Final

Record of Decision
for Soil, Sediment, and Surface Water
at RVAAP-46 Buildings F-15 and F-16

Former Ravenna Army Ammunition Plant
Portage and Trumbull Counties, Ohio

Contract No. W912QR-15-C-0046

Prepared for:

U.S. Army Corps of Engineers
Louisville District

Prepared by:

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8866 Commons Boulevard, Suite 201
Twinsburg, Ohio 44087

February 12, 2020

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None.

14. ABSTRACT

This Record of Decision documents the selection of No Further Action (NFA) with respect to soil, sediment, and surface water to attain Unrestricted (Residential) Land Use at the Buildings F-15 and F-16 AOC. In addition, this document presents the physical characteristics, geology, and hydrogeology of the Buildings F-15 and F-16 AOC. This document also summarizes the nature and extent of contamination in soil, sediment, and surface water; contaminant fate and transport; and human health and ecological risk assessments. These evaluations indicate there are no chemicals of concern (COCs) that pose unacceptable risk.

15. SUBJECT TERMS

record of decision, no further action, land use, chemicals of concern

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
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Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

March 18, 2020

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859111

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

Subject: Final Record of Decision for Soil, Sediment and Surface Water at RVAAP-46 Buildings F-15 and F-16 at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio, Dated February 12, 2020

Dear Mr. Connolly:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the Final Record of Decision (ROD) for Soil, Sediment, and Surface Water at RVAAP-46 Buildings F-15 and F-16 at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio, Dated February 12, 2020. The report was prepared for the U.S. Army Corps of Engineers, Louisville District by Leidos.

Based on the information contained in the Final ROD document, other investigation documents and reports, and Ohio EPA's oversight participation during the investigation, Ohio EPA concurs with the Final ROD for RVAAP-46 Buildings F-15 and F-16 recommending no further action.

If you have questions concerning this letter, please contact Kevin Palombo at (330) 963-1292.

Sincerely,

Melisa Witherspoon
Chief
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CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

Leidos has completed the Record of Decision for Soil, Sediment, and Surface Water at RVAAP-46 Buildings F-15 and F-16 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 U.S. Army Corps of Engineers policy. In addition, an independent verification was performed to ensure all applicable changes were made per regulatory and Army comments.

Jed Thomas, P.E., PMP
Study/Design Team Leader

February 12, 2020
Date

Sarika Johnson
Independent Technical Review Team Leader

February 12, 2020
Date

Significant concerns and the explanation of the resolution are documented within the project file. As noted above, all concerns resulting from independent technical review of the project have been considered.

Lisa Jones-Bateman
Senior Program Manager

February 12, 2020
Date

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February 12, 2020

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Portage and Trumbull Counties, Ohio

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ARNG = Army National Guard.
I&E = Installations & Environment.
NEDO = Northeast District Office.
OHARNG = Ohio Army National Guard.
Ohio EPA = Ohio Environmental Protection Agency.
REIMS = Ravenna Environmental Information Management System.
SWDO = Southwest District Office.
USACE = U.S. Army Corps of Engineers.

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ACRONYMS AND ABBREVIATIONS

amsl	Above Mean Sea Level
AOC	Area of Concern
ARNG	Army National Guard
AT123D	Analytical Transient 1-, 2-, and 3-Dimensional Model
bgs	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CJAG	Camp James A. Garfield
CMCOPC	Contaminant Migration Chemical of Potential Concern
COC	Chemical of Concern
COPC	Chemical of Potential Concern
COPEC	Chemical of Potential Ecological Concern
ERA	Ecological Risk Assessment
EU	Exposure Unit
FWCUG	Facility-wide Cleanup Goal
FWGWMP	Facility-wide Groundwater Monitoring Program
HHRA	Human Health Risk Assessment
HQ	Hazard Quotient
IRP	Installation Restoration Program
ISM	Incremental Sampling Methodology
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
PAH	Polycyclic Aromatic Hydrocarbon
PBA08 RI	2008 Performance-based Acquisition Remedial Investigation
PCB	Polychlorinated Biphenyl
PP	Proposed Plan
RI	Remedial Investigation
ROD	Record of Decision
RSL	Regional Screening Level
RVAAP	Ravenna Army Ammunition Plant
SEMS	Superfund Enterprise Management System
SL	Screening Level
SRC	Site-related Contaminant
SVOC	Semi-volatile Organic Compound
TR	Target Risk
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USP&FO	U.S. Property and Fiscal Officer
VOC	Volatile Organic Compound

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PART I: THE DECLARATION

A SITE NAME AND LOCATION

This Record of Decision (ROD) addresses soil, sediment, and surface water at the Buildings F-15 and F-16 area of concern (AOC). The Buildings F-15 and F-16 AOC is designated as RVAAP-46 within the former Ravenna Army Ammunition Plant (RVAAP) (Figures 1 and 2).

The former RVAAP, now known as Camp James A. Garfield (CJAG), located in northeastern Ohio within Portage and Trumbull counties, is approximately 3 miles east/northeast of the city of Ravenna and 1 mile north/northwest of the city of Newton Falls. The facility is approximately 11 miles long and 3.5 miles wide. The facility is bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad to the south; Garrett, McCormick, and Berry Roads to the west; the Norfolk Southern Railroad to the north; and State Route 534 to the east. In addition, the facility is surrounded by the communities of Windham, Garrettsville, Charlestown, and Wayland. The facility is federal property, which has had multiple accountability transfers amongst multiple Army agencies, making the property ownership and transfer history complex. The most recent administrative accountability transfer occurred in September 2013 when the remaining acreage (not previously transferred) was 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 James A. Garfield).

The Buildings F-15 and F-16 AOC is located west of Block D and east of Slagle Road in the west-central portion of CJAG (Figure 2). The Superfund Enterprise Management System (SEMS) Identifier for RVAAP is OH5210020736.

B STATEMENT OF BASIS AND PURPOSE

The Army National Guard (ARNG) is the lead agency and has chosen the selected remedy for the Buildings F-15 and F-16 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 supporting state regulatory agency, concurred with the *Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-46 Buildings F-15 and F-16* (Leidos 2018) (herein referred to as the Buildings F-15 and F-16 Remedial Investigation [RI] Report) and the *Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-46 Buildings F-15 and F-16* (Leidos 2019a) (herein referred to as the Buildings F-15 and F-16 Proposed Plan [PP]). The RI Report evaluated soil, sediment, and surface water at the Buildings F-15 and F-16 AOC and recommended no further action for these media. The decision that no further action is required for soil, sediment, and surface water at the Buildings F-15 and F-16 AOC satisfies the requirements of the Ohio EPA *Director's Final Findings and Orders*, dated June 10, 2004 (Ohio EPA 2004).

