

Draft

**Record of Decision
for Soil, Sediment, and Surface Water
at RVAAP-51 Dump Along Paris-Windham Road**

**Former Ravenna Army Ammunition Plant/Camp Ravenna
Portage and Trumbull Counties, Ohio**

Prepared for:

**Army National Guard Directorate
111 South George Mason Drive
Arlington, Virginia 22204**

Prepared by:



**United States Army Corps of Engineers
Louisville District**

May 16, 2017

REPORT DOCUMENTATION PAGE					<i>Form Approved</i> <i>OMB No. 0704-0188</i>							
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1. REPORT DATE (DD-MM-YYYY) 16-05-2017		2. REPORT TYPE Draft		3. DATES COVERED (From - To) From October 2016 To May 2017								
4. TITLE AND SUBTITLE Draft Record of Decision for Soil, Sediment, and Surface Water at RVAAP-51 Dump Along Paris-Windham Road Former Ravenna Army Ammunition Plant/Camp Ravenna, Portage and Trumbull Counties, Ohio				5a. CONTRACT NUMBER <div style="text-align: center;">N/A</div>								
				5b. GRANT NUMBER <div style="text-align: center;">N/A</div>								
				5c. PROGRAM ELEMENT NUMBER <div style="text-align: center;">N/A</div>								
6. AUTHOR(S) Nathaniel Peters				5d. PROJECT NUMBER <div style="text-align: center;">N/A</div>								
				5e. TASK NUMBER <div style="text-align: center;">N/A</div>								
				5f. WORK UNIT NUMBER <div style="text-align: center;">N/A</div>								
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) United States Army Corps of Engineers, Louisville District 600 Martin Luther King Jr. Place Louisville, Kentucky 40202				8. PERFORMING ORGANIZATION REPORT NUMBER <div style="text-align: center;">N/A</div>								
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Army National Guard Directorate 111 South George Mason Drive Arlington, Virginia 22204				10. SPONSOR/MONITOR'S ACRONYM(S) <div style="text-align: center;">ARNG-IED</div>								
				11. SPONSOR/MONITOR'S REPORT NUMBER(S) <div style="text-align: center;">N/A</div>								
12. DISTRIBUTION/AVAILABILITY STATEMENT Reference Distribution Page												
13. SUPPLEMENTARY NOTES None												
14. ABSTRACT This Draft Record of Decision (ROD) for soil, sediment and surface water for RVAAP-51 Dump Along Paris-Windham Road describes the selected remedy for the site. This ROD documents land use controls which will be implemented to ensure that human health and the environment are protected from potentially unsafe exposure to residual contamination remaining at the site.												
15. SUBJECT TERMS Record of Decision; ROD; RVAAP-51, Dump Along Paris Windham Road, Ravenna Army Ammunition Plant, Camp Ravenna												
16. SECURITY CLASSIFICATION OF: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; padding: 2px;">a. REPORT</td> <td style="width: 33%; padding: 2px;">b. ABSTRACT</td> <td style="width: 33%; padding: 2px;">c. THIS PAGE</td> </tr> <tr> <td style="text-align: center; padding: 2px;">UU</td> <td style="text-align: center; padding: 2px;">UU</td> <td style="text-align: center; padding: 2px;">UU</td> </tr> </table>			a. REPORT	b. ABSTRACT	c. THIS PAGE	UU	UU	UU	17. LIMITATION OF ABSTRACT <div style="text-align: center;">UU</div>		18. NUMBER OF PAGES <div style="text-align: center;">49</div>	
a. REPORT	b. ABSTRACT	c. THIS PAGE										
UU	UU	UU										
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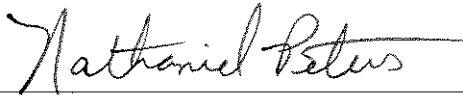
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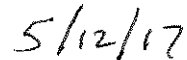
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STATEMENT OF INDEPENDENT TECHNICAL REVIEW

The United States Army Corps of Engineers has completed the Draft Record of Decision for Soil, Sediment, and Surface Water at RVAAP-51 Dump Along Paris-Windham Road at the former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, 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 (USACE) policy.



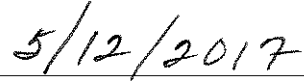
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Study/Design Team Leader



Date



Angela Schmidt
Independent Technical Review Team Leader



Date

PLACEHOLDER FOR:

**Documentation of Ohio EPA Concurrence with Final
Document**

*(Documentation to be provided once concurrence is
issued.)*

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600 Martin Luther King, Jr. Place
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at RVAAP-51 Dump Along Paris-Windham Road
Former Ravenna Army Ammunition Plant/Camp Ravenna
Portage and Trumbull Counties, Ohio

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ARNG = Army National Guard.

CO = Central Office.

DERR = Division of Environmental Response and Revitalization.

IED = Installation Environmental Division

OHARNG = Ohio Army National Guard.

Ohio EPA = Ohio Environmental Protection Agency.

NEDO = Northeast District Office.

REIMS = Ravenna Environmental Information Management System.

USACE = U.S. Army Corps of Engineers

TABLE OF CONTENTS

1		
2	LIST OF TABLES	iii
3	LIST OF FIGURES	iii
4	LIST OF ATTACHMENTS	iii
5	ACRONYMS AND ABBREVIATIONS	v
6	PART I: THE DECLARATION	1
7	A. SITE NAME AND LOCATION	1
8	B. STATEMENT OF BASIS AND PURPOSE	1
9	C. DESCRIPTION OF THE SELECTED REMEDY	2
10	D. STATUTORY DETERMINATION	2
11	E. AUTHORIZING SIGNATURE	3
12	PART II: DECISION SUMMARY	5
13	A. SITE NAME, LOCATION, AND DESCRIPTION	5
14	B. SITE HISTORY AND ENFORCEMENT ACTIVITIES	5
15	C. COMMUNITY PARTICIPATION	6
16	D. SCOPE AND ROLE OF RESPONSE ACTIONS	7
17	E. SUMMARY OF SITE CHARACTERISTICS	7
18	E.1 Site Characteristics	7
19	E.2 Site Investigations	9
20	E.3 Nature and Extent of Contamination	9
21	E.4 Conceptual Site Model	10
22	F. CURRENT AND POTENTIAL FUTURE LAND USES	11
23	G. SUMMARY OF SITE RISKS	12
24	G.1 Human Health Risk Assessment	12
25	G.2 Ecological Risk Assessment	13
26	G.3 Basis for Action Statement	13
27	H. REMEDIAL ACTION OBJECTIVES	13
28	I. DESCRIPTION OF ALTERNATIVES	14
29	I.1 Alternative 1 – No Action	14
30	I.2 Alternative 2 – Limited Action	14
31	J. SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES	14
32	J.1 Overall Protection of Human Health and the Environment	16
33	J.2 Compliance with Applicable or Relevant and Appropriate Requirements	17
34	J.3 Long-Term Effectiveness and Permanence	17
35	J.4 Reduction of Toxicity, Mobility, or Volume Through Treatment	17
36	J.5 Short-Term Effectiveness	17
37	J.6 Implementability	18
38	J.7 Cost	18
39	J.8 State Acceptance	18
40	J.9 Community Acceptance	18
41	K. PRINCIPAL THREAT WASTES	18
42	L. THE SELECTED REMEDY	18

1	L.1 Rationale for the Selected Remedy	19
2	L.2 Description of the Selected Remedy.....	19
3	L.3 Summary of the Estimated Remedy Costs	20
4	L.4 Expected Outcomes of the Selected Remedy	20
5	M. STATUTORY DETERMINATION.....	20
6	M.1 Protection of Human Health and the Environment	20
7	M.2 Compliance with ARARs	20
8	M.3 Cost-Effectiveness.....	21
9	M.4 Utilization of Permanent Solutions and Alternative Treatment (or Resource Recovery)	
10	Technologies to the Maximum Extent Practicable.....	21
11	M.5 Preference for Treatment as a Principal Element.....	21
12	M.6 Five-year Review Requirements.....	21
13	N. DOCUMENTATION OF NO SIGNIFICANT CHANGE.....	21
14	PART III: RESPONSIVENESS SUMMARY FOR PUBLIC COMMENTS ON THE ARMY	
15	PROPOSED PLAN FOR THE DUMP ALONG PARIS-WINDHAM ROAD AT RAVENNA	
16	ARMY AMMUNITION PLANT, RAVENNA, OH.....	22
17	A. OVERVIEW	22
18	B. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES	22
19	B.1 Oral Comments from Public Meeting.....	22
20	B.2 Written Comments	22
21	C. TECHNICAL AND LEGAL ISSUES.....	22
22	REFERENCES	23

