R-01
Site Name: Fort Belvoir North Area (EPG)

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 03

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Other (ground surface/subsurface)

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	200807	201603
RD	200807	201605
IRA	200610	201602
RA(C)	201303	201608
RA(O)	201303	201610
LTM	201611	204609

RIP Date: 201608

RC Date: 201611

SITE DESCRIPTION

FBNA, previously referred to as Engineer Proving Ground or EPG, is an 807-acre noncontiguous parcel located 1.5 miles northwest of the Fort Belvoir Main Post, in Fairfax County. FBNA was acquired by the Army in the early-1940s for use by the Fort Belvoir Research, Development, and Engineering Center. The FBNA boundary was first identified on a 1941 archival map and the principal mission was the testing of Army engineer equipment and supplies, specifically landmines. In the 1960s and 1970s, commercial and residential encroachment led to limited activities. Originally, the Army identified 10 training areas within the FBNA facility.

MEC clearance began at this site on those ranges which would be impacted on the proposed Fairfax County Parkway extension in 2003. In 2005, as second contract was awarded for MEC clearance on the ranges that would be impacted by the anticipated 2005 Base Realignment and Closure (BRAC) construction. However, this was not completed until 2009, when the final MEC clearance contract was completed. Munitions found on-site during range clearance activities include various mortars, landmines, rockets, grenades, and small arms. As discussed above, in 2005 Fort Belvoir was identified as a BRAC gaining installation, with 8,000 personnel planned for transfer to FBNA. Construction of new office space, parking garages, and infrastructure for the BRAC project began in 2007 and was completed in 2011. In addition, the Fairfax County Parkway Extension was built concurrently on 160 acres on the southern and western boundaries. As a result, nearly half of the 807 acres have been impacted by the construction of two road networks, two parking areas, a 1.5 million square foot facility, and the new infrastructure required to support operations. Costs for the final MEC clearance were captured under site PBA@MR Fort Belvoir, under PBA 1 (2008 award). Tasks included completion of MEC clearance, LUC development and inspections, maintenance, and five-year reviews through FY14. Period of performance was modified in 2013 from 2015 to 2014. Fort Belvoir has completed MEC removal and clearance operations under PBA 1, and has received NFA with regards to MC from regulators. A draft final focused FS for this MRS was completed in April 2013 and is currently under review. However, regulators and Fort Belvoir have not agreed on the final remedy for this site. Virginia Department of Environmental Quality has asked for clarification as to the extent of the previous removal actions and has requested additional survey on parcels that may have been missed during the previous clearance actions. To address the immediate threat to human health until the final remedy can be selected, Army Environmental Command coordinated a contract in 2010 to develop interim LUCs as a non-time critical action in accordance with the CERCLA. The action memorandum implementing the LUCs was signed in July 2014. LUCs under the IRA phase will be required until 2016, when this site should reach RC.

CLEANUP/EXIT STRATEGY

Fort Belvoir will conduct annual LUC inspections under the LTM phase beginning in FY17. Five-year reviews will begin in FY17 under the installation's schedule.

Site ID: FTBL-005-R-05
Site Name: Inert Mine Testing Area at Range 5

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 03

Contaminants of Concern: Munitions constituents (MC)

Media of Concern: Groundwater

Phases	Start	End
PA	200803	200803
SI	200807	200912
RI/FS	201001	201506
RD	201303	201508
RA(C)	201303	201509
RA(O)	201509	204509

RIP Date: 201509

RC Date: 204509

SITE DESCRIPTION

This site was identified as Site 33 in the 1990 USATHAMA Phase I/II EBS and is described as a 10-acre open field located approximately 200 feet east of Bldg 2091, on the west side of FBNA, formerly Engineer Proving Ground. The site was used as a training area for inert mine detection and the detonation of up to 22-pound explosive charges in detonation pits until the late-1960s to early-1970s. Since its last use, the surface of the site has been disturbed several times during various MEC removal actions.

In 2005, BRAC legislation identified Fort Belvoir as a gaining installation for approximately 20,000 civilians and service members; 8,500 of which were to be transferred to FBNA. A second project for the Fairfax County Parkway extension was planned concurrently with the BRAC construction. In response to the BRAC announcement, the USEPA issued a RCRA 3013 UAO in 2005 requiring the Army to investigate potential releases of hazardous substances. Fort Belvoir had begun investigation activities at this site in 2006 under the UAO. The site was previously identified as site M-33. The site was not impacted by the construction.

Preliminary sampling was performed in an area measuring 75 feet by 100 feet that contained the detonation pits. Various metals were detected in the soil samples, but at levels below site background concentrations for FBNA. The sampling efforts did not address the potential occurrence of MEC or MC, or potential impacts to areas outside the detonation pits. In 2006, Fort Belvoir investigated Site M-33 and identified explosives in groundwater. A Phase II investigation was conducted under a PBA which ended March 2015. An investigation summary report (ISR) risk assessment was submitted to regulators in August 2009. The USEPA requested additional sampling for explosives and perchlorate. A revised risk assessment was submitted in December 2010. In August 2012, Fort Belvoir received USEPA concurrence on the RI and risk assessment. Potential exposure risks at the site are to hypothetical child residents.

A final focused FS for this MRS was completed in September 2013. Fort Belvoir anticipates the final remedy for FTBL-005-R-05 to be MNA and LUCs. Remediation, under the remedial action (operations) [RA(O)] phase is contracted under the PBA through March 2015. Under this PBA contract, the contractor is required to reach response complete and manage LUCs through March 2015. This site is expected to reach response complete in FY15.

Fort Belvoir will manage MNA and LUCs under the RA(O) phase. Installation-wide CERCLA five-year review is scheduled to begin in FY17, and will include site FTBL-005-R-05. An adjacent site (M-32, site ID FTBL-005-R-08) has been combined with this site for regulatory and funding purposes, because the constituents and media of concern are identical.

CLEANUP/EXIT STRATEGY

Fort Belvoir anticipates groundwater monitoring and LUCs will be selected as final remedy in FY15.

Site ID: FTBL-005-R-09
Site Name: FBNA Soils and Groundwater

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 03

Contaminants of Concern: Munitions and explosives of concern (MEC), Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	200906	200907
SI	200908	200909
RI/FS	201105	201512
RD	201410	201604
IRA	201302	201306
RA(C)	201509	201610
RA(O)	201611	204609

RIP Date: 201611

RC Date: 204609

SITE DESCRIPTION

This site identified at Fort Belvoir North Area, formerly the Engineer Proving Ground, was created in AEDB-R in March 2011. Fort Belvoir's 2007 Base Realignment and Closure Act Environmental Impact Statement (EIS) identified the need for a child development center on FBNA to support the newly transferred personnel to FBNA as the result of the BRAC legislation. The new CDC site was not selected until 2009, after Fort Belvoir had investigated numerous releases of contamination, and had conducted MEC clearance on the known range areas. Fort Belvoir evaluated several potential sites, which included the range areas on the west, as well as areas which did not have any known historical releases resulting from the past uses. The current site was selected based on the following factors: 1) no evidence of a release; 2) costs for construction were lowest of sites evaluated and location would still allow for future construction; and, 3) access to the facilities would be easy for patrons.

Although no munitions usage was suspected, the entire FBNA area is considered a munitions response area (MRA); therefore, Fort Belvoir performed a MEC clearance to ensure that no MEC or MD was present at the site. During the clearance, six emplaced landmines were identified and disposed of in accordance with Virginia's solid waste regulations. Field testing indicated the presence of MC (2,4/6-dinitrotoluene). Soil samples collected later confirmed the presence of 2,4/6-dinitrotoluene at elevated levels in soils.

Upon completion of the MEC clearance, Fort Belvoir performed an extensive soil and groundwater investigation to determine whether there were any impacts from past usage at the site. Soil samples collected from the investigation indicated the presence of SVOCs above residential regional screening levels in four of the soil borings. Additionally, one of the four groundwater wells installed exhibited MC (RDX) in the groundwater at 1.7 micrograms per liter (µg/L), an order of magnitude above the drinking water standard of 0.61 µg/L. The source area for the RDX was not confirmed during the MEC clearance or during the investigation.

A Phase II soil and groundwater investigation was performed in FY12, to identify the source of, and delineate the RDX, and to isolate the soil contamination for excavation. During that investigation, groundwater samples were collected from eight existing wells associated with AEDB-R site CC-MPS2009, none of which exhibited explosives, eliminating the upgradient source. Upon completion of the Phase II soil and groundwater investigation, Fort Belvoir removed contaminated soils above residential screening levels as an IRA. Additionally, a soil cap constructed of clean fill was implemented at the site to further ensure that no exposure to any MEC or MD occurred. The RI/FS for this site was finalized in August 2013, which evaluated LUCs and groundwater monitoring.

CLEANUP/EXIT STRATEGY

Groundwater monitoring is anticipated as the final remedy in FY17.

Site ID: FTBL-005-R-10
Site Name: Munitions Disposal Pit at Range 5

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 03

Contaminants of Concern: Munitions and explosives of concern (MEC), Other (PCE)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	200809	200812
SI	200901	200906
RI/FS	200906	201703
IRA	200809	200907
RA(C)	201502	201703
RA(O)	201703	204609

RIP Date: 201703

RC Date: 204609

SITE DESCRIPTION

This site was identified as a MEC disposal pit in October 2008 during MEC clearance performed under the PBA contract awarded in August 2008. Using magnetometers, UXO technicians identified a layer of unused blasting caps laying within the top 12 inches of soil across Range 5. Once the blasting caps were removed, UXO technicians continued to survey the range using magnetometers, during which time they identified and excavated a 55-gallon eroded drum. The field crews noted odors, but no soil staining. Air samples collected from the drum indicated the presence of trichloroethylene (TCE). Soil samples collected from below the drum location exhibited TCE, as well. The drum and surrounding soils were removed in December 2008. Additionally, a second area of concern was found when UXO technicians reported a dark colored viscous material found directly under the surface soils.

Upon completion of the MEC clearance in June 2009, the contractor collected numerous soil samples from the drum location and the viscous material, and installed groundwater wells and collected groundwater samples. Contaminants in soils identified included: TCE, polychlorinated biphenyls (PCB), and 2,4 and 2,6-dinitrotoluene (DNT). Contaminants in groundwater included TCE, 2,4/6-DNT, and RDX. TCE levels from several wells ranged between 50 micrograms per Liter (µg/L) and 200 µg/L. Upon completion of the soil sampling, the contractor removed approximately 50 tons of soils off-site for disposal. The groundwater contamination had not yet been identified.

Access to this site was closed off in September 2010 as a result of the Base Realignment and Closure (BRAC) construction until May 2012. In May 2012, Fort Belvoir submitted an addendum to the investigation plan, which included three downgradient wells to assist with delineation. The USEPA remediation manager assigned to Fort Belvoir at the time requested a series of seven sets of nested wells to determine the thickness of the TCE plume. In July 2012, the contractor subsequently collected groundwater samples to determine the optimum placement of groundwater wells. Sample results from the July 2012 sampling event indicated that either degradation or dilution of TCE was occurring.

On Sept. 14, 2012 the new USEPA remediation manager assigned to Fort Belvoir met with the project team on-site to discuss groundwater well placement. The USEPA indicated that the groundwater well network was already extensive and that it may be more practical for Fort Belvoir to monitor the site under a 2005 USEPA issued RCRA Section 3013 Unilateral Administrative Order (UAO). Additionally, USEPA also requested Fort Belvoir to conduct surface water and sediment sampling from a nearby stream to determine whether the groundwater was discharging into the stream. In November 2012, Fort Belvoir submitted a revised sampling plan showing the surface water and sediment sample locations. Surface water samples collected did not exhibit contaminants above human health or ecological screening levels.

In January 2014, the Army determined that the future site work would be conducted under CERCLA, rather than the RCRA UAO. Under CERCLA the Army is the lead agency, whereas under RCRA, the USEPA is the lead agency. The RI was submitted to USEPA in August 2014.

This site is located approximately 300 feet from the installation boundary. Data indicate that the plume is migrating towards a drainage feature bisecting the installation and the adjacent private property.

Site ID: FTBL-005-R-10
Site Name: Munitions Disposal Pit at Range 5

CLEANUP/EXIT STRATEGY

Fort Belvoir anticipates that groundwater monitoring and LUCs will be selected as the final remedy in FY17.

Site ID: FTBL-007-R-01
Site Name: Grenade Court

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 06

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Other (ground surface/subsurface)

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	200907	201604
RD	201303	201605
IRA	201103	201602
RA(C)	201303	201605
LTM	201606	204509

RIP Date: N/A

RC Date: 201606

SITE DESCRIPTION

This 100-acre MRS is centrally located on the installation. The MRS lies on Accotink Creek and is divided lengthwise by Poe Road. An unpermitted landfill is adjacent to the site (CC-A12). Historical reports indicate MRS construction began March 21, 1941, and appears to be operational until 1949, at which time a large aboveground storage tank (AST) farm appears to have been built. Potential munitions used were live and practice hand grenades. Sandbag emplacements were built on the north end of the range and appeared to have been designed for live ordnance usage. From a map titled Belvoir General Site Plan, the tank farm appears to have been removed and dismantled by 1961. The majority of the area is currently unoccupied and heavily wooded. Recreational trails are located to the south of the site.

The 2008 Fort Belvoir SI recommended an RI with regards to MC. Two of the three surface soil samples collected from this site exhibited elevated levels of metals, not all of which were MC. The RI was completed in December 2013, under PBA@MR_Belvoir (PBA 2). No MEC or MD indicating the use of live ordnance were identified. As a result, Fort Belvoir proposed no MC sampling based on the lack of MD. In 2010 the boundary of the adjacent landfill was expanded to include a larger portion of the surface danger zone (SDZ) associated with grenade use. A contract requiring FS through RC was awarded in 2013, and is expected to be completed in FY16.

This site was included in Fort Belvoir's MMRP LUC project, which establishes interim LUCs for MR sites non-time critical removal actions under CERCLA until the final remedy can be selected. Interim LUCs were finalized in June 2014.

CLEANUP/EXIT STRATEGY

LUCs are anticipated as final remedy in FY16.

Site ID: FTBL-014-R-01
Site Name: Tracy Road Range

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 06

Contaminants of Concern: Munitions constituents (MC)

Media of Concern: Soil

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	200907	201507
RD	200907	201508
IRA	201006	201505
RA(C)	200904	201508
LTM	201510	204509

RIP Date: N/A

RC Date: 201508

SITE DESCRIPTION

This site was a small arms range which was completed in 1941. The range consists of one impact berm approximately 60 feet long and a second impact berm approximately 210 meters long, which ran parallel, about 120 feet apart. A bunker was located behind the smaller western berm, which contained small chambers used for target and supply storage, and well as limited use administrative space. Two firing points were located to the east at 200 and 300 yards, and a third was planned at 500 yards. Training is believed to have occurred during the 1940s and 1950s. During training exercises, the targets were positioned above the berms, causing Soldiers to fire over the berms. Fort Belvoir's 2008 SI report identified .30 caliber small arms bullets in the eastern berm; therefore, the site was recommended for remedial investigation with an emphasis of munitions constituents, specifically metals associated with small arms.

In the 1970s, Fort Belvoir used the area separating the two berms for a soil borrow area and then as a landfill. The landfill was entered into post-closure care in 1993 under Virginia's solid waste regulations. The landfill was also identified in Fort Belvoir's Part B Hazardous Waste Permit, as Site A-02. The berms associated with the range were later identified as SWMUs in Fort Belvoir's RCRA Part B Hazardous Waste Storage Permit. In 2012, Fort Belvoir received the USEPA's agreement that Sites L-39 and L-40 were not considered SWMUs, because of their small arms related activities.

The site was selected for development on the eastern portion of the site, where the former firing points were located. In 2009, Fort Belvoir collected soil samples and analyzed for MC (metals) to determine what risks were present, if any. Sample results did not exhibit levels above Virginia's action levels for lead.

An RI/FS was completed for this site in January 2013. During the RI phase, soil samples were collected from both berms and field analyzed using X-ray fluorescence (XRF). Samples were lab verified. As a result, metals contamination associated with small arms usage was delineated in both berms. A risk assessment shows there are minimal exposure risks to a child resident at the site; however, since the landfill is still in place and the site is categorized as industrial, it will not be developed for residential purposes. The FS evaluates no action, LUCs, and soil removal. Fort Belvoir anticipates LUCs as final remedy.

CLEANUP/EXIT STRATEGY

This site will reach RC in FY15. Required LUCs will be managed under the LTM phase beginning in FY16.

Site ID: FTBL-018-R-01
Site Name: Demolition Area - 01

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 03

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Other (ground surface/subsurface)

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	200907	201703
RD	201303	201704
IRA	201103	201602
RA(C)	201303	201705
LTM	201706	204609

RIP Date: N/A

RC Date: 201705

SITE DESCRIPTION

This 420-acre MRS is located in the northeastern portion of Fort Belvoir. It was first identified on a 1940 archival map displaying tactical training areas and appeared to have been used between 1940 and 1951. A housing area was constructed in the central portion of this MRS in the 1980s. A fence separating the housing area from the surrounding natural areas is maintained by Fort Belvoir, but the MRS is accessible to the public. In 2008, an SI recommended that the MRS be separated into two MRSs: Demolition Area -01 (312.5 acres) and Demolition Area - 02 (107.5 acres). This MRS was designated Demolition Area - 01, and the two westernmost sections should be designated Demolition Area - 02 (FTBL-018-R-02). Historical documentation from 1944 states this site was used for combat engineer demolition training. Demolition materials likely to be used include: bulk explosives, shape charges, cratering charges, and time fuse. Other materials include blasting caps, dynamite, and flare signal rockets. The area, primarily undeveloped, consists of a portion of the Jackson Miles Abbott Wetland Refuge and a wildlife corridor. The 2008 SI noted one MEC item (smoke grenade) and several possible blast holes. No soil samples collected during the SI exceeded the range of background levels for MC. As a result of the SI findings and based on historical usage of the MRS, the site was recommended for RI in regards to MEC and MC. An RI was completed in December 2012 under Fort Belvoir's 2009 PBA contract. Several areas of emplaced training/practice land mines were identified during the RI field effort.

To address the immediate threat to human health until the final remedy can be selected, USAEC coordinated a contract in 2010 to develop interim LUCs as a non-time critical action in accordance with the CERCLA. Implementation of LUCs is underway and scheduled to be completed by the end of FY16.

A contract has been awarded to perform an FS in FY13 and reach RC by FY16 for sites in Fort Belvoir's Military Munitions Response Program, including FTBL-018-R-01. It should be noted that the contract is approximately 12 months behind. This site will not reach RC until 2017; however, the DD will be signed in FY16.

CLEANUP/EXIT STRATEGY

A limited MEC removal is expected to be completed in FY17. LUCs will be also be required and managed under the LTM phase.

Site ID: FTBL-024-R-01
Site Name: Booby Trap Site

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 07

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Other (ground surface/subsurface)

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	200907	201603
RD	201303	201605
IRA	201106	201602
RA(C)	201303	201608
LTM	201609	204509

RIP Date: N/A

RC Date: 201608

SITE DESCRIPTION

This MRS is located in the southeastern portion of Fort Belvoir along Gunston Cove. The site was initially identified from a 1983 memorandum that identified it as a 1-acre site within Training Area T-1A, and was used for 24 days during 1983. The MRS was subsequently identified on several installation training area maps dating from 1987 and 1989. The installation maps indicated the MRS was approximately four acres, but no additional information was provided regarding the amount of use or training activities which took place. It is believed this MRS may have been associated with the engineering school, and included activities such as arming and disarming of practice firing devices and/or the installation and removal of booby traps within an area.

The site is undeveloped and wooded. The 2008 SI recommended RI for this MRS. In the fall of 2008, a recreational vehicle (RV) travel camp and cabin area was planned adjacent to the parcel. As a result, Fort Belvoir installed fencing as interim measures until the RI could be completed. During the fence installation, construction workers identified several emplaced training landmines along an old access road, outside of the four-acre MRS. Consequently, the MRS was expanded and a MEC removal action was planned. In 2009, a contract was awarded for RI with a MEC removal action at this site. The RI was completed in December 2012.

To address the immediate threat to human health until the final remedy can be selected, USAEC coordinated a contract in 2010 to develop interim LUCs as a non-time critical action in accordance with the CERCLA. Implementation of LUCs is underway and is scheduled for completion by the end of FY15.

A contract was awarded to perform an FS in FY13 and reach RC by FY16 for sites in Fort Belvoir's Military Munitions Response Program, including FTBL-024-R-01.

CLEANUP/EXIT STRATEGY

LUCs are anticipated as final remedy in FY16.

Site ID: FTBL-025-R-01
Site Name: Demolition Area - USACE

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 05

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Other (ground surface/subsurface)

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	200907	201512
RD	201303	201602
RA(C)	201303	201609
LTM	201609	204509

RIP Date: N/A

RC Date: 201609

SITE DESCRIPTION

This 489-acre MRS is located in the northeastern portion of Fort Belvoir and was first identified as a demolition training area on a 1940 archival map displaying tactical training areas. Northeastern portions of the MRS are currently operated by the USACE-Humphreys Engineer Center, and the remainder of the MRS is undeveloped. The Demolition Area is separated into two MRS based on the recommendation of the 2008 SI.

