

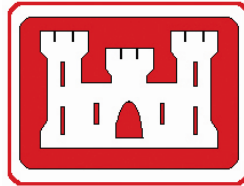
Final

Proposed Plan
RVAAP-03 Open Demolition Area #1
Former Ravenna Army Ammunition Plant
Portage and Trumbull Counties, Ohio

Revision 2.0

Contract No.: W912QR-12-D-0002
Delivery Order: 0003

Prepared for:



United States Army Corps of Engineers
Louisville District
600 Dr. Martin Luther King, Jr. Place
Louisville, Kentucky 40202

Prepared by:

PARSONS
401 Diamond Drive NW
Huntsville, AL 35806
256-837-5200

December 7, 2020

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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
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1. REPORT DATE (DD-MM-YYYY) 07-12-2020		2. REPORT TYPE Proposed Plan		3. DATES COVERED (From - To) April 2017 - December 2020
4. TITLE AND SUBTITLE Final Proposed Plan RVAAP-03 Open Demolition Area #1 Former Ravenna Army Ammunition Plant Portage and Trumbull Counties, Ohio Revision 2.0			5a. CONTRACT NUMBER W912QR-12-D-0002	
			5b. GRANT NUMBER N/A	
			5c. PROGRAM ELEMENT NUMBER N/A	
			5d. PROJECT NUMBER Delivery Order 0003	
			5e. TASK NUMBER 14	
			5f. WORK UNIT NUMBER N/A	
6. AUTHOR(S) Heyse, Edward Roche, Lauri Hinger, Jessica			8. PERFORMING ORGANIZATION REPORT NUMBER NA	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Parsons Government Services Inc. 401 Diamond Drive NW Huntsville, Alabama 35806			9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Corps of Engineers--Louisville District 600 Dr. Martin Luther King Jr. Place Louisville, Kentucky 40202-0059	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Corps of Engineers--Louisville District 600 Dr. Martin Luther King Jr. Place Louisville, Kentucky 40202-0059			10. SPONSOR/MONITOR'S ACRONYM(S) USACE	
12. DISTRIBUTION/AVAILABILITY STATEMENT Please reference distribution page.			11. SPONSOR/MONITOR'S REPORT NUMBER(S) N/A	
13. SUPPLEMENTARY NOTES None.				
14. ABSTRACT This Proposed Plan presents the conclusions and recommendations from the RVAAP-03 Open Demolition Area #1 Phase II Remedial Investigation Report for soil, surface water, and sediment and the Munitions and Explosives of Concern Verification Study. RVAAP-03 Open Demolition Area #1 has no chemicals of concern that pose unacceptable risk. No munitions and explosives of concern were recovered or observed at RVAAP-03 Open Demolition Area #1. Groundwater is addressed under the Facility-Wide Groundwater Monitoring Program RVAAP-66 Facility-Wide Groundwater. The site is recommended for no further action for soil, surface water, and sediment. Unrestricted (Residential) Land Use is attained for this area of concern.				
15. SUBJECT TERMS Compliance Restoration Site; Proposed Plan; Open Demolition Area #1; Remedial Investigation; Munitions and Explosives of Concern Verification Study; No Further Action				
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT N/A	18. NUMBER OF PAGES 46
a. REPORT U	b. ABSTRACT U	c. THIS PAGE U		
			19a. NAME OF RESPONSIBLE PERSON Edward Heyse	
			19b. TELEPHONE NUMBER (Include area code) (256) 217-2573	

 Standard Form 298 (Rev. 8/98)
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Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

December 4, 2020

TRANSMITTED ELECTRONICALLY

Mr. Kevin M. Sedlak
Army National Guard
Installations & Environment -
Cleanup Branch IPA Designation
1438 State Route 534 SW
Newton Falls, OH 44444

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859021

Subject: Final Proposed Plan for Final Proposed Plan RVAAP-03 Open Demolition Area #1

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the "Final Proposed Plan for Final Proposed Plan RVAAP-03 Open Demolition Area #1" dated October 29, 2020. It was prepared by Parsons.

Ohio EPA has no comments on the Final Proposed Plan (PP). Based on the information contained in the Final PP document, other investigation documents and reports, and Ohio EPA's oversight participation during the investigation, Ohio EPA concurs with the Final Proposed Plan for RVAAP-03 Open Demolition Area #1 recommending No Further Action.

As a precautionary response to COVID-19, Ohio EPA is currently operating with most staff working remotely. During this time, we will not be issuing hard-copy mail. This letter is an official response from Ohio EPA that will be maintained as a public record.

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DEC 04 2020

MR. SEDLAK
U.S. ARMY RAVENNA AMMUNITION PLT. RVAAP
PAGE 2 OF 2

If you have any questions concerning this letter, please contact Edward D'Amato, site coordinator at (330) 963-1170, or via email at ed.damato@epa.ohio.gov.

Sincerely,

Melisa Witherspoon

Melisa Witherspoon
Chief
Division of Environmental Response and Revitalization

MW/sc

ec: Katie Tait, OHARNG RTLS
Mark Leeper, ARNG
Nat Peters, USACE
Craig Coombs, USACE
Rebecca Shreffler, Chenega
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Megan Oravec, Ohio EPA, NEDO, DERR
Bob Princic, Ohio EPA, NEDO, DERR
Tom Schneider, Ohio EPA, SWDO, DERR
William Damschroder, Ohio EPA, Legal

CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

Parsons has completed the Final Proposed Plan for RVAAP-03 Open Demolition Area #1 Revision 2.0 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 this 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 the level of data obtained; and the reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing United States Corps of Engineers policy.

Independent Technical Reviewer:

Dan Griffiths, CPG
Technical Director



(Signature)

20 October 2020

(Date)

Plan Approver:

Edward Heyse, Ph.D., P.E.
Project Manager



(Signature)

07 December 2020

(Date)

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Huntsville, AL 35806
256-837-5200

December 7, 2020

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DOCUMENT DISTRIBUTION

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for RVAAP-03 Open Demolition Area #1
Revision 2.0
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Camp James A. Garfield, Ohio

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Steven Kvaal, USACE – Louisville District	Email Transmittal Letter Only	
Mark Leeper, ARNG	Email Transmittal Letter Only	
Kevin Mieczkowski, USACE – Louisville District	2	1

ARNG = Army National Guard

DERR = Division of Environmental Response and Restoration

NEDO = Northeast District Office

OHARNG = Ohio Army National Guard

Ohio EPA = Ohio Environmental Protection Agency

RVAAP = Ravenna Army Ammunition Plant

REIMS = Ravenna Environmental Information Management System

SWDO = Southeast District Office

USACE = United States Army Corps of Engineers

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LIST OF ACRONYMS

AOC area of concern
 ARNG Army National Guard
 bgs below ground surface
 CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
 CJAG Camp James A. Garfield Joint Military Training Center
 CMCOPCs Contaminant Migration Chemicals of Potential Concern
 COCs Chemicals of Concern
 COPECs Chemicals of Potential Ecological Concern
 COPCs Chemicals of Potential Concern
 HHRA Human Health Risk Assessment
 HQ hazard quotient
 ISM incremental sampling method
 MEC Munitions and Explosives of Concern
 NCP National Oil and Hazardous Substances Pollution Contingency Plan
 NTA National Advisory Committee for Aeronautics Test Area
 OB/OD open burn/open demolition
 ODA1 Open Demolition Area #1
 OHARNG Ohio Army National Guard
 Ohio EPA Ohio Environmental Protection Agency
 PP Proposed Plan
 RI Remedial Investigation
 ROD Record of Decision
 RSLs Regional Screening Levels
 RVAAP Ravenna Army Ammunition Plant
 SAIC Science Applications International Corporation
 SARA Superfund Amendments and Reauthorization Act
 Shaw Shaw Environmental & Infrastructure, Inc.
 SLERA Screening Level Ecological Risk Assessment
 SRCs site-related chemicals
 SVOC semi-volatile organic compound

LIST OF ACRONYMS (Continued)

TNT	trinitrotoluene
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

This Proposed Plan (PP) presents the recommendations for soil, surface water, and sediment within the RVAAP-03 Open Demolition Area #1 (ODA1) area of concern (AOC) at the former Ravenna Army Ammunition Plant (RVAAP). The former RVAAP is now known as Camp James A. Garfield Joint Military Training Center (CJAG) and is located in Portage and Trumbull Counties, Ohio (Figure 1). The Army National Guard (ARNG), in coordination with the Ohio Environmental Protection Agency (Ohio EPA), is issuing this PP to provide the public with information to comment upon the selection of an appropriate response action. The remedy will be selected for RVAAP-03 ODA1 after all comments submitted during the 30-day public comment period are considered. Therefore, the public is encouraged to review and comment on the No Further Action recommendation for the AOC presented in this PP.

The ARNG is issuing this PP as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 *Code of Federal Regulations* 300). Selection and implementation of a remedy is consistent with the requirements of the Ohio EPA *Director's Final Findings and Orders*, dated June 10, 2004 (Ohio EPA 2004).

