

Draft
No Further Action Proposed Plan
for
RVAAP-050-R-01 Atlas Scrap Yard
Munitions Response Site

Former Ravenna Army Ammunition Plant
Portage and Trumbull Counties, Ohio

Contract No. W912DR-15-D-0016
Delivery Order No. 0001

Prepared for:



US Army Corps
of Engineers®

U.S. Army Corps of Engineers
Baltimore District
10 S. Howard Street, Room 7000
Baltimore, Maryland 21201

Prepared by:
HydroGeoLogic, Inc. (HGL)
11107 Sunset Hills Road
Suite 400
Reston, Virginia 20190

June 1, 2017

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			19a. NAME OF RESPONSIBLE PERSON Kimberly Vaughn									
			19b. TELEPHONE NUMBER (Include area code) 512-828-6684									

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2

Documentation of Ohio EPA Concurrence of Final Document

3

4

(Documentation to be provided once concurrence is issued.)

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CONTRACTOR'S STATEMENT OF INDEPENDENT TECHNICAL REVIEW

HydroGeoLogic, Inc., has completed the *Draft No Further Action Proposed Plan for RVAAP-050-R-01 Atlas Scrap Yard Munitions Response Site*, 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 customer's needs consistent with law and existing United States Army Corps of Engineers policy.

Reviewed/Approved by:

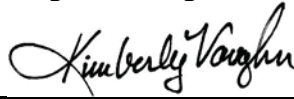
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DN: cn=Janardan J Patel, o=HGL, ou=ECD,
email=jpatel@hgl.com, c=US
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Janardan Patel, PMP
Program Manager

Date: June 1, 2017

Prepared/Approved by:



Kimberly Vaughn
Project Manager

Date: June 1, 2017

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ARNG – Army National Guard

COR – Contracting Officer's Representative

IED – Installation and Environment Division

OHARNG – Ohio Army National Guard

RVAAP – Former Ravenna Army Ammunition Plant

USACE – United States Army Corps of Engineers

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ACRONYMS AND ABBREVIATIONS

1	ARNG	Army National Guard
2	Camp Ravenna	Camp Ravenna Joint Military
3		Training Center
4	CB&I	CB&I Federal Services, LLC
5	CERCLA	Comprehensive
6		Environmental Response,
7		Compensation and Liability
8		Act
9	e ² m	Engineering-Environmental
10		Management, Inc.
11	Final Historical	
12	Records Review	<i>Final Military Munitions</i>
13		<i>Response Program Historical</i>
14		<i>Records Review, Ravenna</i>
15		<i>Army Ammunition Plant, Ohio</i>
16	Final RI Report	<i>Final Remedial Investigation</i>
17		<i>Report for RVAAP-050-R-01</i>
18		<i>Atlas Scrap Yard MRS,</i>
19		<i>Version 2.0</i>
20	Final SI Report	<i>Final Site Inspection Report,</i>
21		<i>Ravenna Army Ammunition</i>
22		<i>Plant, Ohio, Military</i>
23		<i>Munitions Response Sites</i>
24	HGL	HydroGeoLogic, Inc.
25	IRP	Installation Restoration
26		Program
27	MC	munitions constituents
28	MD	munitions debris
29	MEC	munitions and explosives of
30		concern
31	MMRP	Military Munitions Response
32		Program
33	MPPEH	material potentially presenting
34		an explosive hazard
35	MRS	munitions response site
36	NFA	No Further Action
37	Ohio EPA	Ohio Environmental
38		Protection Agency
39	RI	Remedial Investigation
40	RVAAP	Former Ravenna Army
41		Ammunitions Plant
42	SI	Site Inspection
43	TNT	trinitrotoluene
44	U.S.	United States
45	U.S. Army	Department of the Army
46	USACE	U.S. Army Corps of
47		Engineers
48	UXO	unexploded ordnance

1.0 INTRODUCTION

The United States (U.S.) Department of the Army (U.S. Army) is presenting this No Further Action (NFA) **Proposed Plan*** to involve the public in the **remedy selection process** for the RVAAP-050-R-01 Atlas Scrap Yard **Munitions Response Site (MRS)**. The former Ravenna Army Ammunition Plant (RVAAP) is located in Portage and Trumbull Counties, Ohio, as shown on **Figure 1**. The location of the Atlas Scrap Yard MRS in relation to the former RVAAP is shown on **Figure 2**.

The U.S. Army, in consultation with the Ohio Environmental Protection Agency (Ohio EPA), is the lead agency for investigating, reporting, making **remedial decisions**, and taking **remedial actions** at the former RVAAP. This NFA Proposed Plan presents the U.S. Army's preliminary recommendations for addressing the Atlas Scrap Yard MRS. Investigations indicate that **material potentially presenting an explosive hazard (MPPEH)**, **munitions and explosives of concern (MEC)**, or concentrated areas of **munitions debris (MD)** are not present at the MRS. As no MPPEH, MEC, or MD is present, there cannot be a source for **munitions constituents (MC)**. Therefore, no **explosive hazards** or MC risks to human or environmental **receptors** exist.

The U.S. Army is issuing this NFA Proposed Plan to address its public participation responsibilities under Section 117(a) of the **Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)**, as amended by the Superfund Amendments and Reauthorization Act of 1986, and Section 300.430(f)(2) of the **National Oil and Hazardous Substances Pollution Contingency Plan** (40 Code of Federal Regulations 300). Implementation of the selected remedy at the MRS will comply with the requirements of the *Director's Final Findings and Orders for RVAAP* (Ohio EPA, 2004).

* Terminology used in this Proposed Plan is defined in the Glossary found at the back of this document.

This NFA Proposed Plan summarizes information contained in the *Final Remedial Investigation Report for RVAAP-050-R-01 Atlas Scrap Yard MRS, Version 2.0* (Final **Remedial Investigation [RI]** Report) (CB&I Federal Services LLC [CB&I], 2014). The U.S. Army encourages the public to review this document to better understand the history of the MRS, activities that have been conducted there, and determinations that have been made for the MRS under the **Military Munitions Response Program (MMRP)**.