Historical documents from 1944 state that the MRS was used primarily to train engineers in the use of demolition materials and to practice demolition techniques. Demolition took place either on the surface, within steel pits, or below ground. Materials that may have been used include explosives, shape charges, cratering charges, and time fuzes. Other items that may have been used within the MRS include: blasting caps, dynamite, and flare signal rockets. Based on installation maps, the MRS was operated between 1940 and approximately 1951.

In 2008, the site description for this MRS changed from Demolition Area-transferred to Demolition Area USACE, as sites that are under Army or DoD control are not transferred property. In 2008, an SI report recommended RI for this MRS with regards to MEC and MC.

The RI under Fort Belvoir's PBA@MR Belvoir (2009 award) was completed in December 2012. Soil samples collected did not exhibit MC above RBCs. A contract was awarded to perform an FS in FY13 and reach RC by FY16 for sites in Fort Belvoir's MMRP, including FTBL-025-R-01. Fort Belvoir anticipates the final remedy for FTBL-025-R-01 to be LUCs and Fort Belvoir will manage these LUCs under the LTM phase. Installation-wide CERCLA five-year reviews are scheduled to begin in FY17, and will include site FTBL-025-R-01.

CLEANUP/EXIT STRATEGY

LUCs are anticipated as final remedy in FY16.

Site ID: FTBL-026-R-01
Site Name: Mines and Booby Trap Area

STATUS

Regulatory Driver: CERCLA

MRSPP Score: Evaluation pending

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	201110	201703
RD	201703	201704
IRA	201106	201703
RA(C)	201704	201705
LTM	201706	204609

RIP Date: N/A

RC Date: 201705

SITE DESCRIPTION

The MRS is approximately 110 acres and is located on the Davison Army Airfield complex within Fort Belvoir. According to 1943 historical documents, the following practical exercises took place at the site: installation and removal of booby trap devices, demonstrations and training on arming and disarming anti-personnel mines, installation and removal of anti-personnel mines, and training on arming and disarming detonating devices. The MRS was operational between 1943 and 1947. This site is undeveloped and is also located within Fort Belvoir's wildlife corridor.

Fort Belvoir's 2008 Site Inspection recommended NFA for this MRS because no evidence of MEC was found. Additionally, no munitions constituents (metals or explosives) were detected in soil samples collected at the site above laboratory reporting limits. In November 2010, a hunter reported a potential landmine which was confirmed by Explosive Ordnance Disposal (EOD) Technicians from the 55th EOD Company to be an unarmed practice anti-tank landmine. As a result, Fort Belvoir requested USACE, Unexploded Ordnance Safety Specialists (OESS) to perform a general transect survey during which time, approximately 20 unarmed training anti-tank landmines were discovered. The unarmed training landmines were turned over to the 55th EOD Company for disposal. Fort Belvoir then made the decision to conduct a RI at this site. The RI and FS were awarded in July 2013, and are scheduled to be completed by July 2016. In 2011, a new administrative facility which includes classroom space was approved to be built on a on a portion of the MRS. Construction of the new facility is expected to begin in 2016. The requesting agency will provide construction support from certified EOD safety technicians under the construction contract.

To address the immediate threat to human health until the final remedy can be selected, USAEC coordinated a contract in 2010 to develop interim LUCs as a non-time critical action, in accordance with the CERCLA. The action memorandum implementing the LUCs was signed in July 2014. LUC inspections and reporting under the IRA phase are required through FY17, when the final remedy is expected to be selected.

CLEANUP/EXIT STRATEGY

Fort Belvoir anticipates selecting LUCs as the final remedy in FY17.

Site ID: FTBL-027-R-01
Site Name: T-16

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 05

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Other (ground surface/subsurface)

Phases	Start	End
PA	200110	200305
SI	200504	200801
RI/FS	200907	201603
RD	201303	201605
IRA	201103	201602
RA(C)	201303	201609
LTM	201609	204509

RIP Date: N/A

RC Date: 201609

SITE DESCRIPTION

This 232-acre site is in the north central portion of Fort Belvoir, immediately east of the T-15 Training Area. The historical use of the site is unconfirmed, but based on a review of archival maps, the area appears to have been used for various combat and field training areas between 1926 and 1987. A reference as to the specific type of munitions usage was not located. This site is currently undeveloped, with the exception of a communications facility on the eastern side. The site is bisected by a newly construction road. The western side is anticipated to be converted a wetland refuge. Three unpermitted solid waste landfills were identified in this area. The Fort Belvoir 2008 SI reported numerous depressions which appeared to be fighting positions and weapons emplacements. Small arms blanks were identified. The SI recommended RI for this site.

An RI began in July 2010 under the Fort Belvoir PBA@MR Belvoir (2009 award) and was concluded in 2011. MEC was not identified. Regulators concurred with no sampling at this site with regards to MC. The RI for this site was originally accelerated due to potential expansion of school.

To address the immediate threat to human health until the final remedy can be selected, USAEC coordinated a contract in 2010 to develop interim LUCs as a non-time critical action in accordance with the CERCLA. Implementation of LUCs is underway and scheduled to be completed by the end of FY15.

A contract was awarded to perform an FS in FY13 and reach RC by FY16 for sites in Fort Belvoir's MMRP, including FTBL-027-R-01.

CLEANUP/EXIT STRATEGY

LUCs are anticipated as final remedy in FY16. Annual LUC inspections and five-year reviews will be required in FY17 under the LTM Phase.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
FTBL-001-R-01	Small Arms Range Complex	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
FTBL-002-R-01	Small Arms Range Complex-Water	200801	Based on the Final Site Inspection dated January 2009, this MRS was combined with the adjacent Combat Range Complex-TD to form Combat and Small Arms Range Complex-TD FTBL-004-R-01. All future site actions will be carried out under FTBL-004-R-01.
FTBL-005-R-04	Burial Pit at Range 1A	200909	Fort Belvoir submitted an investigation summary report for this site in August, 2009, recommending no further action. USEPA confirmed acceptance of report via email on August 26, 2009.
FTBL-005-R-06	Waste Ordnance Pits at Range 5	200909	A draft and a final investigation summary report for this soil and groundwater investigation were submitted to the regulators in January and in May 2007, respectively. This investigation found low level explosives in the groundwater. Costs are covered under PBA@MR Belvoir.
FTBL-005-R-07	Troop Training Area at Range 5B	201006	Fort Belvoir submitted a technical memorandum in October, 2009 recommending no further action for this site. USEPA agreed via email sent October 30, 2009.
FTBL-005-R-08	Range 5 (Building 5091)	201006	Fort Belvoir submitted an investigation summary report in April, 2009 recommending no further action for soils associated with this site. The report also recommended that the groundwater contamination for this site be managed under FTBL-005-R-05, M-33. USEPA concurred with these recommendations via email, dated May 19, 2009.
FTBL-006-R-01	Fairfax Range	200801	Based on the Final HRR dated March 2006, this MRS was determined to be part of AA Range and not a separate range. Combined with adjacent ranges to form Small Arms Range Complex FTBL-001-R-01. All future site actions will be carried out under FTBL-001-R-01.
FTBL-008-R-01	Gunston Road 1000" Rifle Range	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
FTBL-009-R-01	Lorton Combat Range	200801	Based on the Final HRR dated March 2006, this MRS was combined with adjacent ranges to form Combat Range Complex FTBL-002-R-01. All future site actions will be carried out under FTBL-002-R-01.
FTBL-010-R-01	Lorton Combat Range-TD	200801	Based on the Final HRR dated March 2006, this MRS was combined with

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			adjacent ranges to form Combat Range Complex - TD FTBL-004-R-01. All future site actions will be carried out under FTBL-004-R-01.
FTBL-011-R-01	Lorton Landscape Range	200801	Based on the Final HRR dated March 2006, it was determined that the range fan should be shortened, thereby causing the entire range to be located within the operational range.
FTBL-012-R-01	Pig Farm Range	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
FTBL-013-R-01	Pig Farm Range-TD	200801	Based on the Final HRR dated March 2006, this MRS was eliminated when acreage reduction resulted from the elimination of the firing fan, which was based on presence of a berm.
FTBL-015-R-01	Tracy Road Range-TD	200801	Based on the Final HRR dated March 2006, this MRS was eliminated when acreage reduction resulted from the elimination of the firing fan, which was based on presence of a berm.
FTBL-016-R-01	Range T-15	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
FTBL-017-R-01	Congressional Demonstration Area	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
FTBL-018-R-02	Demolition Area-02	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
FTBL-019-R-01	Entrenchment and Gas School Area	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
FTBL-020-R-01	Gas Area	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
FTBL-021-R-01	Mock Village	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
FTBL-022-R-01	Mounted Pistol Range	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
FTBL-023-R-01	Southwest Pistol Range	200801	Based on the Final Site Inspection dated January 2008, this MRS was recommended for No Further Action.
PBA@MR Belvoir	PBA@MMRP Ft Belvoir	201405	Work under PBA1 was performed under the following CLINs: 1003AA, 1003BA, 1003CA, 1003CB, 1003DA, 1003EA, 1003EB, 1003FA, 1003GA, 1003HA, 1003JA, 1003JB, 1003LA. Work under PBA II was performed under the following CLINs: 0001AA, 0001AM,

MMRP Schedule

Date of MMRP Inception 200110

Past Phase Completion Milestones

2003	
PA	(FTBL-001-R-01 - Small Arms Range Complex, FTBL-001-R-02 - Infiltration Course, FTBL-002-R-01 - Small Arms Range Complex-Water, FTBL-003-R-01 - Combat Range Complex, FTBL-004-R-01 - Combat Range Complex-Water, FTBL-005-R-01 - Fort Belvoir North Area (EPG), FTBL-006-R-01 - Fairfax Range, FTBL-007-R-01 - Grenade Court, FTBL-008-R-01 - Gunston Road 1000" Rifle Range, FTBL-009-R-01 - Lorton Combat Range, FTBL-010-R-01 - Lorton Combat Range-TD, FTBL-011-R-01 - Lorton Landscape Range, FTBL-012-R-01 - Pig Farm Range, FTBL-013-R-01 - Pig Farm Range-TD, FTBL-014-R-01 - Tracy Road Range, FTBL-015-R-01 - Tracy Road Range-TD, FTBL-016-R-01 - Range T-15, FTBL-017-R-01 - Congressional Demonstration Area, FTBL-018-R-01 - Demolition Area - 01, FTBL-018-R-02 - Demolition Area-02, FTBL-019-R-01 - Entrenchment and Gas School Area, FTBL-020-R-01 - Gas Area, FTBL-021-R-01 - Mock Village, FTBL-022-R-01 - Mounted Pistol Range, FTBL-023-R-01 - Southwest Pistol Range, FTBL-024-R-01 - Booby Trap Site, FTBL-025-R-01 - Demolition Area - USACE, FTBL-026-R-01 - Mines and Booby Trap Area, FTBL-027-R-01 - T-16, PBA@MR Belvoir - PBA@MMRP Ft Belvoir)
2008	
PA	(FTBL-005-R-05 - Inert Mine Testing Area at Range 5)
RFA	(FTBL-005-R-04 - Burial Pit at Range 1A, FTBL-005-R-06 - Waste Ordnance Pits at Range 5, FTBL-005-R-07 - Troop Training Area at Range 5B, FTBL-005-R-08 - Range 5 (Building 5091))
SI	(FTBL-001-R-01 - Small Arms Range Complex, FTBL-001-R-02 - Infiltration Course, FTBL-002-R-01 - Small Arms Range Complex-Water, FTBL-003-R-01 - Combat Range Complex, FTBL-004-R-01 - Combat Range Complex-Water, FTBL-005-R-01 - Fort Belvoir North Area (EPG), FTBL-006-R-01 - Fairfax Range, FTBL-007-R-01 - Grenade Court, FTBL-008-R-01 - Gunston Road 1000" Rifle Range, FTBL-009-R-01 - Lorton Combat Range, FTBL-010-R-01 - Lorton Combat Range-TD, FTBL-011-R-01 - Lorton Landscape Range, FTBL-012-R-01 - Pig Farm Range, FTBL-013-R-01 - Pig Farm Range-TD, FTBL-014-R-01 - Tracy Road Range, FTBL-015-R-01 - Tracy Road Range-TD, FTBL-016-R-01 - Range T-15, FTBL-017-R-01 - Congressional Demonstration Area, FTBL-018-R-01 - Demolition Area - 01, FTBL-018-R-02 - Demolition Area-02, FTBL-019-R-01 - Entrenchment and Gas School Area, FTBL-020-R-01 - Gas Area, FTBL-021-R-01 - Mock Village, FTBL-022-R-01 - Mounted Pistol Range, FTBL-023-R-01 - Southwest Pistol Range, FTBL-024-R-01 - Booby Trap Site, FTBL-025-R-01 - Demolition Area - USACE, FTBL-026-R-01 - Mines and Booby Trap Area, FTBL-027-R-01 - T-16, PBA@MR Belvoir - PBA@MMRP Ft Belvoir)
2009	
PA	(FTBL-005-R-09 - FBNA Soils and Groundwater, FTBL-005-R-10 - Munitions Disposal Pit at Range 5)
CS	(FTBL-005-R-04 - Burial Pit at Range 1A, FTBL-005-R-06 - Waste Ordnance Pits at Range 5)
IRA	(FTBL-005-R-10 - Munitions Disposal Pit at Range 5)
SI	(FTBL-005-R-09 - FBNA Soils and Groundwater, FTBL-005-R-10 - Munitions Disposal Pit at Range 5)
2010	
CS	(FTBL-005-R-07 - Troop Training Area at Range 5B, FTBL-005-R-08 - Range 5 (Building 5091))
SI	(FTBL-005-R-05 - Inert Mine Testing Area at Range 5)
2013	
IRA	(FTBL-005-R-09 - FBNA Soils and Groundwater)
2014	
RI/FS	(PBA@MR Belvoir - PBA@MMRP Ft Belvoir)
RA(C)	(PBA@MR Belvoir - PBA@MMRP Ft Belvoir)
RA(O)	(PBA@MR Belvoir - PBA@MMRP Ft Belvoir)
IRA	(PBA@MR Belvoir - PBA@MMRP Ft Belvoir)

Projected Phase Completion Milestones

See attached schedule

MMRP Schedule

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

Site ID	Site Name	ROD/DD Title	ROD/DD Date

Final RA(C) Completion Date: 201705

Schedule for Next Five-Year Review: 2017

Estimated Completion Date of MMRP at Installation (including LTM phase): 204609

FORT BELVOIR MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-001-R-02	Infiltration Course	RI/FS						
		RD						
		IRA						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-003-R-01	Combat Range Complex	RI/FS						
		RD						
		IRA						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-004-R-01	Combat Range Complex-Water	RI/FS						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-005-R-01	Fort Belvoir North Area (EPG)	RI/FS						
		RD						
		IRA						
		RA(C)						
		RA(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-005-R-05	Inert Mine Testing Area at Range 5	RA(O)						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-005-R-09	FBNA Soils and Groundwater	RI/FS						
		RD						
		RA(C)						
		RA(O)						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-005-R-10	Munitions Disposal Pit at Range 5	RI/FS						
		RA(C)						
		RA(O)						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-007-R-01	Grenade Court	RI/FS						
		RD						
		IRA						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-014-R-01	Tracy Road Range	LTM						

FORT BELVOIR MMRP Schedule

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTBL-018-R-01	Demolition Area - 01	RI/FS						
		RD						
		IRA						
		RA(C)						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FTBL-024-R-01	Booby Trap Site	RI/FS						
		RD						
		IRA						
		RA(C)						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FTBL-025-R-01	Demolition Area - USACE	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FTBL-026-R-01	Mines and Booby Trap Area	RI/FS						
		RD						
		IRA						
		RA(C)						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FTBL-027-R-01	T-16	RI/FS						
		RD						
		IRA						
		RA(C)						
		LTM						

FORT BELVOIR

Army Defense Environmental Restoration Program
Compliance Restoration

CR Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 56/20

Installation Site Types with Future and/or Underway Phases

1 Above Ground Storage Tank
(CC-N03F09)
3 Contaminated Fill
(CC-I02, CC-MP1, CC-MP5)
2 Contaminated Ground Water
(CC-MP2, CC-MPS2009)
1 Contaminated Sediments
(CC-AOPC-20 BNA)
1 Drainage Ditch
(CC-MP10)
1 Explosive Ordnance Disposal Area
(CC-A15)
14 Landfill
(CC-A025, CC-A05, CC-A06, CC-A07, CC-A08A16, CC-A09, CC-A11, CC-A12, CC-A13, CC-A26, CC-A27, CC-A28, CC-A29, CC-N23)
2 Oil Water Separator
(CC-L09, CC-N05)
1 Sewage Treatment Plant
(CC-L45)
3 Spill Site Area
(CC-A04A23, CC-A24, CC-L33)
4 Storage Area
(CC-E06, CC-E09, CC-E14, CC-N20)
1 Surface Disposal Area
(CC-MP9)
2 Washrack
(CC-C08D10, CC-C11D11)

Most Widespread Contaminants of Concern

Metals, Pesticides, Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Sediment, Soil, Surface Water

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

Site ID	Site Name	Action	Remedy	FY
CC-MPS2009	PSAs 2009, 2033, and 2034	IRA	REMOVAL	1997
CCBLDG3161	Bg 3161- Davison Army Airfield Fuel Yard	FRA	DUAL-PHASE EXTRACTION	2002
CC-A15	Demolition Range	FRA	WASTE REMOVAL - SOILS	2003
CCBLDG773	Former Building 773	FRA	OTHER	2003
CCBLDG2209	Bldg 2209/2217- Former Military Barracks	FRA	GROUND WATER TREATMENT	2004
CCBLDG2209	Bldg 2209/2217- Former Military Barracks	FRA	SOIL VAPOR EXTRACTION	2008
CCBLDG305	Bldg 305 - Research & Development Center	FRA	DUAL-PHASE EXTRACTION	2008
CCBLDG1124	Bldg 1124 - Vehicle Fueling Facility	FRA	DUAL-PHASE EXTRACTION	2009
CC-G13	B1453 Former USTs & Related Contam.	IRA	REMOVAL	2011

CR Summary

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

Site ID	Site Name	Action	Remedy	FY
CC-MP3	Arts & Crafts Cntr Petroleum Cont.	IRA	WASTE REMOVAL - SOILS	2011
CC-MP4	Contaminated Soil at 9th and Gunsto	IRA	WASTE REMOVAL - SOILS	2011
CC-MP7	Future OSEG Facility	IRA	WASTE REMOVAL - SOILS	2011
CC-AOPC-20 BNA	Contaminated Soil and Groundwater	IRA	OTHER	2013
CC-MP6	1425 Pipeline Contamination	FRA	WASTE REMOVAL - SOILS	2013
CC-MP8	AAFES Shoppette Project	FRA	REMOVAL	2013
CCPBA@Belvoir	PBA@IR and CR Belvoir	FRA	OTHER	2014
CC-A11	POE Road Landfill	FRA	NATURAL ATTENUATION	2015
CC-A12	Accotink Landfill	FRA	NATURAL ATTENUATION	2015

Duration of CR

Date of CR Inception: 197306

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201809/204509

Date of CR completion including Long Term Management (LTM): 204509

CR Contamination Assessment

Contamination Assessment Overview

Environmental restoration activities include the Installation Restoration Program (IRP) and MMRP. On Dec. 29, 2008, the Office of the Deputy Under Secretary of Defense for Installations and Environment [ODUSD (I&E)] issued an interim policy for DERP eligibility that rescinded the 1986 eligibility date for the IRP and the 2002 eligibility date for the MMRP. This made many sites previously addressed in the Army's Compliance-related Cleanup (CC) program eligible for the DERP. Sites that are now eligible for the MMRP have been migrated from Army AEDB-CC and given the naming convention of other MR sites. The newly eligible non-MR type sites are considered to be IR sites; however, the newly eligible sites are being coded as Compliance Restoration (CR) in AEDB-R to distinguish them from the original IR sites and IR metrics.

Due to ongoing BRAC construction, several sites have been opened as new, or (in the case of G-13), reopened due to the presence of contamination discovered during construction. It is anticipated that all of these sites will have immediate needs completed shortly (some already have).

The Main Post SWMUs make up the majority of the CR sites. These include various types of sites: landfills, sewage treatment plants, dump sites, POL storage areas, etc.

Additional sites which are not captured under this IAP include 89 "administratively closed" and 42 sites which received historical NFA. As these sites were listed within the Fort Belvoir Part B RCRA Permit, Fort Belvoir was successful in achieving approval of this strategy (formally approved in June and August 2012, respectively). Although NFA was received, Fort Belvoir is currently evaluating each site to ensure that LUCs are documented where required.

Those sites which are itemized in this IAP are in various stages of investigation and closure and are documented under each individual site.

There are two CR sites located at FBNA. A risk assessment for site CC-MPS2009 is currently under USEPA review, and a FS will be awarded in FY14. CC-AOPC20, BNA was found during BRAC construction and is surrounded by IR sites FTBL-66 and FTBL-68. As a result, remediation at CC-AOPC20, BNA if needed will be managed under IR site FTBL-66.

Cleanup Exit Strategy

Due to the nature and number of sites, this information is best viewed on a site by site basis.

