Final

Remedial Design for Soil at RVAAP-51 Dump Along Paris-Windham Road

Camp James A. Garfield Joint Military Training Center Former Ravenna Army Ammunition Plant Portage and Trumbull Counties, Ohio

Contract No. W912QR-18-C-0013

Prepared for:



U.S. Army Corps of Engineers Louisville District

Prepared by:



February 27, 2019

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

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7. PERFORMING ORGANIZATION NA	AME(S) AND ADDRESS(ES)			8. PERFORMING ORGANIZATION REPORT NUMBER
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12. DISTRIBUTION/AVAILABILITY ST	ATEMENT			
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Mike DeWine, Governor Jon Husted, Lt. Governor Laurie A. Stevenson, Director

March 8, 2019

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Remediation Response

Project Records Remedial Response Portage County

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Mr. David Connolly Army National Guard Directorate **Environmental Programs Division** ARNGD-ILE -CR 111 South George Mason Drive Arlington, VA 22204

Subject:

Approval of the "Final Remedial Design for Soil at RVAAP-51 Dump along Paris-Windham Road" Dated February 27, 2019

Dear Mr. Connolly:

The Ohio Environmental Protection Agency (Ohio EPA) has received the "Final Remedial Design for Soil at RVAAP-51 Dump along Paris-Windham Road" at the Former Ravenna Army Ammunition Plant, Ravenna, Ohio. This document was received at Ohio EPA, Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on March 4, 2019. The report was prepared for the Army National Guard Directorate through the U.S. Army Corps of Engineers, Louisville District by Chenega Tri-Services, LLC.

The final document was reviewed by personnel from Ohio EPA, DERR. Pursuant to the Director's Findings and Orders of June 2004, paragraph 39 (b), Ohio EPA considers the document final and approved.

If you have any questions, please call me at (330) 963-1292.

Sincerely.

RECEIVED MAR 0 8 2019

Kevin M. Palombo

Environmental Specialist

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Division of Environmental Response and Revitalization

KP/sc

Bob Princic, Ohio EPA, NEDO, DERR ec:

Mark Johnson, Ohio EPA, NEDO, DERR

Thomas Schneider, Ohio EPA, Southwest District Office, DERR

Tim Christman, Ohio EPA, Central Office, DERR

Rebecca Shreffler, Chenega Tri-Services, LLC

Kevin Sedlak, ARNG

Katie Tait, OHARNG RTLS

Craig Coombs, USACE, Louisville District Nat Peters, USACE, Louisville District

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Final Remedial Design for Soil at RVAAP-51 Dump Along Paris-Windham Road

Camp James A. Garfield Joint Military Training Center Former Ravenna Army Ammunition Plant Portage and Trumbull Counties, Ohio

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Nathaniel Peters II, USACE – Louisville District	0	1	
Craig Coombs, USACE – Louisville District	Email transı	nittal letter only	
Kevin Palombo, Ohio EPA Project Manager – NEDO-DERR	1	1	
Tom Schneider, Ohio EPA-DERR	Email transmittal letter only		
Bob Princic, Ohio EPA, NEDO-DERR	Email transı	mittal letter only	
Mark Johnson, Ohio EPA, NEDO-DERR	Email transmittal letter only		
Susan Oliver, Management Solutions, LLC	Email transmittal letter only		
Gail Harris, AR Manager – Camp James A. Garfield	2	1	

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ARNG-IED-CR = Army National Guard – Installation Environmental Division – Cleanup Restoration

