

**FY2016**

**BLOSSOM POINT RESEARCH FACILITY**  
**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, and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the installation restoration manager, the US Army Environmental Command (USAEC), Blossom Point Research Facility (BPRF), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and budgets for all major Army installation cleanup programs.

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

## Acronyms

AEDB-R	Army Environmental Database - Restoration
ALC	Adelphi Laboratory Center
BPRF	Blossom Point Research Facility
CA	Corrective Action
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
DD	Decision Document
EE/CA	Engineering Evaluation/Cost Analysis
ESTCP	Environmental Security Technology Certification Program
FRA	Final Remedial Action
FS	Feasibility Study
FY	Fiscal Year
GW	Groundwater
HRR	Historical Records Review
IAP	Installation Action Plan
IMCOM	Installation Management Command
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LTM	Long-Term Management
LUC	Land Use Control
LUCIP	Land Use Control Implementation Plan
MC	Munitions Constituent
MD	Maryland
MDE	Maryland Department of the Environment
MEC	Munitions and Explosives of Concern
mm	millimeter
MMRP	Military Munitions Response Program
MPPEH	Material Potentially Presenting an Explosive Hazard
MRS	Munitions Response Site
NFA	No Further Action
NPL	National Priority List
NTCRA	Non-Time Critical Removal Action
PA	Preliminary Assessment
PBA	Performance-Based Acquisition
PP	Proposed Plan
RA	Remedial Action
RAB	Restoration Advisory Board
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SI	Site Inspection
TAL	Target Analyte List
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
USACE	US Army Corps of Engineers
USAG	US Army Garrison

# Acronyms

USEPA US Environmental Protection Agency

# Installation Information

## Installation Locale

**Installation Size (Acreage):** 1600

**City:** La Plata

**County:** Charles

**State:** Maryland (MD)

## Other Locale Information

BPRF is a 1,600-acre installation located on Cedar Neck Point, at the confluence of Nanjemoy Creek and the Potomac River, at the southern tip of Charles County, MD. It is approximately 50 miles south of Washington, DC and nine miles southwest of La Plata, MD. Access to this facility from US 301 is via MD Route 6 and Blossom Point Road.

## Installation Mission

The mission of BPRF is to:

- operate and maintain an ordnance and electronics research facility as a remote site of the US Army Garrison (USAG) Adelphi Laboratory Center (ALC);
- support the Acoustic/Electro-Optic Propagation Research Site operated by the US Army Research Laboratory; and
- provide reimbursable, customer-supported explosives range facility operations for Army Research Laboratory and other Department of Defense and federal agencies.

## Lead Organization

IMCOM

## Lead Executing Agencies for Installation

US Army Corps of Engineers (USACE), Baltimore District

## Regulator Participation

<b>Federal</b>	US Environmental Protection Agency (USEPA), Region III
<b>State</b>	Maryland Department of the Environment (MDE)

## National Priorities List (NPL) Status

BLOSSOM POINT RESEARCH FACILITY 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 Program Summaries

### IRP

**Primary Contaminants of Concern:** Metals, Munitions and explosives of concern (MEC)

**Affected Media of Concern:** Groundwater, Soil

### MMRP

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

**Affected Media of Concern:** Sediment, Surface Water

## 5-Year / Periodic Review Summary

### 5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Planned	202306	202306	2023

### 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
All Sites DD	BPF-002-R-01, BPF-002-R-03, BPF-003-R-01, BPF-012



## Land Use Control (LUC) Summary

**LUC Title:** All Sites LUC

**Site(s):** BPF-002-R-01, BPF-002-R-03, BPF-003-R-01, BPF-012

**ROD/DD Title:** All Sites DD

**Location of LUC**

Nanjemoy Creek and adjacent shoreline areas

**Land Use Restriction:** Landfill restriction - Restrict access to the site, Media specific - Prohibit activities that results in contact with contaminated sediments, Media specific restriction - Prohibit swimming and/or wading, Media specific restriction - Restrict activities in surface water that result in contact with contaminated bottom sediments such as boating, diving, and swimming