CR Previous Studies

	Title	Author	Date
1985			
	Preliminary Phase I Investigation -- BLDG 1124	USAEHA	JUL-1985
1986			
	Groundwater Monitoring at Building 1124	Dept of Army	JUL-1986
1988			
	Phase II RCRA Facility Assessment at FTBL	AT Kearney	JUL-1988
1989			
	Area 600 Inspection and Permit Troubles	Commonwealth of VA	SEP-1989
1990			
	Haz Waste Permit App Vol 1 of 2, Rev 0 (HW Storage)	CH2MHill	JAN-1990
	Environmental Baseline Study at EPG	USATHAMA	JAN-1990
	Draft Report, Phase III Collection of Environmental Field Data, EPG	FTBL Argonne National Labs	FEB-1990
	Haz Waste Permit Application for Department of Army Fort Belvoir	Dept of Army	APR-1990
	Environmental Baseline Study, EPG, Vol II to Phase III Sampling	USATHAMA	SEP-1990
	Environmental Baseline Study at EPG Vol I, Scope Def.	USATHAMA	SEP-1990
	Soil Gas Survey and Sampling Plan Fire Training Pit, DAAF FTBL	US Army Eng District, Baltimore Eng Division, Geotech Engineering Branch	SEP-1990
1991			
	Federal Facilities Compliance Agreement Doc/Correspondence	Various	MAR-1991
	Tank Investigations Bldgs 190, 677, 788, 1116, 1146, 1197, 1949, 2034, 2041	Dewberry and Davis	JUN-1991
	FTBL SWMU Study Photographs	CH2MHill	DEC-1991
1992			
	SWMU Study	CH2MHill	JAN-1992
	Interim Hydrogeologic Study Report DAAF Fire Train Sites	Directorate of Engineering and Housing	JAN-1992
	Preliminary Assessment Report for Addendum	ACOE	MAR-1992
	Virginia Waste Management Act and RCRA, revision, 3 volumes	Dept of Army	JUN-1992
	SWMU Study Appendix D Draft RFA Report	AT Kearney, Inc	JUL-1992
	Part B Permit VA7210000906 EPG	Commonwealth of Virginia	OCT-1992
1993			
	Part B Permit VA7213720082 (Bldg 1490 and 2991 DRMO and UST...)	Commonwealth of Virginia	JAN-1993
	Haz Waste Management Plan and Haz Waste Generation Survey	Bregman and Company Inc	FEB-1993
	Environmental Impact Statement	ACOE	MAR-1993
	Haz Waste Management Permit FTBL, Main Post, VA 72131720082	Unknown	MAR-1993

CR Previous Studies

	Title	Author	Date
1993			
	EPG, SWMU Closure Plans	Dewberry and Davis	OCT-1993
	Final Dioxin/Furan Report, Vol 1 Report and Data Summary	IT Analytical	DEC-1993
	Final Dioxin/Furan Report, Vol 1 Report and Data Summary, 7 Volumes	IT Analytical	DEC-1993
1994			
	GW Investigation: Compound 300 -- Totten Road	Vista Technologies	JAN-1994
	Phase I Petroleum Hydrocarbon Assessment at Dogue Creek Village	USAEHA	APR-1994
	FTBL SWMUs Vols 1 and 2	Dept of Army	JUL-1994
	Facility Investigation of Pile of Black Sandy Material near Bldg 383	Vista Technologies	JUL-1994
1995			
	Tompkins Basin Recreation Area, Dredging and Dredge Material Disposal Site DRAFT (Spe 94) and Final	Unknown	MAR-1995
	Phase II GW Quality Investig --Bldg 1124	USAEHE	SEP-1995
	Certificate of Closure, Bldg 625	Dewberry	DEC-1995
	Certificate of Closure, Bldg 627	Dewberry	DEC-1995
	Certificate of Closure, Bldg 632	Dewberry	DEC-1995
	Certificate of Closure, Bldg 633	Dewberry	DEC-1995
	Certificate of Closure, Bldg 634	Dewberry	DEC-1995
	Certificate of Closure, Bldg 363	Dewberry	DEC-1995
1996			
	Certificate of Closure, Bldg 714	Unknown	JAN-1996
	Closure Plans 600 Area Workbook	Unknown	JAN-1996
	Environmental Investigation at SWMU A3 DRMO Stump Dump Vol I and II	Dewberry	FEB-1996
	Closure Report Bldg 625	Dewberry	JUL-1996
	Closure Report Bldg 627	Dewberry	JUL-1996
	Closure Report Bldg 633	Dewberry	JUL-1996
	Closure Report Bldg 634	Dewberry	JUL-1996
	Closure Report Bldg 632	Dewberry	JUL-1996
	SWMU Closure Report, Waste Fuel Drum Storage Pad	Dewberry	DEC-1996
	Closure Report Bldg 363	Dewberry	DEC-1996
	Closure Report Bldg 714	Dewberry	DEC-1996
1997			
	FTBL SWMU Vol II	Dept of Army	JAN-1997
	Closure Plan UST Working Book, Tanks 181, 714, 363, and 324	Unknown	JAN-1997

CR Previous Studies

	Title	Author	Date
1997			
	Closure Plan DAAF Training Pit Working Book	Unknown	JAN-1997
	Closure Plan, B 1957 Battery Acid Pit Working Book	Unknown	JAN-1997
	Haz Waste Closure Sites, Letters, DOx, 30357A and Marina	Unknown	JAN-1997
	Closure Plan, Battery Acid Treatment Pit at B2021 Working Book	Unknown	JAN-1997
	Closure Plan, Bldg 1957 Battery Acid Pit Working Book	Unknown	JAN-1997
	Closure Plan and Correspondence B 707 RCRA Closures DEQ 1997	Unknown	JAN-1997
	Tank Invest (B190, 677, 788, 1116, 1146,1197,1949, 2034, 2041, 2457, 2585, and Marina) Correspondence	Unknown	JAN-1997
	DRMO Debris Landfill Excavation Activity Final Report as Part of VDOT Beulah	Dept of Army	JUN-1997
	Closure Report, Battery Acid Disposal Pit 1957	Dewberry	NOV-1997
	Closure Report, Container Storage Area at B308	Dewberry	NOV-1997
	Closure Report Fire Training Area at DAA	Dewberry	NOV-1997
	Closure Report AST and OWS at B1949/1950	Dewberry	NOV-1997
	Closure Report, Battery Acid Disposal Pit at B1957	Dewberry	NOV-1997
	Closure Report UST and Bldg 322	Dewberry	NOV-1997
	Closure Report Correspondence AST and OWS at 1959/1950	Unknown	DEC-1997
	Closure Report, Battery Acid Treatment Fac at B707	Dewberry	DEC-1997
	Closure Report Container Storage Area at Building 357A	Dewberry	DEC-1997
1998			
	Closure Report, Oil-Water Separator and Underground Storage Tank at Building 324	Dewberry	JAN-1998
	Closure Report, Underground Storage Tanks at Building 181	Dept of Army	JAN-1998
	Closure Report, Underground Storage Tanks at Building 1146	Dewberry	FEB-1998
	Closure Report, Underground Storage Tanks at Building 190	Dewberry	FEB-1998
	Closure Report Underground Storage Tanks at Building 1116	Dewberry	FEB-1998
	Closure Report AST at Building 677	Dewberry	FEB-1998
	FFCA Closure Site Manifest Books 1 and 2	FTBL Directorate of Installation Support	MAR-1998
	Quarterly Groundwater Sampling Results (Feb 1998 and Oct 1997) at Buildings 2021 and 1957 and Davison Airfield	Dept of Army	APR-1998
	Fort Belvoir Solid Waste Management Units Volume IV	Dewberry	APR-1998
	Final Groundwater Well Survey and Assessment Data Summary Report	CDM	MAY-1998
	Groundwater Monitoring Well Closure Report Davison Army Airfield Fire Training Area	Law Engineering	JUN-1998

CR Previous Studies

	Title	Author	Date
1998			
	Groundwater Flow Modeling of the Aquifer System at Fort Belvoir, Phase I	Dames and Moore	AUG-1998
	Quarterly Groundwater Sampling Results (June 1998) at Fire Training Area and Davison Airfield and VDEQ Correspondence	Dames and Moore	AUG-1998
1999			
	Quarterly Groundwater Sampling Results (June 1998) at Fire Training Area and Davison Airfield and VDEQ Correspondence	Dept of Army	JAN-1999
	Quarterly Groundwater Sampling Results (June 1998) at Battery Acid Pit	Dept of Army	JAN-1999
	Quarterly Groundwater Sampling Results (Sept 1998) at Building 2021 and 1957 and Davison Army Airfield	Dept of Army	JAN-1999
	VDEQ Groundwater Closure Correspondence 1997-1999	Dames and Moore	MAR-1999
	Quarterly Groundwater Sampling Results (Dec 1998) at Building 2021 and 1957 and Davison Army Airfield	Dewberry	MAR-1999
	Fort Belvoir Action Plans for Solid Waste Management Units Volumes I-VI	Dewberry	APR-1999
	Fort Belvoir Action Plans for 32 SWMUs, Volume 5	Dewberry	APR-1999
2002			
	Environmental Study Part II	Dewberry	JAN-2002
	Solid Waste Management Unit Geographic Information System	Dewberry	JUL-2002
	Closure Plan for HWMU- 1124	NA	SEP-2002
	Closure Plan HWMU 1124 Underground Storage Tank Building 01124	Dewberry	OCT-2002
	General Site History and Initial Abatement Measure Plan	Dewberry	OCT-2002
2003			
	Revised Closure Plan HWMU 1124 Underground Storage Tank Building 1124	Dewberry	APR-2003
	Draft Permit for Hazardous Waste Storage	Commonwealth of Virginia	NOV-2003
2004			
	Final Permit for Hazardous Waste Storage	VA Dept of Env Qual	OCT-2004
2007			
	Final Environmental Investigation Summary Report PSA-2034	Tidewater, Inc.	MAY-2007
	Final Environmental Investigation Summary Report PSA-2009	Tidewater, Inc.	MAY-2007
	Final Environmental Investigation Summary Report PSA-2033	Tidewater, Inc.	MAY-2007
2008			
	A-26 Environmental Investigation Plan Addendum	Tetra Tech	JUL-2008
2009			
	Phase I RCRA Facility Investigation SWMU A-28	Tetra Tech	APR-2009
	Phase I RCRA Facility Investigation SWMU A-27	Tetra Tech	APR-2009

CR Previous Studies

Title	Author	Date
2009		
Phase I RCRA Facility Investigation SWMU A-05	Tetra Tech	APR-2009
Phase I RCRA Facility Investigation SWMU F-09/N-03	Tetra Tech	APR-2009
Phase I RCRA Facility Investigation SWMU H-02	Tetra Tech	APR-2009
Phase I RCRA Facility Investigation SWMU H-05	Tetra Tech	APR-2009
Phase I RCRA Facility Investigation SWMU L-44	Tetra Tech	APR-2009
Phase I RCRA Facility Investigation SWMU N-17	Tetra Tech	APR-2009
Phase I RCRA Facility Investigation SWMU A-26	Tetra Tech	APR-2009
Phase I RCRA Facility Investigation SWMU E-02	Tetra Tech	APR-2009
Phase I RCRA Facility Investigation SWMU A-03	Tidewater	AUG-2009
Phase I RCRA Facility Investigation SWMU A8/16	Tidewater	AUG-2009
Phase I RCRA Facility Investigation SWMU A-09/17	Tidewater	AUG-2009
Phase I RCRA Facility Investigation SWMU A-10	Tidewater	AUG-2009
Phase I RCRA Facility Investigation SWMU A-13	Tidewater	AUG-2009
Phase I RCRA Facility Investigation SWMU A-12	Tidewater	OCT-2009
Phase I RCRA Facility Investigation SWMU N-23	Tidewater	NOV-2009
Phase I RCRA Facility Investigation SWMU I-02	Tetra Tech	DEC-2009
Phase I RCRA Facility Investigation SWMU E-03	Tetra Tech	DEC-2009
2010		
Phase I RCRA Facility Investigation DRMO SWMUs A-14 A-29 H-01 L-01 L-35	Tidewater	MAR-2010
Phase I RCRA Facility Investigation SWMU A-11	Tidewater	APR-2010
CCBLDG1124 - Annual Corrective Action Monitoring Report	Mactec Engineering and Consulting, Inc., for Fort Belvoir	MAY-2010
CCBLDG2209 - Annual Corrective Action Monitoring Report	Mactec Engineering and Consulting, Inc., for Fort Belvoir	MAY-2010
Phase II Environmental Investigation Plan SWMU A-05	ECC	JUL-2010
Phase II Environmental Investigation Plan SWMU E-14/F-06	ECC	JUL-2010
Phase II Environmental Investigation Plan SWMU A-07/25	ECC	AUG-2010
Phase II Environmental Investigation Plan SWMU A-06	ECC	SEP-2010
Phase I RCRA Facility Investigation SWMU E-14	Tetra Tech	SEP-2010
Phase I RCRA Facility Investigation SWMU F-06	Tetra Tech	SEP-2010
Phase I RCRA Facility Investigation SWMU L-05	Tetra Tech	SEP-2010
Phase I RCRA Facility Investigation SWMU E-06	Tetra Tech	SEP-2010
Phase II Environmental Investigation Plan SWMU A-26	ECC	OCT-2010

CR Previous Studies

	Title	Author	Date
2010			
	Phase II Environmental Investigation Plan SWMU A-12	ECC	OCT-2010
	Phase II RCRA Facility Investigation SWMU A-12	ECC	OCT-2010
	Phase II RCRA Facility Investigation SWMU A-26	ECC	OCT-2010
	Phase II Environmental Investigation Plan SWMU A-11	ECC	NOV-2010
	Final Phase II Environmental Investigation Plan SWMUs A-08/A-16, A-09	ECC	NOV-2010
	Phase II Environmental Investigation Plan SWMU E-06	ECC	NOV-2010
2011			
	CCBLDG3161 - Annual Corrective Action Monitoring Report	Mactec Engineering and Consulting, Inc., for Fort Belvoir	JAN-2011
	Phase II RCRA Facility Investigation Addendum SWMU L-05	ECC	MAR-2011
	CCBLDG1124 - Annual Corrective Annual Monitoring Report	Mactec Engineering and Consulting, Inc., for Fort Belvoir	MAY-2011
	CCBLDG2209 - Annual Corrective Action Monitoring Report	Mactec Engineering and Consulting, Inc., for Fort Belvoir	MAY-2011
	Final Phase II RCRA Facility Investigation SWMU A-11 Poe Road Landfill	ECC	MAY-2011
	Final Phase II RCRA Facility Investigation Report for SWMU A-06 Kingman Road Landfill	ECC	MAY-2011
	Final Phase II RCRA Facility Investigation SWMU A-12 Accotink Landfill	ECC	JUN-2011
	Administrative Closure Report Vol. 2	Tetra Tech	OCT-2011
	Final Phase II RCRA Facility Investigation SWMU E-06	ECC	NOV-2011
	Final Phase I RCRA Facility Investigation Plan E-09	Tetra Tech	NOV-2011
2012			
	CCBLDG3161 - Annual Corrective Annual Monitoring Report	AMEC Environment & Infrastructure, Inc., for Fort Belvoir	FEB-2012
	CCBLDG1124 - Annual Corrective Annual Monitoring Report	AMEC Environment & Infrastructure, Inc., for Fort Belvoir	MAY-2012
	CCBLDG2209 - Annual Corrective Annual Monitoring Report	AMEC Environment & Infrastructure, Inc., for Fort Belvoir	MAY-2012
	Final Phase I RCRA Facility Investigation Plan E-12	Tetra Tech	NOV-2012
	Final Phase I RCRA Facility Investigation Plan L-47	Tetra Tech	NOV-2012
	Final Phase I RCRA Facility Investigation Plan L-03	Tetra Tech	NOV-2012
	Final Phase I RCRA Facility Investigation Plan N-20	Tetra Tech	NOV-2012
2013			
	Internal Decision Document for A25, A07, A06, A26, N23	Shaw Environmental	FEB-2013

CR Previous Studies

Title	Author	Date
2013		
Land Use Control Implementation Plan for A-025, A-07, A-06, A-26, N-23	Shaw Environmental	FEB-2013
Final Phase II RCRA Facility Investigation SWMUs E-14 and F-06	ECC	JUL-2013
Corrective Measure Study Report SWMU A11/A12	CB&I	AUG-2013
Final Phase I RCRA Facility Investigation SWMU N-20	Tetra Tech	AUG-2013
Final Phase I RCRA Facility Investigation SWMU L-47	Tetra Tech	AUG-2013
Final Phase I RCRA Facility Investigation SWMU L-03	Tetra Tech	AUG-2013
Final Phase I RCRA Facility Investigation SWMU E-12	Tetra Tech	AUG-2013
Final Phase I RCRA Facility Investigation SWMU E-09	Tetra Tech	AUG-2013
Corrective Measure Study Report SWMU A-08/A-09	CB&I	AUG-2013
Corrective Measure Study Report SWMU A-05	CB&I	SEP-2013
2014		
Final RCRA Facility Investigation SWMU A-18	Tetra Tech	MAR-2014
Final RCRA Facility Investigation SWMU A-19	Tetra Tech	MAR-2014
A-23 Site Summary Report	Tetra Tech	MAR-2014
A-24 Site Summary Report	Tetra Tech	MAR-2014
Addendum to No Further Action Report	SCF	MAR-2014
Addendum To Administrative Closure Report	SCF	MAR-2014
Final Supplemental Investigation Report for SWMUs E01/L12	SES LLC	SEP-2014

FORT BELVOIR

Compliance Restoration

Site Descriptions

Site ID: CC-A025
Site Name: Suspected Sanitary/Debris Landfill A

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals

Media of Concern: Groundwater

Phases	Start	End
RFA	198809	198909
CS	200610	200812
RFI/CMS	200909	201307
LTM	201307	204508

RIP Date: N/A

RC Date: 201307

SITE DESCRIPTION

SWMU A-25 is a forest clearing south of Kingman Road approximately 1,200 feet southwest of the intersection of Kingman and Mulligan Roads. A 1988 RFA described an area in this vicinity as a sanitary landfill operated prior to 1940. No record of a release from this unit has been identified. A Fort Belvoir employee observed disposal of concrete curb/gutter and sidewalks from a USACE on-post project at this unit in 1979 through 1980. The unit was reportedly covered with more than two feet of clean fill in the mid-1980s. During a 1988 site visit, there was evidence of surface dumping in several locations. During a 2005 visual site inspection (VSI), the soil surface was bare and dry, and small amounts of fugitive dust were in the air. Multiple dump trucks were present at sites A-25 and A-07 (located to the north) depositing fill soil from ongoing construction projects. The nearest developed area identified during the 2005 VSI was located over 1,000 feet to the west of the site. Two broad, forested stream valleys containing intermittent tributaries to Dogue Creek trended southward to the east and west of the clearing.

A 2008 Phase I RFI determined the need for additional investigations to identify the full extent of potential contamination at this site. In 2010, a Phase II RFI at the site was performed under a PBA contract (CCPBA@Belvoir); fieldwork has been completed. Organic compounds were sporadically detected above screening levels during the Phase II RFI investigation; no site-wide groundwater impacts were observed. Metals detected above screening criteria in groundwater included beryllium, cadmium, and manganese, though the risk evaluation revealed no concerns for human health. Fort Belvoir recommended NFA with respect to contamination at SWMU A-25. In a letter dated Dec. 7, 2012, Fort Belvoir received formal approval from regulators (USEPA, Region III) for NFA with LUCs for the site.

An internal DD and LUCIP were finalized for CC-A025 in 2013. A statement of basis is still required from the regulators to complete the RCRA process. This site is currently under the LTM phase. The LTM phase in AEDB-R began prior to FY17, but costs for these years were funded previously and reported under AEDB-R site, CCPBA@Belvoir. Costs for periodic reviews for CC-A025 are reported under AEDB-R site CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will continue the implementation of LUCs at CC-A025 to include: annual inspections, reporting, and maintenance of signs.

Site ID: CC-A04A23
Site Name: Former Coal Storage Area & PCB Spill Sit

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Polychlorinated Biphenyls (PCB), Semi-volatiles (SVOC)

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	200803	200903
RFI/CMS	201109	201509
DES	201402	201509
CMI(C)	201402	201602
CMI(O)	201402	204509

RIP Date: 201602

RC Date: 204509

SITE DESCRIPTION

SWMU A-23 is located within the boundary of an old coal storage yard (SWMU A-04) at Fort Belvoir. The site encompasses a small concrete pad and the area affected by the PCB spill that occurred in 1979. SWMU A-04's outer boundary is the same as the old coal storage yard but excludes the area within site A-23. SWMUs A-04 and A-23 were combined in the AEDB-R database as CC-A04A23 due to their proximity.

