Draft

Project Management Plan for the 2008 Performance-Based Acquisition of Environmental Investigation and Remediation

Revision 0

Ravenna Army Ammunition Plant
Ravenna, Ohio

October 10, 2008

Contract No. W912QR-04-D-0028
Delivery Order No. 0001

Prepared for:

United States Army Corps of Engineers
Louisville District

Prepared by:

SAIC Engineering of Ohio, Inc.
8866 Commons Boulevard, Suite 201
Twinsburg, Ohio 44087

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8866 Commons Boulevard, Suite 201
Twinsburg, OH 44087

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This Project Management Plan presents SAIC's approach to execute the 2008 Performance-Based Contract for Environmental Investigation and Remediation at the Ravenna Army Ammunition Plant.

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CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

Science Applications International Corporation (SAIC) has completed the Draft Project Management Plan for the 2008 Performance-Based Acquisition for Environmental Investigation and Remediation at the Ravenna Army Ammunition Plant, Ravenna, Ohio. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of data quality objectives; technical assumptions; methods, procedures, and materials to be used; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing United States Army Corps of Engineers policy.

M.T. Bogucki

MaryAnn Bogucki
Study/Design Team Leader

10/09/08
Date

Jed Thomas

Jed Thomas, P.E.
Independent Technical Review Team Leader

10/9/08
Date

Significant concerns and the explanation of the resolution are as follows:

Internal SAIC Independent Technical Review comments are recorded on a Document Review Record per SAIC quality assurance procedure QAAP 3.1. This Document Review Record is maintained in the project file. Changes to the report addressing the comments have been verified by the Study/Design Team Leader. As noted above, all concerns resulting from independent technical review of the project have been considered.

W. Kevin Jago

Principal w/ A-E firm

10/09/08
Date

Draft

Project Management Plan for the 2008 Performance-Based Acquisition of Environmental Investigation and Remediation

Volume One - Main Report
Version 1.0

Ravenna Army Ammunition Plant
Ravenna, Ohio

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Prepared for:
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600 Martin Luther King, Jr. Place
Louisville, Kentucky 40202

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October 10, 2008

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Katie Elgin, RTLS-ENV	1	1
Mark Patterson, RVAAP Facility Manager	2	2
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Eileen Mohr, Ohio EPA-NEDO	1	1
Bonnie Buthker, Ohio EPA-SWDO	1	1
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Kevin Jago, SAIC	1	1

Ohio EPA-NEDO = Ohio Environmental Protection Agency-Northeast District Office
Ohio EPA-SWDO = Ohio Environmental Protection Agency-Southwest District Office
REIMS = Ravenna Environmental Information Management System
RTLS-ENV = Ravenna Training and Logistics Site Environmental Specialists
RVAAP = Ravenna Army Ammunition Plant
SAIC = Science Applications International Corporation
USACE = United States Army Corps of Engineers
USAEC = Unites States Army Environmental Command

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LIST OF ACRONYMS

ADR/EMS	Automated Data Review/Environmental Data Management System
AOC	Area of Concern
BRACD	Base Realignment and Closure Division
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIH	Certified Industrial Hygienist
CQA	Certified Quality Auditor
CQAP	Contractor Quality Assurance Plan
COC	Chemical of Concern
COPC	Chemical of Potential Concern
COR	Contracting Officer's Representative
CPG	Certified Professional Geologist
CQA	Certified Quality Auditor
CQM	Construction Quality Management
CSP	Certified Safety Professional
DoD	Department of Defense
EPC	Exposure Point Concentration
ERIS	Environmental Restoration Information System
FS	Feasibility Study
FWGWMP	Facility-wide Groundwater Monitoring Program
IDW	Investigation-Derived Waste
IRP	Installation Restoration Program
LUC	Land Use Controls
MARC	Multiple Award Remediation Contract
MEC	Munitions and Explosives of Concern
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
NCP	National Contingency Plan
MRS	Munitions Response Site
NELAC	National Environmental Laboratory Accreditation Conference
NEPA	National Environmental Policy Act
NFA	No Further Action
NGB	National Guard Bureau
NTA	NACA Test Area
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
ODA#1	Open Demolition Area #1
O&M	Operations & Maintenance
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic Aromatic Hydrocarbon
PBA	Performance Based Acquisition
PE	Professional Engineer

LIST OF ACRONYMS (continued)

PG	Professional Geologist
PMP	Project Management Plan
PP	Proposed Plan
PPE	Personal Protective Equipment
PWS	Performance Work Statement
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QASP	Quality Assurance Surveillance Plan
QC	Quality Control
RA	Remedial Action
RAB	Restoration Advisory Board
RAO	Remedial Action Objective
RC	Remedy Complete
RD	Remedial Design
REIMS	RVAAP Environmental Information Management System
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RTLS	Ravenna Training and Logistics Site
RVAAP	Ravenna Army Ammunition Plant
SAIC	Science Applications International Corporation
SAP	Sampling and Analysis Plan
SC	Site Closeout
SI	Site Investigation
SSHP	Site-Specific Safety and Health Plan
SVOC	Semivolatile Organic Compound
SWPPP	Storm Water Pollution Prevention Plan
TNT	2,4,6-trinitrotoluene
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
VOC	Volatile Organic Compound
WBG	Winklepeck Burning Grounds
WOE	Weight-of-Evidence

1.0 INTRODUCTION

Science Applications International Corporation (SAIC) has been contracted by the United States Army Corps of Engineers (USACE) Louisville District to provide environmental services to achieve remedy complete, remedy in place, site closeout, or approved Record of Decision (ROD) for specified environmental media at 18 areas of concern (AOCs) at the Ravenna Army Ammunition Plant (RVAAP) in Ravenna, Ohio. The 18 AOCs to be addressed are:

- RVAAP-06: C-Block Quarry;
- RVAAP-12: Load Line 12;
- RVAAP-13: Building 1200;
- RVAAP-19 and -R-01[a]: Landfill North of Winklepeck Burning Grounds (WBG);
- RVAAP-29: Upper and Lower Cobbs Pond;
- RVAAP-33: Load Line 6;
- RVAAP-38: NACA Test Area (NTA);
- RVAAP-39: Load Line 5;
- RVAAP-40: Load Line 7;
- RVAAP-41: Load Line 8;
- RVAAP-42: Load Line 9;
- RVAAP-43: Load Line 10;
- RVAAP-44: Load Line 11;
- RVAAP-45: Wet Storage Area;
- RVAAP-46: Buildings F-15 and F-16;
- RVAAP-48: Anchor Test Area;
- RVAAP-50 and -R-01[a]: Atlas Scrap Yard; and
- RVAAP-67: Facility-Wide Sewers.

[a]*RVAAP-19-R-01 and RVAAP-50-01 designate Military Munitions Response Program (MMRP) sites that overlap the environmental AOCs.*

In addition, SAIC is tasked to complete installation and four quarters of sampling of six bedrock monitoring wells as part of facility-wide groundwater investigation. This work is being performed under a firm fixed price basis in accordance with USACE, Louisville District, Multiple Award Remediation Contract (MARC) W912QR-04-D-0028, Delivery Order No. 0001, under a Performance Based Acquisition (PBA). The Army's goal for completion of all work under the PBA is September 30, 2014. The performance objectives to complete all necessary work at the 18 AOCs at the facility-wide groundwater investigation by SAIC's proposed date of December 12, 2013, were specified in the Performance Work Statement (PWS) issued by the Army on June 20, 2008 (USACE 2008). These performance objectives are summarized in Table 1-1.

In addition, planning and performance of all elements of this PBA will be in accordance with the requirements of the Ohio Environmental Protection Agency (Ohio EPA) Director's Findings and Orders for RVAAP, dated June 10, 2004 (Ohio EPA 2004). The portion of the Ohio EPA Director's Findings and Orders pertinent to this PBA is the requirement to develop a Remedial Investigation/Feasibility Study (RI/FS), a Proposed Plan (PP), a ROD or other appropriate document, and a remedy for each AOC at the

RVAAP in conformance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Contingency Plan (NCP), as well as the Director's Findings and Orders.

1.1 PURPOSE AND SCOPE

As part of this project, SAIC is tasked with the development of a Project Management Plan (PMP). This PMP summarizes SAIC's overall technical and management approach to achieve the PWS performance objectives for specified environmental media by a proposed date of December 12, 2013, and includes a project schedule (detailing deliverable target and milestone dates), project team roles and responsibilities, and a deliverable matrix in accordance with the performance objectives listed in the PWS (USACE 2008). This PMP also addresses coordination with RVAAP stakeholders other than the Army and Ohio EPA, as well as other facility environmental and operational activities.

This PMP is considered a living document and will be updated, if necessary, after completion of major deliverable milestones to address significant changes to the overall technical and/or management approach. Updates to the PMP shall be noted as Revisions and sequentially numbered. The approved PMP will initially be designated as Revision 0.

1.2 PLAN ORGANIZATION

The remaining sections of this PMP are organized as follows:

- Section 2: Site Background;
- Section 3: Summary of Work and Proposed Remedial Approach;
- Section 4: Project Execution and Coordination;
- Section 5: Project Organization/Resources;
- Section 6: Project Reporting;
- Section 7: Project Schedule and Milestones; and
- Section 8: References.

Section 2 summarizes facility and AOC background information. Section 3 outlines the initial technical approach developed for attaining performance milestones at each AOC to achieve response complete, remedy in place, or site closeout. Section 4 summarizes execution and coordination activities. SAIC will manage the project with the team organization and resources described in Section 5. Project reporting requirements and communication are described in Section 6. This established infrastructure will be utilized to ensure performance to the schedule and milestones (Section 7) and that project coordination (Section 4) is fully addressed and completed.

Table 1-1. RVAAP 2008 PBA Performance Requirements Summary

Performance Objective	*Performance Standards*
Task 1	
Approved Project Management Plan (PMP) and Quality Assurance Surveillance Plan (QASP): • Draft PMP and QASP within 30 days of contract award; • Final PMP and QASP within 30 days of receipt of Contracting Officer's Representative (COR) comments on the drafts.	Army approval through the COR and Ohio EPA approval (e.g., receipt of Ohio EPA documentation confirming PMP approval).
Task 2	
Achieve an approved Record of Decision (ROD) for all media except groundwater for the following AOCs within five years of contract award: • RVAAP-06: C-Block Quarry • RVAAP-12: Load Line 12* • RVAAP-13: Building 1200 • RVAAP-19: Landfill North of Winklepeck Burning Grounds • RVAAP-29: Upper and Lower Cobb Ponds • RVAAP-33: Load Line 6 • RVAAP-38: NACA Test Area • RVAAP-39: Load Line 5 • RVAAP:40: Load Line 7 • RVAAP-41: Load Line 8 • RVAAP-42: Load Line 9 • RVAAP-43: Load Line 10 • RVAAP-44: Load Line 11 • RVAAP-45: Wet Storage Area • RVAAP-46: F-15 and F-16 • RVAAP-48: Anchor Test Area • RVAAP-50: Atlas Scrap Yard ** For Load Line 12, ROD required for surface water and wet sediment only.*	Army approval through the COR and Ohio EPA approval (e.g., receipt of Ohio EPA documentation confirming ROD approval) within five years of contract award.
For groundwater, the contractor is to achieve an approved remedial investigation/feasibility study (RI/FS) for these AOCs within five years of contract award.	Army approval through the COR and Ohio EPA approval (e.g., receipt of Ohio EPA documentation confirming RI and FS approval) within five years of contract award.
Task 3	
Achieve approval of well installation of six wells into the basal portion of the Sharon Conglomerate Aquifer by 30 June 2010. Well location will be identified by USACE during the pre-bid site visit. Conduct required groundwater sampling and analysis events.	Army approval through the COR and Ohio EPA approval (e.g., receipt of documentation confirming monitoring report approval) by 30 June 2010 (this date is scheduled to coordinate with other Facility-wide Groundwater Monitoring Program (FWGWMP) activities). Well installation, sampling and analysis will be conducted pursuant to the FWGWMP.

Table 1-1. RVAAP 2008 PBA Performance Requirements Summary (continued)

Performance Objective	*Performance Standards*
Task 4	
Achieve an approved interim ROD at the following AOC by June 30, 2010: RVAAP-66: Facility-Wide Groundwater, Groundwater at Load Line-12 only. Achieve an approved ROD at the following AOC within five years of task award: RVAAP-67: Facility-wide Sewers (includes all load lines, LL-1 thru LL-12).	RVAAP-66: Army approval through the COR and Ohio EPA approval (e.g., receipt of Ohio EPA documentation confirming ROD approval). RVAAP-67: Army approval through the COR and Ohio EPA approval (e.g., receipt of documentation confirming RVAAP-67 ROD approval).
Optional Task 5	
Achieve Remedy in Place (RIP), Response Complete (RC), remedial action objectives (RAO), or Site Closeout (SC) status for soil, dry sediment, wet sediment, and surface water at the following AOCs within five years of contract modification for this award: • RVAAP-06: C-Block Quarry • RVAAP-12: Load Line 12 (*) • RVAAP-13: Building 1200 • RVAAP-19 and -R-01[a]: Landfill North of Winklepeck Burning Grounds (WBG) • RVAAP-29: Upper and Lower Cobb Ponds • RVAAP-33: Load Line 6 • RVAAP-38: NACA Test Area • RVAAP-39: Load Line 5 • RVAAP-40: Load Line 7 • RVAAP-41: Load Line 8 • RVAAP-42: Load Line 9 • RVAAP-43: Load Line 10 • RVAAP-44: Load Line 11 • RVAAP-45: Wet Storage Area • RVAAP-46: F-15 and F-16 • RVAAP-48: Anchor Test Area • RVAAP-50 and -R-01[a]: Atlas Scrap Yard • RVAAP-67: Facility-wide Sewers [a]*RVAAP-19-R-01 and RVAAP-50-01 designate Military Munitions Response Program (MMRP) sites that overlap the environmental AOCs.* ** for surface water and wet sediment only* At Atlas Scrap Yard, RVAAP-50 (also RVAAP-50-R-01), the Military Munitions Response Plan (MMRP) and CERCLA-regulated hazardous substances contamination is overlapping. Contractor shall conduct munitions and explosives of concern (MEC) removals at this AOC in order to facilitate the installation restoration program (IRP) remediation. The portion of the Landfill North of WBG (RVAAP-19 and RVAAP-19-R-01) where a cap is to be installed over waste disposal trenches overlaps with magnetic anomalies identified in the MMRP site investigation (SI). Contractor shall conduct MEC removals at this AOC in order to facilitate the IRP remediation.	Army approval through the COR and Ohio EPA approval (e.g., receipt of Ohio EPA documentation confirming RIP/RC; RAO or SC) within five years of contract modification for this award.

2.0 SITE BACKGROUND

2.1 GENERAL FACILITY DESCRIPTION

When the RVAAP Installation Restoration Program (IRP) began in 1989, the RVAAP was identified as a 21,419-acre facility. The property boundary was resurveyed by the Ohio Army National Guard (OHARNG) over a two year period (2002 and 2003), and the actual total acreage of the property was found to be 21,683.289 acres. As of February 2006, a total of 20,403 acres of the former 21,683 acre RVAAP have been transferred to the National Guard Bureau (NGB) and subsequently licensed to the OHARNG for use as a military training site, the Ravenna Training and Logistics Site (RTLS). The current RVAAP consists of 1,280 acres in various parcels throughout the OHARNG RTLS.

The RTLS is located in northeastern Ohio within Portage County and Trumbull County, approximately 3 miles (4.8 km) east-northeast of the city of Ravenna and approximately 1 mile (1.6 km) northwest of the city of Newton Falls. The RVAAP portions of the property are solely located within Portage County. The RTLS is a parcel of property approximately 11 miles (17.7 km) long and 3.5 miles (5.6 km) wide bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad on the south; Garret, McCormick, and Berry roads on the west; the Norfolk Southern Railroad on the north; and State Route 534 on the east (see Figures 2-1 and 2-2). The RTLS is surrounded by several communities: Windham on the north; Garrettsville 6 miles (9.6 km) to the northwest; Newton Falls 1 mile (1.6 km) to the southeast; Charlestown to the southwest; and Wayland 3 miles (4.8 km) to the south.

The entire 21,683-acre parcel was an industrial facility that was government-owned and contractor-operated when the RVAAP was operational (the RTLS did not exist at that time). The RVAAP IRP encompasses investigation and cleanup of past activities over the entire 21,683 acres of the former RVAAP; therefore, references to the RVAAP in this document indicate the historical extent of the RVAAP, which is inclusive of the combined acreages of the current RTLS and RVAAP, unless otherwise specifically stated.

Industrial operations at the former RVAAP consisted of 12 munitions-assembly facilities referred to as "load lines." Load Lines 1 through 4 were used to melt and load 2,4,6-trinitrotoluene (TNT) and Composition B into large-caliber shells and bombs. The operations on the load lines produced explosive dust, spills, and vapors that collected on the floors and walls of each building. Periodically, the floors and walls were cleaned with water and steam. Following cleaning, the waste water, containing TNT and Composition B, was known as "pink water" for its characteristic color. Pink water was collected in concrete holding tanks, filtered, and pumped into unlined ditches for transport to earthen settling ponds. Load Lines 5 through 11 were used to manufacture fuzes, primers, and boosters. Potential contaminants in these load lines include lead compounds, mercury compounds, and explosives. From 1946 to 1949, Load Line 12 was used to produce ammonium nitrate for explosives and fertilizers prior to use as a weapons demilitarization facility.