C DESCRIPTION OF THE SELECTED REMEDY

No further action is necessary for soil, sediment, and surface water at the Buildings F-15 and F-16 AOC for Unrestricted (Residential) Land Use. Consequently, no further action is necessary for the future use of the site (Military Training). Groundwater at the Buildings F-15 and F-16 AOC will be addressed under future CERCLA decisions. Land use controls will not be implemented as part of this decision, as the human health risk assessment (HHRA) did not identify any chemicals of concern (COCs) that pose unacceptable risk to the Resident Receptor (Adult and Child) and the ecological risk assessment (ERA) recommended no further action.

D STATUTORY DETERMINATIONS

The recommendation of no further action for soil, sediment, and surface water is protective of human health and the environment and meets the statutory requirements for cleanup standards established in Section 121 of CERCLA. Because the HHRA did not identify any COCs that pose unacceptable risk to the Resident Receptor (Adult and Child) and the ERA recommended no further action, 5-year reviews will not be required.

E AUTHORIZING SIGNATURE

HAMMETT.ANTHONY.SCOTT.1116575562

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20 July 2020

Anthony Hammett
Colonel, U.S. Army
Chief, G9
Army National Guard

Date

PART II: DECISION SUMMARY

A SITE NAME, LOCATION, AND DESCRIPTION

When the RVAAP Installation Restoration Program (IRP) began in 1989, RVAAP (SEMS Identifier 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 IRP encompasses investigation and cleanup of past activities over the entire 21,683-acre former RVAAP.

The facility is federal property, which has had multiple accountability transfers amongst multiple Army agencies, making the property ownership and transfer history complex. The most recent administrative accountability transfer occurred in September 2013 when the remaining acreage (not previously transferred) was transferred to USP&FO for Ohio and subsequently licensed to OHARNG for use as a military training site (CJAG). ARNG is the lead agency for any remediation, decisions, and applicable cleanup at the Buildings F-15 and F-16 AOC. These activities are being funded and conducted under the IRP. Ohio EPA is the supporting state regulatory agency.

CJAG is located in northeastern Ohio within Portage and Trumbull counties, approximately 3 miles east-northeast of the city of Ravenna and approximately 1 mile northwest of the city of Newton Falls. CJAG is a parcel of property approximately 11 miles long and 3.5 miles wide, bounded by State Route 5 and the CSX System Railroad on the south; Garrett, 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). CJAG is surrounded by several communities: Windham 7 miles to the north, Garrettsville 6 miles to the north, Newton Falls 1 mile to the southeast, Charlestown 6 miles to the southwest, and Wayland 3 miles to the south.

The Buildings F-15 and F-16 AOC is located west of Block D and east of Slagle Road in the northwest part of CJAG (Figure 2) (Leidos 2018). Buildings F-15 and F-16 were used for surveillance testing on explosives and propellants and testing disassembly processes during World War II, the Korean War, and the Vietnam War (between 1941 and 1974). The number of tests conducted on miscellaneous explosives and propellants, the quantities of material tested, and the exact dates of testing are unknown. No additional information exists to indicate the AOC was used for any other processes.

The northernmost Building F-15 was separated from Building F-16 by approximately 1,000 ft. The AOC is the combined operational areas for both Buildings F-15 and F-16, which does not include the forested area between the two buildings.

The AOC is relatively flat with drainage ditches beside access roads and at the western boundary of the AOC along Slagle Road. The Building F-15 area is currently a gravel- and grass-covered clearing with dense vegetation growing on the edges of the site. Gravel-lined roads lead to the site off of Slagle Road. The Building F-16 area is densely vegetated with trees and grass, with a gravel- and grass-covered clearing located in the southeastern portion of the site. Gravel roads lead to the clearing off of Slagle Road. Railroad tracks oriented in a north-south direction are located in the eastern portion of the AOC. No fences exist around the perimeter boundary of the AOC's operational areas (Leidos 2018).

Some remnant infrastructure still remains. This infrastructure consists of the old abandoned Building U-17 (boiler house), which is in disrepair, and the associated fenced former electrical area.

Two former coal piles were located south of Buildings F-15 and F-16, respectively. These former coal piles are addressed as a separate AOC (designated as CC-RVAAP-73).

B SITE HISTORY AND ENFORCEMENT ACTIVITIES

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, percussion elements) and store finished components. Load Lines 5 through 11 produced fuzes, boosters, primers, detonators, and percussion elements.

Buildings F-15 and F-16 were used for surveillance testing on explosives and propellants and testing disassembly processes during World War II, the Korean War, and the Vietnam War (between 1941 and 1974). The number of tests conducted on miscellaneous explosives and propellants, the quantities of material tested, and the exact dates of testing are unknown. No additional information exists to indicate the AOC was used for any other processes.

Building F-15 was demolished in 2006 (MKM 2005). The exact date of the demolition of Building F-16 is unknown. The floor slabs and foundations associated with the Buildings F-15 and F-16 were removed and disposed of in 2009 (PIKA 2010). A visual survey conducted by ARNG in 2016 confirmed that all buildings and structures at the Buildings F-15 and F-16 AOC have been demolished, except for the former coal powered boiler house (Building U-17).

The survey also noted that ceramic insulators and metal debris were observed south of the old abandoned Building U-17 in an adjacent fenced area that is most likely the location of the former electrical equipment area. In addition, an old metal platform (in place) and wooden debris were located north of former Building F-15. Several debris piles, including corrugated metal, concrete, brick, asphalt, and wood, also were observed throughout the AOC. The debris piles and metal platform and wooden debris were removed and properly disposed of in November 2018. The ceramic insulators and metal debris associated with Building U-17 will be removed and properly disposed of when Building U-17 is demolished.

C COMMUNITY PARTICIPATION

Using the RVAAP community relations program, ARNG and Ohio EPA have interacted with the public through public notices, 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 two to three times per year and are open to the public.