SWMU A-04 was first identified in the 1988 Draft Phase II RFA as a former coal storage area. Historical documentation described the site to be approximately 225 feet by 125 feet in size and located approximately 200 feet south of Building 607 and 21st Street. A Phase I RFI was performed at SWMU A-04 in January 2009. Soil boring and sediment samples were analyzed for metals, VOCs, SVOCs, and pH levels. However, no surface water samples were collected due to the absence of water during the period of field sampling activities. None of the detected concentrations exceeded their respective industrial RBC values. However, benzo(b)fluoranthene and benzo(a)pyrene were both detected above their respective residential screening criteria. Based on this investigation Fort Belvoir recommended NFA with respect to the SWMU A-04. The USEPA concurred with the recommendation in a letter dated Dec. 7, 2012. LUCs will be implemented to address the presence of residual SVOCs detected above the residential screening levels.

SWMU A-23 was first identified in the 1988 Draft Phase II RFA. The site was described as a release of approximately 197 liters of dielectric transformer coolant that contained PCBs from two vandalized transformers on a concrete pad that was in the old coal storage yard (SWMU A-04). The coolant flowed off the pad and affected the soil nearby. The release was reported to the USEPA in 1979, and sampling was conducted in August 1980 and October 1980. Sample results indicated that approximately 2,700 square feet of concrete surface and 120 linear feet of a drainage channel adjacent to the western side of the concrete slab had been affected by the PCB release. Detected concentrations of the PCB congener, Aroclor 1260 ranged from 1 to 12,698 mg/kg, which was above USEPA's action level of 50 mg/kg for PCB concentrations at the time.

Remedial actions took place in October 1982 and included the removal of the affected concrete and affected soil near the slab and approximately 120 linear feet of sediment from the adjoining drainage ditch. The entire site was filled with two feet of clean earth material and covered with concrete. Remedial activities and site cleanup were conducted in accordance with the Clean Water Act of 1977 and the Toxic Substance Control Act. A remediation report was completed and submitted to USEPA in 1983.

In January 2013, Fort Belvoir submitted a Site Summary Report for SWMU A-23 to USEPA, Region III. This summary included information on the background, site history and remediation activities that had occurred at the PCB spill site. In addition, a discussion of the fate and transport of PCB congener, Aroclor 1260 addressed the potential movement of the Aroclor at SWMU A-23. The summary report included Fort Belvoir's recommendation of NFA for SWMU A-23 since the concrete and soil at the site had already been remediated to concentrations of PCBs below 50 mg/kg. The US USEPA concurred with the recommendation of NFA with LUCs in a letter dated March 17, 2014. LUCs will be implemented to limit development and prevent exposure to residual PCB that is still present in the subsurface soils at SWMU A-23. LUCs will include annual inspections and reporting. Costs for periodic reviews for CC-A04A23 are reported under AEDB-R site CC-E14.

Site ID: CC-A04A23
Site Name: Former Coal Storage Area & PCB Spill Sit

CLEANUP/EXIT STRATEGY

Fort Belvoir will develop a LUCIP and implement any needed repairs to the existing concrete cap to ensure protection of human health and the environment. In addition, Fort Belvoir will continue implementation of LUCs at CC-A04A23 to include annual inspections and reporting.

Site ID: CC-A05
Site Name: Road and Grounds/Land Mgmt Storage Area

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Pesticides, Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Soil

Phases	Start	End
RFA	198809	198909
CS	200803	200902
RFI/CMS	200909	201409
DES	201302	201505
CMI(C)	201302	201510
CMI(O)	201408	203008
LTM	203010	204509

RIP Date: 201510

RC Date: 203008

SITE DESCRIPTION

SWMU A-05 was identified in the 1988 RFA as a suspected unlined landfill which was in use prior to 1968. Historical aerial photographs (1968 to 1992) do not indicate evidence of landfill activity within the area. In a 1992 SWMU Study, the location of the landfill was determined to be a 400 feet by 600 feet area located in the northwest (NW) quarter of the site. Site inspections mentioned the presence of surface debris which included abandoned 55-gallon drums, paint cans, tires, and construction debris. During a September 2005 VSI, the area was observed as being part of the Roads and Grounds/Land Management Yard. Most of the yard, including the site, is used as a storage and staging area for construction debris and is surfaced with concrete aprons, asphalt, loose gravel, and bare soil with only sparse vegetation.

A Phase I RFI was completed in 2009. Investigation results determined the presence of VOCs in groundwater. Based on the results of the 2009 RFI, a Phase II RFI was performed to determine the nature and extent of contamination at the site. The 2010/2011 Phase II RFI evaluated soil gas, subsurface soil, groundwater, surface soil, sediment, and surface water. Compounds detected above screening criteria during the Phase I and Phase II RFIs included tetrachloroethylene (PCE), methylene chloride, carbon disulfide, and pesticides in groundwater; PCE in subsurface soil; pesticides in surface soil; pesticides and PCE in sediment; and carbon disulfide, barium, manganese and PCE in surface water. Human health risk and ecological screening found that there are potential concerns for human exposure at SWMU A-05. Thus, a CMS was funded for this site under CCPBA@Belvoir. The Final CMS Report for CC-A05 was completed in September 2013. An internal DD was finalized in June 2014 to document the CMS preferred corrective measure for remediation of groundwater contamination at CC-A05 as in situ enhanced bioremediation, bioaugmentation, long-term groundwater monitoring, LUCs and monitored natural attenuation (MNA). The estimated time frame until remedial goals for PCE in the stream will be achieved is 11 to 16 years.

An existing PBA contract for CC-A05 includes costs for the first three years of the CMI(O) phase. The first year (Year 1) of the CMI(O) phase will be funded in FY15 and tracked under AEDB-R site, CC-A05. Contract funding requirements for Year 2 (FY16) and Year 3 (FY17) of the CMI(O) phase are reported under CC-A05.

CLEANUP/EXIT STRATEGY

Fort Belvoir has selected a remedy to address groundwater contamination at CC-A05. The selected remedy includes: In-situ enhanced bioremediation, bioaugmentation, long-term groundwater monitoring, LUCs and MNA.

Site ID: CC-A06
Site Name: Kingman Road Landfill

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Other (Methane, Landfill Debris), Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
RFA	198809	198909
CS	200803	200903
RFI/CMS	200909	201307
LTM	201308	204508

RIP Date: N/A

RC Date: 201307

SITE DESCRIPTION

SWMU A-06 was first identified as a landfill in the 1988 Draft Phase II RFA. SWMU A-06 is an inactive landfill of approximately seven acres, located south of Kingman Road and approximately 800 feet east of Woodlawn Road. The unit is bounded to the north by Kingman Road, to the south by Building 2310, to the east by a drainage swale, and to the west by the access road leading to Building 2310. A storm water management pond located along the southern edge of the unit drains into an unnamed tributary of Dogue Creek.

Historical reports have identified this area as a sanitary landfill that operated from the 1940s until it was closed in the 1950s. Fort Belvoir has no records of a liner or other release control installed; however, no records of any past releases have been identified. Much of the landfill surface is currently occupied by a fenced compound of buildings and other structures. Geotechnical borings, taken October through November 1983, indicated buried debris in the vicinity of the unit, north of Building 2310. Several previous encounters with fill material including waste debris such as wood, glass, fabric, metals, cinders, paper, and rubber had occurred.

Landfill gas and VOCs in groundwater were determined to be present during the Phase I RFI of the site. Therefore, Fort Belvoir performed additional investigations to determine the full extent of the contamination at this site. The Phase II RFI for SWMU A-06 was performed under a PBA Contract (CCPBA@Belvoir); fieldwork has been completed. Risk results for groundwater at SWMU A-06 were above levels of concern. However, the constituents of potential concern are naturally occurring inorganics and do not reveal a release or impacts from the landfill. Based on the results of the Phase II RFI and human health and ecological risk screening, Fort Belvoir recommended NFA with administrative LUCs to ensure safety for personnel that access the site. However, because of previously detected landfill gas (methane) and surficial debris found at the site the regulators (USEPA, Region III) approved NFA with LUCs at SWMU A-06 in a letter dated Dec. 7, 2012. USEPA also recommended periodic landfill cap inspections to ensure that surface water runoff does not contribute to erosion of the landfill cap.

An internal DD and LUCIP were finalized for CC-A06 in 2013. A statement of basis is still required from the regulators to complete the RCRA process. This site is currently under the LTM phase. The LTM phase in AEDB-R began prior to FY17, but costs for these years were funded previously and reported under AEDB-R site, CCPBA@Belvoir. Costs for periodic reviews for CC-A06 are reported under AEDB-R site CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will continue the implementation of LUCs at CC-A06 to include: annual inspections, reporting, and maintenance of signs.

Site ID: CC-A07
Site Name: Mulligan Road Landfill

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Other (Landfill Debris)

Media of Concern: Groundwater

Phases	Start	End
RFA	198701	198701
CS	198701	198706
RFI/CMS	200909	201307
LTM	201307	204508

RIP Date: N/A

RC Date: 201307

SITE DESCRIPTION

SWMU A-07 was identified by a 1988 Draft Phase II RFA as an inactive debris landfill several acres in size, located on North Post approximately 1,000 feet southwest of the intersection of Kingman and Mulligan Roads. This site is located to the north of SWMU A-25. This area operated as a soil borrow pit until 1978. Between 1978 and 1986, the area was filled with debris from WWII wood buildings. The deepest area, along the west side of the site, is approximately 20 feet deep. Along the ridge line on the eastern side of the site, there was no excavation. Historical documentation indicated asbestos-covered piping, dried lead paint, and numerous No. 2 heating oil tanks (250-gallon) were disposed at this site. The entire area is covered with 2 feet of clean fill. During the 1988 Draft Phase II RFA, partially buried construction debris was observed, particularly along the edges of the landfill. There is no record of a liner or other release control. Several rusted metal storage tanks and large pieces of concrete were reported in a swale that drains land to the northeast. An Environmental Operations Review prepared in 1987 reported that low concentrations of five organic compounds were detected in groundwater samples collected from a downgradient monitoring well (KL-1). In September 2005, Fort Belvoir's Directorate of Public Works deposited fill material from an ongoing housing project on top of the landfill as a cap. The fill was then stabilized with a native grass seed mix. The unit is still used as a collection area for fill soil from on-post residential construction.

A 2008 Phase I RFI determined the need for additional investigation to identify the full extent of the contamination at this site. This investigation was completed in 2010. The Phase II RFI at the site was performed under a PBA contract (CCPBA@Belvoir); fieldwork has been completed. Organic compounds were sporadically detected above screening levels during the Phase II investigation; no site-wide groundwater impacts were observed. Metals detected above screening criteria in groundwater included beryllium, cadmium, and manganese, although the risk evaluation revealed no concerns for human health. Fort Belvoir recommended NFA with respect to contamination for SWMU A-07. Via a letter dated Dec. 7, 2012, Fort Belvoir received formal approval from regulators (USEPA, Region III) for NFA with LUCs at SWMU A-07.

An internal DD and LUCIP were finalized for CC-A07 in 2013. A statement of basis is still required from the regulators to complete the RCRA process. This site is currently under the LTM phase. The LTM phase in AEDB-R began prior to FY17, but costs for these years were funded previously under AEDB-R site, CCPBA@Belvoir. Costs for periodic reviews for CC-A07 are reported under AEDB-R site CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will continue the implementation of LUCs at CC-A07 to include: annual inspections, reporting, and maintenance of signs.

Site ID: CC-A08A16
Site Name: GW Village Landfill & Interceptor T

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Other (Methane, Landfill Debris), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Sediment, Soil

Phases	Start	End
RFA	198809	198909
CS	200803	200903
RFI/CMS	200909	201409
DES	201208	201505
CMI(C)	201401	201601
CMI(O)	201408	204508

RIP Date: 201601

RC Date: 204508

SITE DESCRIPTION

SWMUs A-08 and A-16 are located on South Post near Dogue Creek and were combined to form CC-A08A16, due to their proximity. SWMU A-08 is a closed, inactive landfill that operated from the 1930s to 1956. SWMU A-16 is a two-foot wide, 400-foot long limestone-filled trench installed in 1982 as a landfill gas mitigation measure on the western edge of the landfill.

During a site study of A-08 and A-16 conducted in 1982 VOCs, SVOCs, metals, radio nucleotides, and basic wet chemistry samples were taken and analyzed at Monitoring Well-01 (MW-01), which was installed during the study period. There were no detections of contamination, with the exception of trace levels of tetrachloroethane.

During a September 2005 VSI of A-08 and A-16, it was noted that the landfill surface was mowed near Mount Vernon Road, and that the eastern portion of the landfill surface supported a mixed forest of loblolly pines and successional hardwoods. The landfill gas trench (A-16) could be identified through the mowed grass. There was no discoloring to the gravel within the trench, and no odors suggesting contamination were noticed. MW-01 was observed on the north side of the unit and a man-made, earthen berm was evident along the perimeter. Since A-16 is an active unit and does not meet the definition of a SWMU, regulators granted NFA to the interceptor trench in a letter dated Jan. 12, 2011.

VOCs and SVOCs in groundwater and VOCs in nearby surface water were detected during a 2008 Phase I RFI at Site A-08. Site A-08 was included in Fort Belvoir's 2010 Phase II RFI - PBA contract for Main Post SWMUs (CCPBA@Belvoir). Fieldwork is complete and final approval of the Phase II RFI Report by regulators has been received. The Phase II RFI identified numerous constituents above screening levels in groundwater and surface water, with the main concerns being elevated PCE and TCE in groundwater. For this reason, a CMS was recommended. The Final CMS Report for CC-A08 was completed in August 2013.

An internal DD was finalized in June 2014 to document the CMS preferred corrective measure for addressing landfill waste at CC-A08 as engineered vegetative cover enhancement, long term-monitoring, and LUCs. No corrective measure has been selected to address the groundwater at CC-A08. However, because there has been insufficient data collected to assess whether MNA, long-term monitoring of groundwater, and LUCs can achieve MCLs at Dogue Creek within 30 years, Fort Belvoir will collect two years of MNA data prior to selecting a corrective measure for groundwater contamination at CC-A08. Costs for the first year (Year 1) of semiannual groundwater monitoring needed prior to selection of a corrective measure for groundwater, were previously funded and tracked under AEDB-R site CCPBA@Belvoir. Costs for the second year (Year 2) of semiannual groundwater monitoring needed prior to selection of a corrective measure for groundwater, will be funded in FY15 and tracked under AEDB-R site CC-A08A16.

An existing PBA contract for CC-A08 includes costs for the CMI(C) phase and two years of the CMI(O) phase. AEDB-R site, CCPBA@Belvoir captures costs for the CMI (C) phase and Year 1 (FY14) of the CMI(O) phase through FY14. Costs to achieve RIP/RC at this site (to include landfill cap repair, CLIN0011) were previously funded and tracked under AEDB-R site CCPBA@Belvoir. Costs for Year 2 of the CMI(O) phase will be funded in FY15 and tracked under AEDB-R site CC-A08A16.

Site ID: CC-A08A16
Site Name: GW Village Landfill & Interceptor T

CLEANUP/EXIT STRATEGY

CC-A08A16 has two media which require corrective measures: landfill waste and groundwater. The remedy for addressing landfill waste has been selected and includes: engineered vegetative cover enhancement, long-term monitoring, and LUCs. Because there is insufficient data collected to assess whether MNA, long-term monitoring of groundwater, and LUCs can achieve MCLs at Dogue Creek within 30 years, two years of MNA data will be collected prior to selecting a corrective measure for groundwater.

Site ID: CC-A09
Site Name: Markham School Landfill & Intercept

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Other (Methane, Landfill Debris), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Soil

Phases	Start	End
RFA	198809	198909
CS	200803	200903
RFI/CMS	200909	201409
DES	201208	201505
CMI(C)	201401	201601
CMI(O)	201408	204508

RIP Date: 201601

RC Date: 204508

SITE DESCRIPTION

SWMUs A-09 and A-17 are located on South Post near Dogue Creek (south of SWMUs A-08 and A-16) and were combined to form SWMU A-09/A-17, due to their proximity. SWMU A-09 (Markham School Landfill) is a closed, inactive landfill that operated between the 1930s and 1956. SWMU A-17 is a 1.5-foot wide by 270-foot long gravel-filled trench installed as a mitigation measure to vent landfill gas generated from SWMU A-09. The trench was installed in 1981 and is still in use. The trench is located on the southern edge of the landfill, east of the Markham School building.

During a September 2005 VSI, the Markham School grounds on the western part of the landfill were observed to be neat, landscaped, and free of debris. Areas of the eastern edge of the landfill are steep and eroding, possibly contributing sediment to Dogue Creek and its adjacent wetlands. The interceptor trench, SWMU A-17, was easily visible through the landscaped sports fields. There was no discoloring to the gravel and no unusual odors were noted. Since A-17 is an active unit and does not meet the definition of a SWMU, in a letter dated Jan. 12, 2011 regulators granted NFA for the interceptor trench.

VOCs and SVOCs in groundwater and VOCs in nearby surface water were detected during a 2008 Phase I RFI at site A-09. Site A-09 was included in Fort Belvoir's 2010 Phase II RFI PBA contract for main post SWMUs (CCPBA@Belvoir). The Phase II investigation identified numerous constituents above screening levels in groundwater and surface water, with the main concerns being elevated PCE and TCE in groundwater. For this reason, a CMS was recommended. The Final CMS Report for CC-A09 was completed in August 2013.

Fort Belvoir finalized an internal DD in June 2014 to document the CMS preferred corrective measure for addressing landfill waste at CC-A09 as engineered vegetative cover enhancement, long-term monitoring, and LUCs. No corrective measure has been selected to address the groundwater contamination at CC-A09. However, because there has been insufficient data collected to assess whether MNA, long term monitoring of groundwater, and LUCs can achieve MCLs at Dogue Creek within 30 years, Fort Belvoir will collect two years of MNA data prior to selecting a corrective measure for groundwater contamination at CC-A09. Costs for the first year (Year 1) of semiannual groundwater monitoring needed prior to selection of a corrective measure for groundwater, were previously funded and tracked under AEDB-R site, CCPBA@Belvoir. Costs for the second year (Year 2) of semiannual groundwater monitoring needed prior to selection of a corrective measure for groundwater, will be funded in FY15 and tracked under AEDB-R site, CC-A09.

Due to the proximity of Markham School to SWMU A-09, a methane monitoring and ventilation system was installed inside the Markham School in the early-1980s as a precaution. This system is designed to vent methane in the event that the methane from the landfill migrates into the school. Fort Belvoir has implemented a program to regularly inspect the existing vents quarterly; calibrate the methane alarm system quarterly; and, monitor the nine gas monitoring probes and vents around the school for methane levels and static pressure as well as monitoring for methane levels inside the school.

An existing PBA contract for CC-A09 includes costs for the CMI(C) phase and two years of the CMI(O) phase through FY14. The AEDB-R site, CCPBA@Belvoir captures costs for the CMI (C) phase and Year 1 (FY14) of the CMI(O) phase through FY14. Costs to achieve RIP/RC (including landfill cap repair) were previously funded and reported under AEDB-R site, CCPBA@Belvoir.

Site ID: CC-A09
Site Name: Markham School Landfill & Intercept

Costs for Year 2 of the CMI (O) phase will be funded in FY15 and tracked under site, CC-A09.

CLEANUP/EXIT STRATEGY

CC-A09 requires corrective measures to address landfill waste and groundwater. The selected remedy to address landfill waste includes engineered vegetative cover enhancement, long term monitoring, and LUCs. Since there is insufficient data collected to assess whether MNA, long term monitoring of groundwater, and LUCs can achieve MCLs at Dogue Creek within 30 years, two years of MNA data will be collected prior to selecting a corrective measure for groundwater.

Additionally, methane gas will continue to be monitored to ensure safety of stakeholders at Markham School Age Services, Building 950.

Site ID: CC-A11
Site Name: POE Road Landfill

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Other (Landfill Debris), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
RFA	197306	197309
CS	197306	198906
RFI/CMS	200909	201409
DES	201301	201505
CMI(C)	201402	201601
CMI(O)	201408	204508

RIP Date: 201601

RC Date: 204508

SITE DESCRIPTION

SWMU A-11, Poe Road Landfill, was first identified in a 1988 Draft Phase II RFA as an approximately 20-acre, unlined landfill that operated between 1967 and 1977. This site is located within an active training area. Prior to its use as a landfill, the area was used as a small arms firing range during WWII. A ridgeline along the western portion of the site was used as a backstop, while the firing points were on the eastern side, along Poe Road. In 1977, municipal waste operations were moved to Cullum Woods and debris waste operations were moved to Theote Road Debris Landfill.

Sample results from a November 1973 solid waste survey indicated that leachate from the landfill had impacted Accotink Creek and surrounding groundwater. At the time, there were two natural springs that flowed through the landfill, on the northeast and southeast sections of the site. The southeastern spring leads to a drainage ditch and then into the Accotink Creek. During a September 2005 VSI, the landfill cover appeared to be physically stable without significant surface erosion. No stained soils or unusual odors were noted.

VOCs and metals in groundwater and surface water were detected during a 2008 Phase I RFI ; therefore, Fort Belvoir performed additional investigations to determine the full extent of the contamination at this site. This site was included in Fort Belvoir's 2010 Phase II - PBA contract. Phase II RFI data indicated that monitoring of VOCs, SVOCs and metals in groundwater, landfill gas (LFG) monitoring and capping over a portion of the landfill will be needed. Thus, a corrective measure study (CMS) was funded for this site under CCPBA@Belvoir. The Final CMS Report for CC-A11 was completed in August 2013. An internal DD was finalized in June 2014 to document the CMS preferred corrective measure for addressing landfill waste and groundwater contamination at CC-A11 as engineered vegetative cover enhancement, long-term monitoring, LUCs and MNA.