DERR = Division of Environmental Response and Revitalization

NEDO = Northeast Ohio District

OHARNG = Ohio Army National Guard

Ohio EPA = Ohio Environmental Protection Agency

USACE = U.S. Army Corps of Engineers

TABL	E OF CO	ONTENTS	
SECTION	ON 1.0	INTRODUCTION	1
1.1	Site Des	scription	1
1.2	Summai	ry of Previous Environmental Remedial Actions	1
1.3	Commu	nity Involvement and Regulatory Approval	2
SECTION	ON 2.0	LUCS TO BE IMPLEMTENTED	3
2.1	Signs ar	nd Boundary Markers	3
2.2	Digging Restrictions		
2.3	Annual	LUC Inspection	4
2.4	Five-Ye	ear Review	4
SECTION	ON 3.0	OPERATIONS AND MAINTENANCE PLAN	5
3.1	Sign Ma	aintenance	5
3.2	Soil Co	ver Inspection	5
3.3	Notifica	ntion	5
3.4	Schedul	le of Deliverables	5

LIST OF FIGURES

Figure I	Location of AOCs at RVAAP/Camp Ravenna/Camp James A. Garfield
Figure 2	Limited RD/RA Excavated and Sampled Areas Location Map
Figure 3	"As Installed" Seibert Markers and Signs and Proposed Asbestos Warning Sign Locations

LIST OF APPENDICES

Appendix A RVAAP-51 Dump Along Paris-Windham Road Land Use Control Inspection Form

LIST OF ACRONYMS AND ABBREVIATIONS

ACM Asbestos Containing Material

AOC Area of Concern

AR Administrative Record
ARNG Army National Guard

Camp James A. Garfield Camp James A. Garfield Joint Military Training Center

Camp Ravenna Joint Military Training Center

CERCLA Comprehensive Environmental Response, Compensation, and

Liability Act

COC Chemical of Concern

ERA Ecological Risk Assessment FFS Focused Feasibility Study

FYR Five Year Review LUC Land Use Control

MRS Munitions Response Site

NFA No Further Action

OAC Ohio Administrative Code

Ohio EPA Ohio Environmental Protection Agency

OHARNG Ohio Army National Guard
O&M Operations and Maintenance
PMP Property Management Plan

PP Proposed Plan
RA Remedial Action
RD Remedial Design
ROD Record of Decision

RVAAP Ravenna Army Ammunition Plant

SC Site Characterization

USACE United States Army Corps of Engineers

NOTE: Camp Ravenna Joint Military Training Center (Camp Ravenna) was renamed as Camp James A. Garfield Joint Military Training Center (Camp James A. Garfield) on October 18, 2018.

SECTION 1.0 INTRODUCTION

This Remedial Design (RD) describes the requirements to implement the chosen remedy for soil (Alternative 2 – Land Use Controls (LUCs) at RVAAP-51 Dump Along Paris Windham Road. Surface Water and Sediment achieved No Further Action per the Final Record of Decision (ROD) dated September 2017. Additional information about the selected remedy is documented in the following:

- Final Proposed Plan (PP) for Soil, Sediment and Surface Water for RVAAP-51 Dump Along Paris-Windham Road. United States Army Corps of Engineers (USACE). 29 September 2016.
- Final Record of Decision for Soil, Sediment and Surface Water for RVAAP-51 Dump Along Paris-Windham Road. USACE. 25 September 2017.

The chosen Alternative was Alternative 2 LUCs as stated in the ROD. Alternative 2 contains provisions to implement specific LUCs at the AOC in order to prevent exposure to polycyclic aromatic hydrocarbons (PAHs) chemicals of concern (COCs) in shallow surface soils for the Residential Receptor and Asbestos in soil. A description of the LUCs to be implemented at the Area of Concern (AOC) is provided in Section 2.0. This RD presents the specifics of the LUCs to be implemented and maintained at the AOC.

1.1 Site Description

The Dump Along Paris-Windham Road is located in the east-central portion of RVAAP, along a steep embankment on the west side of Paris-Windham Road between the bridge over Sand Creek and the intersection of Paris-Windham Road with Remalia Road. The AOC was used as an open dump for a variety of miscellaneous construction and demolition material, including asbestos containing material (ACM) which included transite roofing and siding, laboratory bottles and drums, concrete, brick, glass, scrap metal, fencing, and wood debris. There are no records indicating the quantities of material dumped at the AOC or the dates of operation.