The U.S. Army, in consultation with the Ohio EPA, will review and consider all comments on this NFA Proposed Plan received during the 30-day public comment period. The public is encouraged to review and comment on all recommendations presented in this NFA Proposed Plan.

2.0 FACILITY AND MRS BACKGROUND

This section summarizes the history of the former RVAAP and of the Atlas Scrap Yard MRS.

2.1 Facility History

The former RVAAP (Federal Facility ID No. OH213820736), now known as the Camp Ravenna Joint Military Training Center (Camp Ravenna), is located in northeastern Ohio within Portage and Trumbull Counties and is approximately 3 miles east-northeast of the city of Ravenna. The federally owned facility, approximately 11 miles long and 3.5 miles wide, is bounded by a Norfolk Southern railroad line to the north; State Route 5, the Michael J. Kirwan Reservoir, and a CSX railroad line to the south; State Route 534 to the east; and Garret, McCormick, and Berry Roads to the west. The facility is surrounded by the communities of Windham, Garrettsville, Newton Falls, Charlestown, and Wayland.

Administrative control of the 21,683-acre facility was transferred to the U.S. Property and

1 Fiscal Officer for Ohio, which subsequently
2 licensed the facility to the Ohio Army National
3 Guard for use as a training site, Camp Ravenna.
4 The restoration program for the facility involves
5 the remediation of areas affected by the activities
6 of the former RVAAP.

7
8 The former RVAAP was constructed in 1940 and
9 1941 for assembly/loading and **depot storage** of
10 ammunition. While being used as an ammunition
11 plant, RVAAP was a U.S. Government-owned
12 and contractor-operated industrial facility. The
13 ammunition plant consisted of 12 munitions
14 assembly facilities, referred to as “load lines.”
15 Load Lines 1 through 4 were used to melt and
16 load 2,4,6-trinitrotoluene (TNT) and
17 Composition B (a mixture of TNT and Research
18 Department Explosive) into **large-caliber shells**
19 and bombs. Operations on the load lines produced
20 explosive dust, spills, and vapors that collected
21 on the floors and walls of each building.
22 Periodically, the floors and walls were cleaned
23 with water and steam. After cleaning, the “pink
24 water” wastewater, which contained TNT and
25 Composition B, was collected in concrete holding
26 tanks, filtered, and pumped into unlined ditches
27 for transport to **earthen settling ponds**. Load
28 Lines 5 through 11 manufactured **fuzes, primers,**
29 and **boosters**. From 1946 to 1949, Load Line 12
30 produced ammonium nitrate for explosives and
31 fertilizers; subsequently it was used as a **weapons**
32 **demilitarization facility**.

33
34 In 1950, the facility was placed on standby status,
35 and operations were limited to **renovation,**
36 **demilitarization,** normal maintenance of
37 equipment, and munitions storage. **Production**
38 activities resumed from July 1954 to October
39 1957 and again from May 1968 to August 1972.
40 Demilitarization and production activities were
41 conducted at Load Lines 1, 2, 3, and 12.
42 Demilitarization activities included
43 disassembling munitions and melting out and
44 recovering explosives using hot water and steam
45 processes. These activities continued through
46 1992.

Public Comment Period:

to

Public Meeting:

The U.S. Army will hold an open house/public meeting to explain the NFA Proposed Plan. Oral and written comments on the document will be accepted at the meeting. The open house/public meeting is scheduled for p.m. on , at the .

Information Repositories:

Information used in selecting the preferred remedy is available online at www.rvaap.org and at the following locations:

Reed Memorial Library

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

Hours of Operation:

9 a.m.–9 p.m., Monday–Thursday
9 a.m.–6 p.m., Friday
9 a.m.–5 p.m., Saturday
1 p.m.–5 p.m., Sunday

Newton Falls Public Library

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

Hours of Operation:

10 a.m.–8 p.m., Monday–Thursday
9 a.m.–5 p.m., Friday and Saturday

The **Administrative Record** File, which includes the information used to select the preferred remedy, is available for review at the following location:

Camp Ravenna Joint Military Training Center (Camp Ravenna)

Environmental Office
1438 State Route 534
Newton Falls, Ohio 44444
(330) 872-8003

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

In addition to production and demilitarization activities at the load lines, other facilities at RVAAP included areas used for the burning, demolition, and testing of munitions. These burning and demolition grounds consisted of large, open areas and abandoned quarries. Other areas of concern at the former RVAAP include landfills, an aircraft fuel tank testing area, and various industrial support and maintenance facilities (CB&I, 2014).

2.2 MRS History

The Atlas Scrap Yard MRS comprises 66.04 acres and is located in the south-central portion of the former RVAAP as shown on **Figure 2**. The MRS was originally used as a camp to house workers during the construction of the installation starting in 1940. After World War II the buildings associated with the camp were demolished. After 1969, the MRS was used as a storage area and scrap yard for nonexplosive scrap material. Debris piles of construction materials remain within the MRS as shown on **Figure 3**. Historical aerial photographs indicate that these debris piles and possible munitions stockpiles may have existed alongside the roads within the MRS.

The MRS overlaps with the RVAAP-50 area of concern being investigated under the **Installation Restoration Program (IRP)**. IRP area of concern RVAAP-50 extends slightly east and slightly south of the MRS (**Figure 3**). Soil, sediment, and groundwater contamination was identified within the IRP area of concern during a 2006 sampling event. During the sampling event, a potential MEC item was discovered in the southwest corner of the MRS; however, the type and condition of the item could not be verified. The discovery and removal of the item was documented in a removal report funded by the Joint Munitions Command, but the documentation was not provided to the U.S. Army and the reported information cannot be verified (Engineering-Environmental Management, Inc. [e²M], 2007). The RVAAP-50 boundary is shown on **Figure 3**.

Reports associated with previous investigations state that MEC and MD were sorted and removed from the Atlas Scrap Yard MRS; however, documentation verifying these removals has not been located (e²M, 2007). The munitions potentially present within the MRS include small arms, explosives, pyrotechnics, propellants, mortars, medium- and large-caliber munitions, landmines, hand grenades, flares, bombs, detonators, and fuzes.