This PP summarizes information that can be found in greater detail in the *Remedial Investigation Study for Soil, Surface Water, and Sediment at RVAAP-03 Open Demolition Area #1* (Phase II, United States Army Corps of Engineers [USACE] 2017), *Final MEC Verification Study After Action Report for the RVAAP-03 Open Demolition Area #1*, (USACE-Baltimore District 2020), and other documents contained in the Administrative Record file for the RVAAP-03 ODA1. No Chemicals of Concern (COCs) were identified in the Human Health Risk Assessment (HHRA) for the

Public Comment Period:

January 1, 2021 to January 31, 2021

Public Meeting:

The ARNG will hold a virtual public meeting to present the conclusions and additional details presented in the *Remedial Investigation Study for Soil, Surface Water, and Sediment at RVAAP-03 Open Demolition Area #1* (USACE 2017). Oral and written comments will also be accepted at the meeting. The virtual public meeting is scheduled for 6:00 PM, January 19, 2021, accessible on-line at: www.webex.com, Meeting Number: 1467193028, Password: RVAAP-03Meeting; or by phone at: 1-833-752-1090, Meeting Number: 1467193028, Password: 78227003.

Information Repositories:

Information used in selecting the remedy is available for public review at the following locations:

Reed Memorial Library

167 East Main Street
Ravenna, Ohio 44266
(330) 296-2827

Hours of operation (may vary):

9 AM-9 PM Monday-Thursday
9 AM-6 PM Friday
9 AM-5 PM Saturday
1 PM-5 PM Sunday

Newton Falls Public Library

204 South Canal Street
Newton Falls, Ohio 44444
(330) 872-1282

Hours of operation (may vary):

9 AM-8 PM Monday-Thursday
9 AM-5 PM Friday and Saturday

Online

<http://www.rvaap.org/>

The **Administrative Record File**, containing information used in selecting the remedy, is available for public review at the following location:

Camp James A. Garfield Joint Military Training Center (former Ravenna Army Ammunition Plant)

Environmental Office
1438 State Route 534 SW
Newton Falls, Ohio 44444
(614) 336-6136

Note: Access is restricted to Camp James A. Garfield Joint Military Training Center, but an appointment to review the Administrative Record File can be scheduled.

Resident Receptor for soil, surface water, or sediment. The ARNG has determined that No Further Action is required for soil, surface water, and sediment. Groundwater is addressed under the Facility-Wide Groundwater Monitoring Program RVAAP-66 Facility-Wide Groundwater. The ARNG encourages the public

to review the site background documents to gain a more comprehensive understanding of the AOC, activities that have been conducted to date, and the rationale for the No Further Action recommendation.

2.0 RVAAP DESCRIPTION AND BACKGROUND

CJAG is located in northeastern Ohio within Portage and Trumbull counties. CJAG is approximately three miles east/northeast of the City of Ravenna and one mile north/northwest of the City of Newton Falls. CJAG is federally owned, approximately 11 miles long, and 3.5 miles wide. CJAG is bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad to the south; Garret, McCormick, and Berry Roads to the west; the Norfolk Southern Railroad to the north; and State Route 534 to the east. In addition, CJAG is surrounded by the communities of Windham, Garrettsville, Charlestown, and Wayland.

As of September 2013, administrative accountability for the entire 21,683-acre facility has been transferred to the United States Property and Fiscal Officer for Ohio and the property subsequently licensed to the Ohio Army National Guard (OHARNG) for use as a military training site.

3.0 RVAAP-03 OPEN DEMOLITION AREA #1 DESCRIPTION AND BACKGROUND

RVAAP-03 ODA1 is located in the southwestern portion of the former RVAAP, north of Hinkley Creek, within the southern portion of RVAAP-38 National Advisory Committee for Aeronautics Test Area (NTA) AOC (Figure 2). RVAAP-03 ODA1 was used from 1941 to 1949 primarily for the thermal destruction of munitions, explosives, and associated materials through the operation of open burn/open demolition (OB/OD) practices. The OB/OD area within RVAAP-03 ODA1 was surrounded by an oval shaped earthen berm (Figure 3).

In addition to RVAAP-03 ODA1 being used for OB/OD operations, the surrounding area

adjacent to RVAAP-03 ODA1 was used to stage aircraft for NTA operations. The NTA was constructed and used between 1947 and 1953. Aircraft have been observed to be parked atop the earthen berm and areas east of the berm in historic aerial photographs from 1952 (SAIC 2001). The berms around the OB/OD area have since been removed.

During the 2001 Phase I Remedial Investigation (RI, SAIC 2001), areas outside of the berm contained shrapnel, fuzes, booster cups, and other debris on the soil surface. The occurrence of these materials on the ground surface outside the OB/OD area suggested that kickouts and shrapnel were generated during thermal destruction of ammunition. Historical operations also indicated that, when congested with debris, burning areas were cleared using heavy equipment by pushing the debris to the periphery of the area (SAIC 2001).

Slag is present in fill material around the former berm and adjacent NTA runway. This aluminum-rich slag (the use of which was widespread throughout the former RVAAP/CJAG) may account for some elevated concentrations of metals (especially aluminum, barium, beryllium, and manganese). However, Ohio Administrative Code 3745-2701(B)40 specifically exempts slag as a solid waste (Ohio EPA 2000).

The OHARNG does not currently use RVAAP-03 ODA1 for training purposes. However, the OHARNG uses the surrounding adjacent NTA for training purposes.

The following environmental investigations have been completed for RVAAP-03 ODA1:

- *Ravenna Army Ammunition Plant Water Quality Surveillance Program (U.S. Army Toxic and Hazardous Materials Agency 1980–1992).*
- *Final Preliminary Assessment for Ravenna Army Ammunition Plant, Ravenna, Ohio (U.S. Army Center for Health Promotion and Preventive Maintenance; now known as United States Army Public Health Center] 1996).*
- *Phase I Remedial Investigation Report for Demolition Area #1 at the Ravenna Army*

- *Ammunition Plant, Ohio* (SAIC 2001).
- *Final Ordnance and Explosives / Unexploded Ordnance Removal and Interim Removal Action Report for the Open Demolition Area #1* (MKM Engineers, Inc. 2004).
- *Final Facility-Wide Biological and Water Quality Study 2003* (USACE 2005a).
- *Final Digital Geophysical Mapping Report for the RVAAP-34 Sand Creek Disposal Road Landfill, RVAAP-03 Open Demolition Area #1, and RVAAP-28 Mustard Agent Burial Site Version 1.0* (Shaw 2011)
- *Remedial Investigation Study for Soil, Surface Water, and Sediment at RVAAP-03 Open Demolition Area #1* (Phase II RI, USACE 2017).
- *Final MEC Verification Study After Action Report for the RVAAP-03 Open Demolition Area #1* (USACE-Baltimore District 2020)

4.0 RVAAP-03 OPEN DEMOLITION AREA #1 CHARACTERISTICS

The AOC characteristics, nature and extent of contamination, and conceptual site model are based on the investigations conducted from 1996 through 2020. RVAAP-03 ODA1 covers approximately 6 acres and consisted of an oval OB/OD area, which was surrounded by a 25-foot-wide by 1.5 foot tall earthen berm, and a plane storage area previously located on the south side of the site (Figure 3). The berms around the OB/OD area have been removed, and a low area immediately south and east of the former berm collects runoff during rainfall events (USACE 2017).

Currently, the AOC occupies an open parcel of land that is bounded to the south, east, and west by woodlands. Topography across RVAAP-03 ODA1 is relatively flat with little change in elevation. The elevation at RVAAP-03 ODA1 is approximately 1,085 feet above mean sea level. The AOC is slightly elevated as compared to its immediate surroundings, and surface drainage outside the former berm is to the east, west, and south. Drainage from within the former bermed OB/OD area is south via a culvert towards a shallow ditch, which ultimately discharges at ground surface within the Hinkley Creek

drainage area.

Soil at RVAAP-03 ODA1 consist of the Fitchville silt loam series. This series exhibit 2% to 6% slopes, is somewhat poorly drained, and has low permeability. The surficial geology at RVAAP-03 ODA1 consists of the Lavery Till, which is a mix of approximately 28% sand and 30% clay, but percentages can vary. RVAAP-03 ODA1 lies within the Sharon Sandstone Conglomerate. However, bedrock was not encountered in any of the Phase II RI borings; therefore, depth to bedrock is unknown in the AOC (USACE 2017).

No monitoring wells were installed as part of the Phase II RI (USACE 2017), and site-specific groundwater data is not available at RVAAP-03 ODA1. However, there are monitoring wells screened in the unconsolidated aquifer in the NTA AOC, located adjacent to RVAAP-03 ODA1, and groundwater flow in this area is southerly (TEC-Weston Joint Venture 2017). One groundwater grab sample (DA1-27-GW) was collected under the Phase I RI from a direct-push boring, and the depth to the water table was measured at approximately 16 feet below ground surface (bgs). Groundwater was encountered in a majority of the Phase II RI direct-push soil borings at RVAAP-03 ODA1. The depth to groundwater at these borings ranged from 4 to 11 feet bgs, with an average groundwater depth of approximately 6 feet bgs.

Data collected during the Phase I RI indicated that sediment and surface water in Hinkley Creek had not been impacted as a result of former operations at RVAAP-03 ODA1; therefore, sediment and surface water were not evaluated further in the Final Phase II RI (USACE 2017).

Phase I and II RI data were used to determine site-related chemicals (SRCs). SRCs were selected by consideration of background concentrations, essential nutrients, and frequency of detection. A total of 23 SRCs were identified in surface soil (0-1 foot bgs) and 33 SRCs were identified in subsurface soil (greater than 1 foot bgs) (USACE 2017).