- **Community Relations Plan –** The *Community Relations Plan* (Chenega 2019) is maintained to establish processes to keep the public informed of activities at RVAAP. The plan is available in the Administrative Record at CJAG.
- **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 the NCP Section 300.430(f)(2), ARNG released the Buildings F-15 and F-16 PP (Leidos 2019a) to the public on July 29, 2019. The PP and other project-related documents were made available to the public in the Administrative Record maintained at CJAG 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 radio stations, television stations, and newspapers (e.g., *Warren Tribune-Chronicle, Ravenna Record Courier*), as specified in the Community Relations Plan. The notice of availability initiated the 30-day public comment period beginning July 29, 2019 and ending August 27, 2019.

ARNG held a public meeting on August 15, 2019, at the Shearer Community Center, 9355 Newton Falls Road, Ravenna, Ohio 44266 to present the PP. At this meeting, representatives of ARNG provided information and were available to answer any questions. A transcript of the public meeting is available to the public and has been included in the Administrative Record. Responses to any verbal comments received at this meeting and written comments received during the public notification period are included in the Responsiveness Summary, which is Part III of this ROD.

ARNG considered public input from the public meeting on the PP when selecting the remedy.

D SCOPE AND ROLE OF RESPONSE ACTIONS

The overall program goal of the IRP at the former RVAAP is to clean up previously contaminated lands to reduce contamination to concentrations that are not anticipated to cause risks to human health or the environment.

This ROD addresses soil, sediment, and surface water at the Buildings F-15 and F-16 AOC. The HHRA did not identify any COCs that pose unacceptable risk to the Resident Receptor (Adult and Child), and the ERA recommended no further action. Therefore, these media are already protective for Unrestricted (Residential) Land Use, and the program goal of the IRP at the former RVAAP has been met for the Buildings F-15 and F-16 AOC.

Potential impacts to groundwater from soil (e.g., contaminant leaching) were evaluated in the Buildings F-15 and F-16 RI Report (Leidos 2018), as protectiveness to groundwater was included in the fate and transport analysis. However, groundwater will be evaluated as an individual AOC for the entire facility (designated as RVAAP-66) under the Facility-wide Groundwater Monitoring Program (FWGWMP).

E SITE CHARACTERISTICS

This section presents site characteristics, nature and extent of contamination, and the conceptual site model for the Buildings F-15 and F-16 AOC. These characteristics and findings are based on investigations conducted from 1978–2016 and are further summarized in the Buildings F-15 and F-16 RI Report (Leidos 2018).

E.1 Physical Characteristics

This section describes the topography/physiology, geology, hydrogeology, and ecological characteristics of CJAG and the Buildings F-15 and F-16 AOC that were key factors in identifying the potential contaminant transport pathways, receptor populations, and exposure scenarios to evaluate human health and ecological risks.

E.1.1 Topography/Physiography

The topography of CJAG is gently undulating with an overall decrease in ground elevation from a topographic high of approximately 1,220 ft above mean sea level (amsl) in the far western portion of the facility to low areas at approximately 930 ft amsl in the far eastern portion. The U.S. Army Corps of Engineers (USACE) mapped the facility topography in February 1998 using a 2-ft contour interval with an accuracy of 0.02 ft. USACE based the topographic information on aerial photographs taken during the spring of 1997. The USACE survey is the basis for the topographical information illustrated in figures included in this ROD.

The Buildings F-15 and F-16 AOC is located west of Block D and east of Slagle Rd in the northwestern part of CJAG (Figure 2). An unnamed tributary to Sand Creek is southeast of the AOC. The areas surrounding the AOC are forested except for the clearing that defines the AOC operational area. No fences exist around the perimeter boundary of the AOC operational areas.

The site features for the Buildings F-15 and F-16 AOC are shown in Figure 3. All buildings, except a former coal-powered boiler house (Building U-17), have been demolished. Building slabs and footers have been removed. The remaining surface features at the Buildings F-15 and F-16 AOC consist of the access roads within the AOC; the abandoned Building U-17; and a fenced area south of Building U-17, which was most likely a former electrical equipment area.

Soil near former production buildings was extensively disturbed during building demolition activities. The work areas were re-graded; cavities were filled with stockpiled soil, as needed; and the area was vegetated following the building decontamination and demolition activities.

Topographic relief at the AOC is low. A local topographic high is between former Buildings F-15 and F-16 and slopes downward to the northwest and southeast. Small drainage ditches border some portions of the access roads, and drainage conveyances are located throughout the AOC boundary. The topography within the AOC ranges from approximately 1,120 ft amsl near the southern and northern boundaries of the AOC to 1,130 ft amsl in the center of the AOC (Figure 3). Surface water follows

topographic relief and drains into ditches that exit the AOC. Surface runoff from the Building F-15 operational area flows overland to the northwest to a tributary to Eagle Creek. Surface runoff from the Building F-16 operational area flows overland to the southeast to a tributary to Sand Creek.

E.1.2 Geology

The Buildings F-15 and F-16 AOC soil is in the Hiram till soil group (Figure 4) and is made up of two soil types: Mahoning silt loams (0–2% and 2–6% slopes), which is present over 90% of the AOC, with the remaining 10% being the Trumbull silt loam (TrA). Mahoning silt loam is a gently sloping, poorly drained soil formed in silty clay loam or clay loam glacial till, generally where bedrock is greater than 6 ft below ground surface (bgs). The Mahoning silt loam has low permeability, with rapid runoff and seasonal wetness. The Trumbull silt loam is gently sloping, very poorly drained soil formed in silty clay loam glacial till, generally where bedrock is greater than 6 ft bgs. Trumbull silt loam is generally found in topographic lows (USDA 2010, Leidos 2018).

Bedrock (shale) was encountered at the AOC from 30–37 ft bgs during groundwater well installation activities at Buildings U-17 and U-18 in the 1940s. Bedrock was not encountered during Performance-based Acquisition 2008 Remedial Investigation (PBA08 RI) activities where subsurface borings were drilled to a maximum depth of 13 ft bgs. The bedrock formation is the Pennsylvanian-age Pottsville Formation, Sharon Member Shale (Figure 5).

Groundwater was encountered from 4.8 ft bgs in soil borings placed in ditches to approximately 10.8 ft bgs in soil borings at the Building F-16 operational area. Groundwater was not encountered in any subsurface soil borings at the Building F-15 operational area.

Two undisturbed geotechnical samples were collected from the Building F-16 operational area during the PBA08 RI. The geotechnical samples collected from 4–5 ft bgs and 8–8.8 ft bgs were characterized as clayey silt with some sand with 5.3–6.4% gravel, 20.1–28.4% sand, 44.1–45.8% silt, and 21.2–28.9% clay.