**Types of Engineering Controls:** Signs

**Types of Institutional Controls:** Restrictions on land use

**Date in Place:** 201809

**Modification Date:** N/A

**Date Terminated:** N/A

**Inspecting Organization:** Installation

**Record of LUC:** Master Plan or Equivalent

**Documentation Date:** 201609

**LUC Enforcement:** Annual Inspections, 5 Year Reviews

**Contaminants:** METALS, Unexploded Ordnance(UXO)

**Additional Information**

N/A

# Cleanup Program Summary

## Installation Historic Activity

In December 2003, a preliminary assessment (PA) was completed and three Military Munitions Response Program (MMRP) sites were identified. In May 2006, a historical records review (HRR) was completed. Information collected for the HRR determined that the mortar range fan (BPF-001-R-01) never existed. In March 2007, a MMRP site inspection (SI) was completed and this resulted in the Munitions Response Site Prioritization Protocol scoring of four MMRP sites. One site, Potomac River North (BPF-002-R-02), was recommended for no further action (NFA) based on the findings of the SI.

An engineering evaluation/cost analysis (EE/CA), completed in April 2008, recommended a non-time critical removal action (NTCRA) to address munitions and explosives of concern (MEC) in Nanjemoy Creek (BPF-002-R-01) and Potomac River South (BPF-002-R-03). An action memorandum was prepared which documented the selected alternative. In August 2008 the final action memorandum approving all of the selected interim remedial actions (IRA) for munitions at BPRF for the Nanjemoy Creek munitions response site (MRS) and Potomac River South MRS was signed by the Deputy Garrison Manager, Mr. Joel Salmons. A three-year NTCRA contract was awarded in fall 2008. NTCRA actions were completed in August 2011. Completed actions include:

- (1) Installation of a 600-foot erosion control barrier along a portion of the Nanjemoy Creek shoreline.
- (2) Distribution of public education pamphlets and posters at 14 different marinas within a 15-mile radius of the BPRF,
- (3) Updating of the navigation charts for BPRF water courses,
- (4) Annual surface sweeps of approximately 9.5 acres of shoreline along the Nanjemoy Creek and Potomac River South MRSs, and,
- (5) Posting of signage along the two MRS shorelines depicting, "DANGER," "EXPLOSIVE HAZARD" and "KEEP OUT."

A remedial investigation (RI) was awarded in June 2010 and was completed in March 2014. All open sites are currently undergoing a feasibility study (FS), which is expected to be completed in fiscal year (FY)17.

## Installation Program Cleanup Progress

### IRP

**Prior Year Progress:** BPF-012 was reopened to accommodate work for Landfill 1.

**Future Plan of Action:** A removal action will be executed at BPF-012 to address soil contamination that is believed to be an ongoing source of groundwater contamination. RA(O) will be performed for groundwater until remedial goals are met, then long-term management (LTM) will commence indefinitely.

### MMRP

**Prior Year Progress:** A removal action will be executed at BPF-012 to address soil contamination that is believed to be an ongoing source of groundwater contamination. RA(O) will be performed for groundwater until remedial goals are met, then long-term management (LTM) will commence indefinitely.

**Future Plan of Action:** BPF-002-R-01, BPF-002-R-03, and BPF-003-R-01 will have the RI/FS completed in FY17 and then will enter the LTM phase.

**BLOSSOM POINT RESEARCH FACILITY**  
**Army Defense Environmental Restoration Program**  
**Installation Restoration Program**

# IRP Summary

**Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count:** 26/25

**Installation Site Types with Future and/or Underway Phases**

1 Landfill  
(BPF-012)

**Most Widespread Contaminants of Concern**

Metals, Munitions and explosives of concern (MEC)

**Media of Concern**

Groundwater, Soil

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

Site ID	Site Name	Action	Remedy	FY
N/A				

**Duration of IRP**

**Date of IRP Inception:** 198104

**Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC):** 201708/202008

**Date of IRP completion including Long Term Management (LTM):** 204608

# IRP Contamination Assessment

## Contamination Assessment Overview

In March 2014, an RI report was finalized for three munitions response sites at Blossom Point Research Facility: Nanjemoy Creek (BPF-002-R-01); Potomac River South (BPF-002-R-03) and Water Range Fan (BPF-003-R-01). Landfill 1 is located within the boundary of the Nanjemoy Creek Munition Response Site (BPF-002-R-01). Although no MEC was found in the area during the RI, scrap metal and other waste material was identified in Landfill 1 and groundwater samples collected downgradient of Landfill 1 contained target analyte list (TAL) metals and chromium above regulatory limits. It was therefore determined that Landfill 1 should be removed from the Nanjemoy Creek Munitions Response Site and AEDB-R site BPF-012 should be reopened to address the waste material and groundwater contamination.