The potential for soil contaminants to impact groundwater was evaluated in a fate and

transport evaluation presented in the Phase II RI Report (USACE 2017). The fate and transport evaluation included modeling and comparing the model results to background concentrations and maximum contaminant levels/ United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs). The model prediction identified the maximum concentrations of the SRCs expected in groundwater under RVAAP-03 ODA1. Modeling evaluated the potential for contaminants to leach from soil to groundwater beneath the AOC and eventually impact Hinckley Creek.

The conclusions of the fate and transport leaching analysis and modeling are that some of the SRCs in soil may leach to groundwater beneath the AOC. The final list of Contaminant Migration Chemicals of Potential Concern (CMCOPCs) for RVAAP-03 ODA1 are presented below:

- Two explosives and propellants (2,4,6-trinitrotoluene [TNT] and 2-amino-4,6-dinitrotoluene)
- One semi-volatile organic compound (SVOC) (isophorone)
- Ten metals (antimony, arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, and thallium)

A single groundwater sample was collected during the Phase I RI using direct-push boring techniques. Results from this sample did not indicate any impact to groundwater from RVAAP-03 ODA1 activities (USACE 2017). Groundwater is addressed under the Facility-Wide Groundwater Monitoring Program RVAAP-66 Facility-Wide Groundwater.

The USACE Baltimore District Ordnance and Explosive Safety Section conducted a Munitions and Explosives of Concern (MEC) Verification Study at RVAAP-03 ODA1 (USACE-Baltimore District 2020) between 6 January 2020 and 29 February 2020. The field team swept the entire 8.16-acre area and excavated several exploratory trenches having dimensions 20 feet long by 2 feet deep (Figure 5). Only minor munitions debris were recovered during the study. No MEC or evidence of MEC was recovered or observed.

5.0 SCOPE AND ROLE OF RESPONSE ACTION

The AOC is not currently used for military training activities; however, the OHARNG uses the surrounding adjacent NTA for training purposes. The OHARNG projected future Land Use for RVAAP-03 ODA1 is Military Training. The Representative Receptor is the Residential Receptor for Unrestricted (Residential) Land Use. Only the Unrestricted (Residential) Land Use was evaluated fully and discussed in the HHRA because it is considered protective for all categories of Land Use at CJAG, such as Military Training Land Use. The response action evaluated Alternatives to attain Unrestricted (Residential) Land Use for soil, surface water, and sediment.

Groundwater is addressed under the Facility-Wide Groundwater Monitoring Program RVAAP-66 Facility-Wide Groundwater as a separate decision. However, the selected remedy for soil at RVAAP-03 ODA1 must also be protective of groundwater.

6.0 SUMMARY OF HUMAN AND ECOLOGICAL RISKS

6.1 Human Health Risk Assessment

A HHRA was performed during the Phase II RI (USACE 2017) to identify COCs and provide a risk management evaluation to determine if remediation is required under CERCLA based on potential risks to human receptors. The exposure media and depths evaluated in the HHRA for the Resident Receptor (Adult and Child) were surface soil (0 to 1 foot bgs) and subsurface soil (1 to 13 feet bgs). The evaluation of surface water and sediment was not necessary in the HHRA as no SRCs were identified. The Phase I RI (SAIC 2001) concluded that surface water and sediment were not impacted from RVAAP-03 ODA1 operations.

Phase I and II RI data were used to determine SRCs, Chemicals of Potential Concern (COPCs), and COCs. The final list of COPCs includes those SRCs where sample results from any depth exceeded the May 2016 USEPA Residential or Industrial RSLs for target cancer

risk level of 1×10^{-6} or non-carcinogenic target hazard quotient (HQ) of 0.1. Because the Facility-wide Cleanup Goals were not updated at the time the HHRA was written, the May 2016 Residential RSLs were used for the Resident Receptor. The determination of COPCs and COCs in the risk assessment was conducted in accordance with the *RVAAP Final Position Paper for the Application and Use of Facility-Wide Cleanup Goals* (USACE 2012) and modified to reflect changes in the Risk Assessment Technical Memo. The Unrestricted (Residential) Land Use is required under CERCLA and is outlined in the *Facility-Wide Human Health Risk Assessor Manual* (USACE 2005b).

The COPCs were determined for the Residential Receptor for expected depth of exposure; therefore, discrete and incremental sampling method (ISM) samples were considered separately. The COPCs identified for the Resident Receptor in RVAAP-03 ODA1 are presented below:

- Surface soil
 - o ISM data - Cobalt and 2,4,6-TNT
 - o Discrete data - None
- Subsurface soil
 - o Compositated discrete (ISM) data - 2,4,6-TNT
 - o Discrete data - aluminum, antimony, arsenic, cadmium, copper, lead, silver, and 2,4,6-TNT

A COPC was identified as a COC by screening its Exposure Point Concentration to the USEPA Residential RSL of 1×10^{-5} cancer risk level for carcinogenic effects and HQ equal to 1.0 for noncarcinogenic effects. The Sum of Ratios for all carcinogens and all non-carcinogens that may affect the same organ must be less than or equal to 1.0 as well. If the Sum of Ratios for all carcinogens and all non-carcinogens (that may affect the same organ or do not have a specific target organ identified) were greater than 1, then the chemicals contributing at least 10% to the sum were considered COCs.

The HHRA did not identify COCs from previous ARNG activities requiring remediation under CERCLA to be protective of the Resident Receptor.

6.2 Screening-Level Ecological Risk Assessment

The purpose of the Screening Level Ecological Risk Assessment (SLERA) performed during the Phase II RI (USACE 2017) was to evaluate the potential for adverse ecological effects posed to ecological receptors from chemical constituents detected in surface soil from RVAAP-03 ODA1. The evaluation of surface water and sediment was not necessary as the Phase I RI (SAIC 2001) deemed surface water/sediment not to be impacted as a result of historical RVAAP-03 ODA1 operations. Chemicals of Potential Ecological Concern (COPECs) are analytes whose concentrations are great enough to pose potential adverse effects to ecological receptors.

The SLERA included characterizing the ecological communities in the vicinity of the site, determining the particular contaminants present, identifying pathways for receptor exposure, and estimating the likelihood of potential adverse effects to identified receptors. Data from the ISM samples and discrete samples were analyzed separately, and not combined in the SLERA. Only surface soil (0 to 1 foot bgs sampling interval) samples were used in the SLERA because most ecological exposure occurs within the top 1 foot of soil. HQs less than 10 are considered to represent a low potential for environmental effects, HQs from 10 up to, but less than 100 are considered to represent a significant potential that effects could result from greater exposure, and HQs greater than 100 represent the highest potential for expected effects.

For the discrete samples, all five identified COPECs (cadmium, cobalt, copper, mercury, and zinc) were detected at relatively low concentrations that, with the exception of mercury, approximated their background screening values, or ecological screening values, or both. Mercury had an elevated HQ value of over 100, which is attributable to its extremely conservative ecological screening value. However, the mean concentration of mercury in discrete samples was lower than its background screening value. Also, when a more realistic ecological screening value was used, the

mercury HQ was less than one.

Similarly, although 14 chemicals were identified as COPECs (nine inorganic chemicals, two explosives compounds, three pesticides, and one SVOC) in the ISM surface soil samples, none appear to warrant further investigation for ecological purposes alone. Eight of the nine metal COPECs had HQs that did not exceed 10, which, given the conservative nature of the Level II Screening, suggests that they are not present at sufficiently high concentrations to warrant concern. The HQ for mercury exceeded 100, but this HQ is likely overestimated due to the conservative ecological screening value that was used for this SLERA. Of the six organic chemicals identified as COPECs, only 2,4,6-TNT had an HQ slightly greater than one; the other five chemicals were selected as COPECs either because they lacked an ecological screening value or because they are persistent, bioaccumulative, and toxic compounds that were detected at low concentrations below their ecological screening values. However, given their low concentrations, it is unlikely that these chemicals have the potential to cause adverse ecological effects to populations.

Because the terrestrial area evaluated for RVAAP-03 ODA1 is less than one acre in size, and the Phase II Level Screening in the SLERA uses highly conservative assumptions, it is unlikely that exposure to the surface soil COPECs identified in the SLERA would adversely impact populations of ecological receptors at RVAAP-03 ODA1. Therefore, no further investigation (e.g., Level III Baseline Ecological Risk Assessment) or removal action is considered necessary at RVAAP-03 ODA1 for the protection of ecological receptors.

7.0 CONCLUSIONS

Based on results of the Phase II RI (USACE 2017), and in particular the HHRA and the SLERA, no additional remedial actions are required for this AOC. Further investigation is not warranted for the following reasons: (1) the nature and extent of chemicals detected in the media (soil, surface water, and sediment) at the AOC has been characterized; (2) no COCs for human health were identified at the AOC; (3) the

SLERA ended at a Level II assessment and no further investigation or action was recommended; and (4) no MEC or evidence of MEC was recovered or observed in the entire 8.16-acre area. Therefore, No Further Action is required for soil, sediment, and surface water at RVAAP-03 ODA1 and Unrestricted (Residential) Land Use is attained for this AOC. Groundwater is addressed under the Facility-Wide Groundwater Monitoring Program RVAAP-66 Facility-Wide Groundwater.