The former dump was approximately 400 ft long by 30 ft wide and slopes east to west, away from Paris-Windham Road. The slope face ranges 40–60 degrees from horizontal. No permanent surface water features are present at the AOC. Surface water occurs only intermittently as storm water runoff in the drainage swale located at the base of the slope face of the dump during and after rainfall events and periods of snow melt. Surface water runoff follows the topography and flows in a westerly direction through a drainage swale at the base of the dump slope, entering Sand Creek. Sand Creek is located to the west and north at distances ranging from approximately 30 ft (north end of the AOC) to 170 ft (southcentral portion of the AOC). The Sand Creek floodplain occupies the land between the dump and Sand Creek.

1.2 Summary of Previous Environmental Remedial Actions

A limited Remedial Design/Remedial Action (RD/RA) was initiated in April 2003 at the AOC and was conducted in accordance with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) to mitigate risks related to potential contact with exposed waste material. The limited RD/RA consisted of removal and offsite disposal of surface debris, subsurface debris, and visible transite without undermining and compromising the integrity of Paris-Windham Road (MKM 2004). Figure 2 shows the areas sampled and excavated for the limited RD/RA. This figure was originally presented as Figure 3-1 in the *Final Site Characterization Plan and Focused Feasibility Study for RVAAP-51 Dump Along Paris-Windham Road*, prepared by the U.S. Army Corps of Engineers in 2015.

During confirmation sampling activities conducted prior to placing the soil cover for the RA, additional transite debris was found in the excavated areas adjacent to Paris-Windham Road on the southern portion

of the AOC. The additional transite material was subsequently covered in place during AOC restoration activities so that additional excavation activities would not undermine the road.

The results of confirmation sampling also verified the presence of benzo(a)pyrene and dibenzo(a,h)anthracene in shallow surface soil. These levels exceed Facility-Wide Cleanup Goal concentrations for the Resident Receptor. The concentrations of COCs at the AOC are within the Commercial/Industrial Use Standards.

The excavation area was restored to grade in November 2003 using a combination of clean hard fill and approved soil backfill. A layer of clean hard fill was installed first for stability followed by a minimum of two feet of soil backfill material for cover.

After the limited RD/RA was completed, risk at the AOC was further evaluated through a Final Site Characterization (SC) and Focused Feasibility Study (FFS). This SC/FFS evaluated soil, sediment, and surface water at the Dump Along Paris-Windham Road. Permanent surface water and sediment are not present at the AOC; therefore, NFA is required for these media and remedial alternatives only addressed soil (inclusive of dry sediment). Further, the ecological risk assessment (ERA) recommended NFA for soil and surface water with respect to ecological receptors. Based on the results of the SC/FFS, the PP and ROD requires that LUCs be implemented due to the asbestos and COCs remaining in shallow soil

1.3 Community Involvement and Regulatory Approval

The *Proposed Plan for Soil, Sediment and Surface water for RVAAP-51 Dump Along Paris-Windham Road* (USACE, 2016) was presented to the public during a public meeting on November 29, 2016. At this meeting, representatives of the Army National Guard provided information and were available to answer any questions. A transcript of the public meeting is available to the public and has been included in the Administrative Record. No verbal comments were received at this meeting and no written comments were received during the public comment period.

A Record of Decision for Soil, Sediment and Surface Water for RVAAP-51 Dump Along Paris-Windham Road (USACE 2017) documented the selected remedial action alternative to implement LUCs (described in Section 2.0). The Ohio EPA approved the Final ROD for RVAAP-51 Dump Along Paris-Windham Road in a letter dated October 30, 2017.