## Cleanup Exit Strategy

A removal action will be executed to excavate surface soil waste material that is believed to be the main contributor to the existing groundwater contamination. RA(O) will be conducted until remedial goals are met and then LTM will continue indefinitely.

## IRP Previous Studies

2014

Title	Author	Date
Final RI	Earth Resources Technology, Inc.	MAR-2014

# **BLOSSOM POINT RESEARCH FACILITY**

## **Installation Restoration Program**

### **Site Descriptions**

**Site ID: BPF-012**

**Site Name: LANDFILL 1 AND JUNKYARD**

**STATUS**

**Regulatory Driver:** CERCLA

**RRSE:** NOT EVALUATED

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

Media of Concern: Groundwater, Sediment

<b>Phases</b>	<b>Start</b>	<b>End</b>
PA.....	198104.....	198107
SI.....	198104.....	198107
RI/FS.....	198802.....	201707
RA(C).....	201606.....	201707
RA(O).....	201708.....	202008
LTM.....	202008.....	204608
<b>RIP Date:</b>	201708	
<b>RC Date:</b>	202008	

**SITE DESCRIPTION**

In March 2014, an RI report was finalized for three munitions response sites at Blossom Point Research Facility: Nanjemoy Creek (BPF-002-R-01); Potomac River South (BPF-002-R-03) and Water Range Fan(BPF-003-R-01). Landfill 1 is located within the boundary of the Nanjemoy Creek Munition Response Site (BPF-002-R-01). Although no MEC was found in the area during the RI, scrap metal and other waste material was identified in Landfill 1 and groundwater samples collected downgradient of Landfill 1 contained TAL metals and chromium above regulatory limits. It was therefore determined that Landfill 1 should be removed from the Nanjemoy Creek Munitions Response Site and AEDB-R site BPF-012 should be reopened to address the waste material and groundwater contamination.

An IRA will be executed to excavate surface soil waste material that is believed to be the main contributor to the existing groundwater contamination.

After the removal action, groundwater will be sampled on a biannual basis until As and Pb show a decreasing trend and no other contaminants exceed regulatory levels.

**CLEANUP/EXIT STRATEGY**

A removal action will be executed to excavate surface soil waste material that is believed to be the main contributor to the existing groundwater contamination. RA(O) will be conducted until remedial goals are met and then LTM will continue indefinitely.



## Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
BPF-003	RANGE 1	199008	
BPF-004	RANGE 2 (WATER RANGE)	199008	
BPF-005	RANGE 3	199008	
BPF-006	RANGE 4 (WATER RANGE)	199008	
BPF-007	RANGE 5	199008	
BPF-008	RANGE 6	199008	
BPF-009	UNDERGROUND STORAGE TANKS (3)	199008	
BPF-010	UNDERGROUND STORAGE TANK	199008	
BPF-013	LANDFILL 2	199008	
BPF-014	LANDFILL 3	199611	
BPF-015	LANDFILL 4	199008	
BPF-016	LANDFILL 5	199008	
BPF-017	LANDFILL 6	199008	
BPF-018	LANDFILL 7	199611	
BPF-019	LANDFILL 8	199008	
BPF-022	SHORELINE STABILIZATION AREA	199008	
BPF-023	DETONATION/BURNING AREA 1	199008	
BPF-024	DETONATION AREA 2	199008	
BPF-025	BURN PIT	199008	
BPF-026	BRITISH ORDNANCE DETONATION AREA	199008	
BPF-027	HERBICIDE CONTAMINATED AREA	199008	
BPF-028	PESTICIDE STORAGE AREA	199008	
BPF-029	SEPTIC TANK/DRY WELL	199008	
BPF-030	MAINTENANCE SHOP, BLDG 507	199008	
BPF-031	FORMER AMMO STORAGE AREA	199008	