E.1.3 Hydrogeology

No monitoring wells are present at the AOC. During the PBA08 RI, the nearest downgradient facility-wide monitoring well was BKGmw-019, located approximately 2,500 ft to the south on Road 10-X-7. Monitoring well BKGmw-019 is completed in the unconsolidated zone to a depth of 33.18 ft bgs (1,075.06 ft amsl).

Two 6-inch groundwater wells were installed in the 1940s at Buildings U-17 and U-18 (identified as wells #84 and #83, respectively). Water depth at these wells was at 13.25 and 12.7 ft bgs, respectively. These wells have been abandoned.

The potentiometric surface of the unconsolidated aquifer at CJAG is shown in Figure 6. The general groundwater flow direction across most of the AOC is to the east-southeast based on the 2018 facility-wide potentiometric surface map (Leidos 2019b).

E.1.4 Ecology

The Buildings F-15 and F-16 AOC has few aquatic resources. There are no streams or ponds at the AOC, and surface water or sediment at the AOC is currently limited to the wetland along the eastern edge of the Building F-15 exposure unit (EU).

An original characterization of the site was conducted using aerial photography. This initial survey identified two predominant vegetation types, which were confirmed by 2008 and 2010 field surveys (Figure 7). The Building F-15 EU is dominated by red maple (*Acer rubrum)* successional forest, and the Building F-16 EU (about 800 ft south of Building F-15) consists of dry, late-successional, cold-deciduous shrubland. Along with the predominant vegetation types, a small amount of dry, early-successional herbaceous field habitat is mapped in the northeastern corner of the Building F-15 EU, and a small amount of mixed cold-deciduous successional forest is mapped in the southwestern corner of the Building F-16 EU (Figure 7). Herbaceous field habitat and cold-deciduous, successional forest were limited in extent within the AOC boundaries. The addition of dry, early-successional herbaceous field habitat is a result of an expansion of the Building F-15 EU AOC boundary rather than changes in the habitat observed from 1999–2010. The shrubland habitat within the Building F-16 EU is in the early stages of replacing herbaceous habitat. In the absence of mowing and other disturbances, the shrub community is likely to continue expanding.

Biologists judged the habitats at the AOC to be healthy and functioning, based on the October 2008 observations. Functional habitat was determined by noting the absence of large bare spots and dead vegetation or other obvious visual signs of an unhealthy ecosystem.

The northern long-eared bat (*Myotis septentrionalis*; endangered species) exists at CJAG. No other federally listed species exist and no critical habitat occurs on CJAG. The AOC has not been previously surveyed for federally or state-listed species; however, no sightings of state-listed, federally listed, threatened, or endangered species have been documented at the AOC (OHARNG 2014).

E.2 Site Investigations

In 1978, the U.S. Army Toxic and Hazardous Materials Agency conducted an Installation Assessment of RVAAP to review the potential for contaminant releases at multiple former operations areas, as documented in *Installation Assessment of Ravenna Army Ammunition Plant* (USATHAMA 1978). No samples were collected at the Buildings F-15 or F-16 AOC during this review. The review did, however, indicate that the site may have been impacted by pervious historical operations. In 1998, the U.S. Army Center for Health Promotion and Preventative Medicine completed the Relative Risk Site Evaluation for Newly Added Sites (USACHPPM 1998). This report documented the collection of surface soil and sediment samples from the AOC. Several inorganic chemicals were detected in these samples (USACHPPM 1998).

Since 1978, the Buildings F-15 and F-16 AOC has been included in various historical assessments and investigations conducted at the former RVAAP. The following environmental investigations have been completed for the Buildings F-15 and F-16 AOC:

- Installation Assessment of Ravenna Army Ammunition Plant (USATHAMA 1978),
- Relative Risk Site Evaluation for Newly Added Sites (USACHPPM 1998),
- 2004 Characterization of 14 AOCs (MKM 2007),
- 2009 USACE Incremental Sampling Methodology (ISM) Surface Soil Sampling (Prudent 2011),
- 2009 Under Slab Sampling (URS 2010), and
- 2010 PBA08 RI (Leidos 2018).

The results of the PBA08 RI sampling were combined with applicable results of previous sampling events to evaluate the nature and extent of contamination, examine contaminant fate and transport, and conduct risk assessments, as summarized in the Buildings F-15 and F-16 RI Report (Leidos 2018).

E.3 Nature and Extent of Contamination

Analytical results from the 2004 Characterization of 14 AOCs (MKM 2007), 2009 USACE ISM Surface Soil Sampling (Prudent 2011), 2009 Under Slab Sampling (URS 2010), and 2010 PBA08 RI (Leidos 2018) effectively characterized the nature and extent of contamination at the AOC. Figure 8 presents the RI sample locations (Leidos 2018). To support the evaluation of nature and extent of contamination, site-related contaminant (SRC) concentrations were compared to screening levels (SLs) corresponding to the lowest facility-wide cleanup goal (FWCUG) for the Resident Receptor (Adult and Child) and National Guard Trainee at a target hazard quotient (HQ) of 0.1 or target risk (TR) of 1E-06, as presented in the *Facility-wide Human Health Cleanup Goals for the Ravenna Army Ammunition Plant, Ravenna, Ohio* (USACE 2010).

Based on previous information and the summary below, it can be concluded that the vertical and horizontal extent of contamination is defined, and no further sampling is needed to evaluate the Buildings F-15 and F-16 AOC.

E.3.1 Soil

No explosives were detected in Building F-15 surface or subsurface soil samples. One propellant (nitrocellulose) was detected in ISM soil sample (F15ss-006M) at a concentration below the SL. No propellants were detected in the subsurface soil samples. Arsenic and cobalt were the only two inorganic chemicals to exceed their background concentrations and FWCUGs of an HQ of 0.1 or TR of 1E-06 in surface soil. No propellants were detected in subsurface soil samples. Arsenic exceeded the background concentration of 15.4 mg/kg in two of the 2004 Characterization of 14 AOCs ISM surface samples (F15ss-005M and F15ss-011M) and was not detected above background in subsurface soil samples.