In 1950, the facility was placed in standby status and operations were limited to renovation, demilitarization, and normal maintenance of equipment, along with storage of munitions. Production activities were resumed from July 1954 to October 1957 and again from May 1968 to August 1972. In addition to production missions, various demilitarization activities were conducted at facilities constructed at Load Lines 1, 2, 3, and 12. Demilitarization activities included disassembly of munitions and explosives melt-out and recovery operations using hot water and steam processes. Periodic demilitarization of various munitions continued through 1992.

In addition to production and demilitarization activities at the load lines, other facilities at RVAAP include AOCs that were used for the burning, demolition, and testing of munitions. These burning and demolition grounds consist of large parcels of open space or abandoned quarries. Potential contaminants at these AOCs include explosives, propellants, metals, and waste oils. Other types of AOCs present at RVAAP include landfills, an aircraft fuel tank testing facility, and various general industrial support and maintenance facilities.

2.2 AREAS OF CONCERN OPERATIONAL HISTORY

RVAAP-06, C-Block Quarry: This AOC is an abandoned quarry approximately 0.3 acres in size that was used as a disposal area for annealing process wastes (chromic acid), spent pickle liquors from brass finishing, fill dirt, and some construction and demolition type materials during the 1950s. The quarry bottom has a measured maximum depth of 25 feet below the surrounding grade; the fill material ranges in depth from 1.5 to 5 feet below grade. At present, the AOC is heavily forested with trees of one foot diameter or larger.

RVAAP-12, Load Line 12: Load Line 12 is an 80-acre former ammonium nitrate manufacturing facility operational from 1941 to 1946. From 1941 to 1943, explosive grade ammonium nitrate was manufactured at Load Line 12. Various production, renovation, and demilitarization operations were performed at a number of locations on the AOC after the termination of ammonium nitrate production in 1943. Load Line 12 was leased by the Silas Mason Company from 1946 to 1949 to manufacture fertilizer grade ammonium nitrate. Building 904 was used for demilitarization work and bomb melt out from 1949 to 1993. An Ohio EPA-permitted pink water treatment plant located near Building 904 was taken out of service in 2000. From 1965 to 1967, Hercules Alcor, Inc. leased Building FF-19 to produce aluminum chloride. A former steam plant located in the southern portion of the AOC used fuel oil and coal at various times over the years as fuel. All buildings have been demolished to grade. An explosives composting pilot study in 1999 involved removal of about 1,500 ft^3 of soil from four pits near Building 904 and composting at RVAAP Load Line 4's Building G-4 Warehouse.

RVAAP-13, Building 1200: Building 1200 was used from approximately 1941 to 1971 for ammunition demilitarization by steaming munitions rounds. The AOC is comprised of a recently demolished building footprint and the surrounding land, a 0.5-acre sedimentation pond, and the ditch leading to the sedimentation pond. The steam decontamination generated pink water, which drained to the sedimentation pond from the former Building 1200. Overflow from the sedimentation pond discharged into Sand Creek.

RVAAP-19 and -R-01, Landfill North of WBG: The Landfill North of WBG is an approximately 2.5-acre unlined landfill located upgradient of a wetland. Dates of operation vary among historical documents; however, the RVAAP Installation Action Plan currently indicates the AOC was operational between 1969 and 1976, during which time the AOC accepted general refuse and wastes such as booster cups, aluminum liners, municipal waste, explosive and munitions waste and ash, and scrap metal from the WBG. The landfill is not capped and debris is exposed along the northern toe slope. The landfill is adjacent to a wetland area to the north, which is approximately 15 feet lower in elevation from the top of the landfill. Another large wetland area is located to the south and is fed by a stream channel which enters the wetland from the west.

RVAAP-29, Upper and Lower Cobbs Pond: Upper Cobbs Pond is approximately 5 acres in size and ranges from 3-8 ft in depth. Lower Cobbs Pond is approximately 3.5 acres in size and ranges from 2-7 ft in depth. From 1941 to 1971, the ponds were utilized as sedimentation basins for discharges from Load Line 3 and Load Line 12 sawdust filtration units, wash water, storm water runoff, and surface water runoff. These discharges may have contained explosives, propellants, metals, semivolatile organic compounds (SVOCs), and volatile organic compounds (VOCs).

RVAAP-33, Load Line 6: Load Line 6 is approximately 51 acres in size. From 1941 to 1945, Load Line 6 operated primarily as a fuze assembly line; Building 2F–4 was used as a fulminate mixing building. In the 1950s, Load Line 6 was utilized by Firestone Defense Research for the research and development of various kinds of charges for armor penetration (e.g., shaped, fragmenting disc). Load Line 6 was again used by Firestone Defense Corporation during the late 1970s for applied research and development of shaped charges for the Department of Defense (DoD). All buildings at the AOC have since been demolished, and only the test chamber foundation and concrete blocks around the test pond remain at the AOC. A Munitions Response Site (designated RVAAP-33-R-01) associated with a portion of the former Firestone Test Facility exists within the southernmost portion of Load Line 6.

RVAAP-38, NACA Test Area: The NTA is an approximately 12-acre AOC formerly used as an aircraft test area to develop crash-worthy fuel tanks and/or high flashpoint aviation fuel. Some aircraft were buried at the AOC after the tests. Remaining cultural features at NTA include a concrete crash strip and footings of former operations buildings at the west end of the crash strip. A concrete-walled well pit exists at the terminus of the crash strip. Hinkley Creek is adjacent to the AOC along the west and south boundaries and receives surface drainage from the AOC via natural drainage conveyances. Open Demolition Area #1 (ODA#1) is co-located within the NTA, immediately south of the crash strip. ODA#1 was used from 1941 to 1949 as an open demolition and burning ground and subsequently as a parking area for aircraft to be used in NTA test operations. ODA#1 has been investigated separately from NTA and was subject to a prior removal action to address munitions and explosives of concern (MEC), as well as chemical contamination. ODA#1 is not included in the scope of the RVAAP 2008 PBA as part of NTA; however, characterization data from ODA#1 investigations that are relevant to NTA, in particular surface water and wet sediment data, will be utilized as needed. In addition, the suspected Mustard Agent Burial Site (RVAAP-28) is located to the southwest of the AOC south of Hinkley Creek, although the exact location of this AOC has not been defined. The Mustard Agent Burial Site is not included in the

scope of the RVAAP PBA as part of NTA. However, as with ODA#1, historical data from the Mustard Agent Burial Site that may be relevant to NTA will be utilized as needed.

RVAAP-39, Load Line 5: Load Line 5 is a 39-acre AOC that consisted of 18 process buildings. The AOC operated as a finished product assembly line from 1941 to 1945 to produce fuzes for artillery projectiles. Operations were discontinued at the end of World War II and process equipment was removed in 1945. Load Line 5 has been inactive for more than 50 years and is overgrown with vegetation consisting of young trees and scrub vegetation. The buildings, including slabs and foundations, have since been removed.

RVAAP-40, Load Line 7: Load Line 7 is a 37-acre AOC formerly used as a booster loading and assembly line for artillery projectiles. Operations occurred from 1941 until the end of World War II; the booster process equipment was removed in 1945. In 1968, the line was modified to produce M-406 High Explosive and M-407A1 practice 40 mm rounds. A total of 16,000,000 (40-mm) projectiles were assembled at Load Line 7 from 1969-1970, at which time the line was deactivated and the equipment removed. The line was reactivated for the research and development of high explosive shape charges until 1993. From 1989 through 1993, pink water associated with TNT processing was treated at the Load Line 7 treatment plant operating under an Ohio wastewater discharge permit. Load Line 7 has been inactive since 1993 and is overgrown with young trees and scrub vegetation. The buildings, including slabs and foundations, have since been removed.

RVAAP-41, Load Line 8: Load Line 8 is a 44-acre AOC that operated as a booster loading and assembly line from 1941 to 1945. Operations were discontinued at the end of World War II and the process equipment was removed in 1945. The AOC consisted of 15 process buildings, which have since been removed. Load Line 8 has not been used since 1945 and is overgrown by trees and scrub vegetation.

RVAAP-42, Load Line 9: Load Line 9 is a 69-acre AOC located in the south-central portion of RVAAP. From 1941 to 1945, Load Line 9 produced detonators. In 1945, the load line was deactivated, and the equipment removed. There are no documented activities at Load Line 9 since 1945. Infrastructure at Load Line 9 consists mainly of a gravel road following the perimeter of main production area. The buildings at Load Line 9 were thermally decontaminated and demolished to 2 ft below ground surface in 2003. The concrete and brick were crushed to maintain the roads at RVAAP. An unused water tower is the only structure remaining at Load Line 9.

RVAAP-43, Load Line 10: Load Line 10 is a 43-acre AOC, formerly known as the Percussion Element Manufacturing Line, which operated as an initiator blending and loading line from 1941 to 1945. At the end of World War II, the process equipment and production line was placed on standby status. The line was reactivated in 1951 and used to produce primers and percussion elements until it was again placed on standby status in 1956. The line was activated again in 1969 to produce primers until 1971 at which time the line was deactivated permanently and the production equipment removed. The AOC is currently overgrown by trees and scrub vegetation. The buildings, including slabs and foundations, have since been removed.

RVAAP-44, Load Line 11: Load Line 11 is approximately 40 acres in size and was utilized primarily for the production of artillery primers and fuzes. During the period from 1941 to 1945, Load Line 11 operated at full capacity to produce primers for artillery projectiles. After being placed on standby status in 1945, the load line was reactivated twice, once during the 1951 to 1957 time frame to produce primers, and then again from 1969 to 1971 to produce fuzes in support of the Southeast Asia Conflict. An interim remedial action at the AOC was conducted in 2001, consisting of removal of lead/asbestos-lined sumps, lead-contaminated sediment, and solvent-contaminated soil; additionally, some of the sewer lines were also permanently plugged with grout. The buildings, including slabs and foundations, have since been demolished.

RVAAP-45, Wet Storage Area: The Wet Storage Area is a 36-acre AOC used from 1941 to 1945 to store primary explosives including: lead azide, mercury fulminate and tetryl. The highly explosive, shock sensitive materials were stored in water-filled drums within each of six separate igloos. Four of the igloos (WS-1, WS-IA, WS-2, and WS-2A) located in the western portion of the AOC were decontaminated and demolished in 2004. The two remaining igloos (WS-3 and WS-3A) are located in the eastern portion of the AOC.

RVAAP-46, Buildings F-15 and F-16: Buildings F-15 and F-16 are located west of Block D and east of Slagle Road. The buildings were used during World War II, the Korean War, and the Vietnam War to test miscellaneous explosives and propellants. The number of tests conducted, quantities of materials tested and exact dates of testing are unknown. The buildings have been demolished and the building footers (approximately 60 ft by 120 ft) remain.

RVAAP-48, Anchor Test Area: Although operational information is relatively limited about this research and development area, it is believed that the AOC was used for the testing of explosively-driven soil anchoring devices. The dates of use for this AOC are unknown. The Anchor Test Area encompasses approximately 1 acre and includes several dirt mounds with a nearby sand pit (approximately 6 ft by 30 ft). There is metal debris in the area.

RVAAP-50 and -R-01, Atlas Scrap Yard: This AOC is a former construction camp built to house workers during the construction of RVAAP. Following demolition of the facilities following World War II, the area was used as a scrap yard for non-explosive scrap materials, Munitions and Explosives of Concern (MEC) scrap, and wooden ammunition boxes. The RVAAP-50-R-01 munitions response site (MRS) encompasses about 66 acres within the IRP AOC boundary. A MEC removal action was completed in 2003, wherein removal of above-grade MEC and ammunition boxes was completed. Currently, the area is covered by thick grass, and miscellaneous non-explosive scrap material including pipes, railroad ballast, railroad ties, concrete rubble and chipped ammunition boxes are staged at the AOC.

RVAAP-67, Facility-Wide Sewers: RVAAP-67, Facility-Wide Sewers, is a new AOC created in 2008 and comprised of IRP eligible storm and sanitary sewers located throughout RVAAP, including Load Lines 1-12 and the Administrative Areas. The sewers sometimes received inadvertent discharges of contaminated wastewaters from the manufacturing of munitions, and portions of the system contain accumulated chemical contaminants. A 2007 Explosive Evaluation of Sewers showed no accumulations of explosive

compounds that would present an explosion hazard (Lakeshore). The sewer system in the plant is divided into two sewage basins: a western basin and an eastern basin. The western basin includes the combined sanitary and storm sewers draining the Administrative Areas and sanitary sewers at Load Lines 5-11 that terminate at the George Road Sewage Treatment Plant. Also, several short runs of separated storm sewer exist throughout Load Lines 5-11 in the western basin, terminating in ditches and other drainage features. The eastern basin includes the sanitary sewers draining Load Lines 1-4, Load Line 12, and RVAAP-50 Atlas Scrap Yard, and terminates at the Sand Creek Sewage Treatment Plant. Load Lines 1-4 and Load Line 12 also have separate storm sewer systems terminating in drainage features such as ditches and retention ponds.

2.3 CURRENT STATUS OF AREAS OF CONCERN

Field activities associated with investigations at 17 of the 18 AOCs in the RVAAP 2008 PBA have been conducted to date. No investigation specific to RVAAP-67, Facility-Wide Sewers, has been conducted, as this AOC was newly created in 2008. However, investigations of storm sewers at Load Lines 1, 2, 3, 4, and 12 have been conducted as part of RIs specific to each of these AOCs. These investigations included sampling of accumulated sediment, water within the lines, and video camera surveys. A study to investigate whether explosives accumulated in the sewer lines was completed in 2007 (Lakeshore Engineering Services, Inc. 2007).

A Final Characterization Report was completed for the following AOCs in 2007 (MKM Engineers 2007a):

- RVAAP-06 C-Block Quarry;
- RVAAP-12 Load Line 12;
- RVAAP-13 Building 1200
- RVAAP-19 and -R-01 [a] Landfill North of WBG;
- RVAAP-38 NTA;
- RVAAP-39 Load Line 5;
- RVAAP-40 Load Line 7;
- RVAAP-41 Load Line 8;
- RVAAP-43 Load Line 10;
- RVAAP-45 Wet Storage Area;
- RVAAP-46 Buildings F-15 and F-16;
- RVAAP-48 Anchor Test Area; and
- RVAAP-50 and -R-01[a] Atlas Scrap Yard.

[a]RVAAP-19-R-01 and RVAAP-50-01 designate Military Munitions Response Program (MMRP) sites that overlap the environmental AOCs.

Previous RI Reports and associated risk assessments have been completed for each of the AOCs summarized below:

- RVAAP-12 Load Line 12: A Final Phase II RI for all environmental media and a Final FS for soil and dry sediment have been completed (SAIC 2005 and 2006). A Final PP has been completed for soil and dry sediment at this AOC (SAIC 2007).

- RVAAP-29 Upper and Lower Cobbs Pond: A Final Phase II RI Report has been completed (MKM Engineers 2005a).
- RVAAP-33 Load Line 6: A Final Phase I RI Report has been completed (MKM Engineers 2007b).
- RVAAP-38 NTA: A Final Phase I RI Report has been completed (SAIC 2001).
- RVAAP-42 Load Line 9: A Final Phase I RI Report has been completed (MKM Engineers 2007b).
- RVAAP-44 Load Line 11: A Final Remedial Investigation Report has been completed (MKM Engineers 2005b).