# IRP Schedule

**Date of IRP Inception:** 198104

**Past Phase Completion Milestones**

**1981**

ISC (BPF-009 - UNDERGROUND STORAGE TANKS (3), BPF-010 - UNDERGROUND STORAGE TANK)  
 PA (BPF-003 - RANGE 1, BPF-004 - RANGE 2 (WATER RANGE), BPF-005 - RANGE 3, BPF-006 - RANGE 4 (WATER RANGE), BPF-007 - RANGE 5, BPF-008 - RANGE 6, BPF-012 - LANDFILL 1 AND JUNKYARD, BPF-013 - LANDFILL 2, BPF-014 - LANDFILL 3, BPF-015 - LANDFILL 4, BPF-016 - LANDFILL 5, BPF-017 - LANDFILL 6, BPF-018 - LANDFILL 7, BPF-022 - SHORELINE STABILIZATION AREA, BPF-023 - DETONATION/BURNING AREA 1, BPF-024 - DETONATION AREA 2, BPF-025 - BURN PIT, BPF-026 - BRITISH ORDNANCE DETONATION AREA, BPF-027 - HERBICIDE CONTAMINATED AREA, BPF-028 - PESTICIDE STORAGE AREA, BPF-029 - SEPTIC TANK/DRY WELL, BPF-030 - MAINTENANCE SHOP, BLDG 507, BPF-031 - FORMER AMMO STORAGE AREA)  
 SI (BPF-003 - RANGE 1, BPF-004 - RANGE 2 (WATER RANGE), BPF-005 - RANGE 3, BPF-006 - RANGE 4 (WATER RANGE), BPF-007 - RANGE 5, BPF-008 - RANGE 6, BPF-012 - LANDFILL 1 AND JUNKYARD, BPF-013 - LANDFILL 2, BPF-014 - LANDFILL 3, BPF-015 - LANDFILL 4, BPF-016 - LANDFILL 5, BPF-017 - LANDFILL 6, BPF-018 - LANDFILL 7, BPF-022 - SHORELINE STABILIZATION AREA, BPF-023 - DETONATION/BURNING AREA 1, BPF-024 - DETONATION AREA 2, BPF-025 - BURN PIT, BPF-026 - BRITISH ORDNANCE DETONATION AREA, BPF-027 - HERBICIDE CONTAMINATED AREA, BPF-028 - PESTICIDE STORAGE AREA, BPF-029 - SEPTIC TANK/DRY WELL, BPF-030 - MAINTENANCE SHOP, BLDG 507, BPF-031 - FORMER AMMO STORAGE AREA)  
 INV (BPF-009 - UNDERGROUND STORAGE TANKS (3), BPF-010 - UNDERGROUND STORAGE TANK)

**1988**

PA (BPF-019 - LANDFILL 8)  
 SI (BPF-019 - LANDFILL 8)

**1990**

RI/FS (BPF-003 - RANGE 1, BPF-004 - RANGE 2 (WATER RANGE), BPF-005 - RANGE 3, BPF-006 - RANGE 4 (WATER RANGE), BPF-007 - RANGE 5, BPF-008 - RANGE 6, BPF-013 - LANDFILL 2, BPF-015 - LANDFILL 4, BPF-016 - LANDFILL 5, BPF-017 - LANDFILL 6, BPF-019 - LANDFILL 8, BPF-022 - SHORELINE STABILIZATION AREA, BPF-023 - DETONATION/BURNING AREA 1, BPF-024 - DETONATION AREA 2, BPF-025 - BURN PIT, BPF-026 - BRITISH ORDNANCE DETONATION AREA, BPF-027 - HERBICIDE CONTAMINATED AREA, BPF-028 - PESTICIDE STORAGE AREA, BPF-029 - SEPTIC TANK/DRY WELL, BPF-030 - MAINTENANCE SHOP, BLDG 507, BPF-031 - FORMER AMMO STORAGE AREA)  
 CAP (BPF-009 - UNDERGROUND STORAGE TANKS (3), BPF-010 - UNDERGROUND STORAGE TANK)