One location (F15ss-036M at 0.48 mg/kg) had slightly exceeded the benzo(a)pyrene Resident Receptor (Adult and Child) FWCUG at an HQ of 1, TR of 1E-05 (0.221 mg/kg). PAH concentrations detected across the entire AOC were generally higher in samples collected from low-lying areas and ditches bordering Slagle Road and parking areas. Polycyclic aromatic hydrocarbons (PAHs) were identified as potential contaminants from previous site use at Building U-17 that was formerly used as a coal-powered boiler house; however, concentrations in surface soil at this former building location were less than SLs.

Polychlorinated biphenyls (PCBs) were not detected in surface or subsurface soil. Furthermore, volatile organic compounds (VOCs) and pesticides were not detected in surface or subsurface soil, which is consistent with the historical record that shows they were not previously used at the AOC.

No explosives were detected at the Building F-16 aggregate surface or discrete subsurface soil samples. One explosive, 2,6-dinitrotoulene, was detected below its SL in the discrete surface soil sample collected at F16sb-021. Two propellants (nitrocellulose and nitroglycerin) were detected in two ISM surface soil samples (F16ss-026M and F16ss-005M), at concentrations below their respective SLs; therefore, nitrocellulose and nitroglycerin were not considered chemicals of potential concern (COPCs). No propellants were detected in subsurface soil samples.

Arsenic, cobalt, manganese, and thallium were the only four inorganic chemicals to exceed their background concentration and FWCUGs of an HQ of 0.1 or TR of 1E-06 in surface soil around Building F-16. Cobalt and thallium did not exceed the FWCUGs of an HQ of 1 or TR of 1E-05 and were not detected in subsurface soil samples. Arsenic exceeded the background concentration of 15.4 mg/kg in the 2004 Characterization of 14 AOCs ISM surface sample F16ss-004M (18 mg/kg) and in PBA08 RI sample F16sb-021 (31.3 mg/kg). Arsenic exceeded the background concentration of 19.8 mg/kg in subsurface soil at F16sb-021 (24.3J mg/kg from 4–7 ft bgs). Evaluation of the vertical extent at F16sb-021 indicated a potential decreasing concentration profile of 24.3J mg/kg from 4–7 ft bgs and 11.3J mg/kg from 7–13 ft bgs. Manganese was detected above the background concentration (1,450 mg/kg) and FWCUG at an HQ of 1, TR of 1E-05 (2,927 mg/kg) in only one of the two surface soil samples with a concentration of 2,140 mg/kg at PBA08 RI location F16sb-022. The concentrations of manganese in all subsurface samples collected at these locations were below the SL.

Benzo(a)pyrene and benzo(b)fluoranthene, the only PAHs detected above their SLs, were detected below the FWCUG at an HQ of 1, TR of 1E-05 in all surface soil samples at the Building F-16 aggregate. PAHs were not detected in subsurface soil samples. PAHs were identified as potential contaminants because of previous site use at Buildings U-18, which was formerly used as a coal-powered boiler house; however, concentrations in surface soil at this former building location were less than the SLs.

Although no previous use of VOCs or pesticides were documented at Building F-16, chloroform was detected at PBA08 RI surface sample location F16ss-026M at a concentration of 0.00068J mg/kg. Pesticides (4,4′-DDE and 4,4′-DDT) also were detected in one of two surface samples in the RI dataset at 2004 Characterization of 14 AOCs ISM sample F16ss-005M at concentrations of 0.012J and 0.019J mg/kg, respectively. PCB-1260 was detected in surface soil sample F16ss-005M at a

concentration of 0.12 mg/kg. No VOCs, PCBs, or pesticides were detected in subsurface soil samples collected at the Building F-16 aggregate. In addition, the detected VOC, pesticide, and PCB concentrations in surface soil were all below the FWCUGs at an HQ of 1, TR of 1E-05.

E.3.2 Sediment and Surface Water

Sediment and surface water are not considered media of concern at the Buildings F-15 and F-16 AOC, as surface water is only intermittent at the AOC. However, during the 2004 Characterization of 14 AOCs, two ISM sediment samples (F16sd-001M-SD and F16sd-002M-SD) were collected (Leidos 2018). Sample F16sd-001M-SD was collected from the former coal storage area immediately south of former Building F-16, and the sampling and results are summarized below:

- Only explosives and metals analyses were performed.
- No explosives were detected.
- No metal concentrations exceeded the lowest FWCUG for the Resident Receptor (Adult and Child) and National Guard Trainee at a target HQ of 1 or TR of 1E-05.

Sample F16sd-002M-SD was collected downstream from the Building F-16 aggregate in the unnamed tributary to Sand Creek, and the sampling and results are summarized below:

- Only explosives and metals analyses were performed.
- No explosives were detected.
- Cobalt at a concentration of 11 mg/kg was the only metal that exceeded the lowest FWCUG for the Resident Receptor (Adult and Child) and National Guard Trainee at a target HQ of 0.1 (2.3 mg/kg) but not at an HQ of 1 (23 mg/kg).

Two surface water samples (F16sw-001 and F16sw-002) were collected and analyzed for the RVAAP full-suite analytes. Surface water sample F16sw-002 was collected downstream from the Building F-16 aggregate in the unnamed tributary to Sand Creek. All of the concentrations from this sample were below their background concentration or the lowest FWCUG for the Resident Receptor (Adult and Child) and National Guard Trainee at a target HQ of 1 or TR of 1E-05.

Surface water sample F16sw-001 was collected from the former coal storage area immediately south of former Building F-16. Effectively, this was a sample from accumulated, ponded water. The metal, semi-volatile organic compound (SVOC), VOC, PCB, and pesticide concentrations were either non-detectable or had a concentration below the lowest FWCUG for the Resident Receptor (Adult and Child) and National Guard Trainee at a target HQ of 1 or TR of 1E-05. Nitroglycerin at 0.0021 mg/L exceeded the tap water RSL of 0.0002 mg/L at an HQ of 0.1 and 0.002 mg/kg at an HQ of 1.

E.4 Conceptual Site Model

Conceptual site model elements are discussed in this section, including primary and secondary contaminant sources and release mechanisms, contaminant migration pathways and discharge or exit points, potential receptors of risk, and data gaps and uncertainties.

E.4.1 Primary and Secondary Contaminant Sources and Release Mechanisms

No primary contaminant sources (e.g., operational facilities) were located at the AOC. All buildings were demolished from 2007–2009 with the exception of Building U-17. Demolition included removing all slabs and foundations. Although Building U-17 currently exists at the AOC, the building is not considered a primary contaminant source. Remnant contamination in soil and sediment within the AOC is considered a secondary source of contamination.