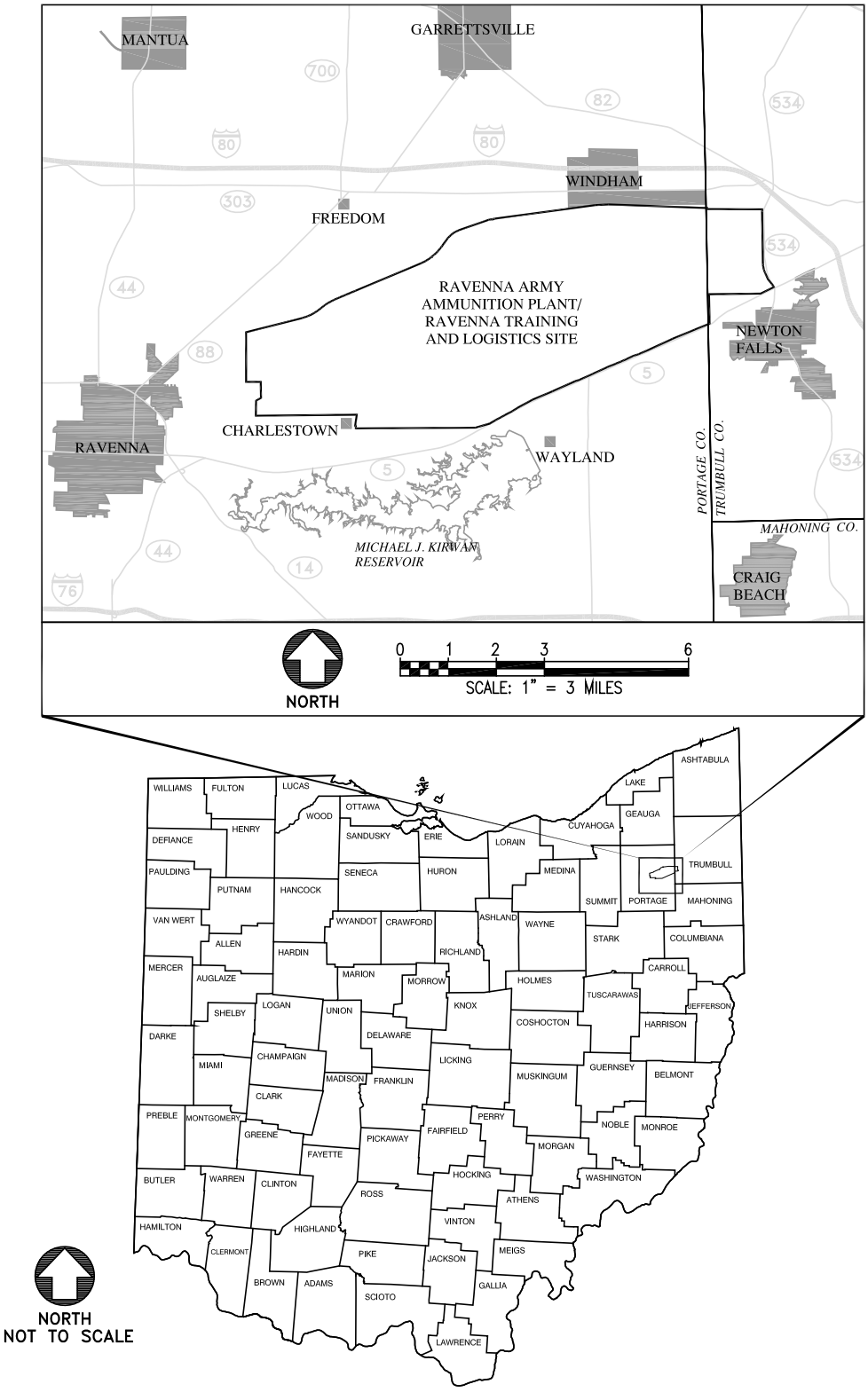

Figure 2-1. General Location and Orientation of RVAAP/RTLS

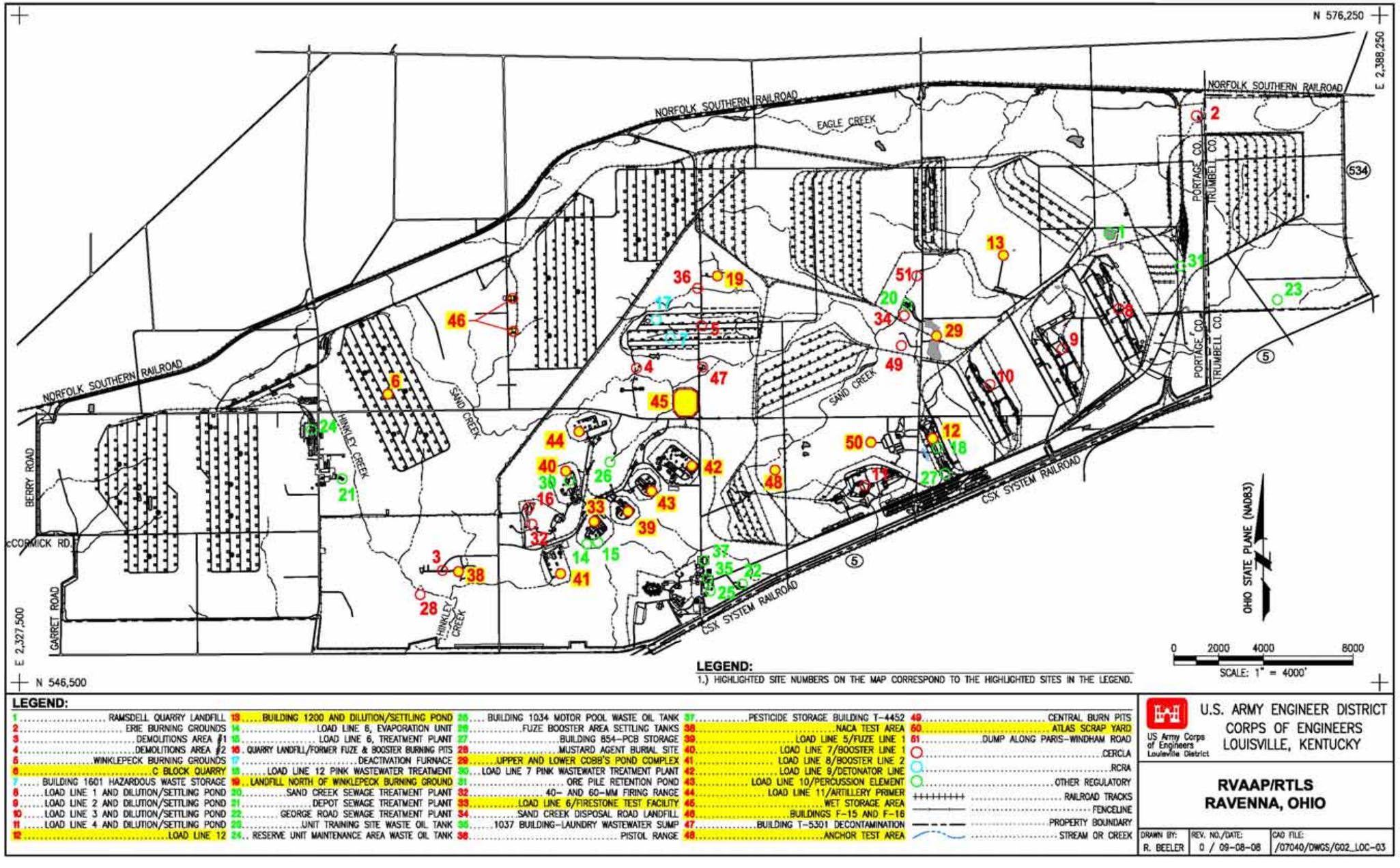

Figure 2-2. RVAAP/RTLS Facility Map

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3.0 SUMMARY OF WORK AND PROPOSED REMEDIAL APPROACH

This section summarizes the work to be performed and the baseline technical approaches developed to achieve PWS objectives at each of the AOCs included in the RVAAP 2008 PBA. All required components of the CERCLA decision-making process and remedial actions will be performed to meet these objectives. Remedial actions for groundwater are not included in the scope of the RVAAP 2008 PBA; however, approved RI/FSs for groundwater must be completed for all Task 2 specified AOCs. A separate interim ROD for groundwater at Load Line 12 is required. Remedial decisions and implementation of remedial actions for groundwater, if required, will be addressed under future actions. The baseline approach for surface water and sediment addresses these media within the AOC boundaries; streams and wetland areas in non-AOC areas that potentially receive runoff from multiple AOCs are not specifically included in the baseline approach and have been previously investigated through facility-wide studies.

In general, SAIC's baseline approach entails:

- Fast-tracked execution schedule that combines RI Addenda and FSs where possible.
- Streamlined Ohio EPA review and acceptance process, using technical workshops to identify data quality objectives and agree upon major decision points (e.g., RI Addenda objectives development and meetings prior to the FS stage to develop human health and ecological remedial action objectives [RAOs] and risk management positions).
- Intelligent, focused, risk-based technical approach addressing anticipated land uses throughout the process.
- Experienced application of weight-of-evidence (WOE) to determine if quantitative ecological cleanup goals are required incorporating similar accepted justifications utilized at other RVAAP AOCs (e.g., WBG and Load Lines 1-4).

3.1 SUMMARY OF WORK

This section summarizes the activities that must be completed to achieve PWS objectives by a proposed date of December 12, 2013. Steps 1 through 4 of the following pathway are applicable to the seventeen AOCs included under Task 2 (Table 1-1). The remaining Steps 5 through 7 are applicable to all AOCs included under Task 5 (Table 1-1).

Step 1 – Prepare RI Work Plan Addendum: SAIC will prepare integrated RI Work Plan Addendum for all additional planned investigation activities at the AOCs.

Step 2 – Prepare RI Addenda and Feasibility Studies: Following completion of RI field activities, combined RI Addenda and FSs for each AOC will be prepared. Where FSs are not required for an AOC (e.g., if no further action is warranted), the RI Addenda will be stand alone reports. Consolidation of the RI Addenda and FS reports will reduce the time required to produce, review, and finalize deliverables and enhance the ability to meet SAIC's proposed December 12, 2013,

date to achieve remedy complete, remedy in place, or site closeout. The additional RI work and the FS phase will evaluate all applicable media at an AOC, inclusive of groundwater. SAIC's approach does not address groundwater beyond the FS phase under this task. The FSs will evaluate the appropriate range of remedial actions to reduce risks to human health and the environment for all media (soil/dry sediment, surface water, wet sediment, and groundwater).

Step 3 – Prepare Proposed Plan: After the RI Addenda/FSs have been completed, SAIC will document the preferred alternative for each AOC in a PP, which will be provided for public review and comment. A separate PP will be developed to address each individual AOC. The PP(s) will be presented in a format that is clear and understandable to the public.

Step 4 – Prepare Record of Decision: The selected remedy, future land use, and any associated land use controls (LUCs) will be documented in the integrated ROD for each individual AOC. For AOC RVAAP-12 (Load Line 12), a ROD will be developed for surface water and wet sediment only. An interim ROD for groundwater will also be developed to meet the requirements of Task 4. The selected remedy shall consider public comment provided on the PP(s). A Responsiveness Summary addressing all public comments will be prepared as part of the ROD(s). The ROD(s) will be presented in a format that is clear and understandable to the public.

Step 5 – Remedial Design: Upon completion of public review of the PPs, SAIC will submit a preliminary draft remedial design (RD). A consolidated RD will be developed for the AOCs requiring remedial actions. The RD will include descriptions of activities to be conducted at each AOC, construction drawings with appropriate construction specifications included as notes on the design drawings, and confirmation sampling protocols and objectives as appropriate for each AOC. The RD will detail any required LUCs for applicable AOCs. The RD also will address health and safety, quality assurance (QA), and associated procedures including coordination with others operating entities at RVAAP.

Step 6 – Implement Remedial Actions: Upon finalization, SAIC will implement the remedial actions detailed in the RD at each of the AOCs.

Step 7 – Prepare Remedial Action Reports: Upon completion of remedial construction activities and confirmation that RAOs and cleanup goals have been achieved, a consolidated Remedial Action (RA) Report shall be prepared documenting implementation in accordance with the RD (i.e., in compliance with technical specifications, other relevant contract documents, and regulatory requirements). The consolidated RA Report shall summarize land use assumptions, any required operations and maintenance (O&M) requirements, and shall document remaining concentrations in soil to assist future five-year reviews and land transfer activities.

The following steps present the pathway applicable to achieving completion of Task 3 (Table 1-1), installation and sampling of six deep wells in the basal Sharon Conglomerate, no later than June 30, 2010:

Step 1 – Prepare Work Plan Addendum: SAIC will prepare a Facility-wide Work Plan Addendum specific to the installation and sampling of 6 wells in the basal Sharon Conglomerate. Mobilization and field activities for this task will be concomitant with supplemental RI activities for other AOCs.

Step 2 – Conduct Monitoring Phase: Following installation and development of the six deep wells, SAIC will perform four quarters of monitoring consistent with the requirements of the RVAAP Facility-Wide Groundwater Monitoring Program (FWGWMP). Additionally, perchlorate samples will be collected from all wells during one of the monitoring events.

Step 3 – Develop Monitoring Report: SAIC will prepare a monitoring report documenting the results of the monitoring phase, including comparison of results to facility-wide background and risk-based criteria, compilation of geological data, and presentation of all field log information per the PWS. The monitoring report will make recommendations as to whether the wells should transition to the FWGWMP for future monitoring.

The following steps present the pathway applicable to achieving approval of both an interim ROD for groundwater at Load Line12, and approval of the ROD for AOC RVAAP-67 (Defense Environmental Restoration Program-eligible Facility-wide Sewers) no later than June 30, 2010 under Task 4 (Table 1-1):

Step 1 – Prepare RI Work Plan Addendum: SAIC will prepare a separate Facility-wide Work Plan Addendum for Load Line 12 groundwater sampling and supplemental remedial investigation activities for Facility-wide Sewers (RVAAP-67).

Step 2 – Prepare RI Addendum and Feasibility Study: Following completion of RI field activities, a FS will be prepared for groundwater at Load Line 12, and a combined RI/FS document will be prepared for the RVAAP-67 (Facility-wide Sewers) AOC. The FSs will evaluate the appropriate range of remedial actions to reduce risks to human health and the environment. The FS for groundwater at Load Line 12 will focus on monitored natural attenuation (MNA) and land use controls (LUCs) as the anticipated remedy.

Step 3 – Prepare Proposed Plans: After the FS has been completed, SAIC will document the preferred alternative for each AOC in a PP, which will be provided for public review and comment. A separate PP will be developed for groundwater at Load Line 12 and for the Facility-wide Sewers. The PPs will be presented in a format that is clear and understandable to the public.

Step 4 – Prepare Record of Decision: The selected remedy, future land use, and any associated LUCs will be documented in the interim ROD for groundwater at AOC RVAAP-12 (Load Line 12), and the ROD for Facility-wide Sewers. The selected remedy shall consider public comment provided on the PP(s). A Responsiveness Summary addressing all public comments will be prepared as part of the ROD(s). The ROD(s) will be presented in a format that is clear and understandable to the public.

3.2 BASELINE REMEDIAL APPROACH

SAIC considered the five criteria below to develop the baseline technical remedial action approach for each AOC:

1. Need for additional characterization to fill known or potential data gaps to complete the RI/FS;
2. Presence of principal threat wastes, MEC, or off-facility contaminant migration that presents an imminent threat or impedes future land use;
3. Identification of chemicals of potential concern (COPCs) or chemicals of concern (COCs) from available data that exceed human health cleanup goals;
4. Determination if source removals are required to achieve protectiveness of ecological receptors; and
5. Relative long-term cost and liability considerations for the Army among potential remedial approaches.

The future land uses for each of the AOCs included in the RVAAP 2008 PBA scope (Table 3-1) are based on the OHARNG anticipated training mission and utilization of the RTLS (USACE 2004). These anticipated future land uses form the basis for the baseline remedial action technical approaches summarized in Table 3-2.

Figure 3-1 illustrates the decision process for determining the need for remedial actions at the AOCs included in the RVAAP 2008 PBA. From available risk assessment data, known or potential human health COCs at each AOC were identified and their exposure point concentration (EPC) and/or point concentrations compared to cleanup goals for applicable receptors under the anticipated land use. If soil and dry sediment cleanup goal exceedances were identified, a corresponding action has been proposed as a baseline approach. Similarly, if the AOC-specific receptors included exposures to surface water or wet sediment, any cleanup goal exceedances were evaluated to determine if source remediation is required to reduce contaminant migration to those media and exposure risk.

For protection of ecological receptors, the potential need for quantitative ecological cleanup goals will be evaluated using scientific WOE based on multiple factors including, but not limited to: 1) ecological significance of the AOC; 2) comparison of the benefit of risk reductions gained relative to habitat degradation due to the action; 3) ecosystem health; 4) contaminant nature and extent and migration potential; and 5) confirmation of quality habitat adjacent to the AOCs. Where applicable, available resource studies by the Army and OHARNG and corresponding ecological risk reductions resulting from soil removals to attain human health cleanup goals will also be considered.

MEC avoidance protocol will be employed during all excavation activities. In addition, MEC surveys and clearance activities are anticipated in the technical approaches for three AOCs: RVAAP-19, RVAAP-38, and RVAAP-50 (Table 3-2). In the event MEC is encountered, a determination will be made if it can be moved in a safe and acceptable manner. If safe to move, MEC will be placed at a storage location designated by RVAAP pending final disposition. If MEC is deemed unsafe to move, the item will be disposed by demolition in place.

The proposed remedial action technical approaches are summarized in Table 3-2.