2.3 MRS Historical Investigations

The following investigations and reports have been completed under the MMRP for the Atlas Scrap Yard MRS:

- *Final Military Munitions Response Program Historical Records Review* (Final Historical Records Review) (e²M, 2007);
- *Final Site Inspection Report* (Final Site Inspection [SI] Report) (e²M, 2008); and
- Final RI Report (CB&I, 2014).

2.3.1 Historical Records Review

The 2007 Final Historical Records Review was completed to document historical and other known information on select MRSs identified at the former RVAAP, including the Atlas Scrap Yard MRS. The Historical Records Review activities included interviews with installation personnel. Some of the interviewees stated that munitions produced or used at the former RVAAP might have been disposed of within the Atlas Scrap Yard MRS.

The Historical Records Review includes the findings of an IRP characterization study performed at the Atlas Scrap Yard in 2005. This study focused on investigating the debris stockpiles and areas associated with munitions operations. Field activities included collecting soil, sediment, surface water, and groundwater samples and excavating eight test trenches. During these activities, no MEC or MC items were identified.

The Historical Records Review describes the discovery of an unidentified MEC item in the southwest corner of the MRS during a 2006 sampling event. No supporting information

describing the type or condition of the item or its removal were provided thus the removal cannot be verified (e2M, 2007).

2.3.2 Site Inspection Summary

In 2007, SI field activities conducted under the MMRP at the former RVAAP included the Atlas Scrap Yard MRS. Recommendations were made in the Final SI Report to further investigate the MRS with respect to MPPEH contamination under the MMRP.

Investigation activities at the MRS consisted of an **instrument-assisted visual survey** along meandering paths. The surveys were conducted in the south-central section of the MRS where MEC had been reported. Additional surveys were conducted around the remaining debris piles in the northern and eastern portions of the MRS as shown on **Figure 4**.

No surface MPPEH or MD was identified during SI field activities. The presence of demolition debris limited where data could be collected. **Subsurface anomalies** were detected throughout the accessible survey area and were concentrated around the piles of debris. Instrument interference from the metal scrap in the debris piles could have been significant. Very few subsurface anomalies were recorded in the east-central portion of the MRS (e²M, 2008). After completing the fieldwork portion of the SI, the contractor performing the work, e²M, received information about a suspected 40-mm burial area located within the MRS (**Figure 4**).

2.4 Remedial Investigation Results

An RI was conducted at the Atlas Scrap Yard MRS to characterize the nature and extent of any munitions contamination potentially present within the MRS. The RI fieldwork addressed the findings of the Final Historical Records Review, the results of the SI, and the information about the suspected 40-mm burial area. Field activities included the following (**Figure 5**):

- **Digital geophysical mapping** was performed over 16.7 miles, or 6.1 acres, located throughout the project area.
- A total of 3,185 anomalies were identified for intrusive investigation. Sixty single-point

anomalies were determined to have a source on the surface and did not require excavation. Additionally, 34 anomalies could not be reacquired. A total of 3,090 items were intrusively investigated by hand digging.

- The high-density areas were investigated by trenching. Six trenches were excavated at the suspected 40-mm burial area, and 27 trenches were dug at the 14 other high density areas. A total of 12,851 pounds of other debris (not munitions related) was removed from the trenches.
- No MPPEH or MD items were found during these activities; therefore, MC sampling was not warranted.

Based on the results of the RI fieldwork, the project team concluded that the nature and extent of MPPEH and MC at the Atlas Scrap Yard MRS (**Figure 5**) has been adequately characterized. No explosive safety hazards, potential sources of MPPEH, or sources for MC were identified within the MRS. The MRS was recommended for NFA under the MMRP (CB&I, 2014).

3.0 SCOPE AND ROLE OF RESPONSE ACTION

The results of the RI fieldwork conducted at the Atlas Scrap Yard MRS support the selection of NFA as the preferred remedy for the MRS. The remedy must be protective of the receptors associated with future land use. The future land use of the MRS is military training. The likely **human receptors** for the future land use are facility personnel, contractors, occasional trespassers, and National Guard trainees. **Environmental receptors** for the future land use include terrestrial invertebrates (earthworms), voles, shrews, rabbits, robins, foxes, hawks, muskrats, ducks, minks, and benthic invertebrates (insect larvae) (CB&I, 2014).

No MPPEH or concentrated areas of MD are present, and no potential source of MC exists at the MRS. Therefore, no source material or impacted environmental media has resulted from historical U.S. munitions-related activities at the MRS.

1 The soil, sediment, and groundwater
2 contamination identified during a 2006 sampling
3 event is being addressed under the IRP. Although
4 not anticipated, if any additional hazards are
5 identified at the MRS, they would be addressed
6 under the MMRP as a separate response action.
7 No other investigations are ongoing at the MRS
8 under the MMRP.

9 **4.0 SUMMARY OF HUMAN AND** 10 **ECOLOGICAL RISKS**

11 Under the MMRP, a recommendation of NFA
12 must be protective of the human and
13 environmental receptors at the MRS. The likely
14 human receptors identified for future land use at
15 the Atlas Scrap Yard MRS are facility personnel,
16 contractors, trespassers, and National Guard
17 trainees. The likely environmental receptors
18 include terrestrial invertebrates (earthworms),
19 voles, shrews, rabbits, robins, foxes, hawks,
20 muskrats, ducks, minks, and benthic invertebrates
21 (insect larvae) (CB&I 2014).

22
23 No MPPEH is present on the MRS. Therefore, no
24 explosive safety hazard or risks associated with
25 MC exist for the likely receptors at the Atlas
26 Scrap Yard MRS.