The occurrence and distribution of inorganic SRCs above background concentrations in surface soil is generally widespread, and notable spatial patterns are not evident for most SRCs. The highest number of inorganic SRCs above background concentrations at an individual sample location near former Building F-15 occurred at PBA08 RI sample F15ss-035M, located in a ditch line south of an access road connecting Slagle Road to the Building F-15 parking lot. For areas proximate to former Building F-16, the highest number of inorganic SRCs above background concentrations and the greatest number detected at their maximum concentration was observed at historical sample location F16ss-007M, located west of the former Building F-16 and in the ditch line immediately adjacent to the parking lot in front of the building.

Perennial surface water and corresponding sediment are not present at the AOC. However, off-AOC samples in an unnamed tributary to Sand Creek and an intermittent pond south of Building F-16 are included in the nature and extent of contamination evaluation. The historical surface water samples did not indicate that contaminant transport beyond the boundaries of the AOC is occurring in sediment or surface water.

The primary mechanisms for release of chemicals from secondary sources at the AOC are:

- Eroding soil matrices with sorbed chemicals and mobilization in overland surface water storm runoff during heavy rainfall conditions,
- Dissolving soluble chemicals and transport in perennial surface water conveyances and intermittent surface water runoff, and
- Contaminant leaching to groundwater.

E.4.2 Contaminant Migration Pathways and Exit Points

The potential for soil contaminants to impact groundwater was evaluated in a fate and transport evaluation presented in the Buildings F-15 and F-16 RI Report (Leidos 2018). Contaminants in surface soil may migrate to surface water via drainage ditches in the dissolved phase following a storm event, or as particulates in storm water runoff.

Maximum SRC concentrations identified in surface soil and subsurface soil were evaluated using a series of generic screening steps to identify initial contaminant migration chemicals of potential concern (CMCOPCs). These CMCOPCs for soil were further evaluated using the Seasonal Soil Compartment model to predict leaching concentrations and identify final CMCOPCs based on facility-wide background criteria and the lowest risk-based screening criteria among U.S. Environmental Protection

Agency (USEPA) maximum contaminant levels, USEPA tap water regional screening levels (RSLs), or groundwater FWCUGs for the Resident Receptor Adult. Final CMCOPCs were evaluated using the Analytical Transient 1-, 2-, and 3-Dimensional (AT123D) model to predict groundwater mixing concentrations beneath source areas and concentrations at the nearest downgradient groundwater receptor to the AOC (e.g., stream). The AT123D modeling results were evaluated with respect to AOC groundwater monitoring data, as well as model limitations and assumptions, to identify chemicals to be retained as CMCOCs. Inorganic and organic SRCs exist in surface soil and subsurface soil at the Buildings F-15 and F-16 AOC. These SRCs include chemicals that were identified as potential contaminants from previous site usage and chemicals that were identified from the SRC screening process using available data. All SRCs were further evaluated to determine if residual concentrations in soil may potentially impact groundwater quality and warrant evaluation in a Feasibility Study.

Conclusions from the soil and screening, leachate modeling, and groundwater modeling are as follows:

- Naphthalene in Building F-15 soil was predicted to exceed the screening criteria in groundwater beneath the source area; however, it was not predicted to exceed the screening criteria in groundwater at the downgradient receptor location.
- Selenium and nitroglycerin in Building F-16 soil were predicted to exceed the screening criteria in groundwater beneath the source area; however, neither of these constituents was predicted to exceed the screening criteria in groundwater at the downgradient receptor location.
- Naphthalene at Building F-16 was predicted to exceed the screening criteria in groundwater beneath the source area and slightly above the criteria at the downgradient receptor location using conservative assumptions.

All SRCs identified in surface soil and subsurface soil at the Buildings F-15 and F-16 AOC were evaluated through the step-wise fate and transport evaluation. A qualitative assessment of the sample results was performed, and the limitations and assumptions of the models were considered to identify if any CMCOCs are present in soil at the Buildings F-15 and F-16 AOC that may potentially impact groundwater at the AOC. This qualitative assessment concluded that CMCOCs are not expected to adversely impact groundwater quality at this site. No further action is required for soil to be protective of groundwater (Leidos 2018). Groundwater will be further evaluated under the FWGWMP.

E.4.3 Potential Human Receptors and Ecological Resources

In February 2014, the Army and Ohio EPA amended the risk assessment process to address changes in the RVAAP restoration program. The *Final Technical Memorandum: Land Uses and Revised Risk Assessment Process for the RVAAP Installation Restoration Program* (ARNG 2014) identified the following three Categorical Land Uses and Representative Receptors to be considered during the RI phase of the CERCLA process:

1. Unrestricted (Residential) Land Use – Resident Receptor (Adult and Child) (formerly called Resident Farmer).
2. Military Training Land Use – National Guard Trainee.
3. Commercial/Industrial Land Use – Industrial Receptor (USEPA Composite Worker).

An evaluation using Resident Receptor (Adult and Child) FWCUGs was used to provide an Unrestricted (Residential) Land Use evaluation. Unrestricted (Residential) Land Use is considered protective for all categories of land use at CJAG. Additional human health receptors associated with CJAG are the National Guard Trainee and Industrial Receptor. No COCs were identified as requiring remediation to be protective for the Resident Receptor or Unrestricted (Residential) Land Use. The receptor is assumed to be exposed to surface soil from 0–1 ft bgs and subsurface soil from 1–13 bgs.

The Level I Scoping Level Risk Assessment presented important ecological resources on or near the AOC and evaluated the potential for current contamination to impact ecological resources at the Buildings F-15 and F-16 AOC. Eighteen integrated soil chemicals of potential ecological concern (COPECs) were detected at the AOC. Although a small portion of a wetland is present (an important ecological resource), the soil sampling results in and around the wetland do not indicate that chemicals are present at concentrations of concern for ecological receptors. Thus, there are no significant ecological resources at the AOC. Further, the vegetation types are found elsewhere near the AOC, at CJAG, and in the ecoregion. Per guidance from Ohio EPA, sufficient justification exists to recommend that no further action is required to be protective of important ecological resources at the Buildings F-15 and F-16 AOC (Leidos 2018).

Groundwater is not considered an exposure medium for ecological receptors on the AOC given its depth and occurrence within bedrock, and no discharge points (e.g., springs, seeps) are located at the AOC that would represent potential exposure points.