An existing PBA contract for CC-A11 includes costs for the first three years of the CMI(O) phase. The first year (Year 1) of the CMI(O) phase will be funded in FY15 and tracked under AEDB-R site, CC-A11. Contract funding requirements for Year 2 (FY16) and Year 3 (FY17) of the CMI(O) phase are reported under CC-A11.

CLEANUP/EXIT STRATEGY

Fort Belvoir has selected a remedy to address landfill waste and groundwater at CC-A11. The selected remedy includes: engineered vegetative cover enhancement, long-term monitoring, LUCs and MNA.

Site ID: CC-A12
Site Name: Accotink Landfill

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Other (Landfill Debris), Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
RFA	198809	198909
CS	200803	200903
RFI/CMS	200909	201409
DES	201301	201505
CMI(C)	201402	201601
CMI(O)	201408	204508

RIP Date: 201601

RC Date: 204508

SITE DESCRIPTION

SWMU A-12 is an inactive landfill, located in the southwest area of Fort Belvoir and operated between 1956 and 1973. Historical records indicate that the landfill accepted construction and municipal waste. Historical aerial photographs show four large tanks with berms along Poe Road on either side of the landfill entrance. The tanks, only identified in photographs from 1953, are believed to have been used as a petroleum storage area (PSA). The pine plantations on both sides of the access road are the extent of the sanitary fill. The center section was filled with debris. Accotink Bay and wetlands were filled with debris until ordered to stop by Congressional inquiry in 1973. Currently the landfill is covered with a layer of soil and supports old field vegetation and planted stands of loblolly pine and black locust. The landfill is within the Accotink Bay Wildlife Refuge and is traversed by several unpaved hiking trails. There is no visual evidence of the storage tanks (which are being addressed under site CC-MP1).

VOCs and metals in groundwater and surface water were detected during a Phase I RFI); therefore, Fort Belvoir performed additional investigations to determine the full extent of the contamination at this site. This site was included in Fort Belvoir's 2010 Phase II PBA contract. Phase II RFI data detected target analyte list (TAL) metals, VOCs, and polycyclic aromatic hydrocarbons (PAH) in groundwater that exceeded screening criteria. The human health risk evaluation found that there were no potential concerns for residential or industrial exposure to surface or subsurface soil. Thus, Fort Belvoir developed a CMS for a path forward under the CCPBA@Belvoir. The Final CMS Report for CC-A12 was completed in August 2013. An internal DD was finalized in June 2014 to document the CMS preferred corrective measure for addressing landfill waste and groundwater contamination at CC-A12 as engineered vegetative cover enhancement, long-term monitoring, LUCs and MNA.

An existing PBA contract for CC-A12 includes costs for the first three years of the CMI(O) phase. The first year (Year 1) of the CMI(O) phase will be funded in FY15 and tracked under AEDB-R site, CC-A12. Contract funding requirements for Year 2 (FY16) and Year 3 (FY17) of the CMI(O) phase are reported under AEDB-R site, CC-A12.

CLEANUP/EXIT STRATEGY

Fort Belvoir has selected a remedy to address landfill waste and groundwater at CC-A12. The selected remedy includes: engineered vegetative cover enhancement, long-term monitoring, LUCs and MNA.

Site ID: CC-A13
Site Name: DRMO Spoil Fill

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC)

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	200803	201201
LTM	201402	204502

RIP Date: N/A

RC Date: 201201

SITE DESCRIPTION

SWMU A-13 (formerly AEDB-CC site CC-A13) was first identified in the 1988 Draft Phase II RFA as a landfill. The site is located west of Beulah Street and east of the fenced enclosure composed of the DRMO area. The site was identified as a former gravel quarry that was backfilled with dredged material, as part of a USACE dredging project from Four Mile Run in Alexandria. Installation records indicate there was no debris placed in this site as a result of backfilling.

A Phase I RFI was performed at SWMU A-13 in August 2008. Field activities included landfill delineation by test pit investigations, soil and groundwater investigations, surface water and sediment sampling and landfill gas probe installations and monitoring. A series of five successful test pits were excavated around the perimeter of SWMU A-13 to investigate and confirm the horizontal extent of buried waste at the site. This effort identified non-native soils as a landfill cap, as well as wastes of fill material, wood and concrete debris to include miscellaneous waste (i.e. glass, metal, rubber, cans and bottles).

Surficial debris was also encountered throughout the site including metal, tires, concrete and asphalt construction debris. Sample results from the test pits indicated arsenic, iron, lead, benzo(a)anthracene, benzo(a)pyrene and benzo(b)fluoranthene were detected above their respective USEPA Region 3 RBC residential levels but below their respective RBC industrial criteria. Arsenic was detected within Fort Belvoir's background levels.

No soil samples were collected from the soil borings due to lack of soil staining, odors or photo-ionization detector (PID) readings in excess of 100 parts per million (ppm) from head-space measurements. Only one groundwater sample was collected and sent to the laboratory for analysis. Metals, VOCs and SVOCs were detected in groundwater. However, no metals, VOCs, SVOCs or pesticides, MCLs and RBC Tap Water screening criteria.

Surface water samples detected aluminum, iron and manganese above National Recommended Water Quality Criteria (NRWQC) Criteria Maximum Concentration (acute) and Criterion Continuous Concentration (chronic) levels and/or Human Health standards. Manganese was reported slightly above its RBC tap water level (730 ug/L). Based on the evaluation of surface water investigation at SWMU A-13, the landfill may not have influenced the adjacent creek and subsequent water quality in the vicinity. In addition, the ecological screening of sediment samples indicated none of the detected concentrations exceeded the NOAA Effect Range-Medium (ERM) or Effect Range-Low (ERL) sediment quality guidelines.

Over the three landfill gas (LFG) monitoring events, no methane was detected in LFG probes except for a trace amount in the probe installed on the top of the landfill surface during the initial monitoring event. No adverse weather or ground surface conditions were experienced that might have affected the LFG monitoring data. Based on the LFG investigation and monitoring events, significant levels of methane are not present at SWMU A-13 and therefore, the potential for off-site migration of LFG is low.

Based on the findings of the Phase I investigation, Fort Belvoir recommended NFA at SWMU A-13. The USEPA Region III concurred with the recommendation in a letter dated Jan. 9, 2012. Land use will be monitored to address the iron, lead, benzo(a)anthracene, benzo(a)pyrene and benzo(b)fluoranthene which were detected above the residential screening levels.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

Site ID: CC-A13
Site Name: DRMO Spoil Fill

CLEANUP/EXIT STRATEGY

Fort Belvoir will implement LUC to include annual inspections.

Site ID: CC-A15
Site Name: Demolition Range

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Munitions constituents (MC), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC)

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	198909	199904
CMI(C)	199904	200309
LTM	201402	204502

RIP Date: N/A

RC Date: 200309

SITE DESCRIPTION

SWMU A-15 was first identified in 1988 as an area used for detonating waste explosives and bombs. The unit consists of a grassy field approximately 330 feet wide (east to west) and 367 feet long (north to south) bounded on the east, south and west sides by an earthen berm approximately 20 feet high. At the eastern edge of the unit is a 22-foot wide, approximately 2-foot deep test pit, surrounded by a 1½-foot high berm, hereinafter referred to as the detonation pit. No buildings or permanent structures are located within the unit.

The Open Burning/Open Detonation (OB/OD) Unit is located on Range T6-A, in an area referred to as the southwest area, on the south post of Fort Belvoir. The detonation pit is located in the northeast corner of the OB/OD Unit, approximately 6,000 feet southwest of the intersection of Route 1 and Pohick Road.

Waste ordnance destroyed at the unit was placed in a pit by EOD personnel and prepared for destruction via a secondary explosive charge. The pit was surrounded by a berm, and was designed to minimize the horizontal effects of the detonation. Interviews with personnel associated with activities at this site revealed that after the waste material was detonated, facility EOD personnel would conduct a range inspection to clear the area to ensure that no unexploded material remained. Records do not indicate the disposition of residual material.

Approximately 84 tons of soil was excavated for the detonation pit on April 7, 1999. The excavated area measured approximately 20 feet by 20 feet by 5 feet deep (from top of berm). The excavated soil was sampled, classified, and disposed of in accordance with federal, state, and local regulations.

Results of the site and detonation pit sample analyses indicated that levels of several target analytes exceeded residential risk standards in the excavated pit and the site, but were within industrial/commercial risk standards. A strategic investigative sampling effort was performed in an attempt to define the extent of the elevated analyte levels, and to determine if cost associated with continued remediation was feasible, or of if closing the site using industrial/commercial risk standards was most appropriate. Pit sampling was performed on March 16, 2000, and consisted of the collection of 15 soil samples from five locations, at three different depths below surface. Site sampling was performed on March 23, 2000, and consisted of the collection of 13 soil samples from six locations, at two to three different depths below surface to determine the extent of impacted soil. Based on the sample results, it was concluded that the site should be closed using industrial/commercial risk standards.

Based on the findings of the site investigation and risk assessment, this unit was to be closed using industrial/commercial risk standards. Therefore, future use of this property would need to be limited to industrial/commercial development. The OB/OD Unit closure satisfied the closure performance standard of 9 VAC 20-60-800, and the requirements of the approved closure plan. Therefore, Fort Belvoir recommended NFA at SWMU A-15. VADEQ concurred in a letter dated Sept. 25, 2003 that closure to industrial/commercial use for this OB/OD unit had been achieved and approved the closure certifications and closure report, as amended. VDEQ requested that Fort Belvoir ensure that the use of the site complies with the null condition of the approved closure. A LUCIP will be developed to address the silver, barium, benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, cadmium, chrysene, fluoranthene, mercury, indeno(1,2,3-cd)pyrene, methylene chloride and lead which were detected above residential screening levels and to ensure compliance with VDEQ closure requirements. Fort Belvoir received regulator concurrence on this site in a letter dated March 17, 2014.

Site ID: CC-A15
Site Name: Demolition Range

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will implement LUC to include annual inspections.

Site ID: CC-A24
Site Name: Former DPDO Storage Area- PCB Spill

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Polychlorinated Biphenyls (PCB)

Media of Concern: Soil

Phases	Start	End
RFA	197904	198108
CS	200803	200903
RFI/CMS	201109	201509
DES	201402	201509
CMI(C)	201402	201602
CMI(O)	201402	204509

RIP Date: 201602

RC Date: 204509

SITE DESCRIPTION

SWMU A-24 was first identified in the 1988 Draft Phase II RFA. The site was described as a release of approximately 163 liters of dielectric transformer coolant that contained PCBs to the surrounding soil. The release was a result of improperly stored transformers at the DPDO storage yard. The DPDO storage yard was located along Theote Road, directly south of Building 1131. The storage yard was described as a 4-acre fenced in area that was used as a storage area for various equipment and supplies managed by the DPDO. The release was reported to the USEPA, Region III in 1979, and sampling of the soil and sediments from two nearby streams was conducted in 1980. Sample results indicated that approximately 1,600 square feet of soil was affected by the release. Detected concentrations of the PCB congener, Aroclor 1260 were above 50 mg/kg in the first two feet of soil. These detected concentrations were greater than the USEPA's action level of 50 mg/kg for PCB concentrations at the time. Sediment sample results indicated that the area downstream of the site was not impacted by the release.

Remedial actions took place in 1983 and included the removal of impacted soils. Soil removal continued until confirmation samples indicated the PCB concentrations remaining in the soil were below the 50 mg/kg action level. Remedial activities and site cleanup were conducted in accordance with the Clean Water Act of 1977 and the Toxic Substances Control Act. A remediation report was completed and submitted to USEPA in 1983.

In January 2013, Fort Belvoir submitted a Site Summary Report for SWMU A-24 to USEPA, Region III. This summary included information on the background, site history and remediation activities that had occurred at the PCB spill site. In addition, a discussion of the fate and transport of PCB congener, Aroclor 1260, addressed the potential movement of the Aroclor at SWMU A-24. The summary report included Fort Belvoir's recommendation of NFA for SWMU A-24 since soil at the site had already been remediated to concentrations of PCBs below 50 mg/kg. The USEPA concurred with the recommendation of NFA with LUCs in a letter dated March 17, 2014. LUCs will be implemented to limit development and prevent exposure to residual PCB that is still present in the subsurface soils at SWMU A-24. Costs for periodic reviews for CC-A24 are reported under AEDB-R site CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will develop a LUCIP and implement any needed repairs to the existing soil cap, fencing, and signage to ensure protection of human health and the environment. In addition, Fort Belvoir will continue implementation of LUCs at CC-A24 to include annual inspections and reporting.

Site ID: CC-A26
Site Name: Suspected Sanitary Landfill B

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Other (Methane, Landfill Debris)

Media of Concern: Groundwater

Phases	Start	End
RFA	198809	198909
CS	200610	200812
RFI/CMS	200909	201307
LTM	201308	204508

RIP Date: N/A

RC Date: 201307

SITE DESCRIPTION

SWMU A-26 was first identified in the 1988 Draft Phase II RFA. The site was identified as a sanitary landfill that operated during the mid-1950s. The area is approximately 1,000 feet by 700 feet and is bounded to the north by Pohick Road and to the south and east by an unnamed tributary to Accotink Creek.

No evidence of filling activities has been found at SWMU A-26, only surficial debris such as 5-gallon containers, pipes, hoses, 55-gallon drums, and concrete has been identified. This debris likely resulted from troop training activities. During the 1980s, the USACE Water Ways Experiment Station surveyed this area and collected samples from soil borings and groundwater wells, which they had installed. They found no evidence of waste disposal during this survey.

During both the 1988 RFA site visit and a 2005 VSI, evidence of surface dumping was found along the edges of the unit - predominately along the eastern slope near the tributary. No evidence of a release, such as free-product, staining, dead vegetation, or unusual odor, was noted around the debris during either survey. During the September 2005 VSI, it was noted that the site supported deciduous forest. Except for the historic post site maps, documentation regarding a landfill in this area has not been located. Action plans for cleanup at this site were developed under Fort Belvoir's 1993 and 1999 Solid Waste Management Unit Action Plans, but were never implemented.

Pesticides and metals in groundwater and surface water were detected during a Phase I RFI; therefore, Fort Belvoir performed additional investigations to determine the full extent of the contamination at this site. This site was included in Fort Belvoir's 2010 Phase II - PBA contract (CCPBA@Belvoir). During the Phase II RFI, methane was not detected in gas probes. Elevated metals were detected in soil, groundwater, and surface water, though some detections may be at least partially attributable to natural conditions. The Phase II RFI report concluded that the investigation results supported a determination of NFA with respect to contamination. Via a letter dated Jan. 23, 2013, Fort Belvoir received formal approval from regulators (USEPA, Region III) for NFA with LUCs at the site.

An internal DD and LUCIP were finalized for CC-A26 in 2013. A statement of basis is still required from the regulators to complete the RCRA process. This site is currently under the LTM phase. The LTM phase in AEDB-R began prior to FY17, but costs for these years were funded previously and reported under AEDB-R site, CCPBA@Belvoir. Costs for periodic reviews for CC-A26 are reported under AEDB-R site CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will continue the implementation of LUCs at CC-A26 to include: annual inspections, reporting, and maintenance of signs.

Site ID: CC-A27
Site Name: Suspected Sanitary Landfill C

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Other (landfill debris)

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	200803	201212
LTM	201402	204502

RIP Date: N/A

RC Date: 201212

SITE DESCRIPTION

SWMU A-27 (formerly in AEDB-CC as CC-A27) was first identified in the 1988 Draft Phase II RFA as an inactive site used for disposing of facility waste based upon information gathered from archival documents from Fort Belvoir. The site is located south of Willis Road and north of the former coal storage facility within the North Post region. In the 1993 Action Plan, SWMU A-27 was described using archival file materials from Fort Belvoir which included installation site maps from the 1930s to the 1940s that characterized the area as a sanitary landfill which was reportedly active as early as the beginning of the 1900s.

As historic documentation indicated the possibility of a landfill, a Phase I RFI was performed at SWMU A-27 in October 2008. Field activities included the collection of five subsurface soils samples, four groundwater samples, three sediment samples, and two surface water samples. These samples were collected and sent to the laboratory for the analysis of metals, VOCs, SVOCs, and pesticides.

VOCs and pesticide compounds were not detected in concentrations exceeding their corresponding residential/industrial RBC values and MCL values in any of the collected media (soil, groundwater, sediment, or surface water). Several SVOCs were detected in groundwater in exceedance of RBCs and MCLs. With the exception of arsenic, none of the detected metal analytes exceeded the USEPA Region 3 RBC standards for residential/industrial soils or sediment. However, arsenic was within background levels.

The lack of significant levels of detected analytes suggests that the activities have not affected the soil, groundwater, sediment, and surface water in the vicinity of SWMU A-27. Based on the conclusions of this investigation Fort Belvoir recommended N FA was necessary with respect to investigation at SWMU A-27, though LUCs were required as a condition of closure. The USEPA concurred with the recommendation in a letter dated Dec. 7, 2012.

Land use will be monitored to address the residual VOCs and solid waste associated with the former landfill which will include annual inspections.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will implement LUC to include annual inspections.

Site ID: CC-A28
Site Name: Non-Authorized Debris Landfill

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Other (Landfill Debris), Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	200803	200903
RFI/CMS	200908	201007
LTM	201212	204412

RIP Date: N/A

RC Date: 201212

SITE DESCRIPTION

SWMU A-28 was first identified through historical documentation in the 1988 Draft Phase II RFA as a unauthorized debris landfill that reportedly began operations in 1978 and ceased operations in 1980. The unit is located east of McLellan Loop Road opposite the northeast corner of the post magazine; however, no evidence of the unit was noted at this location during the RFA.

In the SWMU Action Plan completed in mid-1990, SWMU A-28 was described as an unauthorized debris dumping area consisting of concrete and asphalt rubble partially covered with dirt and vegetation. Visible debris on-site included bricks, metal culvert, pipes, truck bumpers, washing machines, electrical insulators, wooden pallets, metal tables, empty hydraulic fluid cans, tires, fire hose, and a refrigerator. Access to the site is restricted by a gate across the only road into the area and reportedly no recent dumping appears to have occurred. The unit is located adjacent to a dirt trail east of McLellan Loop Road and west of an unnamed intermittent stream.

During the 2005 VSI, it was noted that debris, consisting of broken concrete and asphalt, was scattered around the grass area at SWMU A-28. Medium-sized dirt piles were covered partially or completely with vegetation. Vegetation appeared to be healthy with no visible signs of distress. Vegetation had grown over most of the piles of debris in the grassy area. However, according to the VSI, the forest area directly east had several very large piles of debris, mostly concrete and asphalt with some remnant of metal equipment parts. A pipe extended from underground running west-east, and ended at the edge of the forest bank. No discharge was evident from the pipe at the time of the investigation.

A Phase I RFI was performed at SWMU A-28 in December 2008. Field activities included the collection of four soil boring samples, and four groundwater samples from the site. The samples collected were sent to the laboratory for the analysis of metals, volatiles, semivolatiles, and pesticides. Volatile organic compounds and pesticide compounds were not detected in concentrations exceeding their corresponding residential/industrial RBC values in any of the soil boring samples collected at SWMU A-28. None of the detected concentrations of VOC or SVOC in the groundwater samples collected at SWMU A-28 exceeded their corresponding USEPA Region 3 September 2008 RBC or MCL values.

Based on the conclusions of this investigation Fort Belvoir recommended NFA was necessary with respect to investigation at SWMU A-28. The USEPA concurred with the recommendation in a letter dated July 30, 2010. Land use will be monitored to address the residual VOCs and solid waste associated with the former landfill which will include annual inspections.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will implement LUC to include annual inspections.

Site ID: CC-A29
Site Name: Mason Pit Debris Fill

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Other (LFG, Landfill Debris)

Media of Concern: Other (LFG)

Phases	Start	End
RFA	198809	198909
CS	200803	201003
RFI/CMS	201003	201606

RIP Date: N/A

RC Date: 201606

SITE DESCRIPTION

CC-A29 is an inactive landfill located on Fort Belvoir's North Post south of Telegraph Road and west of Woodlawn Road. The site is a former 5-acre sand and gravel pit operated during the 1950s, and later used as a storage yard for salvage material by the Defense Reutilization and Marketing Office (DRMO). Historical information indicate that the quarry was filled with construction debris in the 1960s that originated from WWII-era building barracks, administrative buildings, and associated infrastructure. The site was later used for storage of recreational vehicles. The unit was identified as a SWMU in the 1988 Phase II RFA.

During a Phase I RFI that was conducted in 2008, methane gas was detected above the lower explosive limit at Building 2990 which is currently occupied. To supplement the activities and conclusions summarized in the Phase I RFI, five LFG probes were installed along the perimeter of Building 2990 in June 2014. Installation of the LFG probes was followed by initial sampling of LFG gas at all existing and new LFG probes in addition to sampling events at one-week and one-month intervals. Conditions inside Building 2990 were also evaluated.

While indoor air samples collected from within Building 2990 did not indicate the presence of methane gas, sampling results of the LFG probes from the June 2014 effort identified elevated subsurface methane levels. However, a potential pathway for LFG migration into the building is limited since Building 2990 has large open bay doors, a concrete slab that appears to be in very good condition, and is well ventilated with outdoor air.