LIST OF TABLES

Table 1. Summary of COCs and FWCUGs.....	122
Table 2. Chemical of Concern and Cleanup Goal for Resident Receptor for Shallow Surface Soil....	13
Table 3. CERCLA Evaluation Criteria.....	16

LIST OF FIGURES

Figure 1. General Location and Orientation of the Former RVAAP / Camp Ravenna.....	27
Figure 2. Former RVAAP / Camp Ravenna Installation Map	29
Figure 3. Dump Along Paris-Windham Road	31

LIST OF ATTACHMENTS

ATTACHMENT A DESCRIPTION OF ARARs	35
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LIST OF ACRONYMS/ABBREVIATIONS

ACM	Asbestos-containing Material
amsl	Above Mean Sea Level
AOC	Area of Concern
Army	United States Department of the Army
bgs	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Act Information System
COC	Chemical of Concern
COPEC	Chemical of Potential Ecological Concern
CSM	Conceptual Site Model
CUG	Cleanup Goal
ERA	Ecological Risk Assessment
EU	Exposure Unit
FFS	Focused Feasibility Study
FWCUG	Facility-wide Cleanup Goal
FYR	Five-year Review
HHRA	Human Health Risk Assessment
IRP	Installation Restoration Program
LUC	Land Use Control
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No Further Action
O&M	Operation and Maintenance
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
PAH	Polycyclic Aromatic Hydrocarbons
PP	Proposed Plan
RA	Remedial Action
RAB	Restoration Advisory Board
RAFLU	Reasonable and Anticipated Future Land Use
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act of 1976
RD	Remedial Design
ROD	Record of Decision
RVAAP	Ravenna Army Ammunition Plant
SC	Site Characterization

LIST OF ACRONYMS (CONTINUED)

TR	Target Risk
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

PART I: THE DECLARATION

A. SITE NAME AND LOCATION

This Record of Decision (ROD) addresses soil, sediment, and surface water contaminants at the Dump Along Paris-Windham Road. This area of concern (AOC) is designated as RVAAP-51 within the former Ravenna Army Ammunition Plant (RVAAP), Portage and Trumbull Counties, Ohio (Figure 1).

The former RVAAP is now known as Camp Ravenna Joint Military Training Center (Camp Ravenna). Camp Ravenna, consisting of 21,683 acres, is federally owned and is located in northeastern Ohio within Portage and Trumbull counties, approximately 4.8 kilometers (3 miles) east/northeast of the city of Ravenna and approximately 1.6 kilometers (1 mile) northwest of the city of Newton Falls. As of September 2013, administrative accountability for the entire acreage of the facility has been transferred to the U.S. Property and Fiscal Officer (USP&FO) for Ohio and subsequently licensed to the Ohio Army National Guard (OHARNG) for use as a military training site (Camp Ravenna).

The Dump Along Paris-Windham Road is located in the east-central portion of Camp Ravenna. The Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) Identifier for the RVAAP is OH5210020736.

B. STATEMENT OF BASIS AND PURPOSE

The U.S. Department of the Army (Army) is the lead agency and has chosen the selected remedy for the Dump Along Paris-Windham Road AOC in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on information contained in the Administrative Record file for the AOC.

The Ohio Environmental Protection Agency (Ohio EPA), the support agency, approved the *Final Site Characterization (SC) and Focused Feasibility Study (FFS) for the RVAAP-51 Dump Along Paris-Windham Road* (USACE 2015). This SC/FFS evaluated contaminated soil, sediment, and surface water at the Dump Along Paris-Windham Road. Permanent surface water and sediment are not present at the AOC; therefore, no further action (NFA) is required for these media and remedial alternatives only addressed soil (inclusive of dry sediment). Intermittent surface water was evaluated in the SC/FFS, and no human health chemicals of concern (COCs) were identified for surface water. Further, the ecological risk assessment (ERA) recommended NFA for soil and surface water with respect to ecological receptors. Groundwater will be addressed in a separate decision under the RVAAP Facility-wide Groundwater AOC (RVAAP-66). The SC/FFS evaluated remedies for contaminated soil at the Dump Along Paris-Windham Road and recommended land use controls (LUCs) with Operations and Maintenance (O&M) and five-year review (FYR) requirements as the selected remedy. Ohio EPA concurs with the selected remedy and that the remedy satisfies the requirements of the Ohio EPA

1 *Director's Final Findings and Orders*, dated June 10, 2004 (Ohio EPA 2004). ASSESSMENT OF THE
2 SITE

3
4 The response action selected in this ROD is necessary to protect public health, welfare, and the
5 environment from actual or potential releases of hazardous substances.

7 **C. DESCRIPTION OF THE SELECTED REMEDY**

8
9 The selected remedy was one of the alternatives evaluated (Part II, Section I) and involves using LUCs.
10 The Reasonable and Anticipated Future Land Use (RAFLU) for the Dump Along Paris-Windham Road
11 is Military Training. COCs do not exist for the representative receptor (Range Maintenance Soldier) or
12 the Adult and Juvenile Trespassers. However, COCs exist within shallow surface soil (0-1 ft bgs) for
13 the Resident Receptors (Adult and Child); therefore, LUCs, including warning signs, are required to
14 ensure protection of all receptors. Additionally, to account for the potential exposure of full-time
15 employees, the Commercial/Industrial Land Use was evaluated and no COCs were identified for the
16 Industrial Receptor. Although not evaluated as a COC, asbestos-containing material (ACM) is also
17 known to be present within subsurface soil. LUCs fully comply with applicable or relevant and
18 appropriate requirements (ARARs) by including signs alerting persons of the presence of ACM and
19 offer long-term effectiveness and permanence when implemented and maintained. The selected remedy
20 was chosen because it is protective for all receptors, is cost effective, and can be performed in a timely
21 manner.

22
23 The cost for the selected remedy is estimated to be \$103,300. The Army and OHARNG will develop
24 and implement LUCs to deter unauthorized access and to protect human receptors. FYRs will be
25 conducted in accordance with CERCLA Section 121(c) to ensure protectiveness of the remedy.

27 **D. STATUTORY DETERMINATION**

28
29 The selected remedy is protective of human health and the environment, complies with Federal and
30 State laws and regulations that are applicable or relevant and appropriate to the remedial action (RA),
31 is cost effective, and utilizes permanent solutions to the maximum extent practicable.

32
33 The remedy does not satisfy the statutory preference for treatment. A previous interim action essentially
34 provided a cap for the ACM. However, it is not feasible to treat for COCs that are already below
35 allowable Industrial standards as long as the site will remain a dump.

36
37 Because this remedy will result in COCs remaining on site above concentrations that allow for
38 unrestricted land use and exposure, FYRs will be performed in compliance with CERCLA
39 Section 121(c) to ensure the remedy remains protective of human health and the environment.

1 **E. AUTHORIZING SIGNATURE**

2

3

4

5

6

7

8

Erik T. Gordon

COL, GS

Chief, Installation and Environment (I&E)

Army National Guard Directorate

Date

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PART II: DECISION SUMMARY

A. SITE NAME, LOCATION, AND DESCRIPTION

When the RVAAP Installation Restoration Program (IRP) began in 1989, RVAAP (CERCLIS Identification Number OH5210020736) was identified as a 21,419-acre installation. In 2002 and 2003, OHARNG surveyed the property and the total acreage of the property was found to be 21,683 acres. The RVAAP/Camp Ravenna IRP encompasses investigation and cleanup of past activities over the entire 21,683-acre former RVAAP.

As of September 2013, administrative accountability for the entire acreage of the facility has been transferred to the USP&FO for Ohio and subsequently licensed to OHARNG for use as a military training site (Camp Ravenna). The Army is the lead agency for any remediation, decisions, and applicable cleanup at the Dump Along Paris-Windham Road. These activities are being funded and conducted under the IRP. Ohio EPA is the support agency.

Camp Ravenna is a parcel of property approximately 17.7 km (11 miles) long and 5.6 km (3.5 miles) wide, bounded by State Route 5 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 1 and 2). Camp Ravenna is surrounded by several communities: Windham 11.2 km (7 miles) to the north, Garrettsville 9.6 km (6 miles) to the north, Newton Falls 1.6 km (1 mile) to the southeast, Charlestown 3.6 km (6 miles) to the southwest, and Wayland 4.8 km (3 miles) to the south.