**1997**

RI/FS (BPF-014 - LANDFILL 3, BPF-018 - LANDFILL 7)

**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
BPF-012	LANDFILL 1 AND JUNKYARD	All Sites DD	20180730

**Final RA(C) Completion Date:** 201707

**Schedule for Next Five-Year Review:** 2023

**Estimated Completion Date of IRP at Installation (including LTM phase):** 204608

## BLOSSOM POINT RESEARCH FACILITY IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
BPF-012	LANDFILL 1 AND JUNKYARD	RI/FS						
		RA(C)						
		RA(O)						
		LTM						

**BLOSSOM POINT RESEARCH FACILITY**  
**Army Defense Environmental Restoration Program**  
**Military Munitions Response Program**

# MMRP Summary

**Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count:** 6/3

**Installation Site Types with Future and/or Underway Phases**

3 Unexploded Munitions/Ordnance  
(BPF-002-R-01, BPF-002-R-03, BPF-003-R-01)

**Most Widespread Contaminants of Concern**

Munitions and explosives of concern (MEC), Munitions constituents (MC)

**Media of Concern**

Sediment, Surface Water

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

Site ID	Site Name	Action	Remedy	FY
BPF-002-R-01	Nanjemoy Creek	IRA	UXO CLEARANCE	2011
PBA@MR BPF	PBA@MR BPRF	IRA	UXO CLEARANCE	2012

**Duration of MMRP**

**Date of MMRP Inception** 200306

**Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC):** 201612/201612

**Date of MMRP completion including Long Term Management (LTM):** 204607

# MMRP Contamination Assessment

## Contamination Assessment Overview

In December 2003, the Phase III Army range inventory was completed at BPRF. The inventory identified three multi-use sites as eligible for the MMRP: the mortar range fan, the shoreline range fan, and the water range fan. The Phase III inventory serves as the PA, under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended.

The HRR completed in May 2006 resulted in the mortar range fan (BPF-001-R-01) being recommended for, and subsequently classified as, NFA. The SI report, completed in March 2007, resulted in division of the shoreline range fan (BPF002-R) munitions response area into three MRS:

- Nanjemoy Creek (BPF-002-R-01),
- Potomac River North (BPF-002-R-02), and
- Potomac River South (BPF-002-R-03).

The EE/CA completed in April 2008 recommended a NTCRA to address MEC in BPF-002-R-01 and BPF-002-R-03. An action memorandum was prepared which documented the selected alternative and the NTCRA was awarded in FY08. Operational range boundaries were adjusted in FY08 to add Landfill No. 1 acreage to BPF-002-R-01. The presence of MEC in Potomac River sediments, BPF-003-R-01, was confirmed by the Environmental Security Technology Certification Program (ESTCP) conducted in the first quarter of FY08. The ESTCPs report was finalized on August 20, 2009.

The NTCRA in BPF-002-R-01 and BPF-002-R-03 was implemented in FY09 with program funding for three years and was completed in FY11. The NTCRA included construction of additional shoreline protection in BPF-002-R-01 to prevent potential MEC and munitions debris from eroding out of the slope above the shoreline. Land use controls (LUC) including as annual surface sweeps, signage, notice to mariners, and public education were part of the selected alternative for both sites. The RI for the three BPRF MMRP sites was awarded by Baltimore USACE on June 30, 2010 and extended through March 28, 2014. An FS is currently underway.

A draft RI report for the three MRSs was released for Department of Defense review in April 2013. A draft final RI was completed in November 2013. The final RI was completed in March 2014.

## Cleanup Exit Strategy

All open sites currently have an FS underway. All sites are expected to have indefinite LTM.