Table 3-1. Anticipated Future Land Uses for RVAAP 2008 PBA AOCs

Area of Concern	Land Use[1]
RVAAP-06 C-Block Quarry	Restricted Access, No Digging[2]
RVAAP-12 Load Line 12	Mounted Training, No Digging
RVAAP-13 Building 1200	Dismounted Training, Digging
RVAAP-19 and -R-01Landfill North of WBG	Dismounted Training, No Digging
RVAAP-29 Upper and Lower Cobbs Pond	Dismounted Training, No Digging
RVAAP-33 Load Line 6	Mounted Training, No Digging
RVAAP-38 NACA Test Area	Dismounted Training, No Digging
RVAAP-39 Load Line 5	Mounted Training, No Digging
RVAAP-40 Load Line 7	Mounted Training, No Digging
RVAAP-41 Load Line 8	Mounted Training, No Digging
RVAAP-42 Load Line 9	Mounted Training, No Digging[3]
RVAAP-43 Load Line 10	Mounted Training, No Digging
RVAAP-44 Load Line 11	Mounted Training, No Digging
RVAAP-45 Wet Storage Area	Mounted Training, No Digging[4]
RVAAP-46 Buildings F-15 and F-16	Dismounted Training, Digging
RVAAP-48 Anchor Test Area	Mounted Training, No Digging
RVAAP-50 and -R-01 Atlas Scrap Yard	Mounted Training, No Digging
RVAAP-67: Facility-Wide Sewers	Not Applicable

[1]OHARNG proposed land use - RVAAP Facility Wide Human Health Risk Assessor Manual (USACE 2004).
[2]Dismounted training may be considered by OHARNG as a potential future land use.
[3]Engineering School training may be considered by OHARNG as a potential future land use.
[4]The AOC may become part of the small arms range complex on the facility.
RVAAP = Ravenna Army Ammunition Plant
PBA = Performance Based Acquisition
AOC = Area of Concern
WBG = Winklepeck Burning Grounds

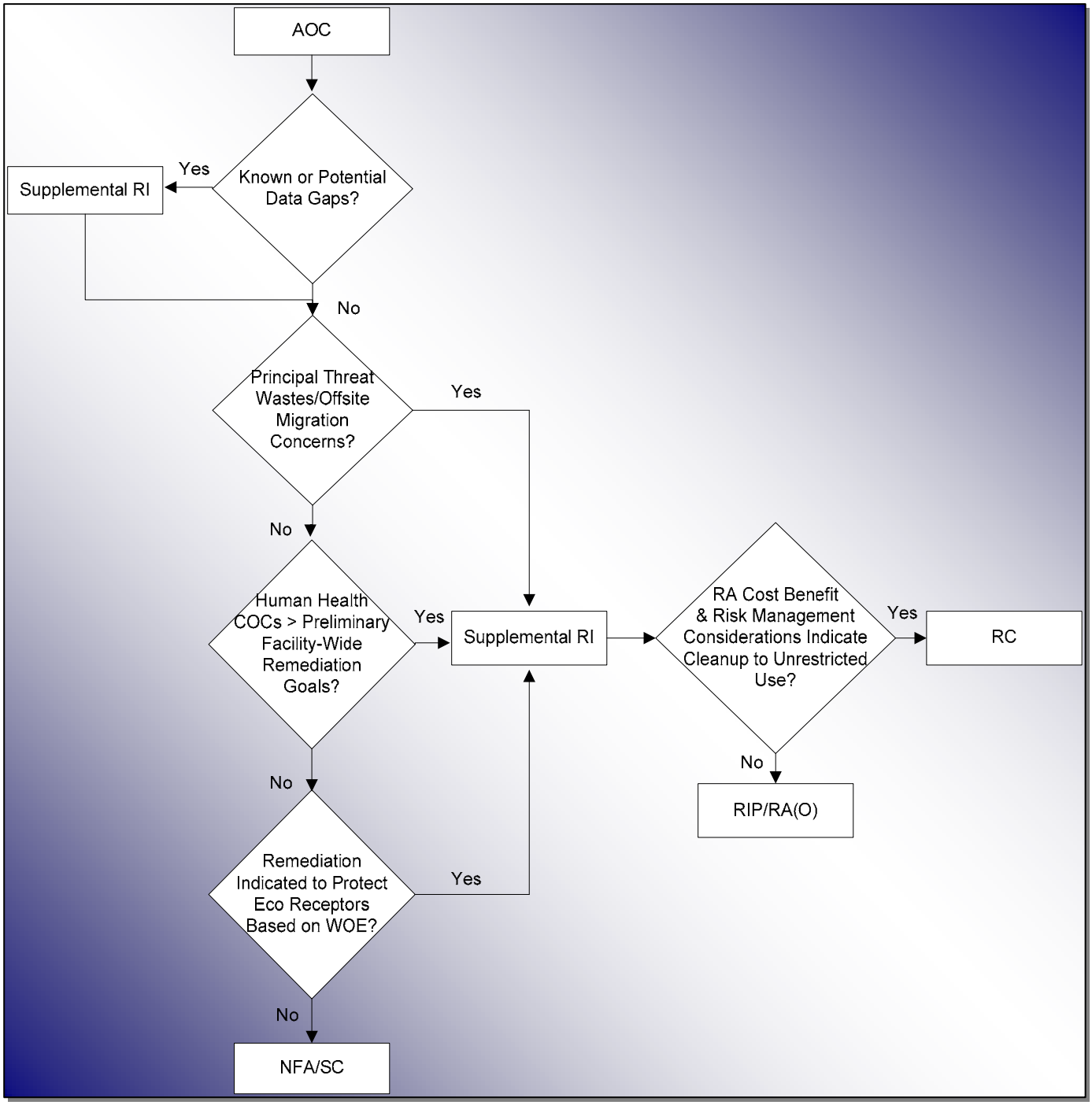

Figure 3-1. Decision Process to Identify Need for Remedial Action

Table 3-2. Summary of Baseline Remedial Action Approaches for AOCs Included in the RVAAP 2008 PBA

AOC (Land Use)	Complete RIs and RI Reports	Complete FS/PP/ROD	Remedial Designs	Baseline Remedial Action Technical Approaches[b]
RVAAP-06: C-Block Quarry (Restricted Access – No Digging)	Implement Remedial Investigation (RI) Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data (including in surface soil/dry sediment).	Integrated RI Addendum/Feasibility Study (FS) to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the area of concern (AOC). Complete integrated Proposed Plan (PP) and Record of Decision (ROD).	Complete integrated remedial design (RD).	Excavate soil/dry sediment with arsenic greater than cleanup goal for Security Guard/Maintenance Worker. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Implement land use controls consistent with restricted access. Prepare Remedial Action (RA) Report.
RVAAP-12: Load Line 12 (Mounted Training – No Digging)	Task 2 and 5 Soil/dry sediment are being addressed under another contract. No additional RI for surface water/wet sediment. Task 4 Implement RI Addendum for additional groundwater sampling to obtain recent, contemporaneous data at selected source area and downgradient wells. Obtain relevant data for evaluation of fate and transport of contaminants and potential Monitored Natural Attenuation (MNA) alternative.	Task 2 and 5 FS to only evaluate remedial alternatives for surface water and wet sediment. Complete integrated PP and ROD for surface water and wet sediment; a separate ROD is currently pending for soil/dry sediment. Task 4 Focused RI Addendum and FS to evaluate MNA and other potential remedial alternatives for groundwater. Complete PP and Interim ROD for groundwater.	Task 5 Complete streamlined RD, including land use controls (LUCs), for surface water and wet sediment. Groundwater not included in RD/RA scope.	Task 5 Implement land use controls for surface water and wet sediment, to be integrated with controls recently negotiated between Army and Ohio EPA for soil/dry sediment.
RVAAP-13: Building 1200 (Dismounted Training – Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with manganese greater than cleanup goal for Nation Guard Trainee receptor. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Prepare RA Report.

Table 3-2. Summary of Baseline Remedial Action Approaches for AOCs Included in the RVAAP 2008 PBA (continued)

AOC (Land Use)	Complete RIs and RI Reports	Complete FS/PP/ROD	Remedial Designs	Baseline Remedial Action Technical Approaches[b]
RVAAP-19 and -R-01: Landfill North of WBG (Dismounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Installation of 2-ft soil cap and vegetative cover. Munitions and explosives of concern (MEC) surface clearance and removal within design footprint of cap prior to installation. Implementation of long-term monitoring of landfill and surface water in adjacent wetland, and land use controls. Prepare RA Report.
RVAAP-29: Upper and Lower Cobbs Pond (Dismounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC and incorporating additional risk management evaluation, including exposure point analysis. Complete PP and ROD.	Not anticipated.	No remedial action anticipated for soil/dry sediment. Long-term monitoring and land use controls as remedy for surface water and wet sediment in order to achieve protectiveness of National Guard Trainee receptor. Specifications for land use controls to be developed in the ROD; separate RD or RA Report not included in baseline.
RVAAP-33: Load Line 6 (Mounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with arsenic and manganese greater than cleanup goals for unrestricted use. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Prepare RA Report. If remedial action to address chemical contamination is required within the munitions response site (RVAAP-33-R-01) at Load Line 6, appropriate MEC clearance activities would be required in conjunction with the action.

Table 3-2. Summary of Baseline Remedial Action Approaches for AOCs Included in the RVAAP 2008 PBA (continued)

AOC (Land Use)	Complete RIs and RI Reports	Complete FS/PP/ROD	Remedial Designs	Baseline Remedial Action Technical Approaches[b]
RVAAP-38: NACA Test Area (Dismounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC incorporating additional risk management evaluation, including exposure point analysis. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with lead and polycyclic aromatic hydrocarbons PAHs greater than cleanup goals for the National Guard Trainee receptor. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Prior to remedial action, conduct MEC surface clearance and anomaly investigation for any planned soil/dry sediment and removal along the former crash strip. Surface water/wet sediment remedial action not anticipated. Prepare RA Report.
RVAAP-39: Load Line 5 (Mounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with manganese greater than cleanup goal for the National Guard Trainee receptor. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Prepare RA Report.
RVAAP-40: Load Line 7 (Mounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with manganese, lead and PAHs greater than cleanup goals for the National Guard Trainee receptor. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Prepare RA Report.
RVAAP-41: Load Line 8 (Mounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with manganese greater than cleanup goal for the National Guard Trainee receptor. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Prepare RA Report.

Table 3-2. Summary of Baseline Remedial Action Approaches for AOCs Included in the RVAAP 2008 PBA (continued)

AOC (Land Use)	Complete RIs and RI Reports	Complete FS/PP/ROD	Remedial Designs	Baseline Remedial Action Technical Approaches[b]
RVAAP-42: Load Line 9 (Mounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with metals greater than cleanup goals for unrestricted use. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Prepare RA Report.
RVAAP-43: Load Line 10 (Mounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with lead greater than cleanup goal for the National Guard Trainee receptor. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Prepare RA Report.
RVAAP-44: Load Line 11 (Mounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with metals and PAHs greater than cleanup goals for unrestricted use. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Prepare RA Report.
RVAAP-45: Wet Storage Area (Mounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with arsenic and PAHs greater than cleanup goal for the National Guard Trainee receptor. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Prepare RA Report.

Table 3-2. Summary of Baseline Remedial Action Approaches for AOCs Included in the RVAAP 2008 PBA (continued)

AOC (Land Use)	Complete RIs and RI Reports	Complete FS/PP/ROD	Remedial Designs	Baseline Remedial Action Technical Approaches[b]
RVAAP-46: Buildings F-15 and F-16 (Dismounted Training – Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Not anticipated.	Remedial actions for soil/dry sediment not anticipated in the baseline. Surface water/wet sediment remedial action not anticipated. RA Report not anticipated.
RVAAP-48: Anchor Test Area (Mounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment with arsenic greater than cleanup goal for the National Guard Trainee receptor. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Surface water/wet sediment remedial action not anticipated. Prepare RA Report.
RVAAP-50 and -R-01: Atlas Scrap Yard (Mounted Training – No Digging)	Implement RI Addendum (subsurface soil/groundwater) to complete nature and extent evaluation and obtain chromium speciation data.	Integrated RI Addendum/FS to include remedial alternatives for soil/dry sediment, surface water/wet sediment, and groundwater within the AOC. Complete PP and ROD.	Complete integrated RD.	Excavate soil/dry sediment to attain cleanup goals for arsenic, chromium, manganese, and lead greater than cleanup goals for the National Guard Trainee. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Prior to remedial action, conduct MEC surface clearance and anomaly investigation with removal (as required) within planned excavation areas. Surface water/wet sediment remedial action not anticipated. Implementation of land use controls. Prepare RA Report.

Table 3-2. Summary of Baseline Remedial Action Approaches for AOCs Included in the RVAAP 2008 PBA (continued)

AOC (Land Use)	Complete RIs and RI Reports	Complete FS/PP/ROD	Remedial Designs	Baseline Remedial Action Technical Approaches[b]
RVAAP-67: Facility-Wide Sewers (Not Applicable)	Implement RI Addendum for water and sediment throughout the facility-side sewer systems to supplement existing data and define exposure pathway.	Integrated RI Addendum/FS to include range of remedial actions to mitigate risks to human health and the environment specific to sediment and water contained within the sewer systems. Complete PP and ROD.	Complete integrated RD.	Excavation, removal and disposal of intact sewer line segments and surrounding soil having contaminants above cleanup goals for National Guard Trainee receptor. Off-site disposal to local industrial landfill as non-hazardous industrial waste. May also require capping or plugging lines at manhole access points for deeper sewers so that they do not function as preferential migration pathways for groundwater. Prepare Remedial Action Report.

Note: The baseline remedial action technical approaches are based on available information and precedent experience at RVAAP at the time of proposal submission and have not been endorsed by Ohio EPA, RVAAP stakeholders other than the Army, or subject to public review and comment. Ohio EPA review and comment on this document does not constitute endorsement of the proposed remedial action technical approaches. Supplemental RI investigation results, RVAAP stakeholder or public concerns, or unforeseen site conditions may require departure from the baseline approach for an AOC.

[b]The RDs apply for soil/dry sediment, surface water and wet sediment. Groundwater is not included in the RD/RA scope.

4.0 PROJECT EXECUTION AND COORDINATION

4.1 PROJECT EXECUTION

This PMP will be updated, if necessary, after completion of major deliverable milestones to address significant changes to the overall technical and/or management approach. The updated PMP will be distributed to all RVAAP Interested Parties. Updates to the PMP shall be noted as Revisions, sequentially numbered; the initially approved PMP will be designated as Revision 0.

The following activities and deliverables will be performed in support of this project:

- Project Kick-Off Meeting and Meeting Minutes;
- Monthly Progress Reports (including schedule updates);
- Teleconference Progress Updates (agenda and meeting minutes);
- Schedule Updates (coordinated by USACE, updates provided by SAIC);
- PMP;
- Quality Assurance Surveillance Plan (QASP);
- Supplemental RI Work Plan Addendum;
- Consolidated RI Addenda and FSs;
- PP for each AOC,
- ROD for each AOC,
- Consolidated RD for all AOCs requiring remedial actions;
- Remedial Actions;
- Consolidated RA Report following completion of remedial actions;
- Sampling and Analysis Plan (SAP) Addendum for installation and sampling of six facility-wide groundwater monitoring wells;
- A separate monitoring report presenting facility-wide groundwater sampling results.

All work performed to achieve PWS objectives shall follow this PMP and shall be performed in accordance with the following documents developed for RVAAP:

- Ohio EPA Director's Findings and Orders for RVAAP (Ohio EPA 2004);
- RVAAP's Facility Wide Human Health Risk Assessor Manual (USACE 2004);
- Facility Wide Ecological Risk Assessment Work Plan (USACE 2003a);
- Facility Wide SAP and Quality Assurance Project Plan (QAPP) (USACE 2001b);
- Facility Wide Safety and Health Plan (USACE 2001a);
- Facility Wide Groundwater Monitoring Program Plan (Portage Environmental 2004); and
- RVAAP Community Relations Plan (USACE 2003b).

SAIC implements a rigorous Quality Assurance (QA) Program, following the structure of national reference standards, and compliant with ISO-9001 and United States Environmental Protection Agency (USEPA) QA R-5. In conjunction with this PMP, the Facility-Wide Quality Assurance Project Plan (QAPP) (located in the Facility-Wide Sampling and Analysis Plan [USACE 2001b]), and USACE's Construction Quality Management (CQM) Program, SAIC will apply the QA Program to this project to ensure high quality products and results are obtained. Preparation, review, and approval of documents

affecting quality will be developed accordingly to ensure adequate procedures or guidelines are provided to perform the intended activities.

SAIC will prepare a project work plan addendum, tiered under approved Facility-Wide work plans, prior to the start of any field work for both field sampling activities and remedial activities. Previously approved facility documents will be cited where appropriate to facilitate and expedite document review. These plans will be submitted to the Army and Ohio EPA for review and approval prior to the initiation of field activities and at a minimum will address the following elements, as appropriate:

- Detailed description of field activities;
- Health and safety (including MEC);
- QA/quality control (QC);
- Management of investigation derived waste (IDW); and
- Storm water pollution prevention.

Additional details are provided in the following sections.

4.1.1 Sampling and Analysis Plans

SAIC will prepare SAP and QAPP Addenda to establish technical and QC requirements during environmental sampling and analysis for chemical constituents (e.g., additional delineation sampling, confirmation sampling) for any additional investigation work. Prior to the start of field work at RVAAP, SAIC will prepare a SAP Addendum, tiered under the existing RVAAP Facility Wide SAP and QAPP (USACE 2001b), to comply with USACE and Ohio EPA requirements. Any unique sampling requirements not covered under the RVAAP Facility-Wide SAP, such as multi-increment sampling techniques or composite sampling from stockpiled soil, will be addressed in the task-specific SAP Addendum. All analytical work shall be performed in accordance with the Louisville Chemistry Guideline (USACE 2002).

During SAP Addendum development, the utilization of discrete data versus multi-increment sampling data will be evaluated on a case-by-case basis. Sampling objectives will be established and the appropriate method identified to satisfy these objectives for each sampling activity. The evaluation will consider the following factors:

- Types of environmental media or other material to be sampled;
- Data objectives (e.g., soil characterization, confirmation sampling, RD sampling) ; and
- Uniformity/consistency requirements for results of sampling.

4.1.2 Site Safety and Health Plans

SAIC will develop Site-Specific Safety and Health Plan (SSHP) Addenda for each appropriate task of the project (e.g., implementation of the RD Work Plans), which will be tiered under the Facility-Wide Health and Safety Plan. The SSHP Addendum will address task hazard analyses, emergency response,

contingency plans, and emergency contacts. The SSHP will meet the requirements of federal, state, and local regulations and will identify safety and health regulations applicable to the work.