27 **5.0 CONCLUSIONS AND** 28 **RECOMMENDATIONS**

29 The results of the RI fieldwork for the Atlas Scrap
30 Yard MRS support the determination that no
31 hazards associated with exposure to MPPEH and
32 no potential for MC risks to human or
33 environmental receptors exist at the Atlas Scrap
34 Yard MRS. The U.S. Army, in consultation with
35 the Ohio EPA, is recommending NFA as the
36 preferred remedy under the MMRP for the Atlas
37 Scrap Yard MRS.

38
39 As no risks have been identified at the MRS, the
40 overall recommendation of NFA under the
41 MMRP is protective of receptors that may be
42 present at the MRS. This recommendation is not
43 a final decision. The U.S. Army, in consultation
44 with the Ohio EPA, will select the remedy for the
45 MRS after reviewing and considering all

46 comments submitted during the 30-day public
47 comment period.

48 **6.0 COMMUNITY PARTICIPATION**

49 Public participation is an important component of
50 the remedy selection process. The U.S. Army, in
51 coordination with the Ohio EPA, is soliciting
52 input from the community on the preferred
53 remedy. The comment period extends from
54 _____ to _____. This period includes
55 a public meeting at which the U.S. Army will
56 present this NFA Proposed Plan. The U.S. Army
57 will accept oral and written comments at this
58 meeting.

59 **6.1 Public Comment Period**

60 The 30-day comment period extends from
61 _____ to _____, and provides an
62 opportunity for public involvement in the
63 decision-making process for the proposed action.
64 The public is encouraged to review and comment
65 on this NFA Proposed Plan. The U.S. Army and
66 Ohio EPA will consider all public comments
67 before selecting a remedy. During the comment
68 period, the public is also encouraged to review
69 documents pertinent to the Atlas Scrap Yard
70 MRS. This information is available at the
71 Information Repositories and online at
72 www.rvaap.org. To obtain further information,
73 contact the Camp Ravenna Environmental
74 Office.

75 **6.2 Public Meeting**

76 The U.S. Army will hold an open house/public
77 meeting on this NFA Proposed Plan on
78 _____, at _____ p.m. at
79 the _____. This meeting will
80 provide an opportunity for the public to comment
81 on the preferred remedy. Comments made at the
82 meeting will be transcribed.

83 **6.3 Written Comments**

84 If the public would like to provide comments,
85 questions, or suggestions on this NFA Proposed
86 Plan or other relevant issues in writing, they
87 should be delivered to the U.S. Army at the public
88 meeting or mailed (postmarked no later than
89 _____). The public can also submit

1 comments, questions, or suggestions before the
2 end of the comment period to the Camp Ravenna
3 Environmental Office using the following email
4 address: kathryn.s.tait.nfg@mail.mil.
5

**POINT OF CONTACT FOR
WRITTEN COMMENTS**

Camp Ravenna Environmental Office
1438 State Route 534 SW
Newton Falls, Ohio 44444

6 **6.4 U.S. Army Review of Public Comments**

7 The U.S. Army will review all public comments
8 before selecting the most appropriate action for
9 the MRS. A **Responsiveness Summary**, a
10 document that summarizes the U.S. Army's
11 responses to comments received during the public
12 comment period, will be included in the **Record**
13 **of Decision**. The U.S. Army's final choice of
14 action will be documented in the Record of
15 Decision. The Record of Decision will be added
16 to the RVAAP Administrative Record and
17 Information Repositories.

GLOSSARY OF TERMS

Administrative Control: Direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations.

Administrative Record: A collection of documents, typically reports and correspondence, generated during site investigation and remedial activities. Information in the Administrative Record is used to select the preferred remedy. It is available for public review at the Camp Ravenna Environmental Office; call (330) 872-8003 for an appointment.

Booster: A sensitive explosive charge that acts as a bridge between a (relatively weak) conventional detonator and a low-sensitivity (but typically high-energy) explosive such as TNT. By itself, the initiating detonator would not deliver sufficient energy to set off the low-sensitivity charge. However, it detonates the primary charge (the booster), which then delivers an explosive shockwave sufficient to detonate the secondary, main, high-energy charge.

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

Demilitarization: The reduction of one or more types of weapons or weapons systems.

Depot Storage: A designated location for the storage of military supplies.

Digital Geophysical Mapping: The process by which geological features are observed, analyzed, and recorded in the field and

displayed in real-time on a computer or personal digital assistant.

Discarded Military Munitions: Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include **unexploded ordnance**, military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of in a manner consistent with applicable environmental laws and regulations.

Earthen Settling Pond: An earthen structure that uses sedimentation to remove settleable matter and turbidity from wastewater.

Environmental Receptor: Any living organisms other than humans, the habitat that supports such organisms, or natural resources that could be adversely affected by environmental contaminations resulting from a release at or migration from a site.

Explosive Hazard: Any hazard containing an explosive component. Explosive hazards include unexploded explosive ordnance (including landmines), booby traps, improvised explosive devices, and bulk explosives.

Fuze: A device that detonates a munition's explosive material under specified conditions. In addition, a fuze has safety and arming mechanisms that protect users from premature or accidental detonation.

Human Receptor: Any human individual or population that is presently or will potentially be exposed to, and adversely affected by, the release or migration of contaminants.

Information Repository: A collection of documents relating to a facility with investigations and response actions under CERCLA and/or a site's permitting activity or corrective action. It includes documents and information about site activities as well as general information about environmental regulations and CERCLA. The purpose of an Information Repository is to (1) ensure open and convenient public access to site-related

GLOSSARY OF TERMS

documents and (2) better inform the public of the restoration process.

Installation Restoration Program (IRP): A comprehensive program to identify, investigate, and clean up contamination at active/operating U.S. Army installations. Eligible sites include those contaminated by past defense activities that require response under CERCLA, as amended by the Superfund Amendments and Reauthorization Act, and certain corrective actions required by the Resource Conservation and Recovery Act. The objective of the IRP is to clean up contaminated environmental impacts from past U.S. Army activities with the following goals: (1) reduce risk to acceptable levels to protect the health and safety of installation personnel and the public and (2) restore the quality of the environment. The IRP also complies with state, regional, and local requirements applicable to the cleanup of hazardous materials contamination, as well as related site safety. Community involvement activities are an integral part of the U.S. Army's IRP. Installation commanders seek community involvement early and throughout the cleanup process.