## MMRP Previous Studies

Year	Title	Author	Date
2003	Closed, Transferring, and Transferred Range/Site Inventory Report II	Adelphi Laboratory Center	DEC-2003
2006	Final HRR Report, Adelphi Laboratory Center, BPRF, MD	Malcolm Pirnie, Inc. under contract to the USACE, Baltimore District	MAY-2006
	Final SI Work Plan Report, Adelphi Laboratory Center, BPRF, MD	Malcolm Pirnie, Inc. under contract to the USACE, Baltimore District	AUG-2006
2007	Final SI Report, Adelphi Laboratory Center, BPRF, MD	Malcolm Pirnie, Inc. under contract to the USACE, Baltimore District	MAR-2007
	Final EE/CA Work Plan, Adelphi Laboratory Center, Blossom Point Research Facility, MD	Malcolm Pirnie, Inc.	OCT-2007
2008	Final EE/CA Report, Adelphi Laboratory Center, Blossom Point Research Facility, MD	Malcolm Pirnie, Inc.	APR-2008
	Final Action Memorandum, EE/CA Report, BPRF, MD (signed by Deputy Garrison Manager, August 2008)	Malcolm Pirnie, Inc.	JUL-2008
	Final Project Management Plan, MMRP, NTCRA	Jacobs Engineering/Malcolm Pirnie, Inc.	NOV-2008
2009	Final Explosives Safety Submission, MMRP, NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	FEB-2009
	Final Land Use Control Plan, MMRP, NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	MAR-2009
	Final Annual Surface Sweep Work Plan, MMRP, NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	MAY-2009
	First Annual Surface Sweep After Action Report, MMRP, NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	JUL-2009
	Final Construction Work Plan MMRP NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	AUG-2009
	First Annual Surface Sweep After Action Report, MMRP NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	AUG-2009
	Final Erosion and Sediment Control Plan and 100% Design Submittal for Revetment Construction, MMRP, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	AUG-2009
2010	Final Non-Time Critical Removal Action Report, MMRP, BPRF	Malcolm Pirnie / Jacobs Engineering Group	FEB-2010
	Final Second Annual Surface Sweep After Action Report, MMRP, NTCRA, BPRF	Malcolm Pirnie, Inc. / Jacobs Engineering Group	JUL-2010
2011	Draft-Final RI Workplan, BPRF	Earth Resources Technology, Inc.	JUL-2011

## MMRP Previous Studies

	<b>Title</b>	<b>Author</b>	<b>Date</b>
<b>2011</b>			
	Final Third Annual Surface Sweep After Action Report, MMRP, NTCRA	Jacobs Engineering	AUG-2011
<b>2012</b>			
	Final Remedial Investigation Workplan, BPRF	Earth Resources Technology, Inc.	MAR-2012
<b>2014</b>			
	Remedial Investigation	Earth Resource Technologies Inc.	MAR-2014



**BLOSSOM POINT RESEARCH FACILITY**  
**Military Munitions Response Program**  
**Site Descriptions**

**Site ID: BPF-002-R-01**  
**Site Name: Nanjemoy Creek**

**STATUS**

**Regulatory Driver:** CERCLA  
**MRSPP Score:** 05  
Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)  
Media of Concern: Sediment, Surface Water

Phases	Start	End
PA.....	200306.....	200312
SI.....	200508.....	200703
RI/FS.....	201006.....	201612
IRA.....	200703.....	201109
LTM.....	201701.....	204607

**RIP Date:** N/A  
**RC Date:** 201612

**SITE DESCRIPTION**

The Nanjemoy Creek MRS consists of 7.1 acres defined by a 30-foot wide swath of land extending from the bluff that surrounds the installation towards Nanjemoy Creek. The site covers the area along the coastline of Nanjemoy Creek, which extends south from the northwest installation boundary to the southwestern most tip at BPRF. Depending on tidal effects, a significant portion of the Nanjemoy Creek MRS is submerged in shallow water.

The Nanjemoy Creek MRS contains hazards from MEC and material potentially presenting an explosive hazard (MPPEH) related to historical operations. During the SI, MPPEH was encountered in three locations, but was not conclusively identified as MEC by the responding explosive ordnance division unit.

The EE/CA was completed at this site during the IRA phase. The costs for the MEC RA conducted during the IRA phase at this site included the costs for the MEC RA that was conducted during the IRA phase for site BPF-002-R-03.