SAIC will ensure all employees, subcontractors, and on-site suppliers follow all provisions established in the approved SSHP. SAIC understands that all parties on-site retain Stop Work Authority for any observed violations or non-compliance with the SSHP pending corrective action. The SSHP will include:

- Site description and contaminant characterization;
- Safety and health hazard assessment and risk analysis;
- Safety and health staff organization and responsibilities;
- Site specific training;
- Medical surveillance parameters;
- Personal protective equipment (PPE);
- Decontamination facilities and procedures;
- Monitoring and sampling requirements;
- Safety and health work precautions and procedures;
- Site control measures;
- On-site first aid and emergency equipment;
- Emergency response plans and contingency procedures (both on-site and off-site);
- Documentation and record keeping; and
- Authorization to all workers to stop work for non-compliance with safety standards.

4.1.3 Quality Control Plans

Prior to the start of field sampling activities, SAIC will prepare a QAPP Addendum, tiered under the existing RVAAP Facility-Wide QAPP (located in the Facility Wide SAP [USACE 2001b]) to ensure field sampling activities are implemented in accordance with the appropriate procedures. Prior to initiation of remedial activities, SAIC will develop a Contractor Quality Assurance Plan (CQAP). The CQAP will be incorporated into the RD Work Plan and will guide the performance of work activities by all personnel, including subcontractors. Applicable requirements of the USACE CQM Program will be integrated into the CQAP. Implementation of CQM will ensure remedial activities are performed in accordance with cost and schedule specifications.

4.1.4 Storm Water Pollution Prevention Plans

As part of the RD, SAIC will prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will establish the procedures and controls to prevent storm water run-on and run-off, to minimize erosion of site soil, to prevent sediment transport and accumulation, and to protect adjacent drainage ways during intrusive field work activities in accordance with all applicable federal, state, and local requirements.

4.1.5 Other Requirements and Notifications

The RD will identify, and SAIC will prepare and submit, appropriate documentation or notifications as required by Federal, state, or local laws and regulations and Army policies for CERCLA actions. Such requirements may include, but are not limited to, relevant NEPA regulatory coordination and

documentation, National Pollutant Discharge Elimination System (NPDES) permits, Explosives Safety Submission(s), and wetland disturbance preconstruction notifications or permits.

4.2 SITE LOGISTICS AND COORDINATION

Subcontractor Coordination: During any week which SAIC (including SAIC subcontractors) performs any site work at RVAAP/RTLS, a representative will attend the Monday morning contractor meeting (8:30 AM). These meetings are designed to facilitate coordination of various contractor activities occurring at RVAAP/RTLS. SAIC and its subcontractor(s) will coordinate to the best of their ability with other subcontractors performing work at RVAAP/RTLS.

Fall Deer Hunting: SAIC will not perform any site work during the weekends RTLS allows deer hunting.

Facility Access: In order to ensure the security and orderly running of RVAAP/RTLS, any contractors, consultants, or visitors who wish to gain access to the facility will follow procedures established by RVAAP/RTLS and the facility caretaker contractor.

Deliveries: SAIC will notify the facility management 24-hours in advance of any deliveries to RVAAP/RTLS. SAIC understands that all trucks are subject to search by RTLS security at any time. All personnel associated with this project will observe and obey posted speed limits at RVAAP/RTLS or default to 35 mph during daylight hours and 25 mph during nighttime hours.

Smoking: Smoking is allowed only within designated areas of RVAAP/RTLS.

Communication: The use of walkie-talkies and cell phones are permitted at RVAAP/RTLS; however, personnel will have a backup form of communication in the event service is not provided in the work area.

Hazardous and Non-Hazardous Waste: Contractors are required to remove non-hazardous trash brought to or generated at RVAAP/RTLS during work. Hazardous materials require manifests to be removed from RVAAP/RTLS. The facility management will generate manifests for all wastes generated under this project.

Food: Food shall only be consumed in designated areas of RVAAP/RTLS.

4.3 GOVERNMENT FURNISHED RESOURCES

SAIC shall coordinate with the Army, OHARNG, and the RVAAP maintenance/caretaker contractor to gain access to the facility and to available infrastructure and utilities as required for execution of this project. The Government will provide the following resources to SAIC, if available: pertinent records, reports, data, analysis, and information, in their current format (e.g. hardcopy, electronic, tape, disks, CDs) to facilitate development of a complete and accurate assessment of current, former and historical site activities and operations; waste generation and contaminant characteristics; parameters of interest; site environmental conditions; access to appropriate personnel to conduct interviews on facility operations and activities; and access to all applicable DoD and Army policy and guidance documents.

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5.0 PROJECT ORGANIZATION/RESOURCES

5.1 PROJECT ORGANIZATION, ROLES, AND RESPONSIBILITIES

The following sections present the project organization as well as the roles and responsibilities of SAIC personnel and subcontractors.

5.1.1 SAIC Management

SAIC will be responsible for the execution of this project. The project team is shown in Figure 5-1. The project team organizational chart displays the roles played in this project as well as the tasks required for this project and the personnel responsible for the execution of these tasks. Below is a description of the key project positions identified in the chart.

Project Manager: The Project Manager for this project is Kevin Jago, PG. The Project Manager will serve as the point of contact for all Interested Parties. The Project Manager is responsible for the completion of the project in accordance with the contract and regulatory requirements. The Project Manager is also responsible for the coordination of schedules, cost tracking, and preparation of submittals.

Project Engineer: The Project Engineer for this project is Jed Thomas, PE. The Project Engineer is responsible for ensuring the product is executed in accordance with applicable engineering and environmental regulations, requirements, and procedures of the state of Ohio, USACE, and SAIC. The Project Engineer is responsible for oversight and directing and the preparation of engineering specifications and designs, drawings, and calculations. The Project Engineer will coordinate field remediation activities with the Remedial Construction Supervisor. The Project Engineer will also support the Project Manager with coordination of schedules, cost tracking, and preparation of submittals.

RI/FS and Decision Document Task Leads: The primary task lead for implementation of the RI Work Plan Addendum is Jeff DeVaughn, CPG. Mr. DeVaughn will manage additional RI field activities to support completion of RI Addenda and FSs. The Project Cost Engineer is Mr. Mike Poligone, PE, who will support development of FS reports and prepare remedial alternative cost estimates. Mr. DeVaughn and Mr. Poligone will coordinate with the Project Engineer to develop and complete the various documents in accordance with the baseline approach summarized in this PMP, or as required by subsequent discussions with the Army and Ohio EPA, to achieve PWS objectives.

Risk Assessors: The lead for human health risk management activities is Samantha Pack. The lead for ecological risk management and WOE activities is Dr. Barney Cornaby. The Risk Assessors will support the RI Addendum, FS and decision document process by developing risk-based analyses and risk management summaries for decision-making purposes, calculating risk-based cleanup goals, and preparing relevant sections of the project-required documents.

Remedial Construction Supervisor: The Remediation Construction Supervisor for this project is Sam Insalaco. The Remediation Construction Supervisor is responsible for coordination of remedial action implementation subcontractors. The Remediation Construction Supervisor also is responsible for completion of site operations in accordance with the approved plans and field work orders. The Remediation Construction Supervisor has full authorization to stop work and to demand corrective action based on non-compliance with the level of quality required by the plans. Mr. Corey Pacer will provide lead support and work in conjunction with the Project Engineer to prepare the consolidated RD.

Corporate and Project QA/QC Officers: The Corporate QA/QC Officer for this project is Glen Cowart, CQA; Richard Sprinzl will provide QA/QC support at the project level working in conjunction with the Corporate QA/QC Officer. The Corporate QA/QC Officer is responsible for maintaining and updating SAIC Corporate QA/QC procedures, communicating requirements and policies to the project, providing technical guidance to the project as requested, and establishing schedules for SAIC internal QA/QC surveillances. The Project QA/QC Officer is responsible for implementing project QA in accordance with SAIC's QA/QC Program. The Project QA/QC Officer is responsible for overseeing and approving any required project training during the development of documents as well as implementation of field activities. These responsibilities include data verification and final project reports.

Corporate and Project Health and Safety Officers: The Corporate Health and Safety Officer for this project is Mr. Steve Davis, CIH, CSP. Ms. Heather Miller will provide health and safety support at the project level working in conjunction with the Corporate Health and Safety Officer. The Corporate Health and Safety Officer is responsible for maintaining and updating SAIC Corporate health and safety procedures, communicating requirements and policies to the project, and providing technical guidance to the project as requested. The Project Health and Safety Officer will prepare the SSHP Addendum for required site work. The Project Health and Safety Officer is responsible for the implementation of the SSHP Addendum and will conduct site inspections to ensure compliance with Federal, State, and Occupational Safety and Health Administration (OSHA) regulations and all aspects of the SSHP including activity hazard analyses, air monitoring, use of PPE, decontamination, site control, standard operating procedures used to minimize hazards, safe use of engineering controls, the emergency response plan, and spill containment program. The Project Health and Safety Officer will ensure all personnel are properly trained for their assigned tasks for all work performed. The Project Health and Safety Officer has full authorization to stop work and to demand corrective action for non-compliance with the SSHP.

Data Manager/RVAAP Environmental Information Management System (REIMS) Specialist: Dr. Pat Ryan will provide data management support to the project and ensure that project-acquired information is transferred to REIMS. Dr. Ryan will coordinate chemists and data management staff for project support to develop analytical laboratory scopes of work in accordance with USACE Louisville District Chemistry Guidelines and Automated Data Review/Environmental Data Management System (ADR/EMS) requirements, ensure that laboratories have required National Environmental Laboratory Accreditation Conference (NELAC) or equivalent certifications, and ensure that data quality is assured and verified in accordance with the Facility-wide QAPP and project QAPP Addendum. Dr. Ryan will ensure analytical data and project documents are uploaded and managed within the REIMS platform and that project data are transferred to the Army's Environmental Restoration Information System (ERIS) on a routine basis.

5.1.2 Subcontractor Management

SAIC will implement this project using subcontractor arrangements with our key team member, USA Environmental Inc. (Figure 5-1), as well as drilling, laboratory, and transportation and disposal subcontractors. Subcontracts will be carefully developed and reviewed by the Project Manager and/or Project Engineer to reflect detailed scope and realistic performance objectives and specifications. Provisions of the SAIC prime contract, health and safety requirements, and QA/QC requirements will be incorporated into subcontracts, as appropriate, to encourage beneficial performance and/or penalize poor performance. Field performance of all subcontractors will be monitored by the Remedial Construction Supervisor and Project Health and Safety Officer, who will record observations of progress and discuss project status daily with the Project Manager and/or Project Engineer. Deviations will be addressed in accordance with the protocols specified in the relevant Work Plan(s). Negative performance trends will instigate an interim performance evaluation, and a corrective action plan will be developed as required to bring schedule/cost performance back in line.

5.2 RVAAP INTERESTED PARTIES

SAIC will manage and coordinate this project to ensure all RVAAP Interested Parties are kept informed of the project status, existing or potential problems, and any changes that may be required to prudently manage the project and meet the needs of these Interested Parties. These Interested Parties include:

- USACE – Louisville District (CELRL);
- RVAAP;
- United States Army Environmental Center (USAEC);
- OHARNG/RTLS;
- NGB;
- Ohio EPA;
- Base Realignment and Closure Division (BRACD);
- United States Army Center for Health Promotion and Preventive Medicine (USACHPPM); and
- Other contractors working on facility.

5.3 PUBLIC INVOLVEMENT

SAIC will coordinate all public involvement activities through the RVAAP Facility Manager, USACE Louisville District Contracting Officer's Representative (COR), and Ohio EPA, in accordance with the RVAAP Community Relations Plan. Public relations activities anticipated during this project include preparation of briefings, public presentations, fact sheets, newsletters, restoration advisory board (RAB) tours, and articles to news media. The public will be provided the opportunity to comment on draft and final documents submitted to the Administrative Record. SAIC will support the Army to request public comments on PPs, as required by the CERCLA regulatory process and the RVAAP Community Relations Plan, and prepare responses to public comments for review and approval. SAIC will provide project descriptions and progress updates suitable for inclusion in the RVAAP public website, as requested by the COR and RVAAP.

5.4 PROJECT DELIVERABLES

SAIC's baseline project management approach includes preparation of an integrated Supplemental RI Work Plan Addendum for all planned investigation activities under Task 2, subject to Ohio EPA concurrence. A separate Work Plan Addendum will be prepared for Load Line 12 groundwater sampling and Facility-wide Sewers (RVAAP-67) under Task 4. Following completion of RI Work Plan Addendum field activities, combined RI Addenda and FSs for each AOC, subject to Ohio EPA concurrence, will be prepared under Task 2 and Task 4. Consolidation of the RI Addenda and FSs will reduce the time required to produce, review, and finalize deliverables and enhance the ability to achieve response complete, remedy in place, or site closeout by the Army's goal of September 30, 2014 and SAIC's proposed date of December 12, 2013. PP and RODs prepared under Tasks 2 and 4 will be stand alone documents for each AOC. To allow Ohio EPA and Army staff sufficient time and resources to complete reviews, deliverables at each stage in the CERCLA process will be staggered as 3 groupings of AOCs separated by approximately 60 calendar days:

- AOCs where no further action is anticipated based on data review and assessment; and
- Two approximately equal groups of AOCs where remedial actions are warranted.

A consolidated RD will be prepared for all AOCs requiring remedial actions under Task 5; likewise a consolidated RA Report will be prepared following completion of remedial actions.

To meet schedule requirements, Task 3 deliverables will be prepared separately and will include a stand alone Work Plan Addendum for installation and sampling of facility-wide groundwater monitoring wells. A separate monitoring report incorporating well drilling, installation, and sampling records, as well as groundwater sampling results will be prepared.

The deliverable schedule is provided in Section 7.1 (Figure 7-1). Table 5-1 summarizes project deliverable and approval requirements. All deliverables will be prepared in accordance with CERCLA and the NCP following requirements of the Ohio EPA Director's Findings and Orders for RVAAP and the RVAAP Deliverable Documents Formatting Guidelines (SpecPro 2007). SAIC will coordinate the number of electronic and hard copy deliverables required for each document with the Interested Parties. SAIC's project management approach includes the following Army and Ohio EPA review and comment cycles for each deliverable in accordance with USACE Louisville policy and the Ohio EPA Director's Findings and Orders for RVAAP:

- Preliminary Draft Deliverables: Army review only – up to 30 calendar days.
- Draft Deliverable concurrence and comment response QA review: Army – up to 20 calendar days.
- Draft Deliverable IRP Team review: Ohio EPA, OHARNG, and Army – minimum of 45 calendar days.
- Final Deliverable concurrence and comment response QA review: Army – up to 10 calendar days.
- Final Deliverable IRP Team review/approval: Ohio EPA, OHARNG, and Army – minimum of 45 calendar days.

SAIC will develop provisional responses to comments on Draft and Final deliverables and request a comment response meeting, as required, within 15 calendar days of receipt of comments in accordance with the Ohio EPA Director's Findings and Order for RVAAP. SAIC's project schedule assumes the same 15 calendar day timeline to address Army comments on Preliminary Draft versions of the documents, unless required otherwise to meet milestone schedules. SAIC will address Ohio EPA and Army comments in a clear and concise manner using a standard comment response table format that uniquely identifies each comment. Responses to comments will be specific with regards to delineating any changes to be made to the documents.

SAIC shall obtain written or electronic approval of these documents by both Ohio EPA and the Army in accordance with the PWS (USACE 2008).

1 **Table 5-1. Deliverable Approval Matrix**

Deliverable	Army	Ohio EPA	Public
Project Kick-off Meeting Minutes			
Final Meeting Minutes	A	C	
Project Management Plan (PMP)			
Final PMP (Revision 0)/Updates (subsequent revisions)	A	C	
Project/Milestone Schedule	A	A	
Quality Assurance Surveillance Plan (QASP)			
Final QASP (Revision 0)/Updates (subsequent revisions)	A	C	
Monthly Progress Reports			
Final Monthly Progress Report	A	C	
Task 2 – Achieve Approved Records of Decision (RODs) for Subject Areas of Concern (AOCs)			
Preliminary Draft Supplemental RI Work Plan Addendum	C		
Draft Supplemental Remedial Investigation (RI) Work Plan Addendum	C	C	C*
Final Supplemental RI Work Plan Addendum	A	A	
Preliminary Draft RI Addendum/Feasibility Study (FS)	C		
Draft RI Addendum/FS	C	C	C*
Final RI Addendum/FS	A	A	
Preliminary Draft Proposed Plans	C		
Draft Proposed Plans	C	C	
Final Proposed Plans	A	A	C
Preliminary Draft RODs	C		
Draft RODs	C	C	C*
Final RODs	A	A	
Task 3 – 6 Facility-Wide Sharon Conglomerate Wells			
Preliminary Draft Work Plan Addendum	C		
Draft Work Plan Addendum	C	C	C*
Final Work Plan Addendum	A	A	
Preliminary Draft Monitoring Report	C		
Draft Monitoring Report	C	C	C*
Final Monitoring Report	A	A	
Task 4 – Load Line 12 Groundwater Interim record of Decision (IROD) and RVAAP-67 Facility-wide Sewers ROD			
Load Line 12 Preliminary Draft Work Plan Addendum	C		
Load Line 12 Draft Work Plan Addendum	C	C	C*
Load Line 12 Final Work Plan Addendum	A	A	
Load Line 12 Preliminary Draft RI Addendum/FS	C		
Load Line 12 Draft RI Addendum/FS	C	C	C*
Load Line 12 Final RI Addendum/FS	A	A	
Load Line 12 Preliminary Draft Proposed Plan	C		
Load Line 12 Draft Proposed Plan	C	C	
Load Line 12 Final Proposed Plan	A	A	C
Load Line 12 Preliminary Draft IROD	C		
Load Line 12 Draft IROD	C	C	C*
Load Line 12 Final IROD	A	A	
RVAAP-67 Preliminary Draft Work Plan Addendum	C		
RVAAP-67 Draft Work Plan Addendum	C	C	C*
RVAAP-67 Final Work Plan Addendum	A	A	

Table 5-1. Deliverable Approval Matrix (continued)

Deliverable	Army	Ohio EPA	Public
RVAAP-67 Preliminary Draft RI Addendum/FS	C		
RVAAP-67 Draft RI Addendum/FS	C	C	C*
RVAAP-67 Final RI Addendum/FS	A	A	
RVAAP-67 Preliminary Draft Proposed Plan	C		
RVAAP-67 Draft Proposed Plan	C	C	
RVAAP-67 Final Proposed Plan	A	A	C
RVAAP-67 Preliminary Draft ROD	C		
RVAAP-67 Draft ROD	C	C	C*
RVAAP-67 Final ROD	A	A	
Task 5 – Achieve Remedy Complete, Remedy in Place, or Site Closeout for Subject AOCs			
Preliminary Draft Consolidated Remedial Design (RD)	C		
Draft Consolidated RD	C	C	C*
Final Consolidated RD	A	A	
Preliminary Draft Consolidated Remedial Action Report RAR	C		
Draft Consolidated RAR	C	C	C*
Final Consolidated RAR	A	A	

A – Formal approval

C – Provide comment

* – Documents available for public review/comment via the RVAAP Administrative Record.