Because the June 2014 sampling of indoor air was taken in the summer, when the warehouse space was well ventilated with open windows and bay doors, an additional evaluation was completed in March 2015. This event also indicated no presence of landfill gas within the building despite the warehouse being less ventilated due to winter conditions.

Currently, this site is contracted under a PBA through completion of RIP/RC, which is underway. Additional work to be performed under this contract includes the development of a DD and a LUCIP.

Future requirements for this site will be determined based on the recommendations of the DD and LUCIP.

CLEANUP/EXIT STRATEGY

Future requirements for this site will be determined based on the recommendations of the DD and LUCIP.

Site ID: CC-AOPC-20 BNA
Site Name: Contaminated Soil and Groundwater

STATUS

Regulatory Driver: CERCLA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	200811	200812
SI	200901	200903
RI/FS	201010	201706
IRA	200906	201210

RIP Date: N/A

RC Date: 201706

SITE DESCRIPTION

This site was identified at FBNA during BRAC related utility construction, adjacent to FTBL-66 and FTBL-68, when construction workers observed soil staining and petroleum odors while excavating pits for directional boring of utility conduits. Initial sampling results indicated that soils above the USEPA Region 3 screening levels are present. Additionally, groundwater samples taken from this area indicate the presence of petroleum contamination.

Soils above soil screening levels for groundwater protection standards are present and are isolated; however, due to installation of critical infrastructure, remaining contaminated soils may need to be left in place.

Additional work at this site will be conducted under FTBL-66 in accordance with CERCLA.

CLEANUP/EXIT STRATEGY

An FS in planned for site FTBL-66 in FY15, which will include this site.

Site ID: CC-C08D10
Site Name: Bldg 2585 Inactive WashRack&GritCha

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	200803	201212
LTM	201402	204502

RIP Date: N/A

RC Date: 201212

SITE DESCRIPTION

This site is a combined site of SWMU C-08 and SWMU D-10.

SWMU C-08 was first identified in the 1988 Draft Phase II RFA as a 225 square feet concrete pad washrack equipped with a dike system on the two sides that bordered bare ground. The site was designated as a location for washing vehicles. The washrack had a drain located in the center of the pad that was connected to the grit chamber (SWMU D-10) through pipes underneath the ground. The main purpose of the sump/grit chamber was to separate solids from wastewater that drained off the washrack before the water entered the post's sanitary system. Both SWMUs are located within HEC, southwest of Building 2585 in the corner of the adjacent parking lot. According to the 1992 CH2M Hill study, the site was active from 1975 to 1987. After that time the site was used to rinse off maintenance vehicles and designated as a location for use for community fundraiser carwashes. However, no detergents were used at this site.

The 1999 Fort Belvoir Action Plan stated that on Jan 26, 1998, the washrack unit and grit chamber were removed. A composite was collected from each of the SWMU sites immediately after they were removed and before they were backfilled with soil. The samples were screened for benzene, toluene, ethylbenzene, total xylenes, RCRA metals, PCBs and petroleum hydrocarbons (DRO). Of the two composite samples collected, toluene and barium were the only two analytes detected. However, the detected concentrations for these two analytes were below USEPA RBCs soil levels for residential areas and the total petroleum hydrocarbon-diesel range organics DRO concentration was also below the VDEQ action level for petroleum in the soil. The action plan recommended that NFAs were necessary to close this site.

During the 2005 VSI, no significant staining, odors, or stressed vegetation was observed at the SWMU C-08/D-10 site. The former grit chamber was described as an underground concrete box approximately 5 feet by 5 feet, located southeast of the concrete pad.

Facility representatives reported that only detergents were now used at this site. The former location of the concrete pad was observed to be covered over by asphalt. The area was being used as a storage area for a boat and recreational camping trailer. There was a visible small dark stained area and few other locations with rust discolorations on the asphalt. However, these stains were likely from previous activities unrelated to the washrack.

A Phase I RFI was performed at SWMU C-08 concurrently with SWMU D-10 in October 2008. Field activities included the collection of five subsurface soil borings samples and one field duplicate sample from the first interval of native soil observed in each of the soil borings. Each soil boring sample was analyzed for VOCs, SVOCs and metals.

The metal analyte, cobalt, was detected at 37.6 mg/kg, in soil boring sample, C08/D10-SB01(4-6 feet). This detection of cobalt exceeds its residential RBC of 23 mg/kg, but does not exceed and is substantially lower than its industrial RBC value of 300 mg/kg. Therefore, this detection of cobalt is not considered significant. Based on the conclusions of this investigation Fort Belvoir recommended NFA was necessary with respect to investigation at SWMU C-08. The USEPA concurred with the recommendation in a letter dated Dec. 7, 2012. Land use will be monitored to address the cobalt detected above the residential screening levels. Annual inspections will be required.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

Site ID: CC-C08D10
Site Name: Bldg 2585 Inactive WashRack&GritCha

CLEANUP/EXIT STRATEGY

Fort Belvoir will implement LUC to include annual inspections.

Site ID: CC-C11D11
Site Name: Bldg 715 Washrack & Oil/Water Separ

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	200803	201212
LTM	201402	204502

RIP Date: N/A

RC Date: 201212

SITE DESCRIPTION

This site is a combined site of SWMU C-11 and SWMU D-11.

SWMU C-11 was first identified in the 1988 Draft Phase II RFA as an old washrack, located near Building 715, consisting of a concrete pad and drain used for washing lawn mowers that started operation before 1968. The concrete pad was cracked at the time of the RFA. Wash water was collected in a drain which reportedly discharged to the storm sewer system. According to the 1992 CH2M Hill SWMU Study, SWMU C-11 did not appear to be an active washrack, but was a storage area for heavy equipment. The unit was reportedly active from prior to 1968 to some time between 1988 and 1990.

SWMU D-11 was first identified in the 1988 Draft Phase II RCRA Facility Assessment as an oil/water separator associated with an old washrack consisting of a concrete pad and drain used for washing lawn mowers (SWMU C-11) that started operation before 1968. The units are located near Building 715. The oil/water separator reportedly discharged to nearby surface waters without a National Pollution Discharge Elimination System (NPDES) permit. No information on construction method, material, or start-up date was found in the file material.

During the 2005 VSI, SWMUs C-11/D-11 were observed to be located in a fenced-in area north of Warren Road and west of Dalrymple Road. The site was paved and used as a portable office (Building 1) and driveway. According to the VSI, there is a military storage area east of the site and a large concrete pad with pit southwest of the site.

A Phase I RFI was performed at SWMU C-11 concurrently with SWMU D-11 in January 2009. Field activities included the collection of five subsurface soil borings samples and one field duplicate sample. Each soil boring sample was analyzed for VOCs, SVOCs and metals.

VOCs were not detected in concentrations exceeding their corresponding residential and/or industrial RBC soil ingestion values. With the exception of arsenic, none of the detected metals exceeded the USEPA Region 3 RBC standards for residential or industrial soils. Only one arsenic detection of 7.8 mg/kg, in soil sample C11/D11-SB02(2.5-4.5), slightly exceeded the historical background levels of arsenic (0.36 mg/kg to 7.3 mg/kg) detected at Fort Belvoir. This slightly elevated concentration of arsenic suggests that it is an isolated exceedance.

The SVOC, benzo(a)pyrene was detected in two soil samples collected from SWMU C-11/D-11. Only one soil sample, C11/D11-SB03(0.5-2.5) was detected above its residential RBC value of 15 ug/kg. However, the detected concentration did not exceed its corresponding industrial RBC value of 210 ug/kg.

Based on the conclusions of this investigation Fort Belvoir recommended NFA was necessary with respect to investigation at SWMUs C-11 and D-11. The US USEPA concurred with the recommendation in a letter dated Jan. 9, 2012. Land use will be monitored to address the benzo(a)pyrene detected above the residential screening levels. Annual inspections will be required.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

Site ID: CC-C11D11
Site Name: Bldg 715 Washrack & Oil/Water Separ

CLEANUP/EXIT STRATEGY

Fort Belvoir will implement LUC to include annual inspections.

Site ID: CC-E06
Site Name: Building T-1423 Waste POL Storage Area

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Semi-volatiles (SVOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA	198809	198909
CS	200803	200903
RFI/CMS	200908	201312
LTM	201404	204504

RIP Date: N/A

RC Date: 201312

SITE DESCRIPTION

SWMU E-06 was identified in 1988 as a storage area for five 55-gallon drums of waste generated from training activities at Building 1423. Three drums contained POL products, one drum held solvents, and the other drum held antifreeze. The drums were stored on an undiked concrete pad measuring approximately 10 by 20 feet. The wastes were reportedly removed on an on-call basis by the facility.

SWMU E-06 is located inside a fenced-in contractor vehicle parking lot off of Jackson Loop Road in the South Post area of Fort Belvoir's Main Post. The site is situated on a relatively flat area that split between a concrete pad and a grassy area. A chain-link fence is located 20 feet to the west of the site. The area beyond the fence is densely forested and steeply sloped. The parking maintenance vehicle parking lot borders the southern, eastern, and northern boundaries of SWMU E-06. A temporary metal canopy is situated 15 feet to the northeast of SWMU E-06. SWMU E-06 is located 180 feet south of Building 1436.

During the VSI in 2005, SWMU E-06 was observed to be located in a fenced-in area being used by a contractor. The components of the waste POL storage area appeared to have been removed. The site had a rusting AST that appeared to be active and used to store waste oil at the time of the VSI. The site was bordered to the west with fencing and to the east by a concrete parking lot near Building 1423 and a metal open-ended shed and a truck trailer. The metal shed contained used condenser units. According to the VSI, no issues relevant to the former waste POL storage area were apparent on the site.

A Phase I RFI for the Building T-1423 Waste POL Storage Area was conducted in 2009. During the Phase I investigation, surface and subsurface soil samples were collected and analyzed TAL metals, VOCs, and. Two SVOCs, benzo(a)pyrene and dibenzo(a,h)anthracene, were reported at levels exceeding industrial screening criteria.

A Phase II RFI was conducted in December 2010 to further evaluate the nature and extent of SVOCs in subsurface soil at SWMU E-06. Fieldwork included the advancement of approximately nine soil borings. All soil samples were analyzed for SVOCs and selected samples were also analyzed for VOCs if the corresponding soil interval exhibited PID readings greater than 100 parts per million (ppm). Analytical results from both Phase I and Phase II RFIs were evaluated for potential risk to human health receptors.

A total of four SVOC compounds were detected above their USEPA RSL values. All SVOCs detected above corresponding RSLs were PAHs. As the subsurface soil had detections of PAHs above RSLs, potential human health risk to receptors that may come into contact with the soil were evaluated; however, the risk screening results are within the USEPA acceptable risk range indicating there are no concerns for human health for current and planned future site use.

Based on the risk screening of sample results from the Phase II investigation, Fort Belvoir recommended NFA at SWMU E-06. The USEPA Region III concurred with the recommendation in a letter dated Dec. 11, 2013.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

Site ID: CC-E06
Site Name: Building T-1423 Waste POL Storage Area

CLEANUP/EXIT STRATEGY

A LUCIP will be developed to address the PAHs that were detected above residential screening level. Annual inspections will be required.

Site ID: CC-E09
Site Name: North Golf Course Waste POL Storage

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Semi-volatiles (SVOC)

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	201301	201311
LTM	201402	204502

RIP Date: N/A

RC Date: 201311

SITE DESCRIPTION

SWMU E-09 was identified in the 1988 Draft Phase II RFA as an area used to store waste oil generated at the oil change station. The waste unit was noted to be located under the water tower near the oil change station in the Golf Course area west of Building 2907. The golf course is directly north of the Defense Logistics Agency (DLA) across John J. Kingman Road and west of Beulah Street. SWMU E-09 is located down a paved service road, approximately 25 feet northwest of two golf course maintenance buildings, Building 2903 and 2907. Waste oils were stored in 55-gallon drums on bare ground at this location before being periodically removed and picked up by the facility.

According to the 1992 CH2M Hill SWMU Study, three drums were stored on an asphalt pad at this location. The drums were used to store waste oil, antifreeze and hydraulic fluid. Staining was noted on the pad which was observed to be approximately 30 feet long and 13 feet wide. Additionally, the middle drum appeared to be bulging and the soil beneath the grassy vegetation appeared discolored.

Based on this information, a Phase I RFI was performed in January 2013. Field activities included the collection of six soil boring samples from three soil borings. The soil boring locations were selected based upon the historical description and location of the former POL storage area. The three soil borings were advanced to a depth of 4.5 feet below ground surface due to concrete/asphalt pads, as well as gravel fill associated with the surfaces at SWMU E-09.

Soil samples were analyzed for VOCs and SVOCs. None of the detected VOC concentrations exceeded their corresponding residential or industrial RSL levels. The detected concentration of the SVOC analyte, n-Nitrosodimethylamine, exceeded its corresponding residential RSL value but was below its corresponding industrial RSL value.

Based on the findings in the Phase I investigation, Fort Belvoir recommended NFA at SWMU E-09. The USEPA Region III concurred with the recommendation in a letter dated Nov. 17, 2013.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

CLEANUP/EXIT STRATEGY

Land use will be monitored to address the n-Nitrosodimethylamine that was detected above the residential screening level. Annual inspections will be required.

Site ID: CC-E14
Site Name: Building 1939 Waste POL Storage Area

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC)

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	200803	200903
RFI/CMS	200903	201312
LTM	201404	204504

RIP Date: N/A

RC Date: 201312

SITE DESCRIPTION

This site is a combined site of SWMU E-14 and SWMU F-06.

SWMU E-14 was first identified in the 1988 Draft Phase II RFA. The site was described as an area where three abandoned 55-gallon drums that reportedly contained waste petroleum, oil, and lubricants (POL) were stored. The drums were observed to be situated approximately 15 feet from bare ground on an undiked asphalt pad, located next to Building 1939. During the 2005 VSI, it was noted that the stain was still present at SWMU E-14, however; it had decreased in size to only 10 feet by 6 feet. There were no apparent signs of stressed vegetation.

SWMU F-06 was first identified in the 1988 Draft Phase II RFA. According to the RFA, SWMU F-06 was a 250-gallon AST used for storing waste motor oil. According to the 1992 CH2M Hill Study, the original tank rested on bare soil with no containment controls. Noticeable staining was present on the tank and on the ground beneath the tank. The AST at SWMU F-06 was active in 1985 and removed in 1994.

A Phase I RFI was performed at E-14 and F-06 in October 2008. Field activities included the advancement of three soil borings. Soil samples were analyzed for metals, VOCs, and SVOCs. None of the detected VOC or metals exceeded their corresponding screening criteria (to include the historical background levels of arsenic at Fort Belvoir). SVOCs were detected at concentrations that exceeded their corresponding residential RBC soil values to include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a, h)anthracene, indeno(1,2,3-c,d)pyrene and naphthalene. Except for benzo(k)fluoranthene, all the SVOCs detected had concentrations that also exceeded their corresponding industrial RBC soil values.

SWMU E-14 and F-06 were combined during the Phase II RFI due to proximity. Conducted in late summer 2010, the Phase II RFI for SWMUs E-14 and F-06 included the investigation of the nature and extent of PAHs in soil. SVOCs in soil, including PAHs have been adequately delineated laterally and vertically at SWMU E-14. There was no indication of a former release to the native soil associated with SWMU E-14. One high detection area exists at SWMU E-14 however, sample results adjacent to this location reveal the hot-spot area is limited and the risk evaluation reveals concerns only for the residential receptor.

The highest concentrations of SVOCs are centered on several of the SWMU F-06 borings in the vicinity of the revised location of the former 250 gallon AST. Detections of SVOCs in soil were limited to the top 6 feet in soil (i.e., fill material). During preliminary risk assessments, performed after the initial sampling events, determined that benzo(a)pyrene was the driving factor for the risk assessment at SWMUs E-14 and F-06 and thus a risk-based delineation threshold concentration of 1,000 ug/kg was calculated for benzo(a)pyrene.

Based on the ecological and risk screening of sample results from the Phase II investigation, Fort Belvoir recommended NFA at SWMUs E-14 and F-06, though LUCs were required as a condition of closure. The USEPA Region 3 Dec. 11, 2013.

This site includes costs for complete five-year (periodic) reviews for the following 22 sites: FTBL-38, CC-A025, CC-A04A23, CC-A06, CC-A07, CC-A13, CC-A15, CC-A24, CC-A26, CC-A27, CC-A28, CC-C08D10, CC-C11D11, CC-E06, CC-E09, CC-E14, CC-I02, CC-L33, CC-N03F09, CC-N05, CC-N20, and CC-N23.

Site ID: CC-E14
Site Name: Building 1939 Waste POL Storage Area

CLEANUP/EXIT STRATEGY

A LUCIP (for combined sites E14/F06) will be developed to address the PAHs which were detected above residential screening levels. Annual inspections will be required.

Site ID: CC-I02
Site Name: Building 307 Acid Neutralization Pi

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	200803	201212
LTM	201402	204502

RIP Date: N/A

RC Date: 201212

SITE DESCRIPTION

SWMU I-02 (formerly CC-I02 in the CC database) was first identified in the 1988 Draft Phase II RFA as an active acid neutralization pit located on the western side of Building 317. The RFA stated that the unit became operational in 1978. A facility representative reported that the site was used to neutralize small amounts of acidic wastes generated in the lab using marble chips. The neutralized wastes were reported to be discharged into the sanitary system.

According to the 1992 SWMU Study, the site became inactive in 1990. Furthermore, the site was described as a unit that managed acid from sinks in the laboratory and was a 5 foot by 5 foot concrete box containing limestone. The 1993 Action Plan confirmed the unit became active in 1978 and de-activated in 1990. It also stated that wastewater from the Hydrogen Fluoride Scrubber System (SWMU L-06) drained into the pit before being discharged into the sewer system.

During the 2005 VSI, there were no visible remnants of the original site. The site is located on the west side of Building 317. The site is now covered by a parking lot and flower bed running the span of Building 317. No visible evidence of stained soil, stressed vegetation, unusual odors, or other indicators of contamination was observed at the site.

A Phase I RFI was performed at SWMU I-02 in September 2008. Field activities included the collection of four soil samples and one field duplicate from two soil borings. The soil boring samples were analyzed for volatiles, semi-volatiles, metals, and pH levels.

A benzo(a)pyrene concentration of 85.5 mg/kg exceeded the corresponding residential soil RBC of 22 mg/kg in the soil sample I02-SB01 (8-10 feet). However, this detection of benzo(a)pyrene was significantly below the industrial RBC of 320 mg/kg, therefore, it was not considered significant. This indicates the former activities at SWMU I-02 have not impacted the soils in the vicinity of SWMU I-02.

Based on the conclusions of this investigation, Fort Belvoir recommended NFA at SWMU I-02. The USEPA concurred with the recommendation in a letter dated Jan. 9, 2012.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

CLEANUP/EXIT STRATEGY

As residual arsenic, VOCs and SVOCs may be present in soil and the sediment and surface water remaining at the site, a notation will be added to Fort Belvoir's Master Plan for future management of the site by the installation.

Site ID: CC-L09
Site Name: Former Coal Storage Area In-Ground Concr

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Sediment, Soil, Surface Water

Phases	Start	End
RFA	198809	198909
CS	200803	200903
RFI/CMS	201109	201607
IRA	201501	201607

RIP Date: N/A

RC Date: 201607

SITE DESCRIPTION

SWMU L-09 was first identified in the 1988 Draft Phase II RFA and was described as an inactive outdoor concrete sump approximately 25 feet long by 10 feet wide by 5 feet deep. The unit was reportedly adjacent to the Old Coal Storage Area (SWMU A-04) and was located behind former Building 607 and directly next to former Building 601. The site is bounded by the 300 Area fence to the south and east of L-09. The site is bounded to the west by an unnamed perennial stream that flows into Accotink Bay.

Based on this information, a Phase I RFI was performed at SWMU L-09 in December 2008. Field activities included the advancement of three soil borings. Soil samples were collected at the zero - 2 feet bgs interval and from the 2 - 4 foot interval. One soil sample was collected from directly beneath the bottom of the concrete box after the water and sediment debris had been removed from the former concrete coal storage box. Surface water and sediment samples were collected from sediments and water that were present in the concrete box at SWMU L-09. All samples were analyzed for TAL metals, VOCs, and SVOCs. Arsenic was detected in soil samples at concentrations that exceeded the corresponding residential and industrial RBC values. However, the detected arsenic concentrations were within the historical background values at Fort Belvoir for soils. None of the detected concentrations of VOCs and SVOCs in soil samples exceeded their corresponding residential or industrial RBC soil values.

Heavy metals and SVOCs were detected above their respective residential and industrial RBC values in sediment. Additionally, heavy metals also exceeded either their corresponding tap water RBC values or their respective MCL values in surface water. Methylene chloride was detected above its MCL value in surface water. However, methylene chloride is a common laboratory contaminant and therefore this exceedance is not considered significant. Six SVOCs exceeded their tap water RBC values in surface water samples. Two of these SVOCs, benzo(a)pyrene and bis(2-ethylhexyl) phthalate, exceeded their respective MCL values as well. MCL values were not available for the remaining four SVOCs.