F CURRENT AND POTENTIAL FUTURE LAND USES

The Buildings F-15 and F-16 AOC is currently managed by ARNG/OHARNG. The AOC is not currently being utilized for training purposes. The future use of the Buildings F-15 and F-16 AOC is Military Training. The Resident Receptor (Adult and Child) was evaluated in the HHRA to assess an Unrestricted (Residential) Land Use scenario. This ROD discusses future land use as it pertains to soil, sediment, and surface water, and how it impacts human health, the environment, and groundwater.

G SUMMARY OF SITE RISKS

The HHRA and ERA estimated risks to human receptors and ecological resources; identified exposure pathways; identified COCs and COPECs, if any; and provided a basis for remedial decisions. This section of the ROD summarizes the results of the HHRA and ERA, which are presented in detail in the Buildings F-15 and F-16 RI Report (Leidos 2018), which is located in the Administrative Record and Information Repositories.

G.1 Human Health Risk Assessment

The HHRA did not identify any COCs that pose unacceptable risk to the Resident Receptor (Adult and Child). Because no unacceptable risk to the Resident Receptor exists, it can be concluded that there is no unacceptable risk to the National Guard Trainee and Industrial Receptor.

Media of concern at the Buildings F-15 and F-16 AOC are surface soil and subsurface soil. Soil data associated with the Buildings F-15 and F-16 AOC were aggregated into surface and subsurface soil at Buildings F-15 and F-16.

No COCs were identified for the Resident Receptor (Adult and Child) in any of the media of concern; therefore, no other receptors were evaluated, and no further action is recommended from a human health risk perspective.

G.2 Ecological Risk Assessment

The habitat area evaluated for the Buildings F-15 and F-16 AOC is approximately 5.3 acres and is vegetated with dry, early-successional, herbaceous field; dry, late-successional, cold-deciduous shrubland; *Acer rubrum* successional forest; mixed, cold-deciduous, successional forest; and a wetland. These same types of habitats are found adjacent to the AOC and elsewhere at CJAG (OHARNG 2014). The habitats are also found in the larger, local ecoregion that surrounds CJAG (USFS 2011). Thus, no known unique resource exists at the AOC (Leidos 2018).

The wetland in the AOC is considered an important resource. Soil sampling was conducted around the wetland, and no contamination was found. This led to the determination that it was not a significant resource.

The vegetation provides a habitat for birds, mammals, insects, and other organisms that typically require approximately 1 acre of habitat. The northern long-eared bat (*Myotis septentrionalis*; federally threatened) exists at CJAG. No other federally listed species or critical habitats are found on CJAG. The AOC has not been previously surveyed for federally listed or state-listed species; therefore, no sightings of state-listed, federally listed, threatened, or endangered species have been documented at the AOC (OHARNG 2014).

Accordingly, although contamination exists at the AOC and an important ecological resource is present, the AOC has no known significant ecological places or resources. Consequently, the ERA for the Buildings F-15 and F-16 AOC concluded with a Level I Scoping Level Risk Assessment, with the recommendation that no further action is required to be protective of important ecological resources (Leidos 2018).

H DOCUMENTATION OF NO SIGNIFICANT CHANGE

The Buildings F-15 and F-16 PP (Leidos 2019a) was released for public comment on July 29, 2019. The PP recommended no further action for soil, sediment, and surface water at the Buildings F-15 and F-16 AOC. After the public comment period, no significant changes were necessary or appropriate following the conclusion of the public comment period.

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PART III: RESPONSIVENESS SUMMARY FOR PUBLIC COMMENTS ON THE PROPOSED PLAN FOR RVAAP-46 BUILDINGS F-15 AND F-16

A OVERVIEW

On July 29, 2019, ARNG released the Buildings F-15 and F-16 PP (Leidos 2019a) for public comment. A 30-day public comment period was held from July 29, 2019 to August 27, 2019. ARNG hosted a public meeting on August 15, 2019 to present the PP and take questions and comments from the public for the record. This public comment period and public meeting also included PPs for Landfill North of Winklepeck Burning Grounds and NACA Test Area.

For soil, surface water, and sediment at the Buildings F-15 and F-16 AOC, ARNG recommended no further action. During the public meeting, Ohio EPA concurred with the recommendation of no further action. Comments provided during the public comment period and public meeting are summarized in the following section.

The community voiced no objections to the no further action recommendation. All public input was considered during the selection of the final remedy for soil, surface water, and sediment at the Buildings F-15 and F-16 AOC in this ROD.

B SUMMARY OF PUBLIC COMMENTS AND LEAD AGENCY RESPONSES

The following subsections summarize the oral and written comments provided during the public comment period and public meeting.

B.1 Oral Comments from Public Meeting

No oral comments were received during the public meeting or public comment period.

B.2 Written Comments

No written comments were received during the public comment period.

C TECHNICAL AND LEGAL ISSUES

Technical or legal issues were not raised during the public comment period.