This recommendation is not a final decision. The ARNG, in coordination with Ohio EPA, will select the remedy for RVAAP-03 ODA1 after reviewing and considering all comments submitted during the 30-day public comment period.

8.0 COMMUNITY PARTICIPATION

8.1 Community Participation

Public participation is an important component of the remedy selection. The ARNG, in coordination with Ohio EPA, is soliciting input from the community on the No Further Action recommendation. The comment period extends from January 1, 2021 to January 31, 2021. This period includes a public meeting at which the ARNG will present this PP. The ARNG will accept oral and written comments at this meeting.

8.2 Public Comment Period

The 30-day comment period is from January 1, 2021 to January 31, 2021 and provides an opportunity for public involvement in the decision-making process for the proposed action. The public is encouraged to review and comment on this PP. All public comments will be considered by the ARNG and Ohio EPA before selecting a remedy. During the comment period, the public is encouraged to review documents pertinent to RVAAP-03 ODA1. This information is available at the Information Repositories and online at www.rvaap.org. To obtain further information, contact Katie Tait of the CJAG Environmental Office at kathryn.s.tait.nfg@mail.mil.

8.3 Written Comments

If the public would like to comment in writing on this PP or other relevant issues, please present comments to the ARNG at the public meeting, mail written comments (postmarked no later than January 31, 2021), or email Katie Tait at kathryn.s.tait.nfg@mail.mil. A comment card is provided in Attachment 1.

POINTS OF CONTACT FOR WRITTEN COMMENTS

Mailing Address:

Camp James A. Garfield Joint Military Training Center

Environmental Office
Attn: Katie Tait
1438 State Route 534 SW
Newton Falls, Ohio 44444

Email Address:

kathryn.s.tait.nfg@mail.mil

8.4 Public Meeting

The ARNG will hold a virtual public meeting to present the proposed action in this PP on January 19, 2021, at 6:00 PM, and accept comments. This meeting will provide an opportunity for the public to comment on the proposed action. Comments made at the meeting will be transcribed. The public may participate in the meeting via the internet accessible on-line at: www.webex.com, Meeting Number: 1467193028, Password: RVAAP-03Meeting; or by phone (audio only) at: 1-833-752-1090, Meeting Number: 1467193028, Password: 78227003. Detailed instructions on how to attend the virtual public meeting are available in Attachment 2 and at <http://www.rvaap.org>.

8.5 ARNG Review of Public Comments

The ARNG will review the public's comments as part of the process in reaching a final decision for the most appropriate action to be taken. The Responsiveness Summary, a document that summarizes the ARNG's responses to comments received during the public comment period, will be included in the Record of Decision (ROD). The ARNG's final choice of action will be documented in the ROD.

ADMINISTRATIVE RECORD FILE

Camp James A. Garfield Joint Military Training Center (former Ravenna Army Ammunition Plant)

Environmental Office
1438 State Route 534 SW
Newton Falls, Ohio 44444
(614) 336-6136

Note: Access is restricted to Camp James A. Garfield, but an appointment to review the Administrative Record File can be scheduled.

INFORMATION REPOSITORIES

Reed Memorial Library

167 East Main Street
Ravenna, Ohio 44266
(330) 296-2827

Hours of operation (may vary):

9 AM-9 PM Monday-Thursday
9 AM-6 PM Friday
9 AM-5 PM Saturday
1 PM-5 PM Sunday

Newton Falls Public Library

204 South Canal Street
Newton Falls, Ohio 44444
(330) 872-1282

Hours of operation (may vary):

9 AM-8 PM Monday-Thursday
9 AM-5 PM Friday and Saturday

Online

<http://www.rvaap.org/>

GLOSSARY OF TERMS

Administrative Record: a collection of documents, typically reports and correspondence, generated during site investigation and remedial activities. Information in the Administrative Record represents the information used to select preferred Alternatives.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): a federal law passed in 1980, commonly referred to as the Superfund Program. It provides liability, compensation, cleanup, and emergency response in connection with the cleanup of inactive hazardous substance release sites that endanger public health or the environment.

Contaminant Migration Chemical of Potential Concern (CMCOPC): a chemical substance specific to an area of concern that potentially poses significant potential to leach to groundwater at a concentration above human health risks goals. CMCOPCs are typically further evaluated for remedial action.

Chemical of Concern (COC): a chemical substance specific to an area of concern that potentially poses significant human health or ecological risks. COCs are typically further evaluated for remedial action.

Chemical of Potential Concern (COPC): a chemical substance specific to an area of concern that potentially poses human health risks and requires further evaluation in the RI. COPCs are typically not evaluated for remedial action.

Chemical of Potential Ecological Concern (COPEC): a chemical substance specific to an area of concern that potentially poses ecological risks and requires further evaluation in the RI. COPECs are typically not evaluated for remedial action.

Ecological Receptor: a plant, animal, or habitat exposed to an adverse condition.

Hazard Quotient (HQ): the ratio of the potential exposure to a substance and the level at which no adverse effects are expected.

Human Receptor: a hypothetical person, based on current or potential future Land Use, who may be exposed to an adverse condition. For example, the National Guard Trainee is considered the hypothetical person when evaluating Military Training Land Use at the former RVAAP.

Munitions and Explosives of Concern (MEC): Munitions that may pose explosives safety risks, including unexploded ordnance; discarded military munitions; or munitions components

present in high enough concentrations to pose an explosive hazard.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): the set of regulations that implement CERCLA and address responses to hazardous substances and pollutants or contaminants.

Record of Decision (ROD): a legal record signed that describes the cleanup action or remedy selected for a site, the basis for selecting that remedy, public comments, and responses to comments.

Remedial Investigation (RI): CERCLA investigation that involves sampling environmental media, such as air, soil, and water, to determine the nature and extent of contamination and to calculate human health and environmental risks that result from the contamination.

Responsiveness Summary: a section of the ROD that documents and responds to written and oral comments received from the public about the Proposed Plan.

Risk Assessment: an evaluation that determines potential harmful effects, or lack thereof, posed to human health and the environment due to exposure to chemicals found at a CERCLA site.

Sum of Ratios: an approach to account for the potential additive effects from exposure to multiple chemicals or exposure to multiple chemicals that can cause the same effect (e.g., cancer) or affect the same target organ. The Sum of Ratios approach compares the chemical concentration (e.g., 95 % upper confidence limit of the mean concentration, ISM result or concentration in confirmation samples) of the COPC to the individual cleanup goal to determine a ratio.

Unrestricted (Residential) Land Use: A Land Use defined for the former RVAAP restoration that is considered protective for all three Land Uses at Camp James A. Garfield Joint Military Training Center. If an AOC meets the requirements for Unrestricted (Residential) Land Use, then the AOC can also be used for Military Training and Commercial/Industrial purposes.

REFERENCES

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USACE 2012. *Ravenna Army Ammunition Plant (RVAAP) Final Position Paper for the Application and Use of Facility-Wide Human Health Cleanup Goals*, February.

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U.S. Army Center for Health Promotion and Preventive Medicine (now known as US Army Public Health Center) 1996. *Final Preliminary Assessment for Ravenna Army Ammunition Plant, Ravenna, Ohio*, February.

U.S. Army Toxic and Hazardous Materials Agency 1980–1992. *Ravenna Army Ammunition Plan Water Quality Surveillance Program*.

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FIGURES

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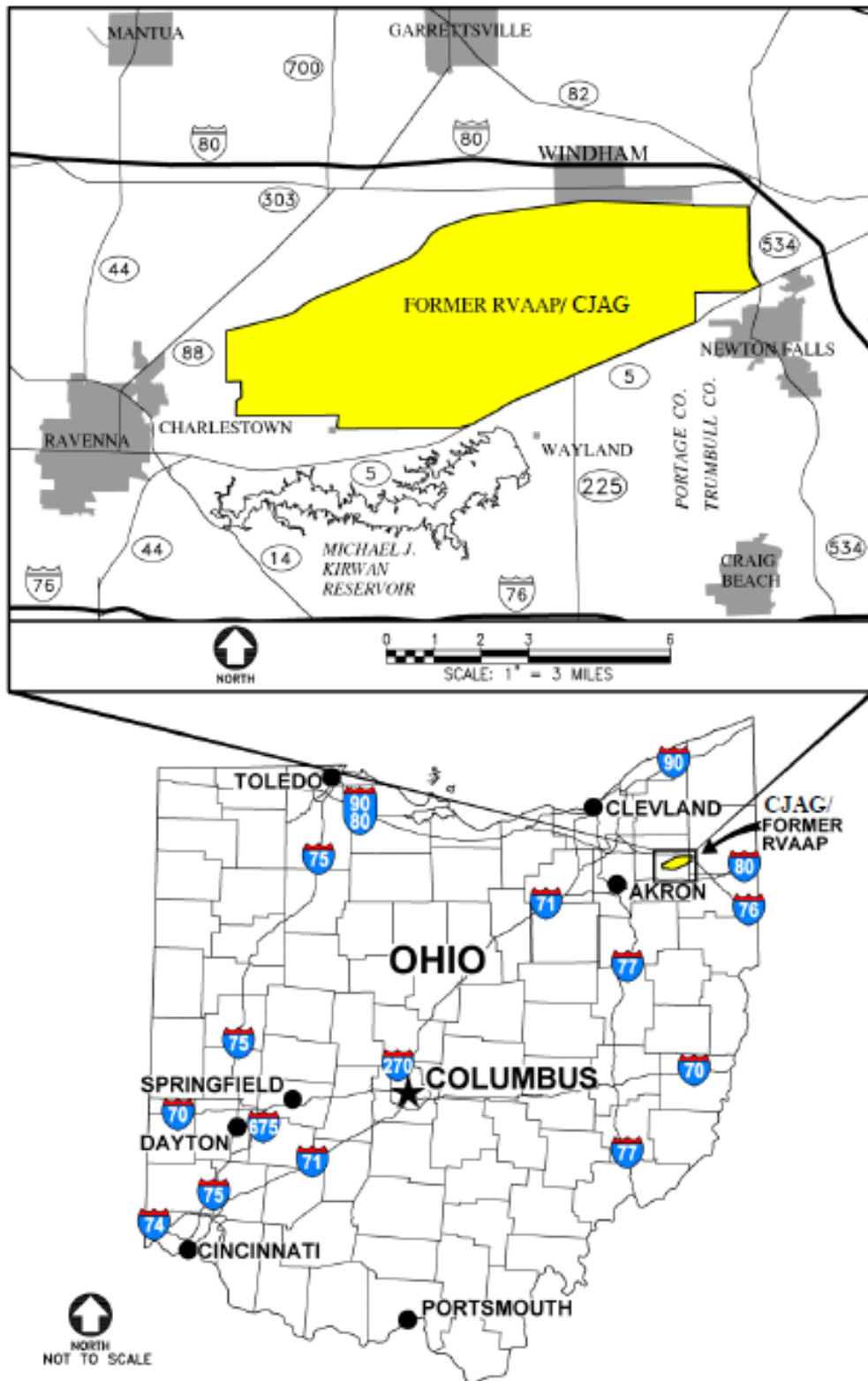