Instrument-Assisted Visual Survey: An investigation process whereby a line of unexploded ordnance technicians walks across the property in a systematic manner to identify items on the ground surface by sight or metallic items on or just below the ground surface using a magnetometer or other instrument. This approach is necessary in areas where there is vegetation that cannot be removed.

Large-Caliber Shell: A projectile or shell is a missile fired from the muzzle of a gun; it is always the projectile, whether issuing from the muzzle of a breech-loading rifle, using separate ammunition, or from the muzzle of a rapid-fire gun, using fixed, cartridge-case ammunition. Projectiles for guns of and above 7 inches in caliber are considered large-caliber.

Material Potentially Presenting an Explosive Hazard (MPPEH): Material that, prior to determination of its explosives safety status, potentially contains explosives or munitions

(e.g., munitions containers and packaging material; munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris); or potentially contains a high enough concentration of explosives such that the material presents an explosive hazard (e.g., equipment, drainage systems, holding tanks, piping, or ventilation ducts that were associated with munitions production, demilitarization, or disposal operations).

Military Munitions Response Program (MMRP): A U.S. Department of Defense program consisting of actions necessary to ensure protection of human health, welfare, and the environment from the hazards associated with MEC and MC at locations impacted by historical military activities.

Munitions Constituents (MC): Any material originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and nonexplosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions.

Munitions Debris (MD): Remnants of military munitions (e.g., fragments, penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization, or disposal.

Munitions and Explosives of Concern (MEC): A munition or explosive that may pose an explosive safety risk because it either did not function as designed, was discharged and/or abandoned, or is an explosive constituent. MEC includes unexploded ordnance, discarded military munitions, and explosive constituents of munitions present in high enough concentrations to pose an explosive hazard.

Munitions Response Site (MRS): Any area on a defense site that is known or suspected to contain MEC or MC.

National Oil and Hazardous Substances Pollution Contingency Plan: The National Oil and Hazardous Substances Pollution Contingency Plan is a collection of CERCLA regulations that provide the U.S. Government

GLOSSARY OF TERMS

the authority to respond to the problems of abandoned or uncontrolled hazardous waste disposal sites as well as to certain incidents involving hazardous wastes (e.g., spills).

Primer: A primer, also known as a blasting cap, is a small, sensitive, primary explosive device generally used to detonate a larger, more powerful and less-sensitive secondary explosive such as TNT, dynamite, or plastic explosive. Primers come in a variety of types, including nonelectric caps, electric caps, and fuse caps.

Production: The action of making or manufacturing from components or raw materials, or the process of being so manufactured.

Proposed Plan: This CERCLA document provides the public with information necessary to participate in the selection of a remedy. It is designed to solicit public comment on a preferred remedy before a Record of Decision is established.

Receptor: See human or ecological receptor.

Record of Decision: A legal record signed by the U.S. Army following coordination and concurrence with the Ohio EPA as per a June 10, 2004, agreement between the two parties. It describes the cleanup action or remedy selected for a site, the basis for selecting that remedy, public comments, responses to comments, and the estimated cost of the remedy.

Remedial Action: The actual construction or implementation phase of a CERCLA site cleanup that follows Remedial Design.

Remedial Decision: A formal, written communication from the regulating authority, that approves a site investigation, identifies the preferred remedy, and approves the remedial action, if any, at a site.

Remedial Investigation (RI): A 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.

Remedy Selection Process: A part of the CERCLA process, typically from the Proposed Plan through the Record of Decision, that involves public participation in identifying the preferred remedy. The final selection of the preferred remedy is made in the Record of Decision after taking into consideration the recommendations in the Proposed Plan and any comments received from the public during the 30-day comment period.

Renovation: The process of improving a broken, damaged, or outdated structure or piece of equipment.

Responsiveness Summary: A section of the Record of Decision where the U.S. Army documents and responds to written and oral comments received from the public about the Proposed Plan.

Subsurface Anomaly: An item seen as a subsurface irregularity (i.e., deviates from expected subsurface items such as pipes, utility lines, etc.) after geophysical investigation.

Unexploded Ordnance (UXO): Military munitions that have been primed, fuzed, armed, or otherwise prepared for action; have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and remain unexploded either by malfunction, design, or any other cause.

Weapons Demilitarization Facility: A facility or installation involved in the reduction of a nation's army, weapons, weapons systems, or military vehicles to an agreed upon minimum.

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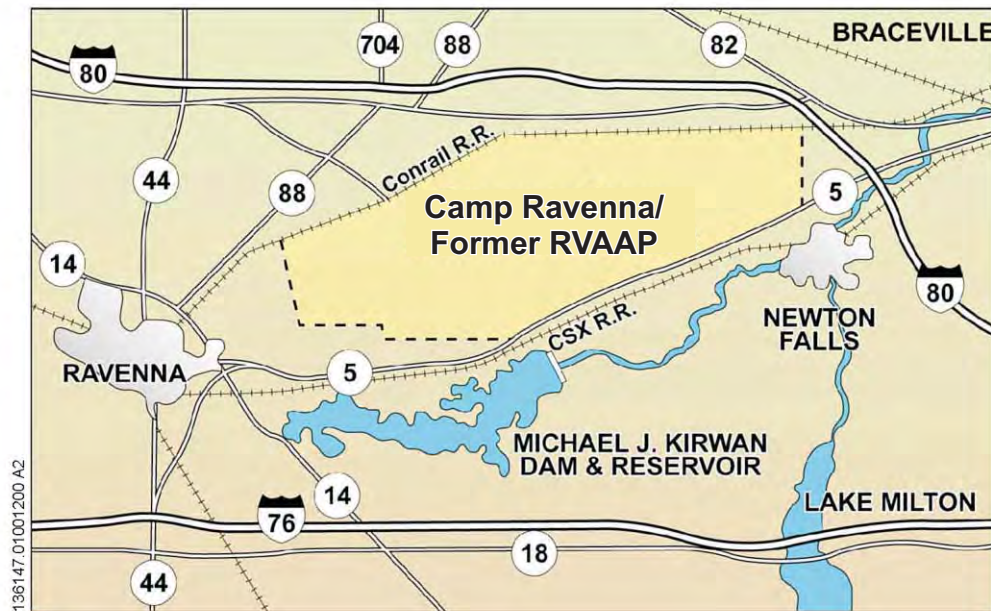
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FIGURES