SECTION 2.0 LUCS TO BE IMPLEMENTED

The Alternative (Alternative 2 – LUCs) to be implemented at the AOC includes the following:

- Development of a Remedial Design,
- Signs and boundary markers (Seibert stakes) posted at least every 300 feet along the AOC perimeter,
- Digging Restrictions,
- General LUC Awareness Training,
- Annual Inspection, and
- Five-year Reviews in accordance with CERCLA.

2.1 Signs and Boundary Markers

Seibert stakes are used in military training areas to mark off-limit or sensitive areas. Seibert stakes consist of 2" PVC Schedule 40 (2-3/8" outer diameter with 2" inner diameter) by 16" long pipe wrapped with bands of white, yellow and red Hi-Intensity prismatic sheeting. One side of the stake has a black band that faces towards the protected area. The Seibert stakes are placed around the perimeter of the protected area. A photograph of a Seibert stake is shown on Figure 3.

Currently, alternating Seibert Stakes (11) and "Unauthorized Personnel" warning signs (9) are placed along the perimeter at approximately 50-foot intervals (Figure 1). The "Unauthorized Personnel" warning signs currently in place read:

DANGER
UNAUTHORIZED
PERSONNEL
KEEP OUT

The Seibert Stakes and five of the "Unauthorized Personnel" signs will be kept in place and maintained. Four "Asbestos Waste Disposal Site" warning signs that read as follows will be replace the four removed "Unauthorized Personnel" warning signs:

DANGER
ASBESTOS WASTE
DISPOSAL SITE
NO DIGGING
DO NOT CREATE DUST
BREATHIING ASBESTOS
IS HAZARDOUS TO YOUR
HEALTH

The signs will meet the requirements of Ohio Administrative Code (OAC) 3745-20-07-(B)(1)(b).

2.2 Digging Restrictions

All digging or excavation within the AOC is prohibited due to residual asbestos and COCs in the surface soil. The digging restriction will be managed using permanent signs and Seibert Stakes placed along the AOC perimeter (see Section 2.1). Information about the LUCs at the AOC will be briefed during the annual general LUC awareness training at Camp James A. Garfield. An annual LUC inspection will be conducted to ensure that implemented LUCs remain effective.

2.3 Annual LUC Inspection

An annual LUC inspection will be conducted by the ARNG/OHARNG or other authorized personnel to confirm that the LUCs remain effective and still meet LUC objectives. The annual LUC inspection will also note any change in land use and will inspect the soil cover, signs and Seibert Stakes. If deficiencies are noted, the inspection will recommend corrective actions (required repairs). Any noted LUC violations will be reported to the ARNG/OHARNG and documented in the report. The required annual inspection will be submitted with other annual LUC control inspections conducted for other AOCs at Camp James A. Garfield. The annual inspection will be submitted to the Ohio Environmental Protection Agency (EPA) for review and approval. The Annual LUC Inspection Form for RVAAP-51 Dump Along Paris-Windham Road is presented in Appendix A.

2.4 Five-Year Review

Due to the presence of COCs remaining in surface soil above the cleanup goals for Residential/Unrestricted use and asbestos at the AOC, five-year reviews are required. The five-year review will evaluate the LUCs at the AOC to determine if they remain protective and effective. The five-year review will be submitted to the Ohio EPA for review and approval.

SECTION 3.0 OPERATIONS AND MAINTENANCE PLAN

3.1 Sign Maintenance

Signs, poles and Seibert markers will be inspected annually to confirm that they are visible and in good repair. Signs, poles and Seibert markers will be repaired or replaced as appropriate. At least annually, brush, weeds and other vegetative growth will be cleared so that the signs and markers remain visible to personnel approaching the site.

3.2 Soil Cover Inspection

The condition of the soil cover at the AOC will be inspected as part of the annual inspection. Repairs, if required, will utilize clean soil and appropriate equipment. Personnel conducting repairs will be briefed on the LUCs at the AOC.