Operational range boundaries were adjusted in FY08 to add Landfill No. 1 acreage to BPF-002-R-01. This MRS encompasses 7.1 acres. A final RI report was released on March 28, 2014.

The draft final FS was submitted for review in November 2015. Within the current contract, options are available for a proposed plan (PP)/ decision document (DD) and LTM. LTM in the form of LUC maintenance will be conducted through FY46.

**CLEANUP/EXIT STRATEGY**

A land use control implementation plan (LUCIP) will be completed for shoreline sweep and signage implementation. Then LUC maintenance and five-year reviews will be conducted indefinitely. The first five-year review will be conducted in 2023.

**Site ID: BPF-002-R-03**  
**Site Name: Potomac River South**

**STATUS**

**Regulatory Driver:** CERCLA

**MRSPP Score:** 05

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

Media of Concern: Sediment, Surface Water

<b>Phases</b>	<b>Start</b>	<b>End</b>
PA.....	200306.....	200312
SI.....	200508.....	200703
RI/FS.....	201006.....	201612
IRA.....	200703.....	201109
LTM.....	201701.....	204601

**RIP Date:** N/A

**RC Date:** 201612

**SITE DESCRIPTION**

The Potomac River South MRS consists of a 3.3-acre 30-foot wide swath of land extending from the bluff that surrounds the installation towards the Potomac River. The site covers the area along the Potomac River that extends east from the southwestern most tip at BPRF to the operational range area (safety danger zone for Range 1) near Cedar Point. Depending on tidal effects, a significant portion of the Potomac River South MRS is submerged in shallow water.

An EE/CA was completed at this site during the IRA phase. The final RI report was released on March 28, 2014. An FS was awarded in FY14 and is underway. A PP/ DD and LTM are the future actions.

**CLEANUP/EXIT STRATEGY**

It is expected that the FS report will recommend LTM for 30 years in the form of LUCs (shoreline sweeps and signage). The first five-year review will be conducted in 2023.

**Site ID: BPF-003-R-01**  
**Site Name: Water Range Fan**

**STATUS**

**Regulatory Driver:** CERCLA  
**MRSPP Score:** 04  
Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)  
Media of Concern: Sediment, Surface Water

<b>Phases</b>	<b>Start</b>	<b>End</b>
PA.....	200306.....	200312
SI.....	200508.....	200703
RI/FS.....	201006.....	201612
LTM.....	201701.....	204601

**RIP Date:** N/A  
**RC Date:** 201612

**SITE DESCRIPTION**

This 5,413-acre transferred range fan surrounds the BPRF, and consists of 14 distinct range firing fans overlapping into the Nanjemoy Creek in the east and northeast directions and into the Potomac River to the south, southeast and east from BPRF. Between 1942 and 1976 the ranges were used for experimental testing of mortars, rockets and projectiles. The munitions fired into the range fan were 2.75-inch, 3.25-inch, 3.5-inch, 4.5-inch and 5-inch rockets; 60 millimeters (mm), 80mm and 4.2-inch mortars; 20mm, 30mm, 40mm, 75mm, and 105mm projectiles; and 20-pound and 750-pound bombs.

All of the firing points for these ranges are located within the current operational area of BPRF. The area is used for recreational purposes. MEC was confirmed in this MRS by the ESTCP technology transfer project conducted in 2007.

HRR results indicate the potential for MEC, MPPEH, and munitions debris. During a magnetometer-assisted visual survey of the adjacent Nanjemoy Creek MRS, munitions debris and MPPEH were spotted in portions of the Nanjemoy Creek MRS along the shoreline of Nanjemoy Creek. As a result of this survey, the final SI report, ALC, BPRF, MD (2007) recommended this site for an RI/FS.

A marine towed-array technology demonstration was provided by ESTCP in November 2007 to identify MEC in 5,413 acres of the Nanjemoy Creek and the Potomac River. As part of the RI, the contractor conducted three additional weeks of marine digital geophysical mapping, reacquisition and intrusive sampling during spring 2012. No MEC or MC were identified.

The final RI report was released on March 28, 2014. A FS was awarded in FY14 and is underway. A PP/ DD and LTM are the future actions.