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 \PP\01\Location_Map.cdr
 4/10/2017 JAR
 Source: CB&I

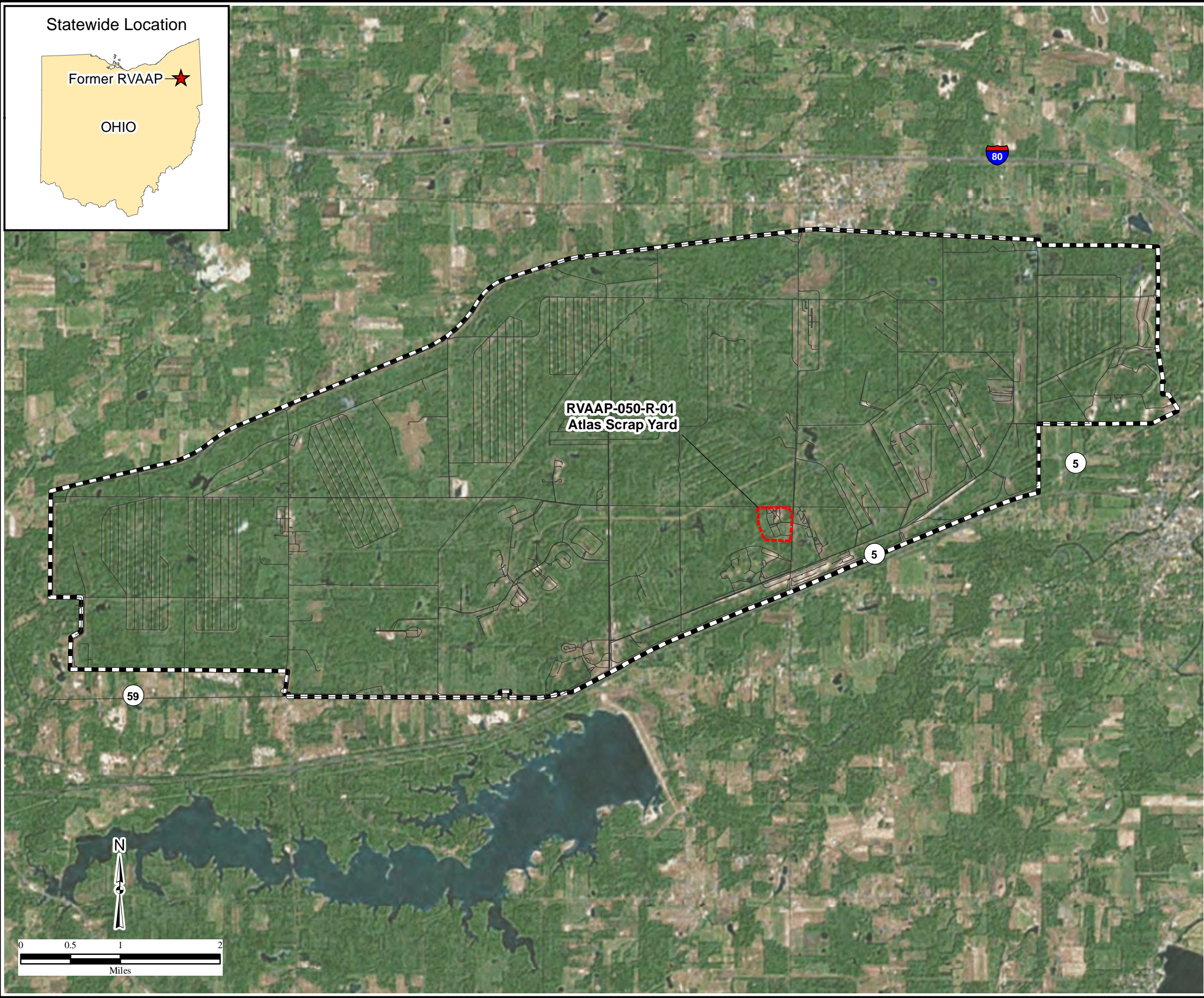


Legend

 Camp Ravenna/Former RVAAP

Figure 1
Location Map
Camp Ravenna/
Former RVAAP
Portage and Trumbull
Counties, Ohio

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HGL—No Further Action Proposed Plan
Former RVAAP, Ohio

Figure 2
MRS Location
Camp Ravenna/Former RVAAP
Portage and Trumbull Counties, Ohio