Figure 1 General Location and Orientation of Former RVAAP/Camp James A. Garfield

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Legend

- Area of Concern Fence
- Line
- Former Railroad Tracks
- Road
- Building
- Facility Property Line

3 RVAAP-03
Open Demolition Area #1

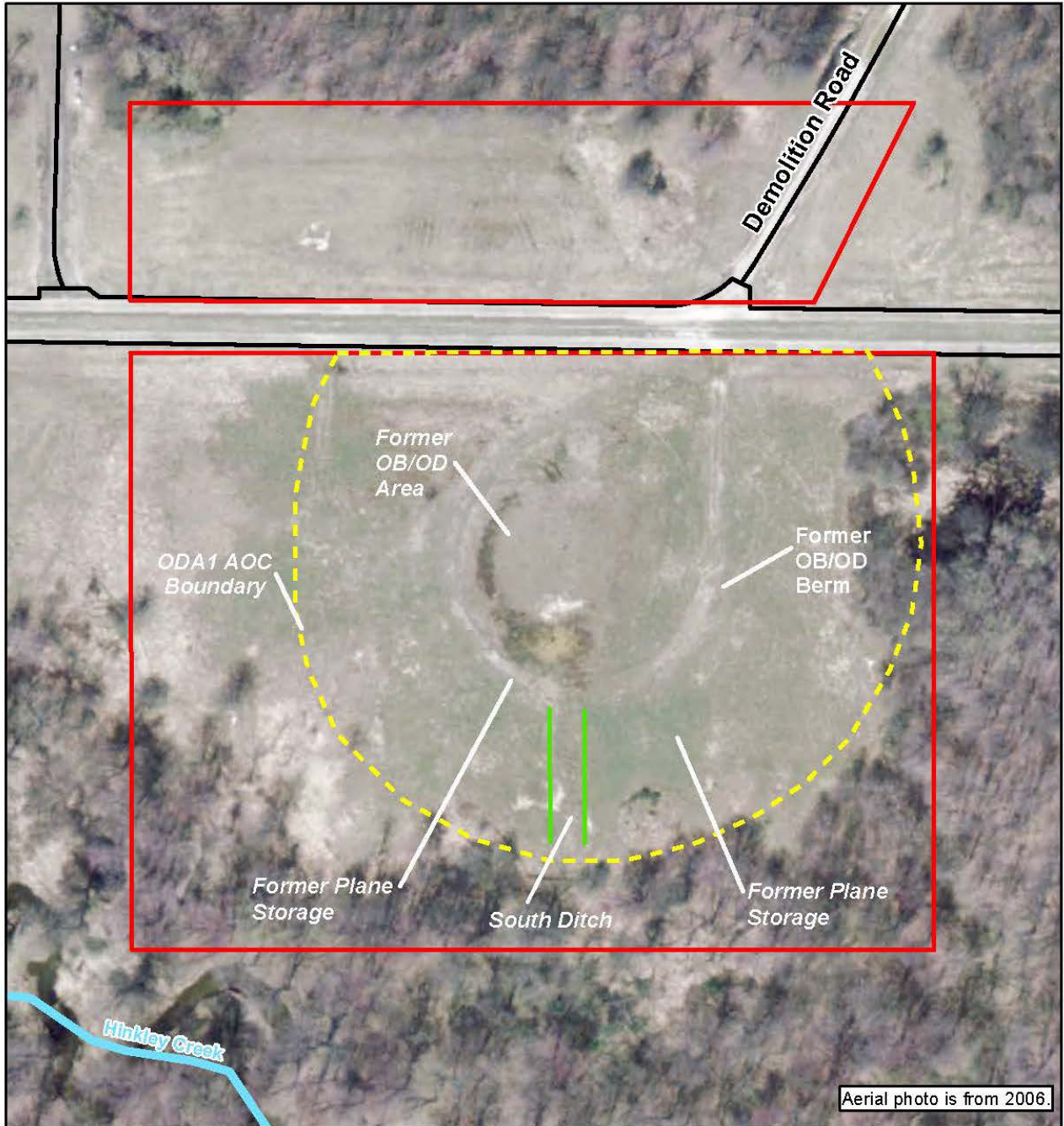
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PARSONS		Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio	
DESIGNED BY: BT	Figure 2 RVAAP-03 Open Demolition Area #1 Location Proposed Plan		
DRAWN BY: LH	SCALE: As Shown	PROJECT NUMBER: 110051.05000	
CHECKED BY: EH	DATE: June 2017	FIGURE NUMBER:	2
SUBMITTED BY: EH	FILE: Ravenna_AOC		

Figure 2 RVAAP-03 Open Demolition Area #1 Location

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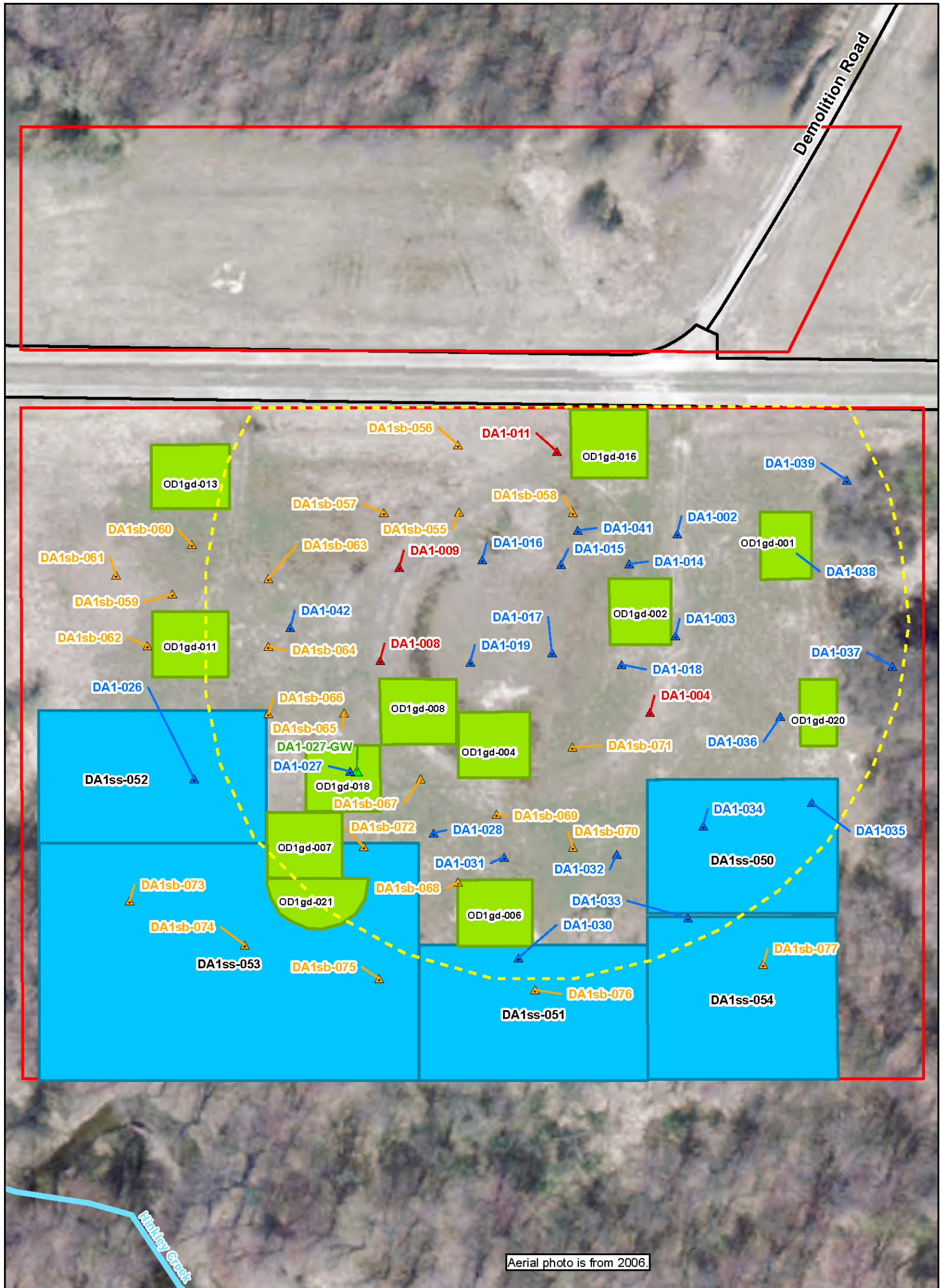