The Dump Along Paris-Windham Road is designated as RVAAP-51. The AOC is situated in the east-central portion of Camp Ravenna and is approximately 30 ft wide by 400 ft long or about 0.25 acres in size and slopes east to west, away from Paris-Windham Road (Figure 3). The slope face ranges 40 to 60 degrees from horizontal. There are no structures or dwellings on the AOC.

B. SITE HISTORY AND ENFORCEMENT ACTIVITIES

The RVAAP was constructed in 1940 and 1941 for depot storage and ammunition assembly/loading and placed on standby status in 1950. The primary purpose of the former RVAAP was to load medium and major caliber artillery ammunition (i.e., bombs, mines, fuzes and boosters, primers, and percussion elements) and store finished components. Production activities resumed from 1954 to 1957 and 1968 to 1972. Demilitarization activities, including disassembly of munitions and explosives melt-out and recovery, continued until 1992.

The Dump Along Paris-Windham Road is located 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 (Figure 2). The AOC was used as an open dump for a variety of miscellaneous construction and demolition material, including ACM (e.g., 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 following reports have documented investigations completed for the Dump Along Paris-Windham Road:

- *Relative Risk Site Evaluation for Newly Added Sites* (USACHPPM 1998);
- *Decision Document for a Removal Action at Paris-Windham Road Dumpsite (RVAAP-51)* [USACE 2003a];
- *Final Report for Remedial Design/Removal Action Plan at Paris-Windham Road Dump* (MKM 2004); and
- *Final Site Characterization and Focused Feasibility Study for the RVAAP-51 Dump Along Paris-Windham Road* (USACE 2015).

There have been no CERCLA enforcement actions related to the Dump Along Paris-Windham Road.

C. COMMUNITY PARTICIPATION

Using the Camp Ravenna community relations program, the Army and Ohio EPA have interacted with the public through news releases, public meetings, reading materials, direct mailings, an internet website, and receiving and responding to public comments. Specific items in the community relations program include the following:

Restoration Advisory Board – The Army established a Restoration Advisory Board in 1996 to promote community involvement in U.S. Department of Defense environmental cleanup activities and allow the public to review and discuss the progress with decision makers. Board meetings are generally held every two or three months and are open to the public.

Community Relations Plan – The *Community Relations Plan* (Vista 2016) was prepared to establish processes to keep the public informed of IRP activities at Camp Ravenna. The plan is available in the Administrative Record at Camp Ravenna.

Internet Website – The Army established an internet website in 2004 for RVAAP. It is accessible to the public at www.rvaap.org.

In accordance with CERCLA Section 117(a) and NCP Section 300.430(f)(2), the Army released the *Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-51 Dump Along Paris-Windham Road* (USACE 2016) to the public on November 14, 2016. The Proposed Plan (PP) and other project-related documents were made available to the public in the Administrative Record maintained at the Camp Ravenna and in the Information Repositories at Reed Memorial Library in Ravenna, Ohio, and Newton Falls Public Library in Newton Falls, Ohio. A notice of availability for the PP was sent to media outlets: radio stations, television stations, and newspapers (e.g., *Youngstown Vindicator*, *Warren Tribune-*

1 *Chronicle, Akron Beacon Journal, and Ravenna Record Courier*), as specified in the Camp Ravenna
2 Community Relations Plan. The notice of availability initiated the 30-day public comment period
3 beginning November 14, 2016, and ending December 14, 2016.

4
5 The Army held a public meeting on November 29, 2016, at the Shearer Community Center, 9355
6 Newton Falls Road, Ravenna, Ohio 44266 to present the PP to the public. At this meeting,
7 representatives of the U.S. Army provided information and were available to answer any questions. A
8 transcript of the public meeting is available to the public and has been included in the Administrative
9 Record. No verbal comments were received at this meeting and no written comments were received
10 during the public comment period. Therefore, no comments are included in the Responsiveness
11 Summary, which is Part III of this ROD.

12 13 **D. SCOPE AND ROLE OF RESPONSE ACTIONS**

14
15 The overall program goal of the IRP at Camp Ravenna is to clean up previously contaminated lands to
16 reduce contamination to concentrations that are not anticipated to cause risks to human health or the
17 environment.

18
19 This ROD addresses soil, sediment, and surface water. The contamination present at the AOC poses a
20 potential risk to human health because COC [benzo(a)pyrene and dibenz(a,h)anthracene]
21 concentrations exceeded the cleanup goals (CUGs) for the Resident Receptor. Implementing the
22 remedy described in this ROD will address potential risk through LUCs. The selected remedy described
23 in the ROD is consistent with the stated future action(s) to be performed at Camp Ravenna. Other media
24 (e.g., groundwater) and other AOCs at Camp Ravenna will be managed as separate actions or decisions
25 by the Army and will be considered under separate RODs.

26 27 **E. SUMMARY OF SITE CHARACTERISTICS**

28
29 Site characteristics, nature and extent of contamination, and the conceptual site model of the Dump
30 Along Paris-Windham Road are based on the investigations conducted from 1998 through 2012 and
31 summarized in the *Site Characterization and Focused Feasibility Study for the RVAAP-51 Dump Along*
32 *Paris-Windham Road* (USACE 2015).

33 34 **E.1 Site Characteristics**

35 36 **E.1.1 Topography/Physiography**

37
38 Elevations across the 0.25-acre AOC range from approximately 948 to 964 ft above mean sea level
39 (amsl) with slopes running from east to west, away from Paris-Windham Road. The slope face ranges
40 40 to 60 degrees from horizontal. There are no structures or dwellings on the AOC.

E.1.2 Geology

Silty to clayey soil and glacial sediment overlies shale bedrock at the AOC. A majority of the AOC was re-graded and soil was disturbed during limited remedial design (RD)/RA that occurred in 2003. This action was really an interim action, not a final remedy. The limited RD/RA activities consisted of removing all existing surface debris, limited removal of subsurface debris, transportation and disposal of debris, performing confirmation sampling, and AOC restoration. A combined total of 300 tons of surface and subsurface debris was removed from the AOC.

E.1.3 Hydrogeology

Groundwater data do not exist for the vicinity of the AOC and there are no groundwater monitoring wells installed at the AOC. The Army will address groundwater at this AOC under a future decision for the RVAAP Facility-Wide Groundwater AOC (RVAAP-66). The May 2014 unconsolidated aquifer facility-wide potentiometric map (EQM 2015) indicates that the potentiometric head in the vicinity of the Dump Along Paris-Windham Road falls between 950 and 975 ft amsl.

Sand Creek is located to the west and north at distances ranging from approximately 30 (north end of the AOC) to 170 ft (south-central portion of the AOC) at approximately 945 ft amsl. 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. Surface water within the drainage swale occurs intermittently during and after rainfall events and periods of snow melt. The Sand Creek floodplain occupies the land between the dump and Sand Creek.

E.1.4 Ecology

The primary ecological habitat within the AOC is forest and is not large enough to completely support cover and food for small birds and mammals that typically require approximately 1 acre (USEPA 1993). The Dump Along Paris-Windham Road is approximately 0.25 acres and is vegetated with: (1) green ash/American elm/hackberry temporary flooded forest alliance; (2) American beech/oak/maple forest alliance; and (3) small wetlands. These same types of habitats are found adjacent to the AOC and elsewhere at Camp Ravenna (OHARNG 2008). The habitats are also found in the larger, local ecoregion that surrounds Camp Ravenna (USFS 2011). There is no known unique resource at the AOC. A single Federally-threatened species (Northern Long-Eared Bat), as well as, State-endangered, state-threatened, state species-of-concern and state special-interest species have been identified at Camp Ravenna but not specifically on the AOC. Additionally, no critical habitat is present at Camp Ravenna.

The vegetation and habitat resources referenced in this report are documented in the *Integrated Natural Resources Management Plan and Environmental Assessment for the Ravenna Training and Logistics Site, Portage and Trumbull Counties, Ohio* (OHARNG 2008).

E.2 Site Investigations

Since 1998, the Dump Along Paris-Windham Road has been included in various historical assessments and investigations conducted at Camp Ravenna. The following environmental reports have been completed for the Dump Along Paris-Windham Road:

- *Relative Risk Site Evaluation for Newly Added Sites* (USACHPPM 1998);
- *Decision Document for a Removal Action at Paris-Windham Road Dumpsite (RVAAP-51)* [USACE 2003a];
- *Final Report for Remedial Design/Removal Action Plan at Paris-Windham Road Dump* (MKM 2004); and
- *Site Characterization and Focused Feasibility Study for the RVAAP-51 Dump Along Paris-Windham Road* (USACE 2015).