Legend

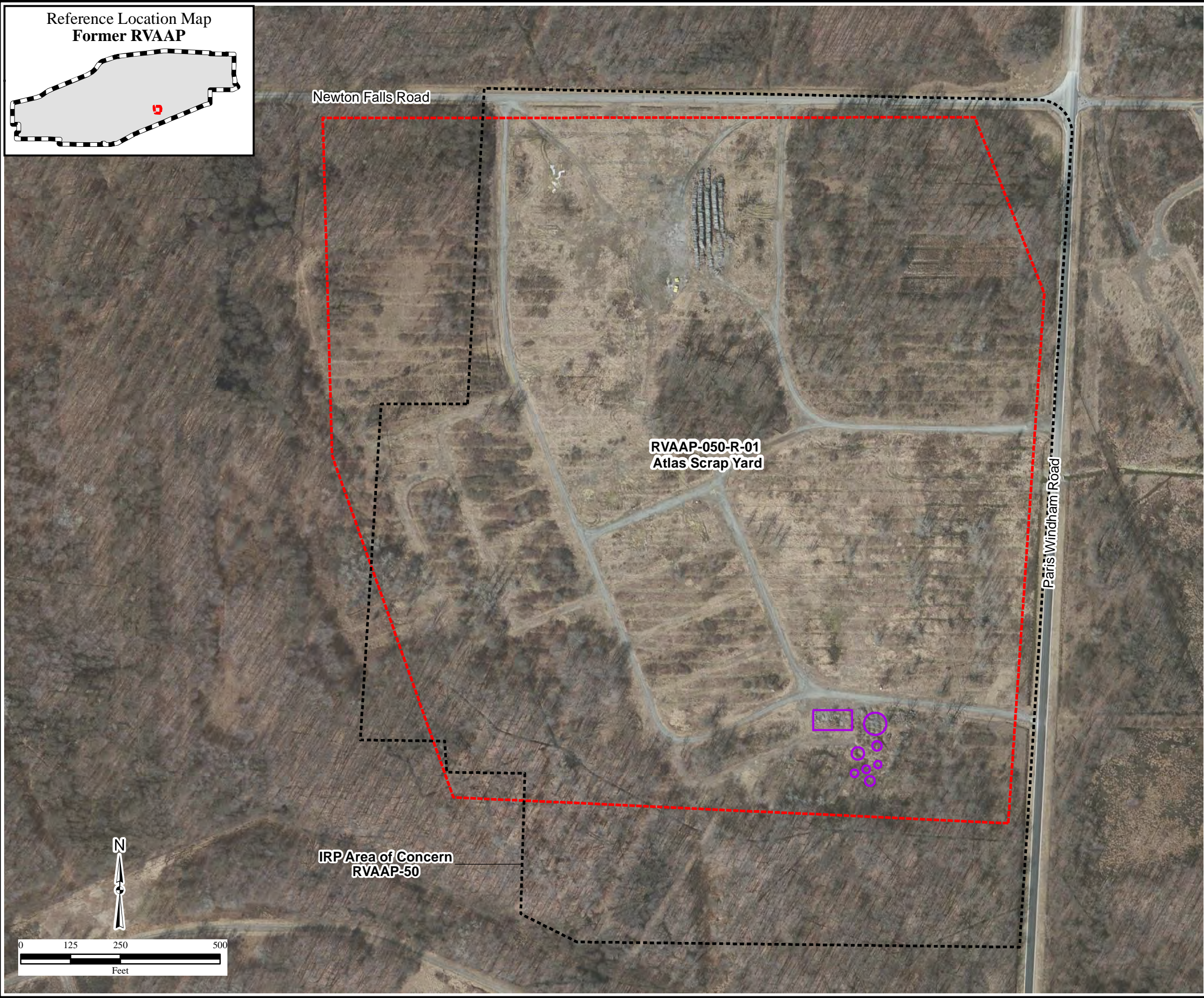
- Road
- ▭ MRS
- ▭ Installation Boundary

Notes:
MRS=munitions response site
RVAAP=Ravenna Army Ammunition Plant

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4/10/2017 JAR
Source: HGL,CB&I, USACE, e2M
ArcGIS Online Imagery







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HGL—No Further Action Proposed Plan
Former RVAAP, Ohio

Figure 3
Atlas Scrap Yard MRS Boundary
Camp Ravenna/Former RVAAP
Portage and Trumbull Counties, Ohio

Legend

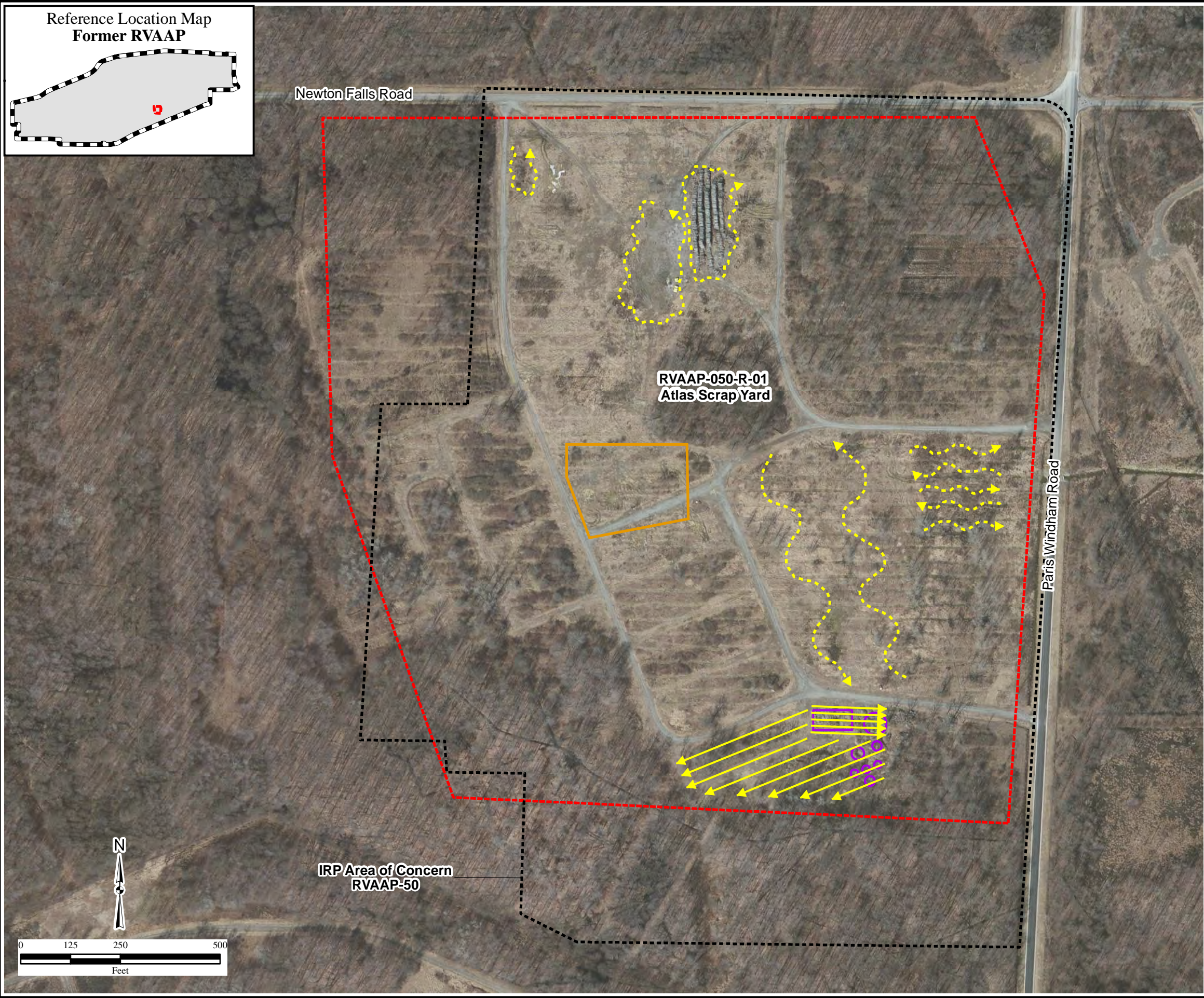
-  Former Debris Area
-  IRP Area of Concern
-  MRS
-  Installation Boundary