Legend Phase II RI Investigation Area ODA1 AOC Boundary Creek and Stream		PARSONS	Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio	
			DESIGNED BY: BT DRAWN BY: LH CHECKED BY: EH SUBMITTED BY: EH	RVAAP-03 Open Demolition Area #1 Site Features Proposed Plan SCALE: As Shown DATE: June 2017 FILE:

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Figure 3 RVAAP-03 Open Demolition Area #1 Site Features

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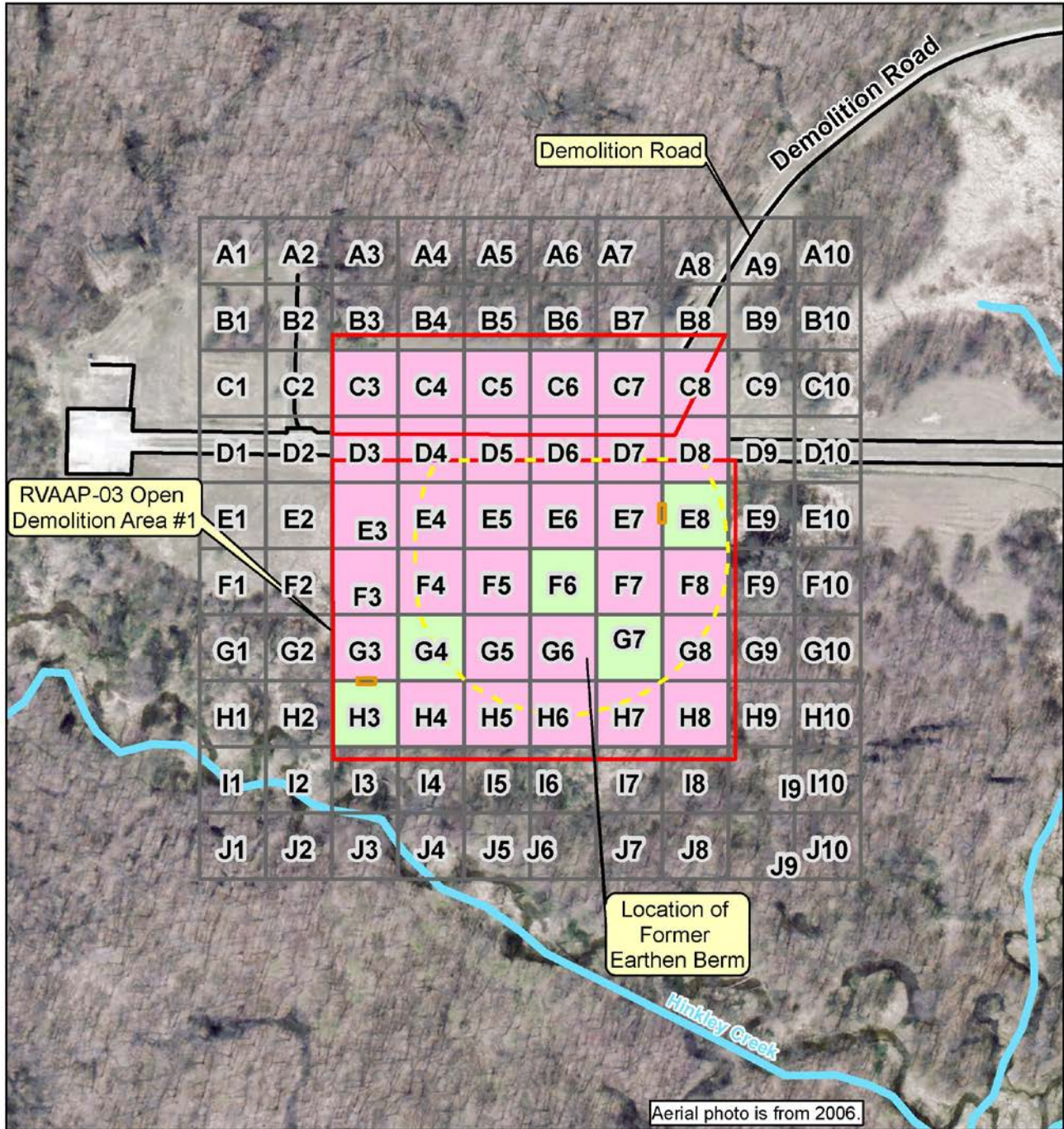


Legend - ODA1 AOC Boundary - Phase I RI Surface Soil Sample (0-1 foot bgs) - Phase I RI Surface and Subsurface Soil Sample - Phase II RI Subsurface Soil Sample - Phase I RI Surface Water and Sediment Sample - Phase I RI Geoprobe Screening Sample (Groundwater) - IRA ISM Subsurface Soil Sample - Phase II RI ISM Surface Soil Decision Unit - Creek and Stream - Phase II RI Investigation Area			PARSONS Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio
DESIGNED BY: BT DRAWN BY: LH CHECKED BY: EH SUBMITTED BY: EH	RVAAP-03 Open Demolition Area #1 Sample Locations Proposed Plan SCALE: As Shown DATE: June 2017 PROJECT NUMBER: 110051.05000 FIGURE NUMBER: 4		

S:\ES\Remed\Ravenna\database\GIS\RVAAP-03_Fig4_SampleLocation_11x17.mxd tch 7/25/2017

Figure 4 RVAAP-03 Open Demolition Area #1 Sample Locations

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Legend 		PARSONS		Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio	
		DESIGNED BY: BT DRAWN BY: LH CHECKED BY: EH SUBMITTED BY: EH		RVAAP-03 Open Demolition Area #1 MEC Verification Study Results Proposed Plan	
		SCALE: As Shown	PROJECT NUMBER: 110051.05000		FIGURE NUMBER: 5
		DATE: 10/19/2020			

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Figure 5 RVAAP-03 Open Demolition Area #1 MEC Verification Study Results

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ATTACHMENT 1 – COMMENT CARD

ATTACHMENT 2 – VIRTUAL MEETING INSTRUCTIONS

**Virtual Public Meeting for Proposed Plan
RVAAP-03 Open Demolition Area #1
Former Ravenna Army Ammunition Plant
Portage and Trumbull Counties, Ohio**

January 19, 2021 – 6:00 pm

Instructions for How to Join the Virtual Public Meeting

You can attend the meeting from a computer, tablet, or smart phone and you will be able to see the presentation slides and hear the presenter. You also have the option of calling from any phone and hearing the presenter only, but you will not be able to view the presentation slides. You do not need to sign up for a Webex account; you can simply join the meeting on any device.

To join via web browser:

www.webex.com

Meeting Number: 1467193028

Password: RVAAP-03Meeting

or install the app “Cisco Webex Meetings”

To join via phone (audio only):

Toll Free: 1-833-752-1090

Meeting Number: 1467193028

Password: 78227003

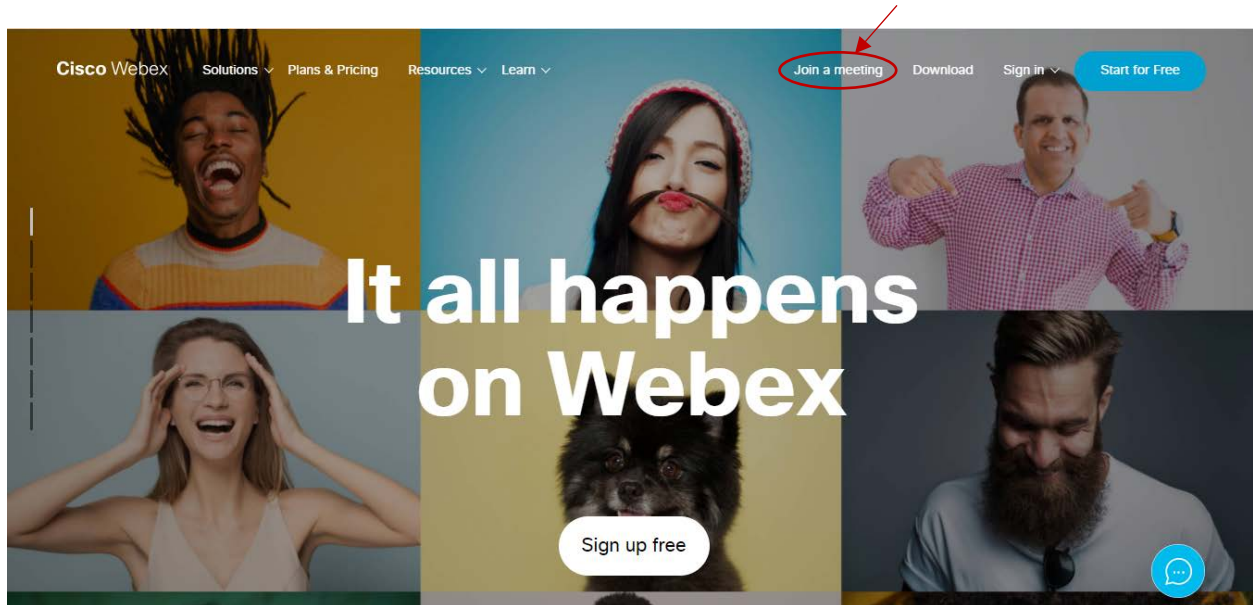
For technical assistance logging into the meeting or during the meeting please contact Janelle at 303-386-2414 or janelle.bartscherer@parsons.com