Based on the findings of the Phase I RFI, Fort Belvoir proposed an IRA to remove the concrete structure at SWMU L-09. Based on this plan, Fort Belvoir proposed NFA at SWMU L-09 upon removal of the concrete structure to confirm that no release to the environment occurred from underneath the structure. The USEPA Region 3 concurred with this recommendation in a letter dated Aug. 5, 2013.

CLEANUP/EXIT STRATEGY

Fort BelvoirTBL plans to complete interim actions in order to comply with conditions of NFA (not DERP eligible). Meanwhile, a notation will be made to Fort Belvoir's Master Plan to address residual arsenic, VOCs, and SVOCs present at the site.

Site ID: CC-L33
Site Name: Building 326 Ditch Cont. by Oil Spi

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
RFA	198809	198909
CS	200803	201201
LTM	201402	204502

RIP Date: N/A

RC Date: 201201

SITE DESCRIPTION

SWMU L-33 (formerly AEDB-CC site CC-L33) was first identified in the 1988 Draft Phase II RFA as a one-time release occurring in March 1986, when a ruptured oil line released approximately 600 gallons of turbine lubricating oil into a drainage ditch. The oil line was connected to a turbine stored outside on a concrete pad that was used for experimental purposes. According to the CH2M Hill Solid Waste Management Unit Study, after the spill had occurred absorbent pads were placed on top of the concrete pad and drainage ditch, but no information exists on the volume of material recovered. SWMU L-33 is located behind the eastern side of Building 326, inside a small maintenance yard. Kingman Road runs along to the west of SWMU L-33 and the building's parking lot is directly south of the site, based upon the 1993 Fort Belvoir Action Plan figures. The exact location of the spill was undetermined; however, the investigation site was determined based on information gathered from facility representatives and past documents such as the RFA.

During the 2005 VSI, drums, drum hoods, and generators were observed inside the fence of maintenance yard. There were no signs of stained soil, noticeable odors, or stressed vegetation around the location of the material release.

A Phase I RFI was performed at SWMU L-33 in September 2008. Field activities included the collection of three subsurface soil samples and one field duplicate sample from the 4-6 feet below ground surface interval that were analyzed for VOCs, SVOCs, and metals.

None of the detected concentrations of VOCs and SVOCs in the soil samples collected at SWMU L-33 exceeded their corresponding USEPA Region 3 residential and/or industrial RBC) soil ingestion values. One vanadium concentration detected in soil sample L33-SB02 (4-6 feet) at 82.5 mg/kg slightly exceeded the corresponding residential RBC of 78 mg/kg. However, this single vanadium exceedance is significantly below the industrial RBC of 1,000 mg/kg and therefore is not considered significant.

Based on the conclusions of this investigation, Fort Belvoir recommended NFA was necessary at SWMU L-33. The USEPA concurred with the recommendation in a letter dated Jan. 9, 2012. Land use will be monitored to address the vanadium detected above the residential screening levels. Annual inspections will be required.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will implement LUCs to include annual inspections.

Site ID: CC-L45
Site Name: Sewage Treatment Plant #1

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Pesticides, Semi-volatiles (SVOC)

Media of Concern: Groundwater, Sediment, Soil

Phases	Start	End
RFA	198809	198909
CS	200803	200903
RFI/CMS	200803	201708
DES	201609	201709
CMI(C)	201609	201809

RIP Date: N/A

RC Date: 201809

SITE DESCRIPTION

Site CC-L45 is located within a fenced area east of Morrow Road and approximately 150 feet north of Gunston Cove. The unit is an inactive wastewater treatment plant, with the exception of Building 687, which is currently being used as a lift station by American Water. The wastewater treatment plant was active from 1919 through 1981, and underwent various upgrades during that time. The wastewater treatment plant was taken off line in 1981 and became a lift station in 1982. Records indicate that the unit accepted hazardous constituents during its operational history, and the site was therefore identified as a SWMU.

Results of a Phase I RFI completed in 2009 indicated that VOCs did not exceed RBC or MCL values in soil, groundwater or sediment samples. One SVOC, bis(2 ethylhexyl) phthalate, was detected above the residential RBC and MCL values in the groundwater. Arsenic and lead exceeded the RBC screening levels in sediment samples. Pesticides exceeded RBCs in soil and sediment, and MCLs in groundwater. Based on these findings, a Phase II RFI was recommended to determine the nature and extent of the constituents identified during the Phase I RFI.

The Phase II RFI completed in 2014 indicated detections of dieldrin above residential and industrial screening values in subsurface soil. Pesticides, dieldrin and heptachlor epoxide, were detected above the RSL and MCL values in groundwater. Pesticides exceeding industrial and residential RSL values had been identified in infrastructure sediment. Based on these findings, the Phase II RFI recommended a site-specific risk assessment to determine if a CMS or further actions are warranted.

Currently, this site is contracted under a PBA through completion of RFI/CMS, which is underway. Soil samples, which will be representative of surface media, will be collected for evaluation in ecological and human health risk assessments to be included in an RFI report and a CMS document.

Additional work to be performed under this contract includes the development of a work plan, completion of CMI fieldwork, and development of a RIP/RC report, and LUCIP.

Future requirements for this site will be determined based on the recommendations of the DD and LUCIP.

CLEANUP/EXIT STRATEGY

A CMS is planned for CC-L45 which will include evaluation for corrective measures to include alternatives for removal of sludge from settling basins, and groundwater monitoring with LUCs.

Site ID: CC-MP1
Site Name: Former POL Area at Accotink Landfil

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
ISC	200907	200907
CAP	200912	201509

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

This site is located near Poe Road and was identified as a potential AOC during a Phase I RFI at CC-A12. Historic aerial photographs of this site show the presence of ASTs. The A-12 Phase I RFI determined the presence of petroleum contamination in the vicinity of the historical tanks. The Phase II investigation confirmed the presence of petroleum contamination at MP1. Fort Belvoir submitted a SCR to VDEQ in February 2014. Based on VDEQ's response to the SCR, additional sampling data will be collected to further characterize the site. The site characterization report addendum is scheduled to be completed in July 2015.

CLEANUP/EXIT STRATEGY

Fort Belvoir will submit the SCR addendum for CC-MP1 to VDEQ in FY15. Based on the results from the addendum, VDEQ will determine whether this site may be closed or if corrective actions are required.

Site ID: CC-MP10
Site Name: 21st Street Liquid Dump Site

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC)

Media of Concern: Sediment, Surface Water

Phases	Start	End
RFA	201301	201303
RFI/CMS	201402	201703

RIP Date: N/A

RC Date: 201703

SITE DESCRIPTION

On Jan. 18, 2012, approximately 250 gallons of sediment/grit and colored liquid were discovered at an unnamed tributary to Gunston Cove, located downstream of the 21st Street debris collection site. Upon investigation, it was found that the Fort Belvoir Base Operations Contractor had collected and discharged contents from a floor drain at Building 3145 (a hangar located on Davison Army Airfield) at the rear of the Fort Belvoir 21st Street debris collection site. This one-time discharge and the subsequent fish kill were addressed under VDEQ Incident Report No. 2012-N-1900. Although this action was determined to be a one-time release from the contractor, further site assessment (such as identification of distressed vegetation) indicated that historical releases may have occurred at this location. Therefore, sampling of this site was conducted. A comparison of sample results to screening criteria indicated that an impact to the environment occurred at this site. Based on these results, primary contaminants of concern include metals in surface water, and SVOCs and metals in sediment. Of particular note was the presence of PAHs in sediment, as these suspected carcinogens are known to persist in the environment.

Currently, this site is under a PBA for completion of an RFI in order to delineate the nature and extent of contamination. Field activities will include collection of surface water and sediment samples from approximately 13 locations to analyze for SVOCs, TPH-DRO/GRO, and metals.

Future requirements for this site will be determined based on the results of the RFI.

CLEANUP/EXIT STRATEGY

Future requirements for this site will be determined based on the results of the RFI.

Site ID: CC-MP2
Site Name: 1124 PCE detections

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Other (PCE)

Media of Concern: Groundwater

Phases	Start	End
RFA	201006	201008
RFI/CMS	201302	201710

RIP Date: N/A

RC Date: 201710

SITE DESCRIPTION

This site, MP-2, is in an industrial region of Fort Belvoir that is located in the installation's south post. The need for investigation at this site was determined when the presence of PCE in groundwater was discovered along Theote Road near Building 1124. Currently, this site is contracted under a PBA through completion of the RFI, which is underway, and will focus on defining the nature and extent of the PCE and its daughter products in groundwater, sediment, surface water, and in subsurface soil. Additionally, the RFI will evaluate vapor intrusion into nearby structures.

Preliminary results of the RFI have identified two distinct PCE plumes associated with MP 2 - one source located in the northern portion of the site near Building T1152 (18000 ug/L PCE) and another to the south located near Building 00767 (0.58 D ug/L). The total combined area of both plumes is approximately 41.6 acres. Additionally, the investigation identified low level PCE contaminated soils near Building T1152, below residential RSLs which was determined to be a possible source area for the northernmost groundwater plume.

Because of the proximity of the PCE plumes to nearby buildings, a soil gas survey will be completed at nearby structures to evaluate the potential for Vapor Intrusion. Following the soil gas survey, sub-slab and indoor air (IA) samples will be collected as required. Additionally, the RFI will complete a fate and transport study to determine possible impacts to the area. Until such a time, as these studies determine otherwise, it is recommended that all new building constructed in the surrounding area plan for the installation of a vapor barrier beneath the building's foundation.

Future requirements for this site, to include potential remediation, will be determined based on the results of the RFI.

CLEANUP/EXIT STRATEGY

Future requirements for this site, to include potential remediation, will be determined based on the results of the RFI.

Site ID: CC-MP5
Site Name: Recycle Center Contaminated Soil

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA	201009	201010
RFI/CMS	201009	201604

RIP Date: N/A

RC Date: 201604

SITE DESCRIPTION

This site, MP-5, is located off Pohick Road near Building 1089 and was identified in 2010.

During the installation of a storm water structure in September 2010, samples from a layer of tar-like substance/soil staining were collected and dimethyl phthalate and TPH-DRO were detected at concentrations of 1,190 micrograms per kilogram (µg/kg) and 774 milligrams per kilogram (mg/kg), respectively.

In March 2011, the impacted soil was excavated and 40 cubic yards removed and confirmation soil samples were collected which indicated the presence of VOCs, SVOCs, and TAL metals above the analytical method reporting limit (RL).

Currently, this site is under a PBA through completion of RFI to delineate the lateral and vertical extent of the soil contamination. Field activities have determined that the above mentioned tar layer extends to an area within 0.1 acre and a depth of 4.5 - 5 feet bgs.

In order to determine the impacts to groundwater, a temporary monitoring well was installed at 33.20 feet bgs. Groundwater analytical results indicated that there were no exceedances in the groundwater. One PAH that was detected was below residential screening levels and 13 metals were present in the groundwater sample, however, this was attributed to natural groundwater conditions.

Future requirements for this site will be determined based on the results of the RFI.

CLEANUP/EXIT STRATEGY

Future requirements for this site will be determined based on the results of the RFI.

Site ID: CC-MP9
Site Name: Old Dump

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Soil, Surface Water

Phases	Start	End
RFA	201108	201110
RFI/CMS	201201	201604

RIP Date: N/A

RC Date: 201604

SITE DESCRIPTION

This site was discovered in summer of 2010. The site is north of a steep ravine located just south of bunker 1123. The dump site is wooded and consists of surface debris including rusted gas tanks, a car door, old pipe, tires, tubing, metal scrap, and an axle from a car.

Currently, this site is under a PBA through completion of RFI, which is underway.

Visual inspections and geophysical surveys were conducted which indicated shallow subsurface magnetic anomalies. Test pit excavations at the three largest subsurface anomalies will be conducted during the Phase II of the investigation along with soil, surface water and sediment sampling. All samples will be analyzed for VOCs, SVOCs, and TAL metals. Based on the results from the second phase, a human health assessment or an ecological risk assessment may be needed to determine impacts to the site.

Future requirements for this site will be determined based on the results of the RFI.

CLEANUP/EXIT STRATEGY

Future requirements for this site will be determined based on the results of the RFI.

Site ID: CC-MPS2009
Site Name: PSAs 2009, 2033, and 2034

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater

Phases	Start	End
ISC	198909	199009
INV	199601	199705
CAP	200609	201706
IRA	199601	199705

RIP Date: N/A

RC Date: 201706

SITE DESCRIPTION

This site consists of three historical petroleum releases (Petroleum Storage Areas 2009, 2033, and 2034). The sites were listed in a January 2002 Environmental Study, Part II, which summarized the findings of a 2001 site reconnaissance and document review. The original USTs were investigated and closed in 1996 and 1997, and Fort Belvoir subsequently performed biannual groundwater sampling over six sampling events, and then requested site closure from VDEQ.

In 2005, BRAC legislation identified Fort Belvoir as a gaining installation for approximately 20,000 civilians and service members; 8,500 of which were to be transferred to FBNA. A second project for the Fairfax County Parkway (Parkway) extension was planned concurrently with the BRAC construction. In response to the BRAC announcement, the USEPA issued a RCRA 3013 UAO in 2005 to EPG, now referred to as FBNA, requiring the Army to investigate potential releases of hazardous substances. Fort Belvoir had begun investigation activities at this site in 2006 under the UAO. As a result of the BRAC construction, the site was covered with gravel and used for parking lots. New sewer and water lines run through the site to support the temporary administrative space used for construction.

Between 2006 and 2008, Fort Belvoir performed several phases of investigations to determine the full nature and extent of the contamination. Results from the investigations show little or no residual soil contamination present; however, several groundwater plumes remain. COCs are mainly petroleum related with minimal halogenated compounds.

Many of the investigation wells were abandoned as a result of the BRAC construction.

In November 2011, Fort Belvoir submitted a risk assessment to the USEPA for review. As of August 2014, Fort Belvoir received draft comments. In September 2014, USAEC determined that this site could not be managed under CERCLA because CERCLA does not include petroleum. As a result, this site will either be managed in accordance with the VDEQ Petroleum Program or will be monitored under the UAO.

CLEANUP/EXIT STRATEGY

Feasibility studies will be funded in FY15. Groundwater monitoring and LUCs are anticipated as the final remedy.

Site ID: CC-N03F09
Site Name: Building 788 Abandoned Tank Storage

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern: Soil

Phases	Start	End
RFA	199108	199207
CS	200709	201212
LTM	201402	204502

RIP Date: N/A

RC Date: 201212

SITE DESCRIPTION

This site is a combined site of SWMU N-03 and SWMU F-09.

SWMU N-03 was first identified as a SWMU during the 1992 CH2M Hill SWMU Study. According to this study, the unit was composed of 10 abandoned POL tanks of various sizes from 200 to 10,000 gallons. Several tanks were reported to have been cut in half. The tanks were stored on bare ground and several spots beneath the tanks were stained. The site was reported to be active with no closure plans at that time and the startup date was unknown. The SWMU Action Plan reported N-03 to be located inside the fenced storage yard of former Building 788 (demolished in 1993). The area where the tanks were stored was reported to be 30 feet wide by 80 feet long.

SWMU F-09 was first identified in the 1988 Draft Phase II RFA as a 2,000-gallon metal AST located northwest of Building 773 that began operation in 1983. According to the AT Kearney investigation, the tank was located on bare ground and a brown stain was noted running downgradient from the front of the tank and heavily stained soils were observed around the tank area. The CH2M Hill study identified the unit as handling waste oil from Building 768 and not Building 773 as indicated in the AT Kearney report. During the CH2M Hill study, facility representatives had noted that the AST had been moved from its original location into a fenced-in storage yard north of Building 788 in the early-1990s. The 1993 Action Plan for SWMU F-09 identified that one sludge sample was collected from the bottom of the tank and analyzed in May 1990. Sample results indicated the presence of toluene, 2 methylphenol, 4-methylphenol, xylenes, and naphthalene.

In the spring of 2008, a site visit indicated the Building 788 located to the south of SWMU F-09 had been demolished and that no signs of the former AST location were observed.

Monitoring wells were observed to the south, which were installed for the investigation of a Petroleum Storage Area at Building 773.

With concurrence from Fort Belvoir and USEPA, SWMU N-03 and SWMU F-09, Building 1938 Aboveground Waste POL Tank, were investigated together due to their proximity to each other in the field west of Building 778. Field activities were performed in January 2009, which included the collection of two soil boring samples from each of the two SWMU sites.

VOCs were not detected in concentrations exceeding their corresponding residential and/or industrial RBC soil ingestion values. The SVOC, benzo(a)pyrene was detected above its corresponding residential soil RBC value of 15 ug/kg in soil boring samples, N03-SB02(2-4), N03-SB02(0-2), and F09-SB01(0-2). Detected concentrations that exceeded the residential RBC ranged from 16 ug/kg to 51 ug/kg. None of the detected concentrations of benzo(a)pyrene exceeded its industrial RBC value of 210 ug/kg. Since none of the detected concentrations of benzo(a)pyrene exceeded the corresponding industrial RBC value, these concentrations are not considered significant.

Based on the conclusions of this investigation, Fort Belvoir recommended NFA was necessary at SWMUs N-03 and F-09. The USEPA concurred with the recommendation in a letter dated Dec. 7, 2012. Land use will be monitored to address the benzo(a)pyrene detected above the residential screening levels. Annual inspections will be required.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

Site ID: CC-N03F09
Site Name: Building 788 Abandoned Tank Storage

CLEANUP/EXIT STRATEGY

Fort Belvoir will implement LUC to include annual inspections.

Site ID: CC-N05
Site Name: Building 328A Oil/Water Separator

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
RFA	199108	199207
CS	200709	201212
LTM	201402	204502

RIP Date: N/A

RC Date: 201212

SITE DESCRIPTION

SWMU N-05 (formerly AEDB-CC site CC-N05) was first identified in the 1992 CH2M Hill SWMU Study as an oil/water separator unit adjacent to Building 328A. The concrete unit treated wash water from the wash rack at Building 328A that became operational in 1982. The wash rack was reportedly used to wash cars and trucks. The water from the wash rack flowed through a collection trench that emptied into the unit and drained into the storm water lines. According to the December 1993 SWMU Action Plan, SWMU N-05 was reported to be deactivated in 1992 through 1993. The action plan stated that the wash rack was used to wash tactical, non-tactical vehicles, and heavy equipment. The unit consisted of two concrete chambers: a large settling chamber that water enters and a smaller chamber with several baffles used to separate the oil and water. During its lifespan, the unit allegedly used an alkaline soap and steam cleaning system. The unit was pumped out on an as-needed basis and the waste oil was disposed of by Fort Belvoir.

During the 2005 VSI, it was reported that the separator had been removed to construct Building 328 and its associated parking lot. Additionally, the site had been paved and re-vegetated.

A Phase I RFI was performed at SWMU N-05 in September 2008. Field activities included the collection of three subsurface soil samples and one field duplicate sample from the interval of soil directly above the water table at 22 feet to 24 feet. The soil samples were analyzed for volatiles, semivolatiles, and metals.

None of the detected concentrations of volatiles or semivolatiles in the soil samples collected from N-05 exceeded their corresponding US EPA Region 3 residential and/or industrial RBC soil ingestion values. With the exception of iron, thallium, vanadium and arsenic, none of the detected analytes exceeded the USEPA Region 3 RBC standards for residential or industrial soils. The iron, vanadium, and thallium concentrations are all significantly below their industrial RBC values and are therefore not considered significant.

Based on the conclusions of this investigation, Fort Belvoir recommended no further action at SWMU N-05. The USEPA concurred with the recommendation in a letter dated Jan. 9, 2012. A land use control plan will address the iron, thallium and vanadium detected above the residential screening levels. Annual inspections will be required.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will implement LUC to include annual inspections.

Site ID: CC-N20
Site Name: Building 1330 Waste POL Storage Are

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Semi-volatiles (SVOC)

Media of Concern: Soil

Phases	Start	End
RFA	199108	199207
CS	200709	201201
LTM	201402	204502

RIP Date: N/A

RC Date: 201201

SITE DESCRIPTION

SWMU N-20 was identified during the 1992 CH2M Hill SWMU Study. According to the 1992 SWMU Study, the site was described as an outdoor storage unit for waste POL from Building 3140 (formerly Building 1330) constructed in early 1990. It was described as consisting of four 55-gallon drums. Two drums were used for waste oil and two for waste JP-4 fuel. The base of the unit consisted of a 12-foot by four-foot area of sand contained by railroad ties. Drums were located in the containment area. The sand-and-tie containment area was described as resting on an asphalt portion of the parking lot. Prior to construction of the containment unit, the waste oil and JP-4 drums were stored on the asphalt pavement.

During a 2005 VSI, SWMU N-20 was described as a secure secondary containment unit. Fifty-five gallon drums were stored in the unit and appeared clean with appropriate spill pads in place. A spill kit was noted adjacent to the storage unit. A three-foot by four-foot stain on the asphalt pavement was observed on the east side of the storage unit; however, the written report from the site inspection noted that the stain appeared to be old.

Based on this information, a Phase I RFI was performed in January 2013. Field activities included the collection of six soil boring samples from three soil borings. The soil boring locations were selected based upon the historical description and location of the former POL storage area southeast of Building 3140. Soil samples were collected from the 0.5-2.5 feet bgs interval and from the 2.5-4.5 feet bgs interval.