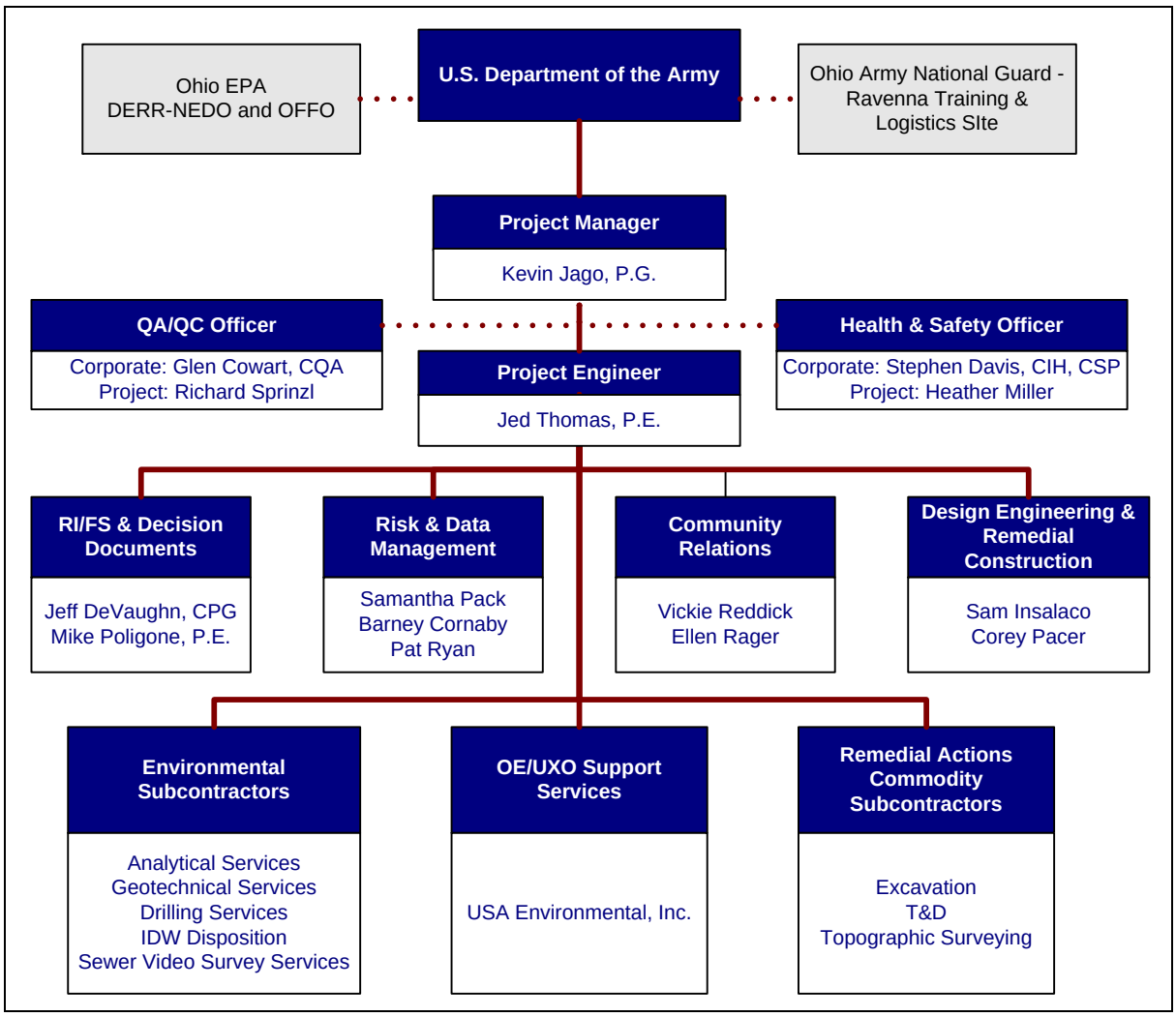

Figure 5-1. Project Organizational Chart

6.0 PROJECT REPORTING

In an effort to communicate the progress, findings, and potential changes that may occur during the project, SAIC will communicate with all Interested Parties during established biweekly status meetings and the monthly progress reports.

6.1 BIWEEKLY STATUS TELECONFERENCES

SAIC will conduct biweekly status meetings with the appropriate interested parties per the PWS by means of a conference call. The purpose of these meetings is to address the progress to date, summarize anticipated activities, address any problems or issues with regards to the project, and discuss any corrective actions. A standard agenda for this biweekly conference call will be issued at least two days prior to each call for review and comment. Upon the incorporation of comments to the agenda, a finalized agenda will be provided to the interested parties. The project status includes, but is not limited to:

- Work completed;
- Work scheduled;
- Technical issues;
- Regulatory challenges/issues;
- Issues that may hamper project schedule; and
- Any other project related issues raised by any of the Interested Parties.

SAIC will provide meeting minutes of the biweekly status meeting to all Interested Parties.

6.2 MONTHLY PROGRESS REPORTS

As required by the Ohio EPA Director's Findings and Orders for RVAAP (Ohio EPA 2004), unless otherwise specified in writing by Ohio EPA, a written progress report for every month shall be provided to the USACE Louisville District COR or designee by the fifth day of each month. USACE will compile Monthly Progress Reports from all contractors to submit to Ohio EPA by the tenth day of each month. USACE has established a template for these monthly progress reports to comply with requirements of the Ohio EPA Director's Findings and Orders for RVAAP (Figure 6-1). SAIC will use this template to detail the following progress items:

- Describe the status of all active project tasks and progress made toward achieving PWS objectives during the reporting period;
- Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties;
- Describe activities planned for the following month;
- Identify changes in key personnel;
- List target and actual completion dates for each element of activity, including project completion;
- Provide an explanation for any deviation from any applicable schedules; and
- Note volume and disposition of any investigation-derived or remedial action wastes removed from RVAAP.

6.3 SCHEDULE UPDATES

A detailed working schedule has been developed as part of this PMP (see Figure 7-1) that outlines major project elements and due dates for all major deliverables. This detailed project schedule shall be updated monthly to accurately reflect project progress, and shall be included as part of the monthly progress report submittal. Additionally, SAIC shall participate in RVAAP biweekly schedule update conference calls organized by USACE to apprise the RVAAP Project Team progress.

6.4 RECORDS/DATA MANAGEMENT

SAIC will submit all data and documentation to SAIC's Central Records repository per SAIC's QA Program. All documents generated during the course of this project will be maintained in both electronic and hard copy. Electronic reports for submission to RVAAP REIMS will adhere to criteria for entry into the database. To the extent that residual contaminantion is left in place at any of the subject AOCs, SAIC will meet DoD and CERCLA requirements for records management to support five-year reviews to be performed by others.

Provisional laboratory analytical data will be received into and managed in the SAIC Environmental Information Management System pending verification and assignment of final data qualifiers. Upon finalization of analytical data, they will be uploaded to REIMS and maintained in accordance with system requirements.

SAIC MONTHLY REPORT

Contract Number: W912QR-04-D-0028 **Report Number**: 1
Project No.: Delivery Order 0001 **Period**: August 2008
Contractor: SAIC
8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Location: Ravenna Army Ammunition Plant, Ravenna, OH
Project Name: 2008 Performance-Based Acquisition – Environmental Investigation and Remediation

SUMMARY OF ACTIVITIES:

HEALTH AND SAFETY PERFORMANCE:

PROBLEMS ENCOUNTERED/RESOLUTION:

PLANNED ACTIVITIES:

ACTIVITY AND PROGRESS COMPLETION TABLES:

Target/Milestone Activity	Scheduled Completion Date	Actual Completion Date	Status

CHANGES IN KEY PERSONNEL:

DEVIATION IN SCHEDULE (with explanation):

INVESTIGATIVE DERIVED WASTE (IDW):

REMARKS:

SAIC PROJECT MANAGER:
SIGNATURE:

Percent Complete Estimates for GSA Contract No. W912QR-04-D-0028
Performance Based Acquisition – Environmental Investigation and Remediation
at the Ravenna Army Ammunition Plant

Task Number		Percent Complete as of (date)
CLIN X.X	Task Description	
CLIN X.X	Task Description	
CLIN X.X	Task Description	
CLIN X.X	Task Description	
CLIN X.X	Task Description	
CLIN X.X	Task Description	
TOTAL TASK PERCENT COMPLETE		

Figure 6-1. RVAAP Monthly Progress Report Template

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7.0 PROJECT SCHEDULE AND MILESTONES

7.1 PROJECT SCHEDULE AND PROJECT DELIVERABLE MILESTONES

As part of this PMP, SAIC has developed a detailed project schedule that includes due dates for all major deliverables, including review times, leading to completion of the entire project by December 12, 2013. The project schedule (Figure 7-1) details both target and milestone dates for each element of the project (e.g., completion of FS, PP). Generally, milestones are established for deliverables within the control of the contractor, Army, and Ohio EPA, and are critical to forward movement (i.e., Final versions of major deliverables). In addition, the detailed project schedule incorporates the following general requirements established in the PWS (USACE 2008):

- Ohio EPA 45-day minimum review period;
- Comment resolution meetings/teleconferences held within 15 days of close of comment period; and
- Deliverables to be provided within 30 days of receipt of Ohio EPA approval of previous version.

Figure 7-1 summarizes the deliverable and approval milestones required to achieve project objectives by December 12, 2013. The project schedule and associated deliverable milestones (Figure 7-1) are to be approved by both the Ohio EPA and the Army. Approval of the detailed project schedule and associated milestones will be obtained as part of the PMP review and approval cycle.

The Project Manager will have primary responsibility for maintaining the project schedule throughout the contract performance period. The schedule will be updated monthly to accurately reflect project progress and schedule changes. The updated schedule shall be included with the monthly project updates submitted to USACE on the fifth day of every month. This schedule information also will be provided for integration into the overall RVAAP IRP schedule managed by the USACE Louisville District. SAIC will participate in the ongoing biweekly RVAAP IRP Program schedule review teleconferences.

In the event that a schedule milestone extension is required, SAIC will notify USACE (the responsible party) in writing. The Army will request an extension from Ohio EPA in accordance with the Ohio EPA Director's Findings and Orders for RVAAP (Ohio EPA 2004), by specifying:

- The milestone that is sought to be extended;
- The length of the extension requested;
- The cause(s) for the extension; and
- Any related milestones or target dates that would be affected if the extension request were granted.

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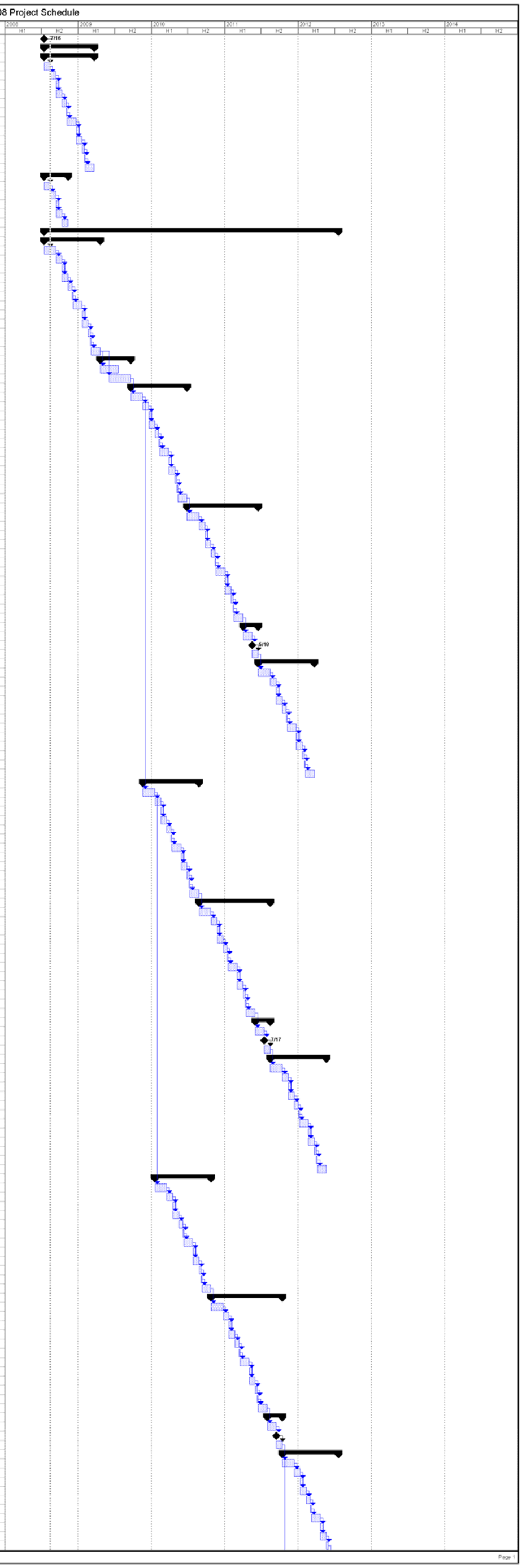
PBA 2008 Project Schedule