Detailed instructions with pictures below:

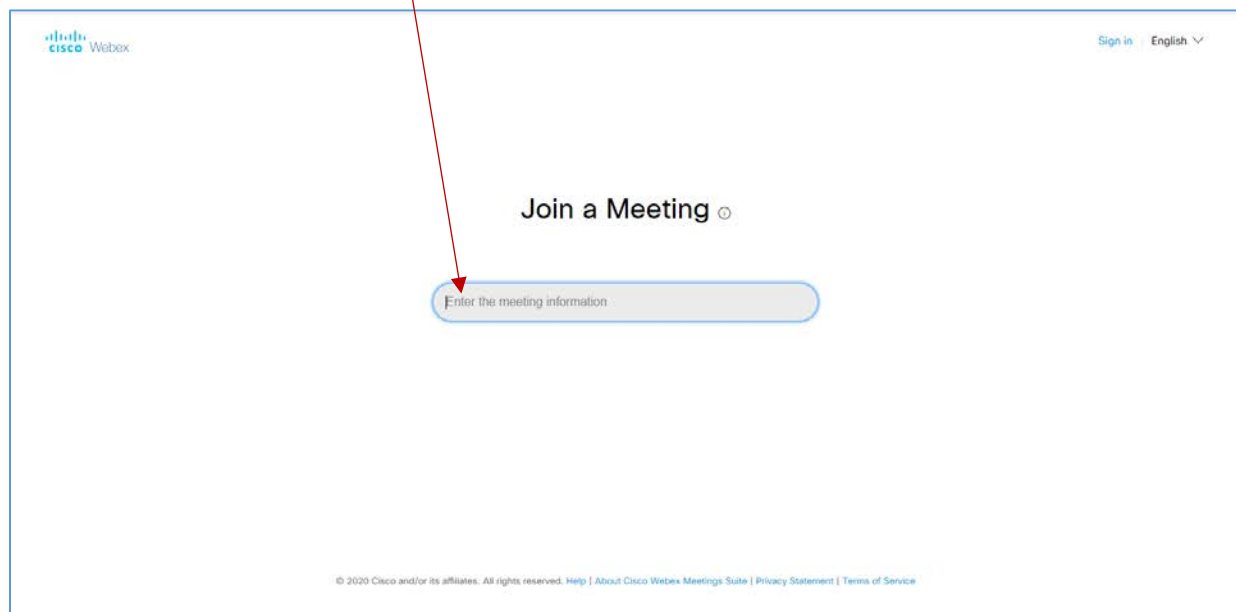
From a computer:

Go to www.webex.com

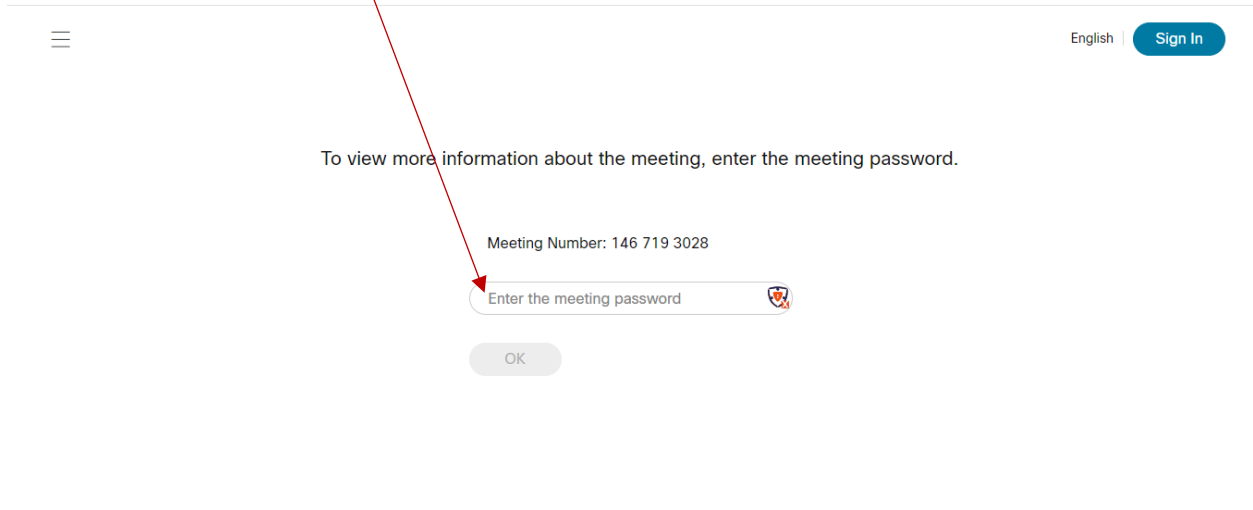
And click “Join a meeting”



Enter the meeting number: 1467193028

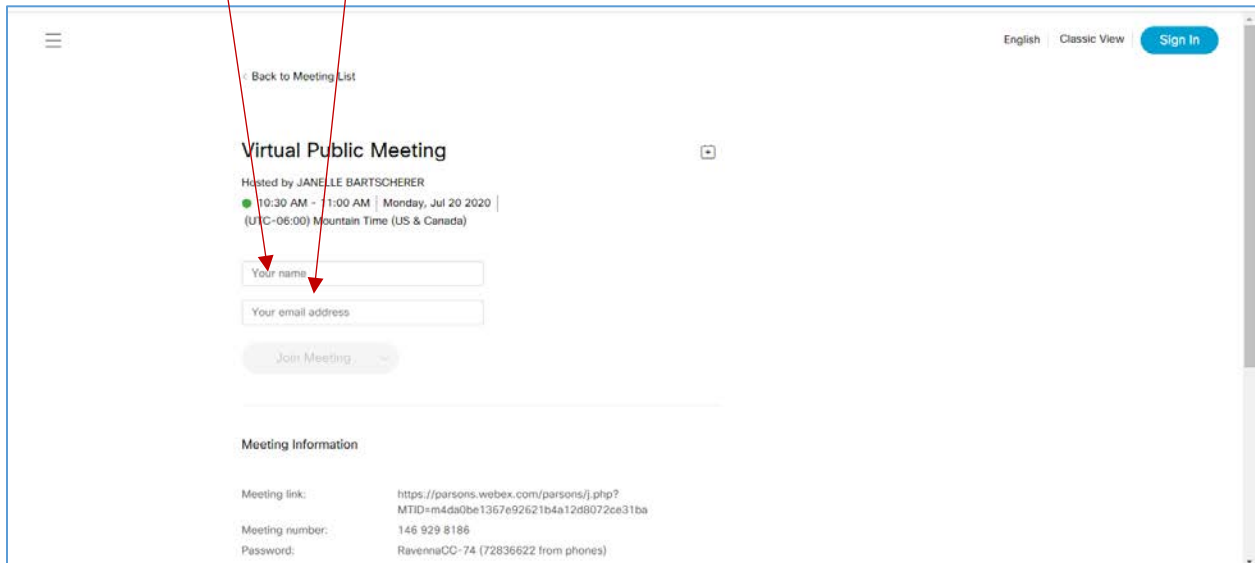


Enter the meeting password: RVAAP-03Meeting



This screenshot shows a web interface for a virtual meeting. At the top left is a hamburger menu icon. At the top right, there is a language selector set to "English" and a "Sign In" button. The main heading reads "To view more information about the meeting, enter the meeting password." Below this, the "Meeting Number: 146 719 3028" is displayed. A text input field contains the placeholder "Enter the meeting password" and has a red arrow pointing to it from the instruction above. Below the input field is an "OK" button.