3.3 Notification

Conditions at the AOC will be inspected and documented on an annual basis. Any LUC deficiencies or violations will be reported to the ARNG/OHARNG. Repairs will be made as necessary in a timely manner. Conditions noted and findings of the inspection will be reported in an annual LUC report.

3.4 Schedule of Deliverables

3.4.1 Initial Installation

In Spring 2019, the additional "Asbestos Waste Disposal Site" warning signs will replace four "Unauthorized Personnel" warning signs as described in Section 2.1 and shown on Figure 3.

3.4.2 Annual Maintenance

The signs, poles and Seibert markers will be cleared of brush annually so that they remain visible from a distance. The poles, signs and Seibert markers will be inspected at least annually and repaired as needed. The annual maintenance activities will occur in conjunction with the Annual LUC inspection.

3.4.3 Annual Inspection

The annual LUC inspection will be conducted in the Fall of each year as per Sections 3.1 and 3.2. The annual LUC report will be submitted to the Ohio EPA in the late winter/early Spring for review and approval. The annual LUC report for RVAAP-51 Dump Along Paris-Windham Road will be submitted in a single document along with other annual LUC reports for Camp James A. Garfield/former RVAAP.

FIGURES

Figure 1	Location of AOCs at RVAAP/Camp Ravenna/Camp James A. Garfield
Figure 2	Limited RD/RA Excavated and Sampled Areas Location Map
Figure 3	"As Installed" Seibert Markers and Signs and Proposed Asbestos Warning Sign Locations