**CLEANUP/EXIT STRATEGY**

It is expected that the FS report will recommend LTM for 30 years in the form of LUCs (shoreline sweeps and signage). The first five-year review will be conducted in 2023.

## Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
BPF-001-R-01	Mortar Range Fan	200703	According to the May 2006 HRR Report: "The Mortar Range Fan MRS was included in the Phase 3 Inventory Report but was determined to be ineligible for the MMRP based upon the lack of evidence that munitions were ever fired into the area."
BPF-002-R-02	Potomac River North	200703	According to the March 2007 SI Report: "NFA is recommended for the Potomac River North MRS based on the lack of observable MEC, MPPEH, or munitions debris related to the historic use of the site and the lack of munitions constituents in concentrations indicative of the presence of MEC."
PBA@MR BPF	PBA@MR BPRF	201201	

# MMRP Schedule

**Date of MMRP Inception** 200306

## Past Phase Completion Milestones

### 2004

PA (BPF-001-R-01 - Mortar Range Fan, BPF-002-R-01 - Nanjemoy Creek, BPF-002-R-02 - Potomac River North , BPF-002-R-03 - Potomac River South, BPF-003-R-01 - Water Range Fan, PBA@MR BPF - PBA@MR BPRF)

### 2007

SI (BPF-001-R-01 - Mortar Range Fan, BPF-002-R-01 - Nanjemoy Creek, BPF-002-R-02 - Potomac River North , BPF-002-R-03 - Potomac River South, BPF-003-R-01 - Water Range Fan, PBA@MR BPF - PBA@MR BPRF)

### 2011

IRA (BPF-002-R-01 - Nanjemoy Creek, BPF-002-R-03 - Potomac River South)

### 2012

RI/FS (PBA@MR BPF - PBA@MR BPRF)

IRA (PBA@MR BPF - PBA@MR BPRF)

## 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
BPF-003-R-01	Water Range Fan	All Sites DD	20180730
BPF-002-R-03	Potomac River South	All Sites DD	20180730
BPF-002-R-01	Nanjemoy Creek	All Sites DD	20180730

## Final RA(C) Completion Date:

**Schedule for Next Five-Year Review:** 2023

**Estimated Completion Date of MMRP at Installation (including LTM phase):** 204607

## BLOSSOM POINT RESEARCH FACILITY MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
BPF-002-R-01	Nanjemoy Creek	RI/FS						
		LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
BPF-002-R-03	Potomac River South	RI/FS						
		LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
BPF-003-R-01	Water Range Fan	RI/FS						
		LTM						

## Community Involvement

**Technical Review Committee (TRC):** None

**Community Involvement Plan (Date Published):** 201012

**Restoration Advisory Board (RAB):** No

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

**Community Interest Solicited on:** 201604

### **Efforts Taken to Determine Interest**

In February 2014, USAG ALC solicited the community to determine if there was enough interest to form a RAB.

### **Results**

A total of 12 responses were received with varying levels of interest. Consequently, the Garrison staff determined there was not sufficient interest at the time in forming a RAB.

### **Follow-up Procedures**

Solicitation for interest in establishing a RAB occurs on a biennial basis.

The most recent solicitation for the establishment of a RAB occurred in April 2016. The Community Involvement Plan will be updated in 2016.

### **Additional Community Involvement Information**

A BPRF community update meeting was held in April 2014. The USAG ALC Director of Communications and the BPRF Executive Assistant briefed interested members of the public regarding mission operations and the status of the BPRF MMRP program. The BPRF Executive Assistant and the Garrison Public Affairs Office continue to stay in touch with the community to answer questions, increase operational awareness, and keep them informed of opportunities to be involved in sustaining the BPRF mission.

### **Administrative Record is located at**

US Army Garrison Adelphi Laboratory Center  
ATTN: IMAL-PWE (Building 103, Room 107)  
2800 Powder Mill Road  
Adelphi, MD 20783  
Tel: (301) 394-3579

### **Information Repository is located at**

Charles County Public Library  
2 Garrett Avenue  
La Plata, MD 20646  
Tel: (301) 394-9001

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

**TAPP Title:** N/A

**Potential TAPP:** N/A