The 2003 limited RD/RA included removing surface debris, excavating transite along the embankment to the extent practicable (without undermining Paris-Windham Road), confirmatory sampling to evaluate the success of the RA, and placing a protective soil and vegetation cover over portions of the AOC. The limited RD/RA did not evaluate the nature and extent of contamination or identify chemicals of potential concern (COPCs) or COCs. The SC/FFS completed these tasks and evaluated the remedial alternatives, as required, to address impacts to environmental media in accordance with the CERCLA process.

E.3 Nature and Extent of Contamination

Contamination in soil at the Dump Along Paris-Windham Road is primarily confined to between 0 and 1 ft below ground surface (bgs). Contaminants identified in soil include two polycyclic aromatic hydrocarbons (PAHs) and the presence of residual transite. The primary source of contamination at the Dump Along Paris-Windham Road was exposed waste material. However, as part of the 2003 limited RD/RA, approximately 300 tons of debris were removed, and a minimum 2-ft-thick soil cover was placed over the remaining waste. The soil cover isolates waste and prevents direct exposure. The soil and vegetative cover also prevents direct contact of waste with surface water runoff and helps to limit infiltration of rainfall and snow melt.

Secondary contaminant sources include dry sediment and runoff accumulation points along the drainage swale at the base of the dump. The drainage swale was not excavated or capped with clean soil during the limited RD/RA (Figure 3). In the swale, surface water is present during occasional storms or periods of snow melt or during overflow conditions from nearby Sand Creek. Prior to capping the dump, surface runoff potentially carried contaminants sorbed to particulates and/or contaminants in the dissolved phase to the drainage swale. Percolating rainfall also may have contributed to migration of contaminants from the dump to the drainage swale. Thus, contaminants in surface water and dry sediment in the drainage swale represent secondary sources. Installing the soil cap minimized direct contact between surface water and waste and reduced infiltration rates through waste material;

1 therefore, the process for continuing contaminant migration to and deposition in the drainage swale has
2 been largely mitigated.

3 4 **E.4 Conceptual Site Model**

5
6 The conceptual site model (CSM) presented in this section incorporates results of all investigations
7 conducted at Dump Along Paris-Windham Road. Elements of the CSM include:

- 8
9 • Primary and secondary contaminant sources and release mechanisms;
10 • Contaminant migration pathways and discharge or exit points;
11 • Potential receptors with unacceptable risk; and
12 • Data gaps and uncertainties.

13 14 **E.4.1 Primary and Secondary Contaminant Sources and Release Mechanisms**

15
16 The primary source of contamination at the Dump Along Paris-Windham Road was removed or covered
17 during the 2003 limited RD/RA (see Section E.3). Secondary contaminant sources include dry sediment
18 and runoff accumulation points along the drainage swale at the base of the dump. The soil cap, which
19 was installed during the 2003 RD/RA, minimized direct contact between surface water and waste and
20 reduced infiltration rates through waste material; therefore, the process for continuing contaminant
21 migration to and deposition in the drainage swale has been largely mitigated.

22 23 **E.4.2 Contaminant Migration Pathways and Exit Points**

24
25 The primary contaminant migration pathway at the AOC is surface water runoff. The steep topography
26 and surface water flow patterns through the drainage swale facilitate contaminant migration from the
27 AOC into nearby Sand Creek, which is located at distances ranging from 30 to 170 ft. Infiltration of
28 rainfall through remaining waste, with discharge into the drainage swale at the base of the slope may
29 still occur; however, the soil cover and current dense vegetation maximize evapotranspiration rates
30 (particularly during the growing season) and help minimize contaminant migration via this pathway.
31 Surface water samples collected in 2003 immediately following the limited RD/RA indicated the
32 presence of inorganic compounds but did not contain explosives, volatile organic compounds (VOCs),
33 semi-volatile organic compounds (SVOCs), pesticides, or polychlorinated biphenyls (PCBs).

34
35 Groundwater may be a potential migration pathway; although, the occurrence of contaminants in
36 groundwater is not documented by sampling because of a lack of monitoring wells. Groundwater will
37 be addressed in a separate decision under the RVAAP Facility-wide Groundwater AOC (RVAAP-66).

38
39 Results from the RVAAP facility-wide biological and water quality study, for the Sand Creek sampling
40 station S9, were used for the evaluation (USACE 2005a). This monitoring station is located at river
41 mile 1.9 at the southwest corner of the Paris-Windham Road bridge over Sand Creek and is immediately
42 downstream of the AOC. Results of chemical and biological samples collected during the facility-wide

1 surface water study at this sampling station showed that no surface water chemical concentrations
2 exceeded Ohio Water Quality Standards aquatic life maximum or average water quality criteria. No
3 chemicals exceeded criteria protective of the Warm Water Habitat aquatic life use (USACE 2005).
4 Overall, the sediment quality and water quality was rated “excellent” and the fish community was rated
5 “good.” The macroinvertebrate community was rated “exceptional.”

6 **E.4.3 Potential Receptors**

7
8 The Range Maintenance Soldier is a representative receptor under the RAFLU (Military Training). This
9 receptor is assumed to be exposed to soil surface soil, including dry sediment, from (0-4 ft bgs). This
10 RAFLU, in conjunction with the evaluation of agricultural-residential land uses and associated
11 receptors, forms the basis for identifying COCs in the SC/FFS. The National Guard Trainee is not
12 considered the representative receptor, because the AOC is a small area, on a steep road berm, and is
13 not suitable for use by this receptor. Because the AOC is located immediately adjacent to a primary
14 road, trespassers may potentially visit the AOC; therefore, Adult and Juvenile Trespassers were also
15 considered. The exposure assumptions for the Range Maintenance Soldier are also protective of the
16 Adult and Child Trespasser. Additionally, a potential full-time worker was considered by evaluating
17 the Industrial Receptor. Meeting requirements for the Industrial Receptor is considered protective for
18 use by National Guard personnel.

19
20 Ecological receptors at the Dump Along Paris-Windham Road are potentially exposed to contaminants
21 in soil. Although the wetlands are an important resource, they are not a significant since dry sediment
22 and surface water sampling results do not indicate chemicals are present at concentrations of concern
23 for ecological receptors in the wetlands/drainage swale. Thus, there are no significant ecological
24 resources at the AOC.

25 26 **F. CURRENT AND POTENTIAL FUTURE LAND USES**

27
28 Dump Along Paris-Windham Road is not currently being utilized for training purposes. The RAFLU
29 of Dump Along Paris-Windham Road is Military Training, which is consistent with the intended future
30 land use for Camp Ravenna. Accordingly, the Range Maintenance Soldier is the representative receptor.
31 Because the AOC is located immediately adjacent to a primary road, trespassers may visit the AOC;
32 therefore, Adult and Juvenile Trespassers were also evaluated. In accordance with CERCLA, a
33 residential receptor (Resident-Adult and Resident-Child) was evaluated in the human health risk
34 assessment (HHRA) to assess an Unrestricted Land Use scenario. Additionally, a potential full-time
35 worker was considered by evaluating the Industrial Receptor This decision document discusses future
36 land use, as it pertains to soil, sediment, and surface water. Currently, groundwater at the AOC is not
37 used for domestic or industrial supplies. Groundwater will be evaluated as part of the Facility-wide
38 Groundwater AOC.

G. SUMMARY OF SITE RISKS

The HHRA and ERA estimated risks that the Dump Along Paris-Windham Road potentially poses to both human and ecological receptors under current conditions. The HHRA and ERA identify the exposure pathways; COCs and chemicals of potential ecological concern (COPECs), if any; and provide a basis for the remedial decisions. This section of the ROD summarizes the results of the HHRA and ERA, specifically for soil and surface water, as presented in detail in the *Final Site Characterization and Focused Feasibility Study for the RVAAP-51 Dump Along Paris-Windham Road* (USACE 2015).

G.1 Human Health Risk Assessment

Camp Ravenna is a controlled-access facility. The Dump Along Paris-Windham Road is currently inactive. Full-time OHARNG and contractor staff work at the facility. Military training and operations are conducted at the facility.

The OHARNG projected future land use for the AOC is Military Training. The most representative receptor for this land use is the Range Maintenance Soldier. The HHRA evaluates exposure and estimates risks associated with the Range Maintenance Soldier. In addition, risk is estimated for the Resident Receptor to evaluate a potential Unrestricted Land Use as a comparative baseline, in accordance with CERCLA. Trespassers were also evaluated due to the proximity of the AOC to the road. Additionally, the Industrial Receptor evaluated to account for the potential future exposure of a full-time worker.