ID	Line Item	Task Name	Deadline	Duration	Start	Finish	Predecessors
1		**Contract Award Date**	**NA**	**0 days**	**Wed 7/16/08**	**Wed 7/16/08**	
2	**1**	**Task 1 - Project Management Plans**	**NA**	**250 days**	**Wed 7/16/08**	**Sun 3/22/09**	
3	**1.PMP**	**Project Management Plan**	**NA**	**250 days**	**Wed 7/16/08**	**Sun 3/22/09**	
4		Prepare and Submit PreDraft to USACE	NA	30 days	Wed 7/16/08	Thu 8/14/08	1
5		USACE Review	NA	30 days	Fri 8/15/08	Sat 9/13/08	4
6		Comment Resolution Meeting	NA	15 days	Sun 9/14/08	Sun 9/28/08	5
7		Prepare and Submit Draft to USACE	NA	30 days	Sun 9/14/08	Mon 10/13/08	5
8		USACE Concurrence Review of Draft	NA	20 days	Tue 10/14/08	Sun 11/2/08	7
9		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Mon 11/3/08	Fri 11/7/08	8
10		Army and Ohio EPA Review	NA	45 days	Sat 11/8/08	Mon 12/22/08	9
11		Comment Resolution Meeting	NA	15 days	Tue 12/23/08	Tue 1/6/09	10
12		Prepare and Submit Final to USACE	NA	30 days	Tue 12/23/08	Wed 1/21/09	10
13		USACE Concurrence Review of Final	NA	10 days	Thu 1/22/09	Sat 1/31/09	12
14		Prepare and Submit Final to Army and Ohio EPA	NA	5 days	Sun 2/1/09	Thu 2/5/09	13
15		Army and Ohio EPA Review and Approval	NA	45 days	Fri 2/6/09	Sun 3/22/09	14
16	**1.QASP**	**Quality Assurance Surveillance Plan**	**NA**	**120 days**	**Wed 7/16/08**	**Wed 11/12/08**	
17		Prepare and Submit Draft to Army	NA	30 days	Wed 7/16/08	Thu 8/14/08	1
18		Army Review	NA	30 days	Fri 8/15/08	Sat 9/13/08	17
19		Comment Resolution Meeting	NA	15 days	Sun 9/14/08	Sun 9/28/08	18
20		Prepare and Submit Final to USACE	NA	30 days	Sun 9/14/08	Mon 10/13/08	18
21		Army Review and Approval	NA	30 days	Tue 10/14/08	Wed 11/12/08	20
22	**2**	**Task 2 - ROD Approvals for 16 AOCs**	**NA**	**1467 days**	**Wed 7/16/08**	**Sat 7/21/12**	
23	**2.RI**	**Remedial Investigation Work Plan**	**NA**	**280 days**	**Wed 7/16/08**	**Tue 4/21/09**	
24		Prepare and Submit PreDraft to USACE	NA	60 days	Wed 7/16/08	Sat 9/13/08	1
25		USACE Review	NA	30 days	Sun 9/14/08	Mon 10/13/08	24
26		Comment Resolution Meeting	NA	15 days	Tue 10/14/08	Tue 10/28/08	25
27		Prepare and Submit Draft to USACE	NA	30 days	Tue 10/14/08	Wed 11/12/08	25
28		USACE Concurrence Review of Draft	NA	20 days	Thu 11/13/08	Tue 12/2/08	27
29		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Wed 12/3/08	Sun 12/7/08	28
30		Army and Ohio EPA Review	NA	45 days	Mon 12/8/08	Wed 1/21/09	29
31		Comment Resolution Meeting	NA	15 days	Thu 1/22/09	Thu 2/5/09	30
32		Prepare and Submit Final to USACE	NA	30 days	Thu 1/22/09	Fri 2/20/09	30
33		USACE Concurrence Review of Final	NA	10 days	Sat 2/21/09	Mon 3/2/09	32
34		Prepare and Submit Final to Army and Ohio EPA	NA	5 days	Tue 3/3/09	Sat 3/7/09	33
35		Army and Ohio EPA Review and Approval	NA	45 days	Sun 3/8/09	Tue 4/21/09	34
36		**Implementation of Remedial Investigation Work Plan**	**NA**	**152 days**	**Wed 4/22/09**	**Sun 9/20/09**	
37		Implementation of RI Work Plan	NA	90 days	Wed 4/22/09	Mon 7/20/09	35
38		Data Verification and Management	NA	107 days	Sat 6/6/09	Sun 9/20/09	35FS+45 days
39	**2.FS(a)**	**RI/FSs for Group 1 AOCs (RVAAP-12, 29, and 46)**	**NA**	**280 days**	**Mon 9/21/09**	**Sun 6/27/10**	
40		Prepare and Submit PreDraft to USACE	NA	60 days	Mon 9/21/09	Thu 11/19/09	38
41		USACE Review	NA	30 days	Fri 11/20/09	Sat 12/19/09	40
42		Comment Resolution Meeting	NA	15 days	Sun 12/20/09	Sun 1/3/10	41
43		Prepare and Submit Draft to USACE	NA	30 days	Sun 12/20/09	Mon 1/18/10	41
44		USACE Concurrence Review of Draft	NA	20 days	Tue 1/19/10	Sun 2/7/10	43
45		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Mon 2/8/10	Fri 2/12/10	44
46		Army and Ohio EPA Review	NA	45 days	Sat 2/13/10	Mon 3/29/10	45
47		Comment Resolution Meeting	NA	15 days	Tue 3/30/10	Tue 4/13/10	46
48		Prepare and Submit Final to USACE	NA	30 days	Tue 3/30/10	Wed 4/28/10	46
49		USACE Concurrence Review of Final	NA	10 days	Thu 4/29/10	Sat 5/8/10	48
50		Prepare and Submit Final to Army and Ohio EPA	NA	5 days	Sun 5/9/10	Thu 5/13/10	49
51		Army and Ohio EPA Review and Approval	NA	45 days	Fri 5/14/10	Sun 6/27/10	50
52	**2.PP(a)**	**Proposed Plans for Group 1 AOCs (RVAAP-12, 29, and 46)**	**NA**	**355 days**	**Mon 6/28/10**	**Fri 6/17/11**	
53		Prepare and Submit PreDraft to USACE	NA	60 days	Mon 6/28/10	Thu 8/26/10	51
54		USACE Review	NA	30 days	Fri 8/27/10	Sat 9/25/10	53
55		Comment Resolution Meeting	NA	15 days	Sun 9/26/10	Sun 10/10/10	54
56		Prepare and Submit Draft to USACE	NA	30 days	Sun 9/26/10	Mon 10/25/10	54
57		USACE Concurrence Review of Draft	NA	20 days	Tue 10/26/10	Sun 11/14/10	56
58		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Mon 11/15/10	Fri 11/19/10	57
59		Army and Ohio EPA Review	NA	45 days	Sat 11/20/10	Mon 1/3/11	58
60		Comment Resolution Meeting	NA	15 days	Tue 1/4/11	Tue 1/18/11	59
61		Prepare and Submit Final to USACE	NA	30 days	Tue 1/4/11	Wed 2/2/11	59
62		USACE Concurrence Review of Final	NA	10 days	Thu 2/3/11	Sat 2/12/11	61
63		Prepare and Submit Final to Army and Ohio EPA	NA	5 days	Sun 2/13/11	Thu 2/17/11	62
64		Army and Ohio EPA Review and Approval	NA	45 days	Fri 2/18/11	Sun 4/3/11	63
65		**Public Comment Period Phase**	**NA**	**75 days**	**Mon 4/4/11**	**Fri 6/17/11**	
66		Public Notice Preparation	NA	45 days	Mon 4/4/11	Wed 5/18/11	64
67		Public Meeting for Group 1 AOCs	NA	0 days	Wed 5/18/11	Wed 5/18/11	66
68		Public Comment Period for Group 1 AOCs	NA	30 days	Thu 5/19/11	Fri 6/17/11	67
69	**2.ROD(a)**	**Records of Decision for Group 1 AOCs (RVAAP-12, 29, and 46)**	**NA**	**280 days**	**Sat 6/18/11**	**Fri 3/23/12**	
70		Prepare and Submit PreDraft to USACE	NA	60 days	Sat 6/18/11	Tue 8/16/11	68
71		USACE Review	NA	30 days	Wed 8/17/11	Thu 9/15/11	70
72		Comment Resolution Meeting	NA	15 days	Fri 9/16/11	Fri 9/30/11	71
73		Prepare and Submit Draft to USACE	NA	30 days	Fri 9/16/11	Sat 10/15/11	71
74		USACE Concurrence Review of Draft	NA	20 days	Sun 10/16/11	Fri 11/4/11	73
75		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Sat 11/5/11	Wed 11/9/11	74
76		Army and Ohio EPA Review	NA	45 days	Thu 11/10/11	Sat 12/24/11	75
77		Comment Resolution Meeting	NA	15 days	Sun 12/25/11	Sun 1/8/12	76
78		Prepare and Submit Final to USACE	NA	30 days	Sun 12/25/11	Mon 1/23/12	76
79		USACE Concurrence Review of Final	NA	10 days	Tue 1/24/12	Thu 2/2/12	78
80		Prepare and Submit Final to Army and Ohio EPA	NA	5 days	Fri 2/3/12	Tue 2/7/12	79
81		Army and Ohio EPA Review and Approval	NA	45 days	Wed 2/8/12	Fri 3/23/12	80
82	**2.FS(b)**	**RI/FSs for Group 2 AOCs (RVAAP-06, 13, 19, 33, 38, 39, and 40)**	**NA**	**280 days**	**Fri 11/20/09**	**Thu 8/26/10**	
83		Prepare and Submit PreDraft to USACE	NA	60 days	Fri 11/20/09	Mon 1/18/10	40
84		USACE Review	NA	30 days	Tue 1/19/10	Wed 2/17/10	83
85		Comment Resolution Meeting	NA	15 days	Thu 2/18/10	Thu 3/4/10	84
86		Prepare and Submit Draft to USACE	NA	30 days	Thu 2/18/10	Fri 3/19/10	84
87		USACE Concurrence Review of Draft	NA	20 days	Sat 3/20/10	Thu 4/8/10	86
88		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Fri 4/9/10	Tue 4/13/10	87
89		Army and Ohio EPA Review	NA	45 days	Wed 4/14/10	Fri 5/28/10	88
90		Comment Resolution Meeting	NA	15 days	Sat 5/29/10	Sat 6/12/10	89
91		Prepare and Submit Final to USACE	NA	30 days	Sat 5/29/10	Sun 6/27/10	89
92		USACE Concurrence Review of Final	NA	10 days	Mon 6/28/10	Wed 7/7/10	91
93		Prepare and Submit Final to Army and Ohio EPA	NA	5 days	Thu 7/8/10	Mon 7/12/10	92
94		Army and Ohio EPA Review and Approval	NA	45 days	Tue 7/13/10	Thu 8/26/10	93
95	**2.PP(b)**	**Proposed Plans for Group 2 AOCs (RVAAP-06, 13, 19, 33, 38, 39, and 40)**	**NA**	**355 days**	**Fri 8/27/10**	**Tue 8/16/11**	
96		Prepare and Submit PreDraft to USACE	NA	60 days	Fri 8/27/10	Mon 10/25/10	94
97		USACE Review	NA	30 days	Tue 10/26/10	Wed 11/24/10	96
98		Comment Resolution Meeting	NA	15 days	Thu 11/25/10	Thu 12/9/10	97
99		Prepare and Submit Draft to USACE	NA	30 days	Thu 11/25/10	Fri 12/24/10	97
100		USACE Concurrence Review of Draft	NA	20 days	Sat 12/25/10	Thu 1/13/11	99
101		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Fri 1/14/11	Tue 1/18/11	100
102		Army and Ohio EPA Review	NA	45 days	Wed 1/19/11	Fri 3/4/11	101
103		Comment Resolution Meeting	NA	15 days	Sat 3/5/11	Sat 3/19/11	102
104		Prepare and Submit Final to USACE	NA	30 days	Sat 3/5/11	Sun 4/3/11	102
105		USACE Concurrence Review of Final	NA	10 days	Mon 4/4/11	Wed 4/13/11	104
106		Prepare and Submit Final to Army and Ohio EPA	NA	5 days	Thu 4/14/11	Mon 4/18/11	105
107		Army and Ohio EPA Review and Approval	NA	45 days	Tue 4/19/11	Thu 6/2/11	106
108		**Public Comment Period Phase**	**NA**	**76 days**	**Fri 6/3/11**	**Tue 8/16/11**	
109		Public Notice Preparation	NA	45 days	Fri 6/3/11	Sun 7/17/11	107
110		Public Meeting for Group 2 AOCs	NA	0 days	Sun 7/17/11	Sun 7/17/11	109
111		Public Comment Period for Group 2 AOCs	NA	30 days	Mon 7/18/11	Tue 8/16/11	110
112	**2.ROD(b)**	**Records of Decision for Group 2 AOCs (RVAAP-06, 13, 19, 33, 38, 39, and 40)**	**NA**	**280 days**	**Wed 8/17/11**	**Tue 5/22/12**	
113		Prepare and Submit PreDraft to USACE	NA	60 days	Wed 8/17/11	Sat 10/15/11	111
114		USACE Review	NA	30 days	Sun 10/16/11	Mon 11/14/11	113
115		Comment Resolution Meeting	NA	15 days	Tue 11/15/11	Tue 11/29/11	114
116		Prepare and Submit Draft to USACE	NA	30 days	Tue 11/15/11	Wed 12/14/11	114
117		USACE Concurrence Review of Draft	NA	20 days	Thu 12/15/11	Tue 1/3/12	116
118		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Wed 1/4/12	Sun 1/8/12	117
119		Army and Ohio EPA Review	NA	45 days	Mon 1/9/12	Wed 2/22/12	118
120		Comment Resolution Meeting	NA	15 days	Thu 2/23/12	Thu 3/8/12	119
121		Prepare and Submit Final to USACE	NA	30 days	Thu 2/23/12	Fri 3/23/12	119
122		USACE Concurrence Review of Final	NA	10 days	Sat 3/24/12	Mon 4/2/12	121
123		Prepare and Submit Final to Army and Ohio EPA	NA	5 days	Tue 4/3/12	Sat 4/7/12	122
124		Army and Ohio EPA Review and Approval	NA	45 days	Sun 4/8/12	Tue 5/22/12	123
125	**2.FS(c)**	**RI/FSs for Group 3 AOCs (RVAAP-41, 42, 43, 44, 45, 48, and 50)**	**NA**	**280 days**	**Tue 1/19/10**	**Mon 10/25/10**	
126		Prepare and Submit PreDraft to USACE	NA	60 days	Tue 1/19/10	Fri 3/19/10	83
127		USACE Review	NA	30 days	Sat 3/20/10	Sun 4/18/10	126
128		Comment Resolution Meeting	NA	15 days	Mon 4/19/10	Mon 5/3/10	127
129		Prepare and Submit Draft to USACE	NA	30 days	Mon 4/19/10	Tue 5/18/10	127
130		USACE Concurrence Review of Draft	NA	20 days	Wed 5/19/10	Mon 6/7/10	129
131		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Tue 6/8/10	Sat 6/12/10	130
132		Army and Ohio EPA Review	NA	45 days	Sun 6/13/10	Tue 7/27/10	131
133		Comment Resolution Meeting	NA	15 days	Wed 7/28/10	Wed 8/11/10	132
134		Prepare and Submit Final to USACE	NA	30 days	Wed 7/28/10	Thu 8/26/10	132
135		USACE Concurrence Review of Final	NA	10 days	Fri 8/27/10	Sun 9/5/10	134
136		Prepare and Submit Final to Army and Ohio EPA	NA	5 days	Mon 9/6/10	Fri 9/10/10	135
137		Army and Ohio EPA Review and Approval	NA	45 days	Sat 9/11/10	Mon 10/25/10	136
138	**2.PP(c)**	**Proposed Plans for Group 3 AOCs (RVAAP-41, 42, 43, 44, 45, 48, and 50)**	**NA**	**355 days**	**Tue 10/26/10**	**Sat 10/15/11**	
139		Prepare and Submit PreDraft to USACE	NA	60 days	Tue 10/26/10	Fri 12/24/10	137
140		USACE Review	NA	30 days	Sat 12/25/10	Sun 1/23/11	139
141		Comment Resolution Meeting	NA	15 days	Mon 1/24/11	Mon 2/7/11	140
142		Prepare and Submit Draft to USACE	NA	30 days	Mon 1/24/11	Tue 2/22/11	140
143		USACE Concurrence Review of Draft	NA	20 days	Wed 2/23/11	Mon 3/14/11	142
144		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Tue 3/15/11	Sat 3/19/11	143
145		Army and Ohio EPA Review	NA	45 days	Sun 3/20/11	Tue 5/3/11	144
146		Comment Resolution Meeting	NA	15 days	Wed 5/4/11	Wed 5/18/11	145
147		Prepare and Submit Final to USACE	NA	30 days	Wed 5/4/11	Thu 6/2/11	145
148		USACE Concurrence Review of Final	NA	10 days	Fri 6/3/11	Sun 6/12/11	147
149		Prepare and Submit Final to Army and Ohio EPA	NA	5 days	Mon 6/13/11	Fri 6/17/11	148
150		Army and Ohio EPA Review and Approval	NA	45 days	Sat 6/18/11	Mon 8/1/11	149
151		**Public Comment Period Phase**	**NA**	**75 days**	**Tue 8/2/11**	**Sat 10/15/11**	
152		Public Notice Preparation	NA	45 days	Tue 8/2/11	Thu 9/15/11	150
153		Public Meeting for Group 3 AOCs	NA	0 days	Thu 9/15/11	Thu 9/15/11	152
154		Public Comment Period for Group 3 AOCs	NA	30 days	Fri 9/16/11	Sat 10/15/11	153
155	**2.ROD(c)**	**Records of Decision for Group 3 AOCs (RVAAP-41, 42, 43, 44, 45, 48, and 50)**	**NA**	**280 days**	**Sun 10/16/11**	**Sat 7/21/12**	
156		Prepare and Submit PreDraft to USACE	NA	60 days	Sun 10/16/11	Wed 12/14/11	154
157		USACE Review	NA	30 days	Thu 12/15/11	Fri 1/13/12	156
158		Comment Resolution Meeting	NA	15 days	Sat 1/14/12	Sat 1/28/12	157
159		Prepare and Submit Draft to USACE	NA	30 days	Sat 1/14/12	Sun 2/12/12	157
160		USACE Concurrence Review of Draft	NA	20 days	Mon 2/13/12	Sat 3/3/12	159
161		Prepare and Submit Draft to Army and Ohio EPA	NA	5 days	Sun 3/4/12	Thu 3/8/12	160
162		Army and Ohio EPA Review	NA	45 days	Fri 3/9/12	Sun 4/22/12	161
163		Comment Resolution Meeting	NA	15 days	Mon 4/23/12	Mon 5/7/12	162
164		Prepare and Submit Final to USACE	NA	30 days	Mon 4/23/12	Tue 5/22/12	162
165		USACE Concurrence Review of Final	NA	10 days	Wed 5/23/12	Fri 6/1/12	164