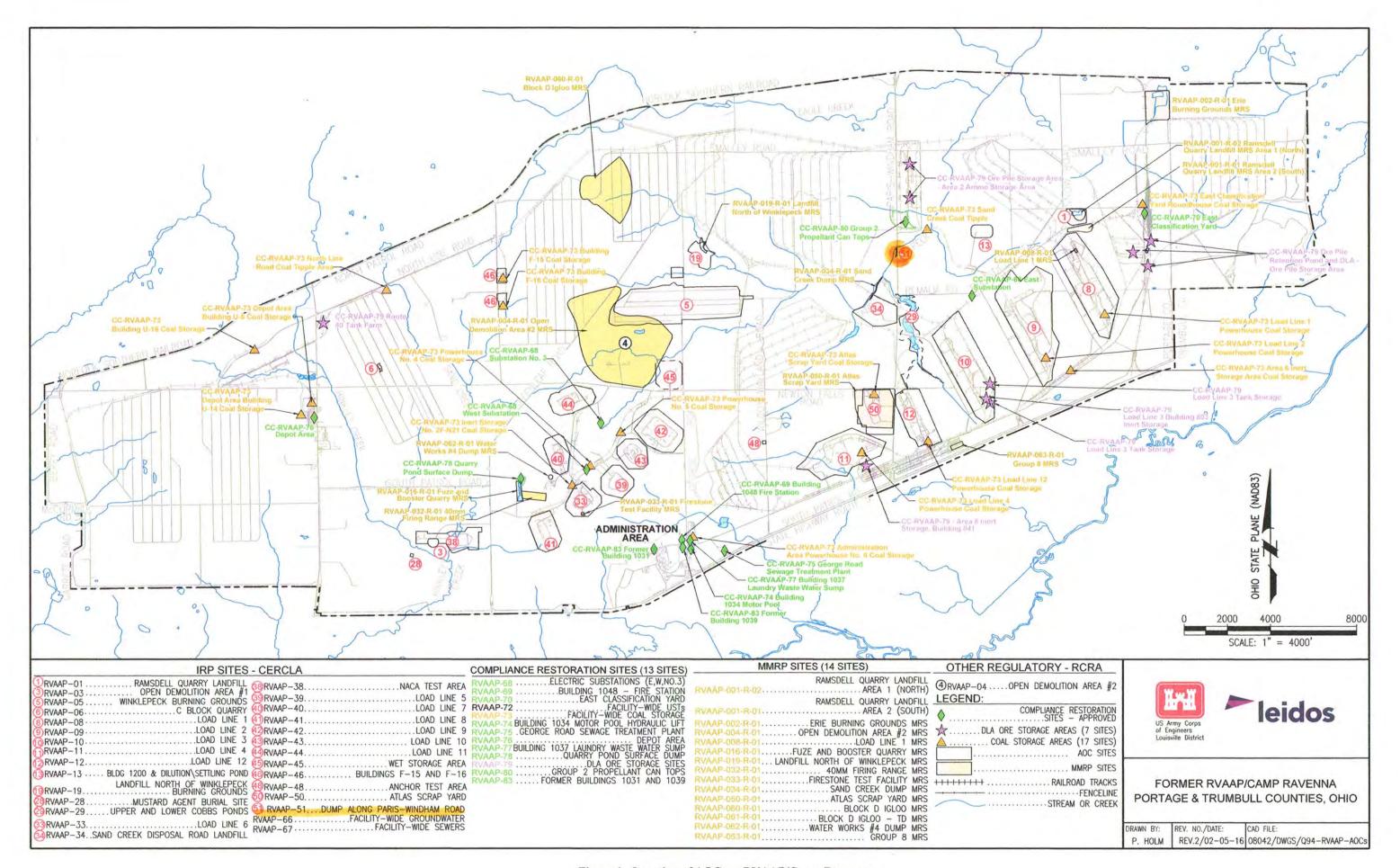


Figure 1 - Location of AOCs at RVAAP/Camp Ravenna.