No COCs were identified in surface water for any receptor scenario. No COCs were identified in soil for the Range Maintenance Soldier or Adult and Juvenile Trespassers. Two PAHs were identified as COCs in soil for the Resident Receptor. COCs and facility-wide cleanup goals (FWCUGs) are summarized in Table 1. The COCs for the Resident Receptor were not COCs for the Industrial Receptor (full-time worker).

Table 1. Summary of COCs and FWCUGs

Exposure Unit	Chemicals of Concern (FWCUG)
	Resident Receptor ^{a,b}
<i>Soil</i>	
Surface Area – Discrete Samples	Benzo(a)pyrene (0.221 mg/kg)
Fill Area – Discrete Samples	NA
Fill Area ISM Sample (PWss-CONT1)	NA
AOC-Wide ISM Sample (PWss-CONT2)	Benzo(a)pyrene (0.221 mg/kg) Dibenz(a,h)anthracene (0.221 mg/kg)
<i>Surface Water</i>	
Surface Water – Discrete Samples	None

^aBoth Resident Receptor Adult and Child scenarios were evaluated.

^bNo COCs were identified for the Range Maintenance Soldier, the Industrial Receptor (full-time worker) or the Adult or Juvenile Trespassers.

AOC = Area of Concern.

COC = Chemical of Concern.

FWCUG = Facility-wide Cleanup Goal.

ISM = Incremental Sampling Method.

NA = Exposure medium not applicable to this receptor.

G.2 Ecological Risk Assessment

The ERA was performed at the Dump Along Paris-Windham Road in surface soil and surface water (USACE 2012) and determined that there is chemical contamination present at the AOC. While a removal action occurred during the limited RD/RA, confirmatory sample results indicate there are three surface soil COPECs at the Fill Area exposure unit (EU), eight surface soil COPECs at the Surface Area EU, and four surface water COPECs at the Surface Water EU.

Although the wetlands are an important resource, they are not a significant since dry sediment and surface water sampling results do not indicate chemicals are present at concentrations of concern for ecological receptors in the wetlands/drainage swale. Thus, there are no significant ecological resources at the AOC. Also, the downstream biological and water quality sampling station shows no impairment, suggesting contaminants are not migrating from the landfill to Sand Creek. Further, the vegetation types are found elsewhere near the AOC, at Camp Ravenna, and in the ecoregion. The ERA concluded there are no significant ecological resources at the Dump Along Paris-Windham Road, and the recommendation was NFA for protection of ecological resources.

G.3 Basis for Action Statement

Results of the HHRA for the Dump Along Paris-Windham Road indicate that exposure to soil under current and anticipated future land use scenarios may result in unacceptable risks to human receptors, unless a remedy is undertaken. The response action selected in this ROD is necessary to protect public health or welfare, or the environment, from actual or threatened releases of hazardous substances into the environment.

H. REMEDIAL ACTION OBJECTIVES

The remedial action objective (RAO) references CUGs and target risk (TR) levels that are considered protective of human health under current and RAFLU scenarios. The RAO for the Dump Along Paris-Windham Road is to prevent exposure of the Resident Receptor to shallow surface soil (0-1 ft bgs) with COC levels exceeding the TR of 1E-05 and a hazard quotient of 1.0. Table 2 presents the CUGs.

Table 2. Chemical of Concern and Cleanup Goal for Resident Receptor for Shallow Surface Soil

Media	COC	FWCUG (mg/kg)
<i>Resident Receptor</i>		
Shallow Surface Soil (0-1 ft bgs)	Benzo(a)pyrene Dibenz(a,h)anthracene	0.221 mg/kg 0.221 mg/kg

mg/kg = Milligram per kilogram.

bgs = Below ground surface.

COC = Chemical of Concern.

FWCUG = Facility-wide Cleanup Goal.

I. DESCRIPTION OF ALTERNATIVES

The SC/FFS developed and evaluated remedial alternatives for shallow surface soil at the Dump Along Paris-Windham Road. The remedial alternatives are listed below:

- Alternative 1: No Action; and
- Alternative 2: LUCs.

This section includes a description of the various components of the remedial alternatives identified in the SC/FFS, including LUCs. No source control or removal actions are implemented under Alternative 2.

I.1 Alternative 1 – No Action

Alternative 1, the No Action alternative, is provided in accordance with the NCP as a baseline for comparison with other remedial alternatives. Alternative 1 provides no additional protection to human health and the environment. Any current legal and administrative LUC mechanisms at the AOC would be discontinued. No future legal, administrative, or physical LUC mechanisms would be employed at the AOC.

Environmental monitoring would not be performed, and FYRs would not be conducted in accordance with CERCLA 121(c). In addition, no restrictions on land use would be pursued.

I.2 Alternative 2 – Limited Action

Alternative 2 maintains the current status of the Dump Along Paris-Windham Road and includes LUCs and annual inspections to identify potential exposures and/or changes in the nature or extent of AOC contamination. LUCs would be implemented in accordance with an approved RD and Property Management Plan. LUCs would include an Operation and Maintenance (O&M) Plan and dig restrictions to ensure that the cover, placed during the limited RD/RA, is maintained. In addition, signs would be posted at the AOC stating that the area was a former ACM disposal location.

A review would be conducted every five years in accordance with CERCLA Section 121(c), as contaminants remain on site above unlimited use and unrestricted exposure FWCUGs. These FYRs will evaluate the effectiveness of LUCs and ensure any land use changes are identified.

J. SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

The alternatives were evaluated with respect to the nine comparative analysis criteria, as outlined in CERCLA (Table 3). The nine criteria are categorized into three groups: threshold criteria, primary balancing criteria, and modifying criteria as follows:

- 1 Threshold Criteria – Must be met for the alternative to be eligible for selection as a remedial option.
- 2 1. Overall protection of human health and the environment.
- 3 2. Compliance with ARARs.
- 4 Primary Balancing Criteria – Used to weigh major trade-offs among alternatives.
- 5 3. Long-term effectiveness and permanence.
- 6 4. Reduction of toxicity, mobility, or volume through treatment.
- 7 5. Short-term effectiveness.
- 8 6. Implementability.
- 9 7. Cost.
- 10 Modifying Criteria – FFS consideration to the extent that information was available. Evaluated
- 11 fully after public comment period on the PP.
- 12 8. State acceptance.
- 13 9. Community acceptance.

Table 3. CERCLA Evaluation Criteria

Overall Protection of Human Health and the Environment – considers whether or not an alternative provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.
Compliance with Applicable or Relevant and Appropriate Requirements – considers how a remedy will meet all the applicable or relevant and appropriate requirements of other federal and state environmental statutes and/or provide grounds for invoking a waiver.
Long-term Effectiveness and Permanence – considers the magnitude of residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time once cleanup goals have been met.
Reduction of Toxicity, Mobility, or Volume Through Treatment – considers the anticipated performance of the treatment technologies that may be employed in a remedy.
Short-Term Effectiveness – considers the speed with which the remedy achieves protection, as well as the potential to create adverse impacts on human health and the environment that may result during the construction and implementation period.
Implementability – considers the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement the chosen solution.
Cost – considers capital costs and operation and maintenance costs associated with the implementation of the alternative.
State Acceptance – indicates whether the state concurs with, opposes, or has no comment on the preferred alternative.
Community Acceptance – considers public input following a review of the public comments received on the Remedial Investigation Report, Focused Feasibility Study, and the Proposed Plan.

2 CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

3

4 **J.1 Overall Protection of Human Health and the Environment**

5

6 Under Alternatives 1 and 2, the representative receptor (Range Maintenance Soldier), possible Adult
7 and Juvenile Trespassers, and potential full-time workers (Industrial Receptor) would not be exposed
8 to unacceptable risk due to contaminants in shallow surface and subsurface soil at the AOC. However,
9 the AOC has COC concentrations above CUGs for the Resident Receptor. Consequently, a No Action
10 alternative would not be protective, since LUCs are required to prevent Residential Land Use of the
11 AOC as long as the COC concentrations exceed acceptable levels for the Resident Receptor. Alternative
12 1 is not considered protective for human health. Under Alternative 1, current risk is not reduced and
13 the ecological resources at the AOC remain unchanged. Current land use and RAFLU allow for
14 sustainability of terrestrial habitat for ecological receptors.

15

16 Implementing LUCs prevents exposure to the Resident Receptor; therefore, Alternative 2 is considered
17 protective for human receptors. Under Alternative 2, current risk is not reduced and the ecological
18 resources at the AOC remain unchanged. Current land use and RAFLU allow for sustainability of
19 terrestrial habitat for ecological receptors.