Wed 8/13/08 Page 1

Figure 7-1. Project Schedule for the RVAAP 2008 PBA

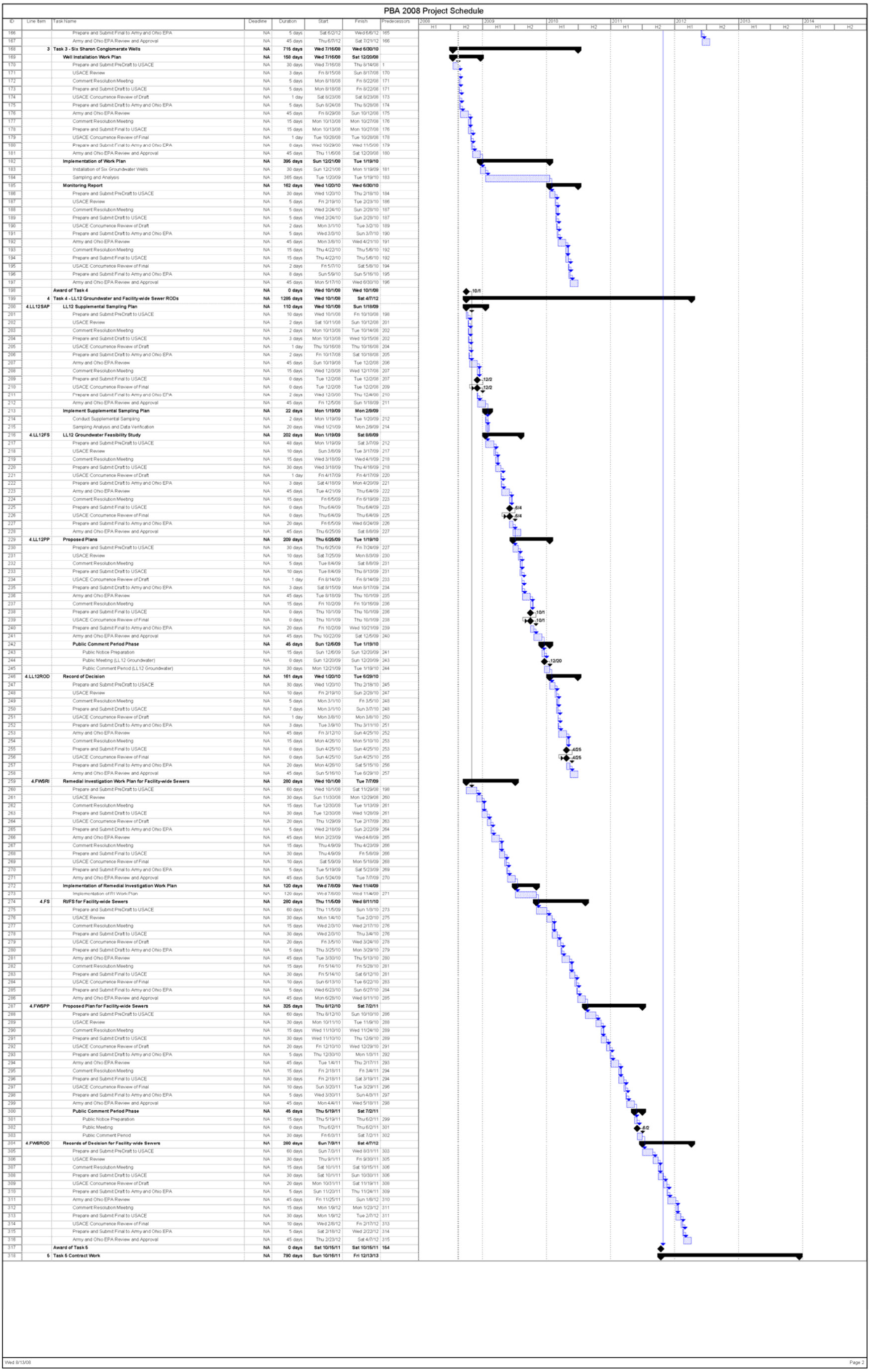


Figure 7-1. Project Schedule for the RVAAP 2008 PBA (continued)

Ohio EPA will determine whether there is good cause for the requested extension. Ohio EPA shall approve the extension if good cause exists, as defined in the Ohio EPA Director's Findings and Orders for RVAAP.

7.2 PROJECT PAYMENT MILESTONES

Payment for work completed under the RVAAP 2008 PBA is dependent upon the completion of established project payment milestones (Table 7-1). Table 5-1 summarizes deliverable review and acceptance criteria. Some milestones and sub-milestones may be eliminated or modified in response to how the work actually needs to be performed. In the event that milestones must be eliminated from this project or modified, a contract modification will be executed to document the change. A revised payment milestone schedule will be negotiated and incorporated into the contract modification.

For purposes of milestone payment, milestone documentation shall be submitted to USACE in a timely manner by SAIC, reviewed by USACE, and SAIC shall be notified of the findings within 30 working days of delivery of the milestone documentation. The USACE COR and the SAIC Project Manager shall discuss and/or meet after receipt of the milestone documentation to:

- Formally review the quantity and quality of services;
- Inspect work milestone documentation for compliance with the PWS and project documentation; and
- Approve or disapprove the performance of the milestone.

1 **Table 7-1. Payment Milestone Plan for the RVAAP 2008 PBA**

Task	Description	Performance/ Payment Milestone
1	TASK 1 – Complete PMP and QASP	
1.1	Project Management Plan (PMP)	100% payment after approval of Final Report
1.2	Quality Assurance Surveillance Plan (QASP)	100% payment after approval of Final Report
2	TASK 2 - Achieved Approved RODs for all Media Except Groundwater	
2.1a	Project Remedial Investigation Work Plan	100% payment after approval of Final Report
2.1b	Completion of RI Field Work	100% payment after completion of Field Work
2.2a	C-Block Quarry RI Report	100% payment after approval of Final Report
2.2b	C-Block Quarry Feasibility Study	100% payment after approval of Final Report
2.2c	C-Block Quarry Proposed Plan	100% payment after approval of Final Report
2.2d	C-Block Quarry Public Meeting	100% payment after approval of Final Report
2.2e	C-Block Quarry Record of Decision	100% payment after approval of Final Report
2.3a	Load Line 12 Feasibility Study (SW/Wet Sediment)	100% payment after approval of Final Report
2.3b	Load Line 12 Proposed Plan (SW/Wet Sediment)	100% payment after approval of Final Report
2.3c	Load Line 12 Public Meeting (SW/Wet Sediment)	100% payment after approval of Final Report
2.3d	Load Line 12 Record of Decision (SW/Wet Sediment)	100% payment after approval of Final Report
2.4a	Building 1200 RI Report	100% payment after approval of Final Report
2.4b	Building 1200 Feasibility Study	100% payment after approval of Final Report
2.4c	Building 1200 Proposed Plan	100% payment after approval of Final Report
2.4d	Building 1200 Public Meeting	100% payment after approval of Final Report
2.4e	Building 1200 Record of Decision	100% payment after approval of Final Report
2.5a	Landfill North of Winklepeck Burning Grounds RI Report	100% payment after approval of Final Report
2.5b	Landfill North of Winklepeck Burning Feasibility Study	100% payment after approval of Final Report
2.5c	Landfill North of Winklepeck Burning Proposed Plan	100% payment after approval of Final Report
2.5d	Landfill North of Winklepeck Burning Public Meeting	100% payment after approval of Final Report
2.5e	Landfill North of Winklepeck Burning Record of Decision	100% payment after approval of Final Report
2.6a	Upper and Lower Cobb Ponds RI Report	100% payment after approval of Final Report
2.6b	Upper and Lower Cobb Ponds Feasibility Study	100% payment after approval of Final Report
2.6c	Upper and Lower Cobb Ponds Proposed Plan	100% payment after approval of Final Report
2.6d	Upper and Lower Cobb Ponds Public Meeting	100% payment after approval of Final Report
2.6e	Upper and Lower Cobb Ponds Record of Decision	100% payment after approval of Final Report
2.7a	Load Line 6 RI Report	100% payment after approval of Final Report
2.7b	Load Line 6 Feasibility Study	100% payment after approval of Final Report
2.7c	Load Line 6 Proposed Plan	100% payment after approval of Final Report
2.7d	Load Line 6 Public Meeting	100% payment after approval of Final Report
2.7e	Load Line 6 Record of Decision	100% payment after approval of Final Report
2.8a	NACA Test Area RI Report	100% payment after approval of Final Report
2.8b	NACA Test Area Feasibility Study	100% payment after approval of Final Report
2.8c	NACA Test Area Proposed Plan	100% payment after approval of Final Report
2.8d	NACA Test Area Public Meeting	100% payment after approval of Final Report
2.8e	NACA Test Area Record of Decision	100% payment after approval of Final Report
2.9a	Load Line 5 RI Report	100% payment after approval of Final Report
2.9b	Load Line 5 Feasibility Study	100% payment after approval of Final Report

Table 7-1. Payment Milestone Plan for the RVAAP 2008 PBA (continued)

Task	Description	Performance/ Payment Milestone
2.9c	Load Line 5 Proposed Plan	100% payment after approval of Final Report
2.9d	Load Line 5 Public Meeting	100% payment after approval of Final Report
2.9e	Load Line 5 Record of Decision	100% payment after approval of Final Report
2.10a	Load Line 7 RI Report	100% payment after approval of Final Report
2.10b	Load Line 7 Feasibility Study	100% payment after approval of Final Report
2.10c	Load Line 7 Proposed Plan	100% payment after approval of Final Report
2.10d	Load Line 7 Public Meeting	100% payment after approval of Final Report
2.10e	Load Line 7 Record of Decision	100% payment after approval of Final Report
2.11a	Load Line 8 RI Report	100% payment after approval of Final Report
2.11b	Load Line 8 Feasibility Study	100% payment after approval of Final Report
2.11c	Load Line 8 Proposed Plan	100% payment after approval of Final Report
2.11d	Load Line 8 Public Meeting	100% payment after approval of Final Report
2.11e	Load Line 8 Record of Decision	100% payment after approval of Final Report
2.12a	Load Line 9 RI Report	100% payment after approval of Final Report
2.12b	Load Line 9 Feasibility Study	100% payment after approval of Final Report
2.12c	Load Line 9 Proposed Plan	100% payment after approval of Final Report
2.12d	Load Line 9 Public Meeting	100% payment after approval of Final Report
2.12e	Load Line 9 Record of Decision	100% payment after approval of Final Report
2.13a	Load Line 10 RI Report	100% payment after approval of Final Report
2.13b	Load Line 10 Feasibility Study	100% payment after approval of Final Report
2.13c	Load Line 10 Proposed Plan	100% payment after approval of Final Report
2.13d	Load Line 10 Public Meeting	100% payment after approval of Final Report
2.13e	Load Line 10 Record of Decision	100% payment after approval of Final Report
2.14a	Load Line 11 RI Report	100% payment after approval of Final Report
2.14b	Load Line 11 Feasibility Study	100% payment after approval of Final Report
2.14c	Load Line 11 Proposed Plan	100% payment after approval of Final Report
2.14d	Load Line 11 Public Meeting	100% payment after approval of Final Report
2.14e	Load Line 11 Record of Decision	100% payment after approval of Final Report
2.15a	Wet Storage Area RI Report	100% payment after approval of Final Report
2.15b	Wet Storage Area Feasibility Study	100% payment after approval of Final Report
2.15c	Wet Storage Area Proposed Plan	100% payment after approval of Final Report
2.15d	Wet Storage Area Public Meeting	100% payment after approval of Final Report
2.15e	Wet Storage Area Record of Decision	100% payment after approval of Final Report
2.16a	F-15 and F-16 RI Report	100% payment after approval of Final Report
2.16b	F-15 and F-16 Feasibility Study	100% payment after approval of Final Report
2.16c	F-15 and F-16 Proposed Plan	100% payment after approval of Final Report
2.16d	F-15 and F-16 Public Meeting	100% payment after approval of Final Report
2.16e	F-15 and F-16 Record of Decision	100% payment after approval of Final Report
2.17a	Anchor Test Area RI Report	100% payment after approval of Final Report
2.17b	Anchor Test Area Feasibility Study	100% payment after approval of Final Report
2.17c	Anchor Test Area Proposed Plan	100% payment after approval of Final Report

1 **Table 7-1. Payment Milestone Plan for the RVAAP 2008 PBA (continued)**

Task	Description	Performance/ Payment Milestone
2.17d	Anchor Test Area Public Meeting	100% payment after approval of Final Report
2.17e	Anchor Test Area Record of Decision	100% payment after approval of Final Report
2.18a	Atlas Scrap Yard RI Report	100% payment after approval of Final Report
2.18b	Atlas Scrap Yard Feasibility Study	100% payment after approval of Final Report
2.18c	Atlas Scrap Yard Proposed Plan	100% payment after approval of Final Report
2.18d	Atlas Scrap Yard Public Meeting	100% payment after approval of Final Report
2.18e	Atlas Scrap Yard Record of Decision	100% payment after approval of Final Report
3	TASK 3 - Installation of Monitoring Wells	
3.1	Well Installation Work Plan	100% payment after approval of Final Report
3.2	Implementation of Well Installation Work Plan	100% payment after completion of Field Work
3.3	Monitoring Report	100% payment after approval of Final Report
4	TASK 4 - *OPTIONAL* Achieve Interim ROD for Groundwater at LL12 and Facility-wide Sewers	
4.1a	Load Line 12 Groundwater RI Addendum	100% payment after approval of Final Report
4.1b	Load Line 12 Groundwater Feasibility Study	100% payment after approval of Final Report
4.1c	Load Line 12 Groundwater Proposed Plan	100% payment after approval of Final Report
4.1d	Load Line 12 Groundwater Public Meeting	100% payment after approval of Final Report
4.1e	Load Line 12 Groundwater Interim Record of Decision	100% payment after approval of Final Report
4.2a	Facility-wide Sewer Investigation Work Plan	100% payment after approval of Final Report
4.2b	Facility-wide Sewer Investigation Field Work	100% payment after completion of Field Work
4.2c	Facility-wide Sewer Investigation Report	100% payment after approval of Final Report
4.2d	Facility-wide Sewer Feasibility Study	100% payment after approval of Final Report
4.2e	Facility-wide Sewer Proposed Plan	100% payment after approval of Final Report
4.2f	Facility-wide Sewer Public Meeting	100% payment after approval of Final Report
4.2g	Facility-wide Sewer Record of Decision	100% payment after approval of Final Report
5	TASK 5 - OPTIONAL Achieve RIP, RC, RA(O), or SC for Soil and Dry Sediment	
5.1a	C-Block Quarry Remedial Design	100% payment after approval of Final Plan
5.1b	C-Block Quarry Remedial Action	100% payment after approval of Final RAR
5.2a	Load Line 12 Remedial Design	100% payment after approval of Final Plan
5.2b	Load Line 12 Remedial Action	100% payment after approval of Final RAR
5.3a	Building 1200 Remedial Design	100% payment after approval of Final Plan
5.3b	Building 1200 Remedial Action	100% payment after approval of Final RAR
5.4a	Landfill North of Winklepeck Burning Ground Remedial Design	100% payment after approval of Final Plan
5.4b	Landfill North of Winklepeck Burning Ground Explosive Safety Submittal and Work Plan	100% payment after approval of Final
5.4c	Landfill North of Winklepeck Burning Ground Remedial Action	100% payment after approval of Final RAR
5.4d	Landfill North of Winklepeck Burning Ground R-01 OE Response Complete	100% payment after approval of Final Report
5.5a	Upper and Lower Cobb Ponds Remedial Design	100% payment after approval of Final Plan
5.5b	Upper and Lower Cobb Ponds Remedial Action	100% payment after approval of Final RAR
5.6a	Load Line 6 Remedial Design	100% payment after approval of Final Plan

Table 7-1. Payment Milestone Plan for the RVAAP 2008 PBA (continued)

Task	Description	Performance/ Payment Milestone
5.6b	Load Line 6 Remedial Action	100% payment after approval of Final RAR
5.7a	NACA Test Area Remedial Design	100% payment after approval of Final Plan
5.7b	NACA Test Area Remedial Action	100% payment after approval of Final RAR
5.8a	Load Line 5 Remedial Design	100% payment after approval of Final Plan
5.8b	Load Line 5 Remedial Action	100% payment after approval of Final RAR
5.9a	Load Line 7 Remedial Design	100% payment after approval of Final Plan
5.9b	Load Line 7 Remedial Action	100% payment after approval of Final RAR
5.10a	Load Line 8 Remedial Design	100% payment after approval of Final Plan
5.10b	Load Line 8 Remedial Action	100% payment after approval of Final RAR
5.11a	Load Line 9 Remedial Design	100% payment after approval of Final Plan
5.11b	Load Line 9 Remedial Action	100% payment after approval of Final RAR
5.12a	Load Line 10 Remedial Design	100% payment after approval of Final Plan
5.12b	Load Line 10 Remedial Action	100% payment after approval of Final RAR
5.13a	Load Line 11 Remedial Design	100% payment after approval of Final Plan
5.13b	Load Line 11 Remedial Action	100% payment after approval of Final RAR
5.14a	Wet Storage Area Remedial Design	100% payment after approval of Final Plan
5.14b	Wet Storage Area Remedial Action	100% payment after approval of Final RAR
5.15a	F-15 and F-16 Remedial Design	100% payment after approval of Final Plan
5.15b	F-15 and F-16 Remedial Action	100% payment after approval of Final RAR
5.16a	Anchor Test Area Remedial Design	100% payment after approval of Final Plan
5.16b	Anchor Test Area Remedial Action	100% payment after approval of Final RAR
5.17a	Atlas Scrap Yard Remedial Design	100% payment after approval of Final Plan
5.17b	Atlas Scrap Yard Explosive Safety Submittal and Work Plan	100% payment after approval of Final Plan
5.17c	Atlas Scrap Yard Remedial Action	100% payment after approval of Final RAR
5.17d	Atlas Scrap Yard R-01 OE Response Complete	100% payment after approval of Final Report
5.18a	Facility-wide Sewers Remedial Design	100% payment after approval of Final Plan
5.18b	Facility-wide Sewers Remedial Action	100% payment after approval of Final RAR

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