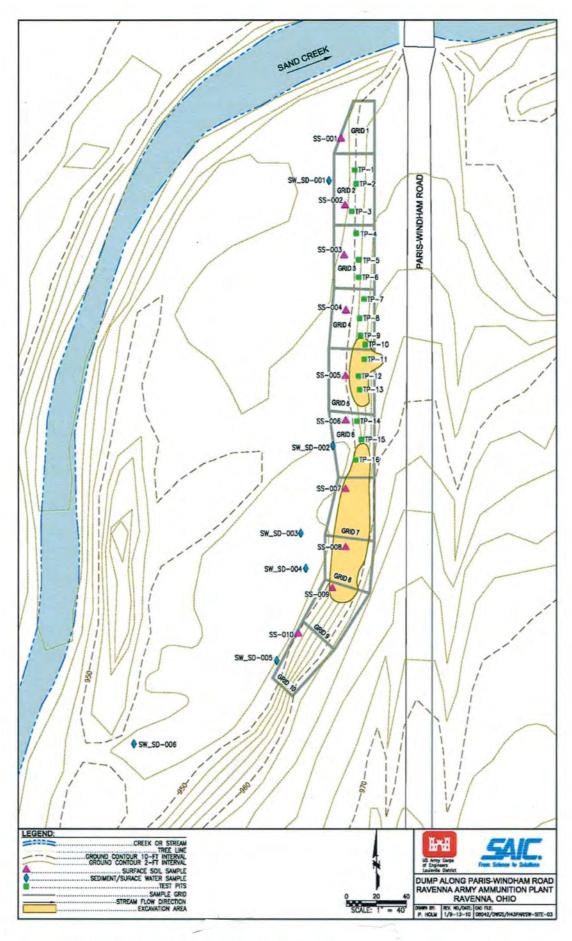


Figure 2 - Limited RD/RA Excavated and Sampled Areas Location Map

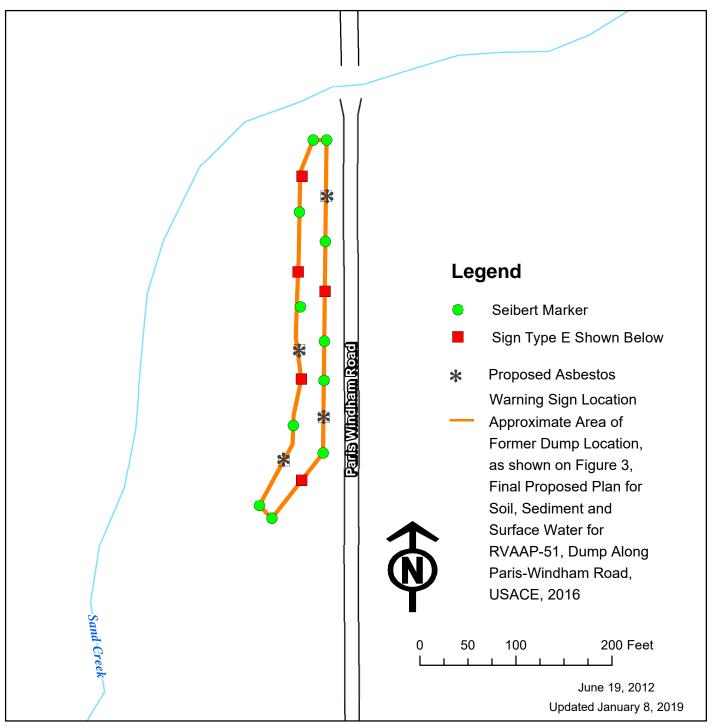


Figure 3 - "As-Installed" Seibert Markers, Signs and Proposed Asbestos Warning Sign Locations

(10"x14") Black stripe faces AOC



RVAAP-51 Dump Along Paris-Windham Road, Former Ravenna Army Ammunition Plant, Ravenna, Ohio

APPENDIX A

RVAAP-51 Dump Along Paris-Windham Road Land Use Control Inspection Form

Camp James A. Garfield Joint Military Training Center/Former Ravenna Army Ammunition Plant (RVAAP)

RVAAP-51 Dump Along Paris Windham Road – Inspection Form

	AP-51 Dump Along Paris Windham Road was conducted by on nual inspection required by the PMP includes the following:	
•	Evaluation of activities at the AOC to ensure that residential use and digging is not occurring. Inspection of Seibert Stakes and signage.	
LUC deficiencies or inconsistent land uses that are identified must be reported and identified on the inspection form and properly reported to the Army National Guard (ARNG)/Ohio Army National Guard (OHARNG).		
	w of LUCs – Management/Effectiveness/Corrective Action	
1. a.)	Activities and Land Use This AOC is restricted from residential land use. Has residential use occurred?	
b.)	Digging is prohibited at the AOC. Has digging occurred at the AOC?	
c.)	Warning signs and Seibert Stakes are required at the AOC along the boundary. Are Seibert Stakes and signage present, functional and in good condition? Are they visible (free of vegetation)?	
d.)	The soil cover installed after the 2003 soil removal action creates a barrier between the receptor and the residual PAHs and asbestos in the soil. Is the soil cover intact? Is any damage or erosion on the soil cover present?	
	the son cover present:	

2. Inspections and Reporting		
a.)	Inspections are required on an annual basis. Are annual inspections being completed?	
,		
b.) A	An annual report is required. Has the annual report been completed and submitted?	
3. Tr	raining (as applicable to WBG)	
a.)	Was LUC training (specific to the AOC) being conducted as applicable? Describe the training	
α.)	(content/who attended/who provided/documentation of training).	
	(Content/who attended/who provided/documentation of training).	
b.)	If training was not provided, explain why and what corrective actions were initiated?	

4. Description of any observed/noted LUC violation(s):		
5. Date of Notification of LUC violation (if app	olicable):	
6 Description of any corrective actions taken t	to remedy observed LUC violation(s) or recommended	
corrective actions:	to remetiy observed Loc violation(s) or recommended	
7. Additional Notes/Comments:		
Original Inspection Completed by		
Original Inspection Completed by:		
Signature:		
Printed Name:		
Title:	Organization:	
Date:		