20

J.2 Compliance with Applicable or Relevant and Appropriate Requirements

CERCLA Section 121 specifies that RAs must comply with requirements or standards under federal or more stringent state environmental laws that are “applicable or relevant and appropriate to the hazardous substances or particular circumstances at the site.” These enforceable standards would be protective of representative receptors under the Range Maintenance Soldier, Trespasser, and full-time worker scenarios. There are no identified chemical-specific or location-specific ARARs for Alternatives 1 or 2.

Ohio Administrative Code 3745-20-07 requires that a former asbestos waste disposal site must be covered and posted in accordance with the specific requirements. Because all visible surface debris was removed and the excavation areas were covered with clean soil and vegetated, the cover requirements have been achieved in compliance with this ARAR. However, in addition to the cover requirements, these rules specify the AOC must be posted as a former asbestos disposal site. The No Action alternative would not comply with this requirement, as no signs would be posted at the AOC. Alternative 2 would comply with this posting requirement.

J.3 Long-Term Effectiveness and Permanence

Alternative 1 (No Action) is neither effective nor permanent in the long term. Alternative 2 (LUCs) would offer some degree of protectiveness but relies entirely on LUCs to protect human receptors from exposure to contaminated soil and sediment. The effectiveness of this approach is related to the adequacy and reliability of the LUCs. However, with appropriate documentation and procedures, LUCs can reasonably be expected to be effective in protecting human health and the environment while preserving the RAFLU anticipated for the Dump Along Paris-Windham Road. Because contaminants would remain on site above Resident Receptor CUGs, reviews would need to be conducted every five years, pursuant to CERCLA requirements. The purpose of these reviews is to ensure that land use is appropriate and LUCs remain in place and are effective.

J.4 Reduction of Toxicity, Mobility, or Volume Through Treatment

Alternative 1 (No Action) and Alternative 2 (LUCs) do not include treatment as a principal element and therefore, offer no reduction in toxicity, mobility, or volume because no treatment process is proposed.

J.5 Short-Term Effectiveness

Short-term effectiveness addresses the period of time needed to implement the remedy and any adverse impacts that may be posed to workers, the community, and environment during construction and operation of the remedy until CUGs are achieved. No short-term human health risks are associated with Alternatives 1 (No Action) and 2 (LUCs) beyond baseline conditions because no RAs would be implemented that would have impacts on soil, air quality, water resources, or biotic resources.

Alternative 2 would require less than one year to complete and would include an O&M period (30 years assumed for cost-estimating purposes).

J.6 Implementability

No actions are proposed for Alternative 1. Alternative 2 (LUCs) can easily be implemented. The AOC is currently marked with stakes and covered as a result of the limited RD/RA. Implementing proposed LUCs at the Dump Along Paris-Windham Road would be a relatively small effort.

J.7 Cost

The present value cost to complete Alternative 1 is \$0. No capital costs are associated with this alternative. The present value (discounted) cost to complete Alternative 2 is estimated to be approximately \$103,300. O&M and monitoring costs are estimated for a 30-year period. The development of an RD, including LUCs and CERCLA FYRs, is included in this cost.

J.8 State Acceptance

State acceptance was evaluated formally after the public comment period on the PP. Ohio EPA concurs that Alternative 1 (No Action) does not provide adequate protection of human health and the environment. Therefore, Ohio EPA has expressed its support for Alternative 2 (LUCs).

J.9 Community Acceptance

Community acceptance was evaluated formally after the PP public comment period. During the public meeting, the community voiced no objections to Alternative 2 (LUCs) as indicated in Part III of this ROD, the Responsiveness Summary.

K. PRINCIPAL THREAT WASTES

Principal threat wastes, as defined by the U.S. Environmental Protection Agency (USEPA), are source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur. Given the RAFLU for the Dump Along Paris-Windham Road for Military Training, principal threat wastes would be those media posing a potential risk of 10^{-3} or greater. Current risk for the Range Maintenance Solder to soil is approximately two orders of magnitude less than this threshold. Thus, soil at the Dump Along Paris-Windham Road does not constitute principal threat waste.

L. THE SELECTED REMEDY

Alternative 2 (LUCs) is selected for implementation at the Dump Along Paris-Windham Road. This remedy is consistent with the RAFLU of Military Training.

L.1 Rationale for the Selected Remedy

The selected remedy meets the threshold criteria and provides the best overall balance of tradeoffs in terms of the five balancing criteria:

- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, and volume;
- Short-term effectiveness;
- Implementability; and
- Cost.

The selected remedy is protective for the RAFLU, is cost effective, and can be performed in a timely manner. Based on the available risk assessment information, the selected remedy will achieve the RAO, which is to prevent exposure of the Resident Receptor to shallow surface soil (0-1 ft bgs) with COC levels exceeding the TR of 1E-05 and a hazard quotient of 1.0.

The selected remedy addresses state and community concerns by implementing LUCs to deter unauthorized access to the Dump Along Paris-Windham Road. CERCLA FYRs will be conducted to ensure long-term protectiveness of the remedy.

L.2 Description of the Selected Remedy

Alternative 2 relies on LUCs to limit access to the AOC and prevent exposure by possible receptors (e.g., Resident Receptor) to COCs in shallow surface soil. Unrestricted land use of the AOC is hindered by concentrations of benzo(a)pyrene and dibenz(a,h)anthracene in shallow surface soil, which exceed FWCUGs for the Resident Receptor. However, no COCs were identified for the Range Maintenance Soldier (the representative receptor at the AOC as determined by the RAFLU), the possible Adult and Juvenile Trespassers, or the potential full-time worker. Alternative 2 would leave impacted media in place and implement no active remedial measures. Instead, long-term management to ensure land use remains protective of potential receptors would be implemented. Awareness training and signs (posted every 300 ft or less along the AOC perimeter) would be employed to alert persons having a need to access the AOC that the location was formerly used to dispose of ACM. Controls on digging within the AOC would be incorporated due to the potential presence of ACM and to help maintain the cover material placed during the limited RD/RA. Because (1) surface debris was removed; (2) subsurface transite was excavated to the extent possible without undermining and compromising the integrity of Paris-Windham Road; (3) soil confirmation samples did not indicate the presence of asbestos in soil, dry sediment, or surface water; and (4) the AOC is heavily vegetated, potential exposures to ACM are currently controlled, and physical access controls, such as fencing and gates, are not proposed as part of Alternative 2. Warning signs, boundary markers (e.g., Seibert stakes), and dig restrictions are expected to be effective in protecting soldiers and future workers from exposure to ACM. Prior to implementation of Alternative 2, an RD detailing the FYR requirements and any supplemental access restrictions to address chemical contamination of soil would be developed.

1 An RD would be developed to address specific maintenance activities, monitoring requirements (i.e.,
2 FYRs), and LUCs. The RD would incorporate existing access restrictions. A more detailed discussion
3 of the LUCs would be developed as part of the RD, including notification requirements for changes in
4 land use. The Camp Ravenna Property Management Plan would capture all LUCs prescribed by the
5 approved RD and serve as a formal tool to help manage and set forth procedures for the established
6 LUCs. Coordination with any planned OHARNG AOC improvement and environmental monitoring
7 activities would be necessary to ensure consistency with the Dump Along Paris-Windham Road's
8 designated land use and RAO. Pursuant to CERCLA, a review would be conducted every five years,
9 as COCs would remain on site above unrestricted (i.e., residential) land use CUGs. FYR permit
10 evaluations of all remedy components, including LUCs, would also be performed to assess the presence
11 and behavior of the remaining COCs. Continued surveillance would ensure any land use changes or
12 disturbances of impacted areas are identified.

13 14 **L.3 Summary of the Estimated Remedy Costs**

15
16 The present value cost to complete Alternative 2 is estimated to be \$103,300. O&M and monitoring
17 costs are estimated for a 30-year period. The development of an RD, including LUCs and CERCLA
18 FYRs, is included in this cost.

19
20 This cost estimate is based on the best available information regarding the anticipated scope of the
21 selected remedy. This is an order of magnitude engineering cost estimate that is expected to be within
22 -30 to +50% of the actual project cost in accordance with USEPA guidance (USEPA 1988).

23 24 **L.4 Expected Outcomes of the Selected Remedy**

25
26 No negative socioeconomic and community revitalization impacts are expected from this RA. Positive
27 socioeconomic impacts are expected from the LUCs by deterring access to the AOC during OHARNG
28 training missions.