Soil samples were analyzed for VOCs and SVOCs. None of the detected concentrations of VOCs in the soil samples collected at SWMU N-20 exceeded their corresponding RSL or SSL values. SVOCs, 2,6-dinitrotoluene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and n-nitrosodimethylamine were detected in soil boring samples. Benzo(a)pyrene and n-nitrosodimethylamine detected concentrations exceeded their corresponding residential RSL values. In addition, n-Nitrosodimethylamine exceeded its corresponding industrial RSL value. Risk evaluation of the site data concluded that the detections were isolated and, thus, not significant.

Based on the findings in the Phase I investigation, Fort Belvoir recommended NFA at SWMU N-20. The USEPA Region III concurred with the recommendation in a letter dated Nov. 17, 2013.

Costs for periodic (five-year) reviews for this site are reported under AEDB-R site, CC-E14.

CLEANUP/EXIT STRATEGY

A LUC plan will address the n-Nitrosodimethylamine and benzo(a)pyrene that were detected above the residential screening level. Annual inspections and five-year reviews will also be required.

Site ID: CC-N23
Site Name: Post Dump

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Other (Landfill Debris), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC)

Media of Concern: Groundwater

Phases	Start	End
RFA	199108	199207
CS	200803	200812
RFI/CMS	200909	201307
LTM	201308	204508

RIP Date: N/A

RC Date: 201307

SITE DESCRIPTION

SWMU N-23 is an inactive landfill located on South Post, north of the current Recycling Area. The former landfill area is bounded by Pohick Road to the south, railroad tracks to the east, and an unnamed stream to the northwest. The Recycling Center at Building 1089 and a yard waste composting area southeast of the building are currently active. The unit was identified from a July 7, 1943 map, although dates of operation are unknown. Two terraces were identified during a 1992 SI and appeared to be landfill cells. Two active seeps were observed at the base of the northwest face of the lower slope. The northern and larger seep flowed into a small ravine leading towards the unnamed stream, while the smaller seep near the middle of the northwest slope face flowed over land. The active seeps are considered evidence of potential active releases from the unit. No information is known about the design and construction of the landfill unit or about the waste disposed there. Given the age of the unit, it is unlikely that there is a liner or other release control in place. At the time of the September 2005 VSI, the site was being used primarily for wood chipping, mulching, and composting. The inspection report noted that the lower terrace was located around the perimeter of the site and differs in elevation from the second, higher terrace by 10 feet. Debris including old drums and steel trusses was observed scattered throughout the site. Two active seeps were observed at the base of the northwest face of the lower slope during the VSI. The observations of the seeps were identical to the 1992 descriptions.

SVOC sand metals in groundwater and surface water were detected during a Phase I RFI ; therefore, Fort Belvoir performed additional investigations to determine the full extent of the contamination at this site. This site was included in Fort Belvoir's 2010 Phase II - PBA contract (CCPBA@Belvoir). Based on the Phase II RFI, a human health and ecological risk assessment indicated there are no potential concerns for residential or industrial exposure to soil, groundwater, sediment, and surface water. There were no indications of significant releases of harmful constituents, with the exception of select metals (manganese, cobalt, and thallium) in groundwater and PAHs in groundwater at a single monitoring well location downgradient of the landfill. The Phase II RFI report concluded that the investigation results supported a determination of NFA with respect to contamination. Via a letter dated Jan. 23, 2013, Fort Belvoir received formal approval from regulators (USEPA, Region III) for NFA with LUCs at the site. LUCs to include annual inspections will be required. Costs for periodic reviews for CC-N23 are reported under AEDB-R site CC-E14.

CLEANUP/EXIT STRATEGY

Fort Belvoir will continue the implementation of LUCs at CC-N23 to include: annual inspections, reporting, and maintenance of signs.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
CC-A14	DRMO Salvage Storage Area	201401	All activities for this site will be completed under CC-A29 which is collocated.
CC-A18	Active Coal Storage Wstwtr Trmt Unit 1	201212	USEPA Letter dated December 7, 2012 approving RFI Phase I Report recommending NFA.
CC-A19	Active Coal Storage Wstwtr Trmt Unit 2	201212	USEPA letter dated December 7, 2012 approving RFI Phase I Report recommending NFA.
CC-DAAF1	DAAF Flight Tower	201403	Formal concurrence letter dated 17 March 2014 was received from regulators.
CC-E01	Bldg 3232 Waste POL & Empty Drum Storage	201409	
CC-F06	Building 1906 Aboveground Waste POL Tank	201312	USEPA approved NFA in letter dated December 11, 2013.
CC-G13	B1453 Former USTs & Related Contam.	201108	USEPA approved NFA in letter dated September 21, 2012.
CC-L05	Bldg 307 Concrete Apron Disposal Area	201212	USEPA Letter dated December 7, 2012 approving RFI Phase I and Addendum recommending NFA.
CC-MP3	Arts & Crafts Cntr Petroleum Cont.	201202	In a letter from the Virginia Department of Environmental Quality, dated February 9, 2012, CC-MP3 is considered case closed.
CC-MP4	Contaminated Soil at 9th and Gunsto	201202	In a letter from the Virginia Department of Environmental Quality, dated February 9, 2012, CC-MP4 is considered case closed.
CC-MP6	1425 Pipeline Contamination	201212	USEPA letter dated December 7, 2012 approving petroleum contaminated soil removal at MP-6 Building 1425 Electric Utility Construction Area. The site is considered closed.
CC-MP7	Future OSEG Facility	201109	A removal action has been completed for this site. Fort Belvoir has deemed this site closed and no additional cleanup is required. No LUCs exist at this site. There is no formal closure documentation.
CC-MP8	AAFES Shoppette Project	201212	USEPA Letter dated December 7, 2012 approving MP-8 AAFES Shoppette disposal pit soil excavation summary report. The site is considered closed.
CCBLDG1124	Bldg 1124 - Vehicle Fueling Facility	201312	VADEQ Case Closure Letter dated November 2013
CCBLDG2209	Bldg 2209/2217- Former Military Barracks	201312	VADEQ Case Closure letter dated November 2013
CCBLDG305	Bldg 305 - Research & Development Center	201010	VADEQ letter dated October 29, 2010.
CCBLDG3161	Bg 3161- Davison Army Airfield Fuel Yard	201407	VADEQ Case Closure Letter dated June 2013
CCBLDG773	Former Building 773	201004	VADEQ letter dated August 16, 2007.
CCPBA@Belvoir	PBA@IR and CR Belvoir	201409	
CC_E10	Building 328 Waste POL Storage Area	201312	USEPA approved NFA in letter dated December 2013.

CR Schedule

Date of CR Inception: 197306

Past Phase Completion Milestones

1973	
RFA	(CC-A11 - POE Road Landfill)
1981	
RFA	(CC-A24 - Former DPDO Storage Area- PCB Spill)
1985	
ISC	(CCBLDG1124 - Bldg 1124 - Vehicle Fueling Facility)
1987	
RFA	(CC-A07 - Mulligan Road Landfill)
CS	(CC-A07 - Mulligan Road Landfill)
1989	
CS	(CC-A11 - POE Road Landfill)
RFA	(CC-A025 - Suspected Sanitary/Debris Landfill A, CC-A04A23 - Former Coal Storage Area & PCB Spill Sit, CC-A05 - Road and Grounds/Land Mgmt Storage Area, CC-A06 - Kingman Road Landfill, CC-A08A16 - GW Village Landfill & Interceptor T, CC-A09 - Markham School Landfill & Intercept, CC-A12 - Accotink Landfill, CC-A13 - DRMO Spoil Fill, CC-A14 - DRMO Salvage Storage Area, CC-A15 - Demolition Range, CC-A18 - Active Coal Storage Wstwtr Trmt Unit 1, CC-A19 - Active Coal Storage Wstwtr Trmt Unit 2, CC-A26 - Suspected Sanitary Landfill B, CC-A27 - Suspected Sanitary Landfill C, CC-A28 - Non-Authorized Debris Landfill, CC-A29 - Mason Pit Debris Fill, CC-C08D10 - Bldg 2585 Inactive WashRack&GritCha, CC-C11D11 - Bldg 715 Washrack & Oil/Water Separ, CC-E01 - Bldg 3232 Waste POL & Empty Drum Storage, CC-E06 - Building T-1423 Waste POL Storage Area, CC-E09 - North Golf Course Waste POL Storage, CC-E14 - Building 1939 Waste POL Storage Area, CC-I02 - Building 307 Acid Neutralization Pi, CC-L05 - Bldg 307 Concrete Apron Disposal Area, CC-L09 - Former Coal Storage Area In-Ground Concr, CC-L33 - Building 326 Ditch Cont. by Oil Spi, CC-L45 - Sewage Treatment Plant #1, CC_E10 - Building 328 Waste POL Storage Area)
1990	
ISC	(CC-MPS2009 - PSAs 2009, 2033, and 2034)
1992	
RFA	(CC-N03F09 - Building 788 Abandoned Tank Storage, CC-N05 - Building 328A Oil/Water Separator, CC-N20 - Building 1330 Waste POL Storage Are, CC-N23 - Post Dump)
1996	
CS	(CC-A14 - DRMO Salvage Storage Area)
1997	
IRA	(CC-MPS2009 - PSAs 2009, 2033, and 2034)
ISC	(CCBLDG2209 - Bldg 2209/2217- Former Military Barracks)
INV	(CC-MPS2009 - PSAs 2009, 2033, and 2034)
1998	
INV	(CCBLDG2209 - Bldg 2209/2217- Former Military Barracks)
1999	
RFA	(CC-F06 - Building 1906 Aboveground Waste POL Tank)
ISC	(CCBLDG305 - Bldg 305 - Research & Development Center)
CS	(CC-A15 - Demolition Range)
2001	
CAP	(CCBLDG3161 - Bg 3161- Davison Army Airfield Fuel Yard, CCBLDG773 - Former Building 773)
ISC	(CCBLDG3161 - Bg 3161- Davison Army Airfield Fuel Yard, CCBLDG773 - Former Building 773)
2002	
IMP(C)	(CCBLDG3161 - Bg 3161- Davison Army Airfield Fuel Yard)
INV	(CCBLDG1124 - Bldg 1124 - Vehicle Fueling Facility)

2003	
CMI(C)	(CC-A15 - Demolition Range)
IMP(C)	(CCBLDG773 - Former Building 773)
2005	
INV	(CCBLDG305 - Bldg 305 - Research & Development Center)
2007	
CAP	(CCBLDG1124 - Bldg 1124 - Vehicle Fueling Facility, CCBLDG2209 - Bldg 2209/2217- Former Military Barracks, CCBLDG305 - Bldg 305 - Research & Development Center)
IMP(O)	(CCBLDG773 - Former Building 773)
2008	
IMP(C)	(CCBLDG2209 - Bldg 2209/2217- Former Military Barracks, CCBLDG305 - Bldg 305 - Research & Development Center)
2009	
IMP(C)	(CCBLDG1124 - Bldg 1124 - Vehicle Fueling Facility)
CS	(CC-A025 - Suspected Sanitary/Debris Landfill A, CC-A04A23 - Former Coal Storage Area & PCB Spill Sit, CC-A05 - Road and Grounds/Land Mgmt Storage Area, CC-A06 - Kingman Road Landfill, CC-A08A16 - GW Village Landfill & Interceptor T, CC-A09 - Markham School Landfill & Intercept, CC-A12 - Accotink Landfill, CC-A18 - Active Coal Storage Wstwtr Trmt Unit 1, CC-A19 - Active Coal Storage Wstwtr Trmt Unit 2, CC-A24 - Former DPDO Storage Area- PCB Spill, CC-A26 - Suspected Sanitary Landfill B, CC-A28 - Non-Authorized Debris Landfill, CC-E01 - Bldg 3232 Waste POL & Empty Drum Storage, CC-E06 - Building T-1423 Waste POL Storage Area, CC-E14 - Building 1939 Waste POL Storage Area, CC-F06 - Building 1906 Aboveground Waste POL Tank, CC-L05 - Bldg 307 Concrete Apron Disposal Area, CC-L09 - Former Coal Storage Area In-Ground Concr, CC-L45 - Sewage Treatment Plant #1, CC-N23 - Post Dump, CC_E10 - Building 328 Waste POL Storage Area)
SI	(CC-AOPC-20 BNA - Contaminated Soil and Groundwater)
ISC	(CC-MP1 - Former POL Area at Accotink Landfil)
PA	(CC-AOPC-20 BNA - Contaminated Soil and Groundwater)
2010	
LTM	(CCBLDG773 - Former Building 773)
IMP(O)	(CCBLDG305 - Bldg 305 - Research & Development Center)
CS	(CC-A29 - Mason Pit Debris Fill)
ISC	(CC-G13 - B1453 Former USTs & Related Contam., CC-MP3 - Arts & Crafts Cntr Petroleum Cont.)
RFI/CMS	(CC-A28 - Non-Authorized Debris Landfill)
RFA	(CC-DAAF1 - DAAF Flight Tower, CC-MP2 - 1124 PCE detections, CC-MP4 - Contaminated Soil at 9th and Gunsto, CCPBA@Belvoir - PBA@IR and CR Belvoir)
2011	
LTM	(CCBLDG305 - Bldg 305 - Research & Development Center)
ISC	(CC-MP7 - Future OSEG Facility)
RFA	(CC-MP5 - Recycle Center Contaminated Soil, CC-MP6 - 1425 Pipeline Contamination, CC-MP8 - AAFES Shoppette Project)
IRA	(CC-G13 - B1453 Former USTs & Related Contam., CC-MP3 - Arts & Crafts Cntr Petroleum Cont., CC-MP4 - Contaminated Soil at 9th and Gunsto, CC-MP7 - Future OSEG Facility)
INV	(CC-G13 - B1453 Former USTs & Related Contam., CC-MP7 - Future OSEG Facility)
2012	
CS	(CC-A13 - DRMO Spoil Fill, CC-L33 - Building 326 Ditch Cont. by Oil Spi, CC-N20 - Building 1330 Waste POL Storage Are)
RFA	(CC-MP9 - Old Dump)
INV	(CC-MP3 - Arts & Crafts Cntr Petroleum Cont.)

RFI/CMS	(CC-MP4 - Contaminated Soil at 9th and Gunsto)
2013	
CS	(CC-A27 - Suspected Sanitary Landfill C, CC-C08D10 - Bldg 2585 Inactive WashRack&GritCha, CC-C11D11 - Bldg 715 Washrack & Oil/Water Separ, CC-I02 - Building 307 Acid Neutralization Pi, CC-N03F09 - Building 788 Abandoned Tank Storage, CC-N05 - Building 328A Oil/Water Separator)
IRA	(CC-AOPC-20 BNA - Contaminated Soil and Groundwater)
RFI/CMS	(CC-A025 - Suspected Sanitary/Debris Landfill A, CC-A06 - Kingman Road Landfill, CC-A07 - Mulligan Road Landfill, CC-A18 - Active Coal Storage Wstwtr Trmt Unit 1, CC-A19 - Active Coal Storage Wstwtr Trmt Unit 2, CC-A26 - Suspected Sanitary Landfill B, CC-L05 - Bldg 307 Concrete Apron Disposal Area, CC-MP8 - AAFES Shoppette Project, CC-N23 - Post Dump)
RFA	(CC-MP10 - 21st Street Liquid Dump Site)
IMP(O)	(CCBLDG1124 - Bldg 1124 - Vehicle Fueling Facility, CCBLDG2209 - Bldg 2209/2217- Former Military Barracks)
CMI(C)	(CC-MP6 - 1425 Pipeline Contamination, CC-MP8 - AAFES Shoppette Project)
2014	
LTM	(CCBLDG1124 - Bldg 1124 - Vehicle Fueling Facility, CCBLDG2209 - Bldg 2209/2217- Former Military Barracks)
IMP(O)	(CCBLDG3161 - Bg 3161- Davison Army Airfield Fuel Yard)
RFI/CMS	(CC-A05 - Road and Grounds/Land Mgmt Storage Area, CC-A08A16 - GW Village Landfill & Interceptor T, CC-A09 - Markham School Landfill & Intercept, CC-A11 - POE Road Landfill, CC-A12 - Accotink Landfill, CC-A14 - DRMO Salvage Storage Area, CC-DAAF1 - DAAF Flight Tower, CC-E01 - Bldg 3232 Waste POL & Empty Drum Storage, CC-E06 - Building T-1423 Waste POL Storage Area, CC-E14 - Building 1939 Waste POL Storage Area, CC-F06 - Building 1906 Aboveground Waste POL Tank, CCPBA@Belvoir - PBA@IR and CR Belvoir, CC_E10 - Building 328 Waste POL Storage Area)
CS	(CC-E09 - North Golf Course Waste POL Storage)
CMI(O)	(CCPBA@Belvoir - PBA@IR and CR Belvoir)
CMI(C)	(CCPBA@Belvoir - PBA@IR and CR Belvoir)

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
CC-A05	Road and Grounds/Land Mgmt Storage Area	Internal Decision Document for A05	20151030
CC-A09	Markham School Landfill & Intercept	Internal Dec Doc for A08 A09 A11 A12	20151030
CC-A11	POE Road Landfill	Internal Dec Doc for A08 A09 A11 A12	20151030
CC-A12	Accotink Landfill	Internal Dec Doc for A08 A09 A11 A12	20151030
CC-A08A16	GW Village Landfill & Interceptor T	Internal Dec Doc for A08 A09 A11 A12	20151030

Final RA(C) Completion Date: 201809

Schedule for Next Five-Year Review: 2017

Estimated Completion Date of CR at Installation (including LTM phase): 204509

FORT BELVOIR CR Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A025	Suspected Sanitary/Debris Landfill A	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A04A23	Former Coal Storage Area & PCB Spill Sit	CMI(C)						
		CMI(O)						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A05	Road and Grounds/Land Mgmt Storage Area	CMI(C)						
		CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A06	Kingman Road Landfill	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A07	Mulligan Road Landfill	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A08A16	GW Village Landfill & Interceptor T	CMI(C)						
		CMI(O)						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A09	Markham School Landfill & Intercept	CMI(C)						
		CMI(O)						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A11	POE Road Landfill	CMI(C)						
		CMI(O)						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A12	Accotink Landfill	CMI(C)						
		CMI(O)						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A13	DRMO Spoil Fill	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A15	Demolition Range	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A24	Former DPDO Storage Area- PCB Spill	CMI(C)						
		CMI(O)						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A26	Suspected Sanitary Landfill B	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A27	Suspected Sanitary Landfill C	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A28	Non-Authorized Debris Landfill	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-A29	Mason Pit Debris Fill	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-AOPC-20 BNA	Contaminated Soil and Groundwater	RI/FS						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-C08D10	Bldg 2585 Inactive WashRack&GritCha	LTM						

FORT BELVOIR CR Schedule

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC-C11D11	Bldg 715 Washrack & Oil/Water Separ	LTM						
CC-E06	Building T-1423 Waste POL Storage Area	LTM						
CC-E09	North Golf Course Waste POL Storage	LTM						
CC-E14	Building 1939 Waste POL Storage Area	LTM						
CC-I02	Building 307 Acid Neutralization Pi	LTM						
CC-L09	Former Coal Storage Area In-Ground Concr	RFI/CMS						
		IRA						
CC-L33	Building 326 Ditch Cont. by Oil Spi	LTM						
CC-L45	Sewage Treatment Plant #1	RFI/CMS						
		DES						
		CMI(C)						
CC-MP10	21st Street Liquid Dump Site	RFI/CMS						
CC-MP2	1124 PCE detections	RFI/CMS						
CC-MP5	Recycle Center Contaminated Soil	RFI/CMS						
CC-MP9	Old Dump	RFI/CMS						
CC-MPS2009	PSAs 2009, 2033, and 2034	CAP						
CC-N03F09	Building 788 Abandoned Tank Storage	LTM						
CC-N05	Building 328A Oil/Water Separator	LTM						
CC-N20	Building 1330 Waste POL Storage Are	LTM						
CC-N23	Post Dump	LTM						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 201409

Restoration Advisory Board (RAB): No

Reason Not Established: The community has expressed no sufficient, sustained interest in a RAB.

Community Interest Solicited on: 201303

Efforts Taken to Determine Interest

The latest notice soliciting for community interest was placed in the Washington Post, Mount Vernon Gazette and Springfield Connection newspaper on March 21, 2013. The notice was also published on the Fort Belvoir webpage and Fort Belvoir Eagle.

Results

There has been no interest from the public in forming a RAB.

Follow-up Procedures

Fort Belvoir will solicit for interest again in March 2015.

Additional Community Involvement Information

Fort Belvoir received regulator approval of revised community involvement plan in September 2014.

Administrative Record is located at

US Army Garrison Fort Belvoir
Directorate of Public Works,
Room 203
9430 Jackson Loop
Fort Belvoir, VA 22060-5116

Information Repository is located at

Lorton Library
9520 Richmond Highway
Lorton, VA 22079-2124
703-704-6000

Kingstowne Library
6500 Landsdowne Centre
Alexandria, VA 22315-5011
703-339-4610

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

TAPP Title: N/A

Potential TAPP: N/A