Notes:
IRP=Installation Restoration Program
MRS=munitions response site
RVAAP=Ravenna Army Ammunition Plant

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5/3/2017 JAR
Source: HGL, CB&I, USACE, e2M
ArcGIS Online Imagery



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HGL—No Further Action Proposed Plan
Former RVAAP, Ohio

Figure 4
Atlas Scrap Yard MRS
2008 Site Inspection Results
Camp Ravenna/Former RVAAP
Portage and Trumbull Counties, Ohio

Legend

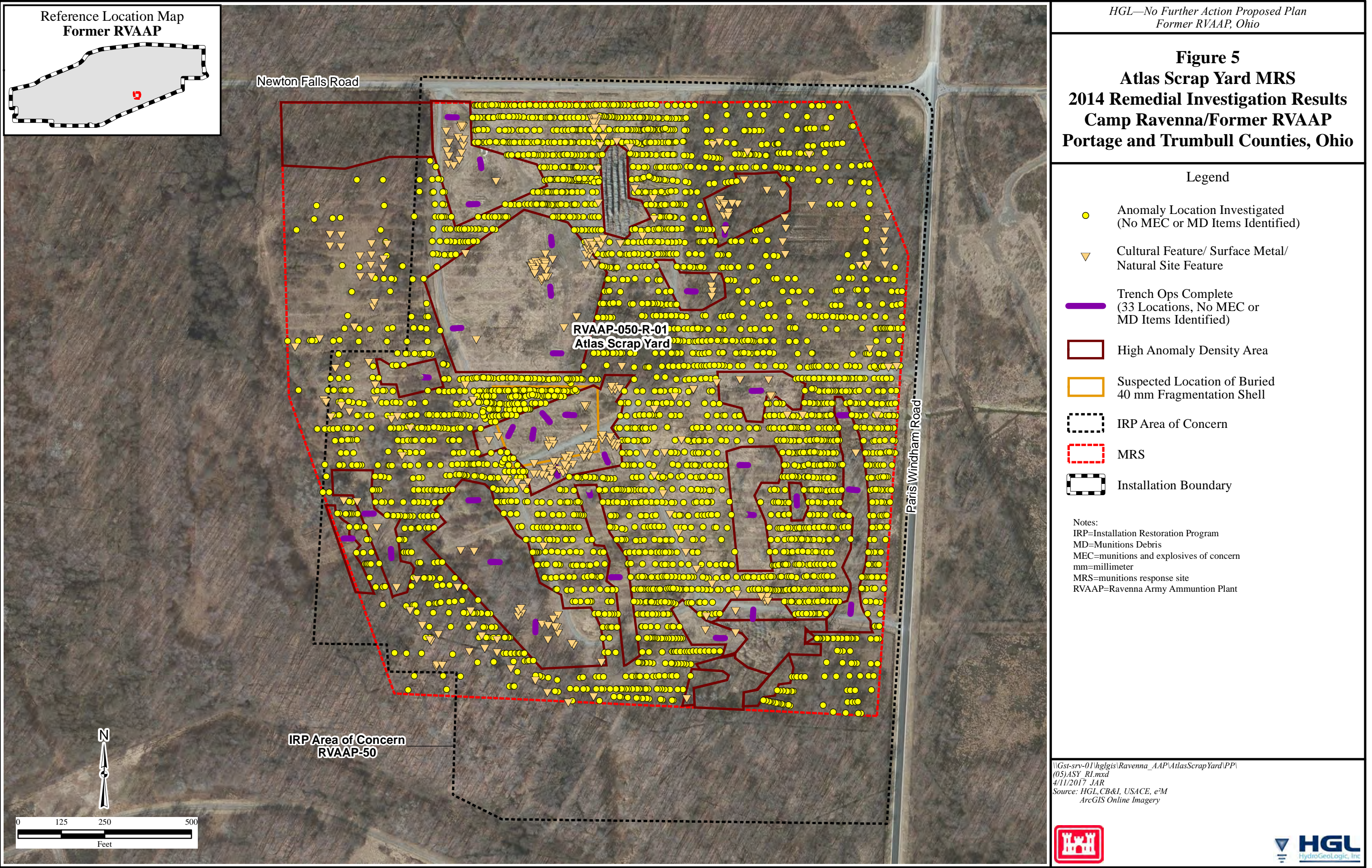
- - - - - Meandering Path Survey Transect
- — — — — Line Abreast Survey Area
- Former Debris Area
- Suspected Location of Buried 40 mm Fragmentation Shell
- IRP Area of Concern
- MRS
- Installation Boundary

Notes:
IRP=Installation Restoration Program
MRS=munitions response site
RVAAP=Ravenna Army Ammunition Plant

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5/3/2017 JAR
Source: HGL, CB&I, USACE, e2M
ArcGIS Online Imagery



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OHIO EPA CORRESPONDENCE

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