29 30 **M. STATUTORY DETERMINATION**

31
32 The selected remedy satisfies the statutory requirements of CERCLA Section 121 and the NCP, as
33 described below.

34 35 **M.1 Protection of Human Health and the Environment**

36
37 Human exposure to COCs will be controlled, deterring access to the Dump Along Paris-Windham
38 Road.

39 40 **M.2 Compliance with ARARs**

41
42 The selected remedy will comply with the action-specific ARARs listed in Attachment A.

1 **M.3 Cost-Effectiveness**

2
3 The selected remedy meets the statutory requirement for a cost-effective remedy. Cost effectiveness is
4 concerned with the reasonableness of the relationship between the effectiveness afforded by each
5 alternative and its costs compared to other available options.
6

7 **M.4 Utilization of Permanent Solutions and Alternative Treatment (or Resource Recovery)**
8 **Technologies to the Maximum Extent Practicable**
9

10 The selected remedy represents the maximum extent to which permanent solutions are practicable for
11 soil at the AOC. The selected remedy represents the best balance of tradeoffs between No Action and
12 LUCs because it provides a permanent solution for contaminated media, and cost-effective
13 implementation.
14

15 **M.5 Preference for Treatment as a Principal Element**
16

17 The selected remedy uses permanent solutions to the maximum extent practicable. The remedy does
18 not satisfy the statutory preference for treatment. Treatment technologies were not evaluated due to the
19 presence of buried asbestos.
20

21 **M.6 Five-year Review Requirements**
22

23 FYRs will be conducted in compliance with CERCLA Section 121(c) and NCP Section
24 300.430(f)(4)(ii).
25

26 **N. DOCUMENTATION OF NO SIGNIFICANT CHANGE**
27

28 The *Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-51 Dump Along Paris-Windham*
29 *Road* (USACE 2016) was released for public comment on November 14, 2016. The PP identified
30 Alternative 2 (LUCs), at the Dump Along Paris-Windham Road as a recommended alternative. After
31 the public comment period, no significant changes regarding the recommended alternative, as originally
32 identified in the PP, were necessary or appropriate.

1 **PART III: RESPONSIVENESS SUMMARY FOR PUBLIC COMMENTS ON**
2 **THE ARMY PROPOSED PLAN FOR THE DUMP ALONG PARIS-**
3 **WINDHAM ROAD AT RAVENNA ARMY AMMUNITION PLANT,**
4 **RAVENNA, OH**

5 **A. OVERVIEW**
6

7 On November 14, 2016, the Army released the *Proposed Plan for Soil, Sediment, and Surface Water*
8 *at RVAAP-51 Dump Along Paris-Windham Road, Ravenna Army Ammunition Plant* (USACE 2016)
9 for public comment. A 30-day public comment period was held from November 14, 2016, to December
10 14, 2016. The Army hosted a public meeting on November 29, 2016, to present the PP and take
11 questions and comments from the public for the record.
12

13 For soil, sediment, and surface water at the Dump Along Paris-Windham Road, the Army
14 recommended Alternative 2 (LUCs). During the public meeting Ohio EPA concurred with the
15 recommendation of this alternative. No oral comments were received at the public meeting, and no
16 written comments were provided by the public during the public comment period.
17

18 The community voiced no objections to Alternative 2, and this alternative is selected as the final remedy
19 for soil, sediment and surface water at the Dump Along Paris-Windham Road in this ROD. All public
20 input was considered during the selection of the final remedy for soil, surface water, and sediment.
21

22 **B. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES**
23

24 **B.1 Oral Comments from Public Meeting**
25

26 No oral comments were provided by the public during the public comment period.
27

28 **B.2 Written Comments**
29

30 No written comments were received during the public comment period.
31

32 **C. TECHNICAL AND LEGAL ISSUES**
33

34 There were no technical or legal issues raised during the public comment period.

1 REFERENCES

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FIGURES

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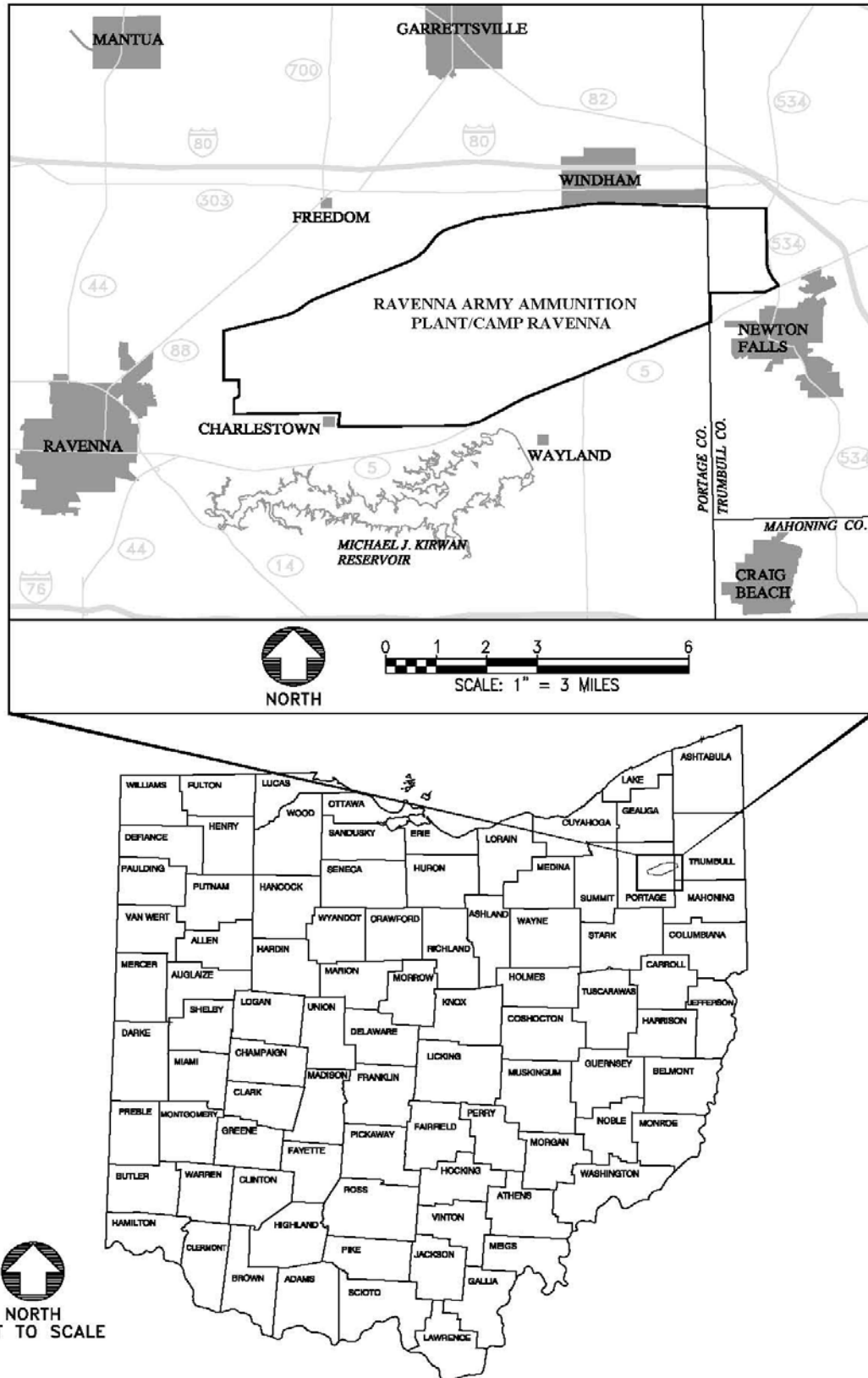