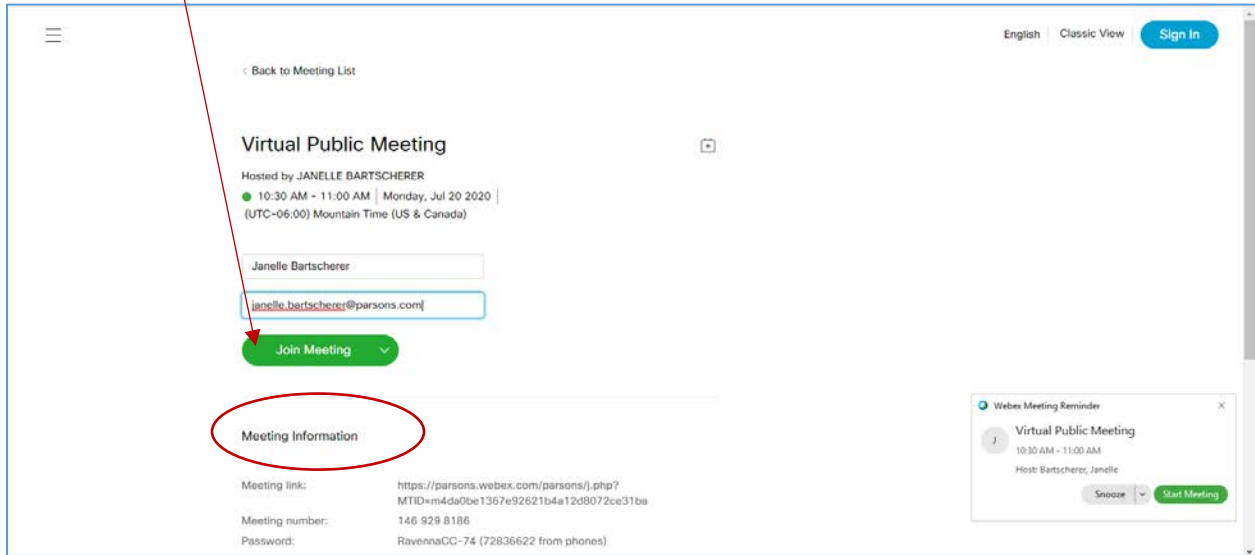
Enter your full name and email address (see example below):



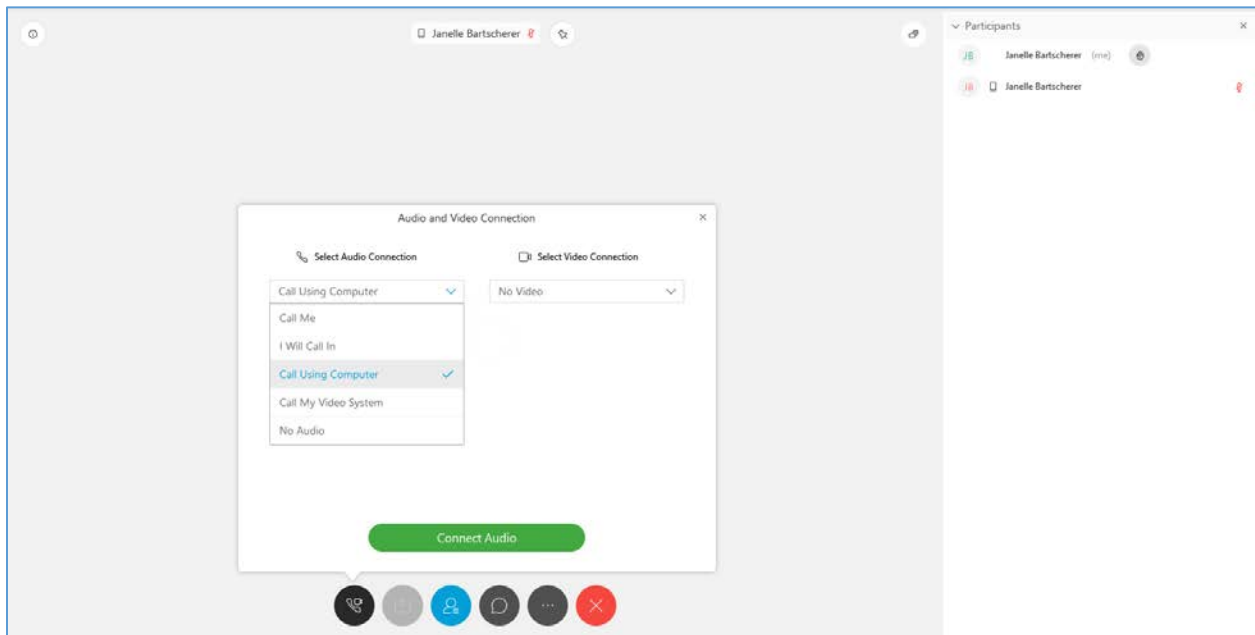
This screenshot shows a "Virtual Public Meeting" registration page. At the top left is a hamburger menu icon. At the top right, there is a language selector set to "English", a "Classic View" link, and a "Sign In" button. A link "Back to Meeting List" is visible. The main heading is "Virtual Public Meeting". Below it, the host is listed as "Hosted by JANELLE BARTSCHERER". The meeting time is "10:30 AM - 1:00 AM | Monday, Jul 20 2020" with a note "(UTC-06:00) Mountain Time (US & Canada)". There are two input fields: "Your name" and "Your email address", both with red arrows pointing to them from the instruction above. Below these fields is a "Join Meeting" button. At the bottom, there is a "Meeting Information" section with the following details:

Meeting link:	https://parsons.webex.com/parsons/j.php?MTID=m4da0be1367e92621b4a1268072ee31ba
Meeting number:	146 929 8186
Password:	RavennaCC-74 (72836622 from phones)

Click “Join Meeting”



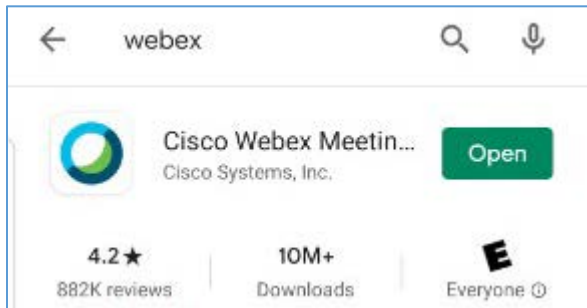
You have the option to use the computer’s speakers or headphone jack for audio by selecting “call using computer.” You also have the option to use your phone for audio either by having Webex call your phone by selecting “call me,” and you enter your phone number for it to call, or you can select “I will call in” and follow the instructions.



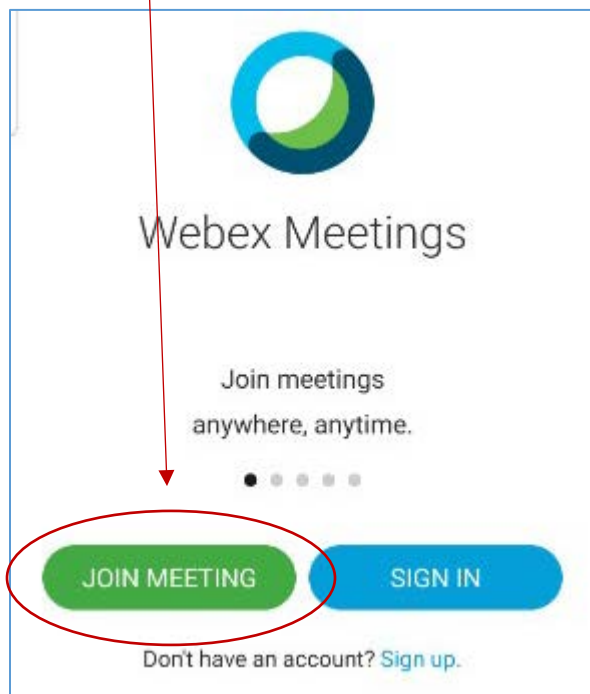
From a tablet/iPad or smartphone:

You can install the app from the app store or Google Play or you can go to www.webex.com and it will eventually lead you to install the app.

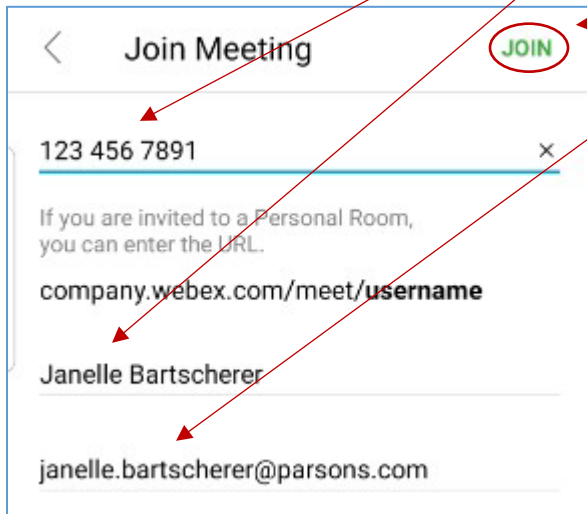
Install the app “Cisco Webex Meetings” and open it.



Click “JOIN MEETING”, you do not need to sign up or sign in.

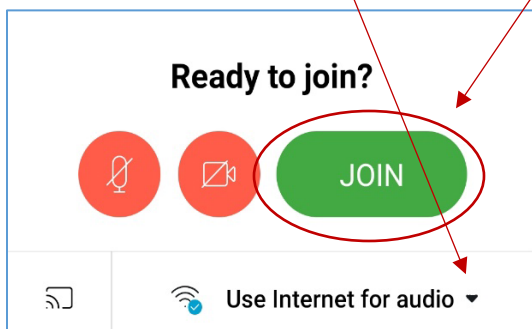


Enter the meeting number “1467193028”, your name, and your email address then click “JOIN”



When prompted, enter the Meeting Password: RVAAP-03Meeting

Select your preference for audio and click “JOIN” again



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