Figure 1. General Location and Orientation of the Former RVAAP / Camp Ravenna

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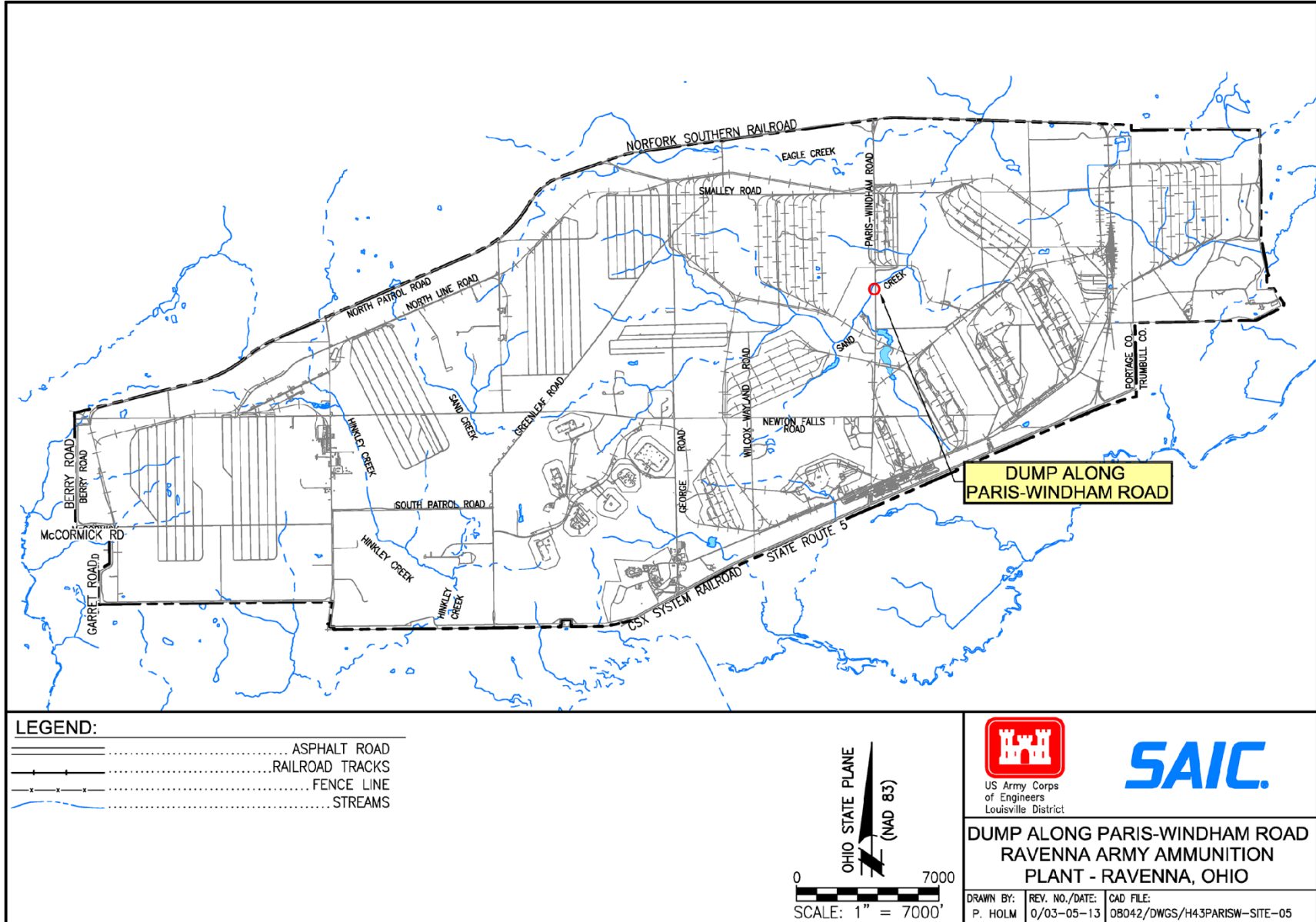


Figure 2. Former RVAAP / Camp Ravenna Installation Map

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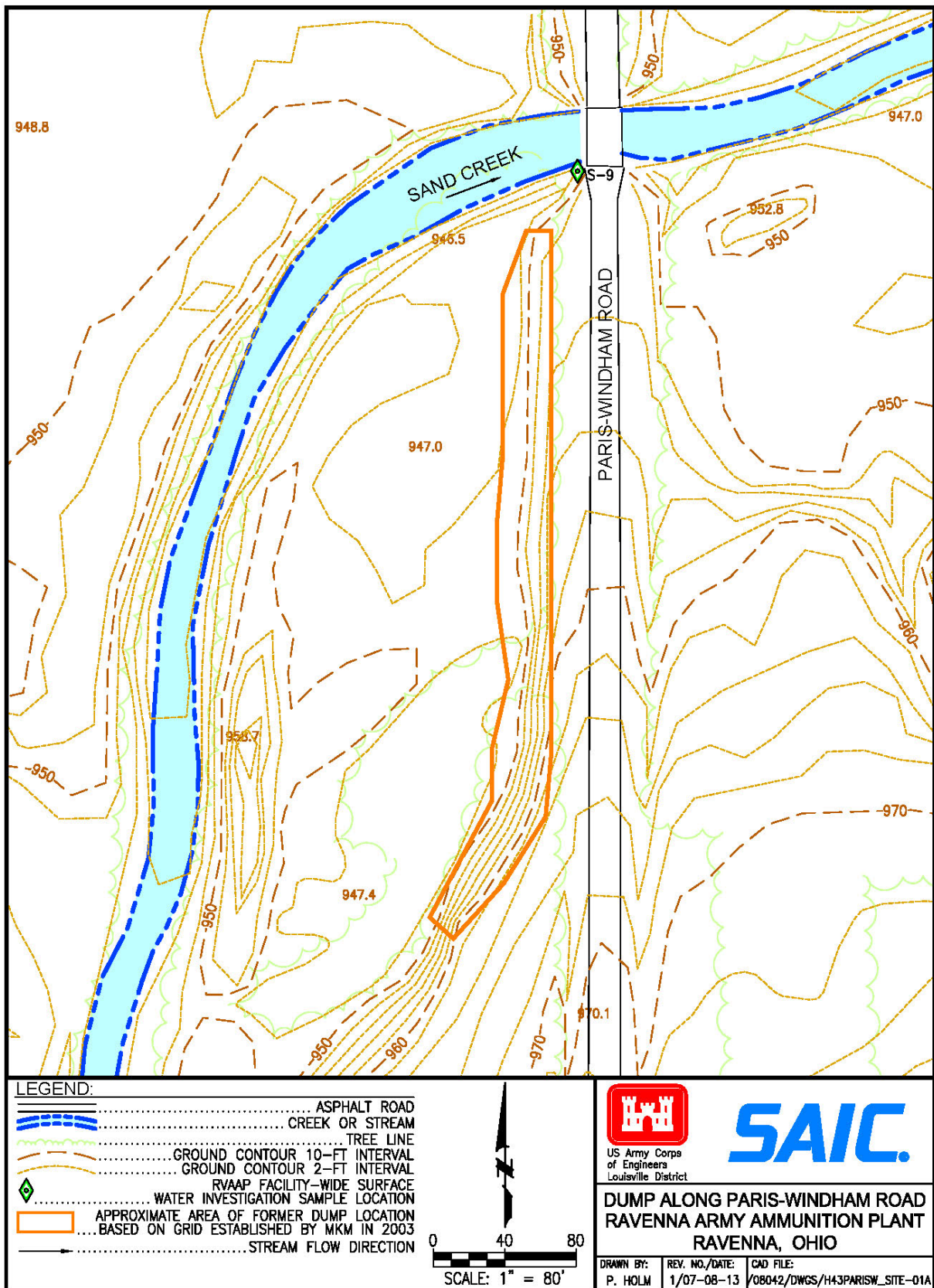


Figure 3. Dump Along Paris-Windham Road

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ATTACHMENT A
DESCRIPTION OF ARARS

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Potential Action ARARs for Disposal of RCRA Hazardous Waste

Media and Citation	Description of Requirement	Potential ARAR Status	Standard
Standard for Inactive Asbestos Waste Disposal Sites OAC 3745-20-07	These rules require that inactive asbestos disposal sites be covered and posted to ensure access to ACM is controlled. In addition, these rules require that no visible emissions be allowed from the AOC.	If ACM is present within the AOC, these rules are potentially applicable.	An inactive asbestos disposal site must be covered by 6 inches of compacted soil with a vegetated cover or 2 ft of compacted soil. In addition, the AOC must be posted as having ACM present and must have access control to ensure exposure to asbestos does not occur.
Post-Closure Care for Sanitary Landfill Facilities OAC 3745-27-14	These rules specify the required post-closure care activities required for solid waste facilities, including existing facilities.	Because material that would be considered solid waste is disposed at the AOC, these requirements are considered relevant and appropriate.	Required inspection and maintenance of the cover. Additional provisions are not considered ARARs, as the debris disposed at the AOC does not generate methane gas or leachate.

ACM = Asbestos-containing Material.

AOC = Area of Concern.

ARAR = Applicable or Relevant and Appropriate Requirement.

OAC = Ohio Administrative Code.

RCRA = Resource Conservation and Recovery Act of 1976.

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