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PART IV: REFERENCES

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FIGURES

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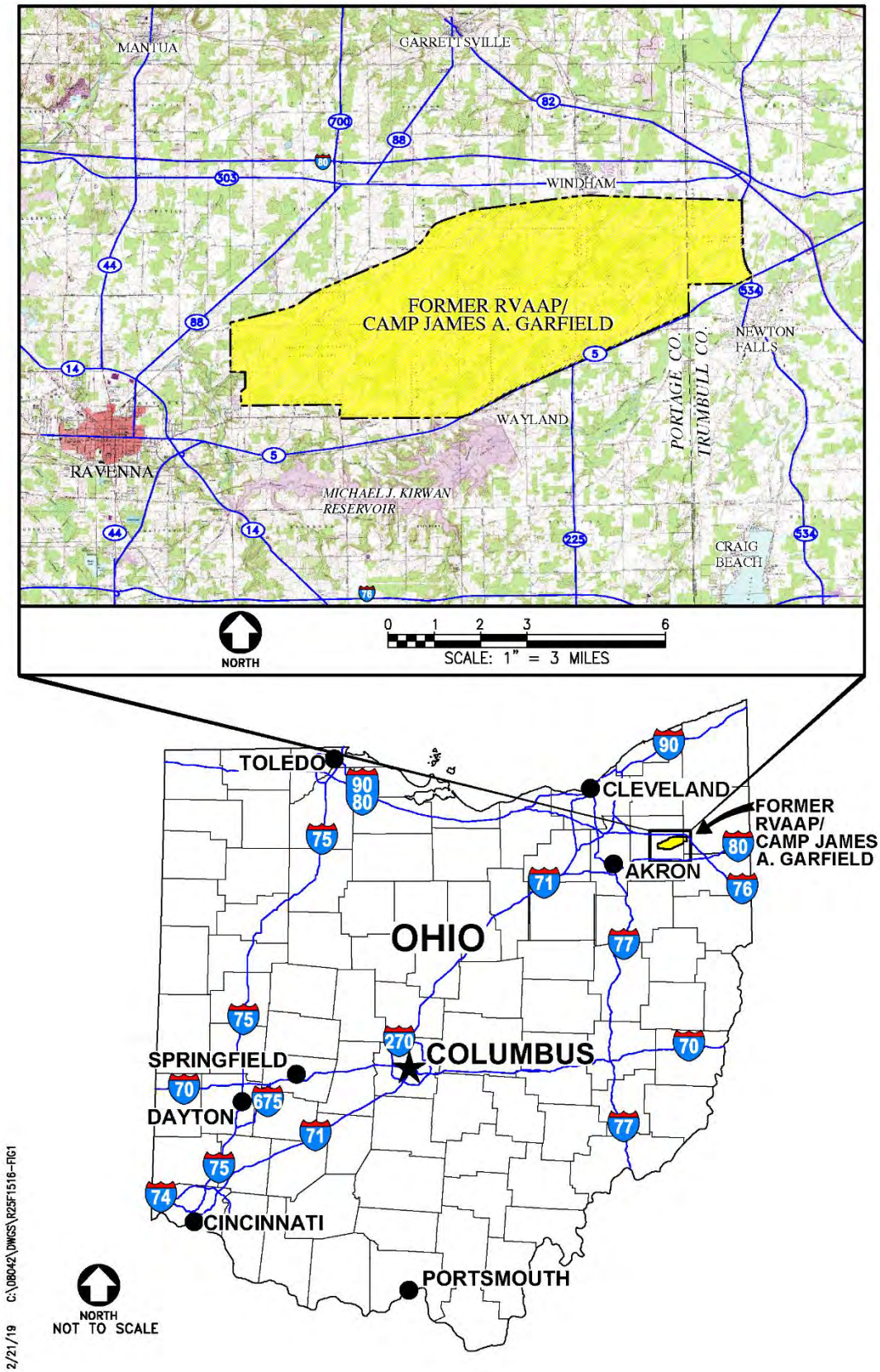

Figure 1. General Location and Orientation of Camp James A. Garfield

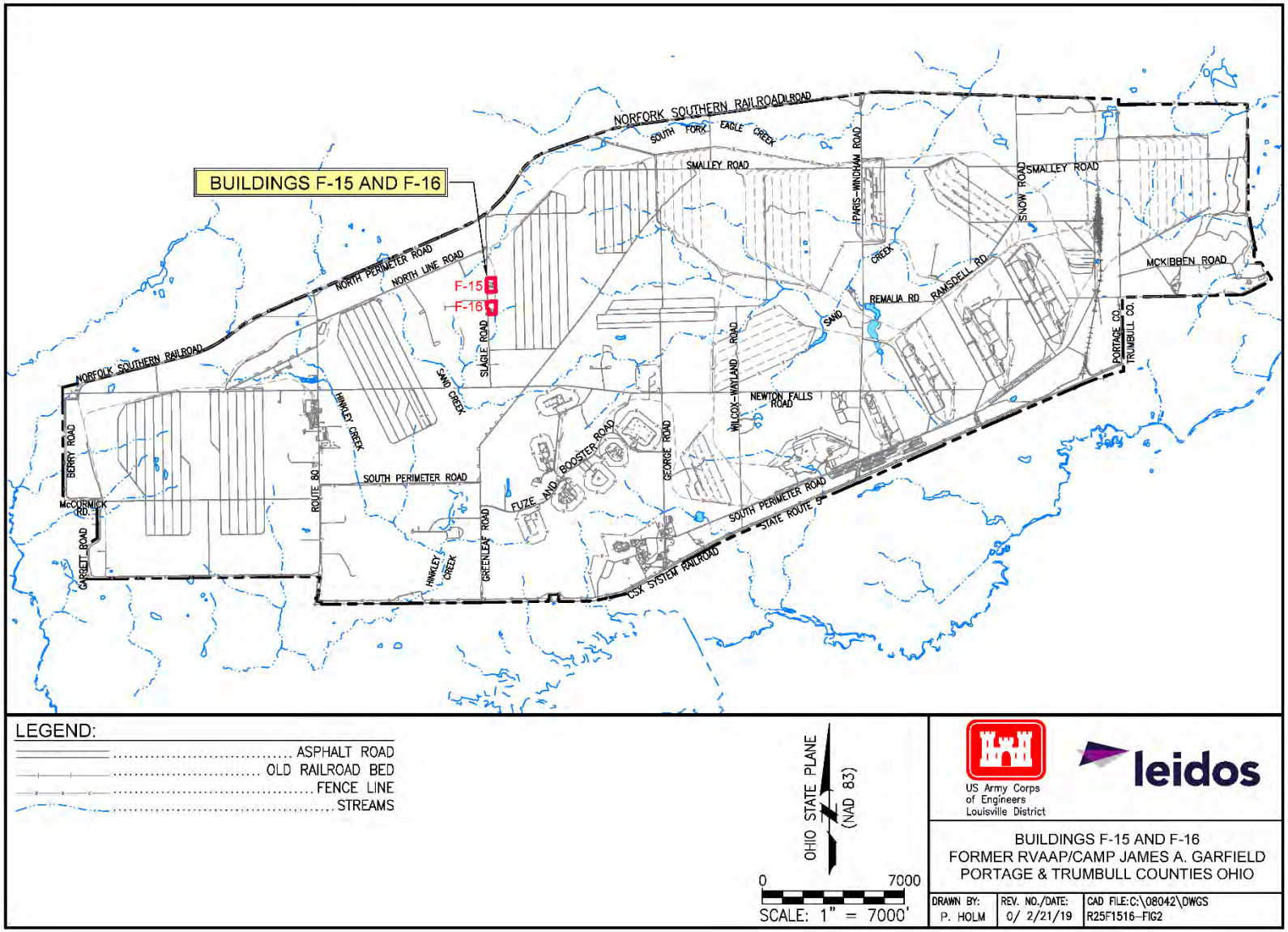

Figure 2. Camp James A. Garfield Installation Map

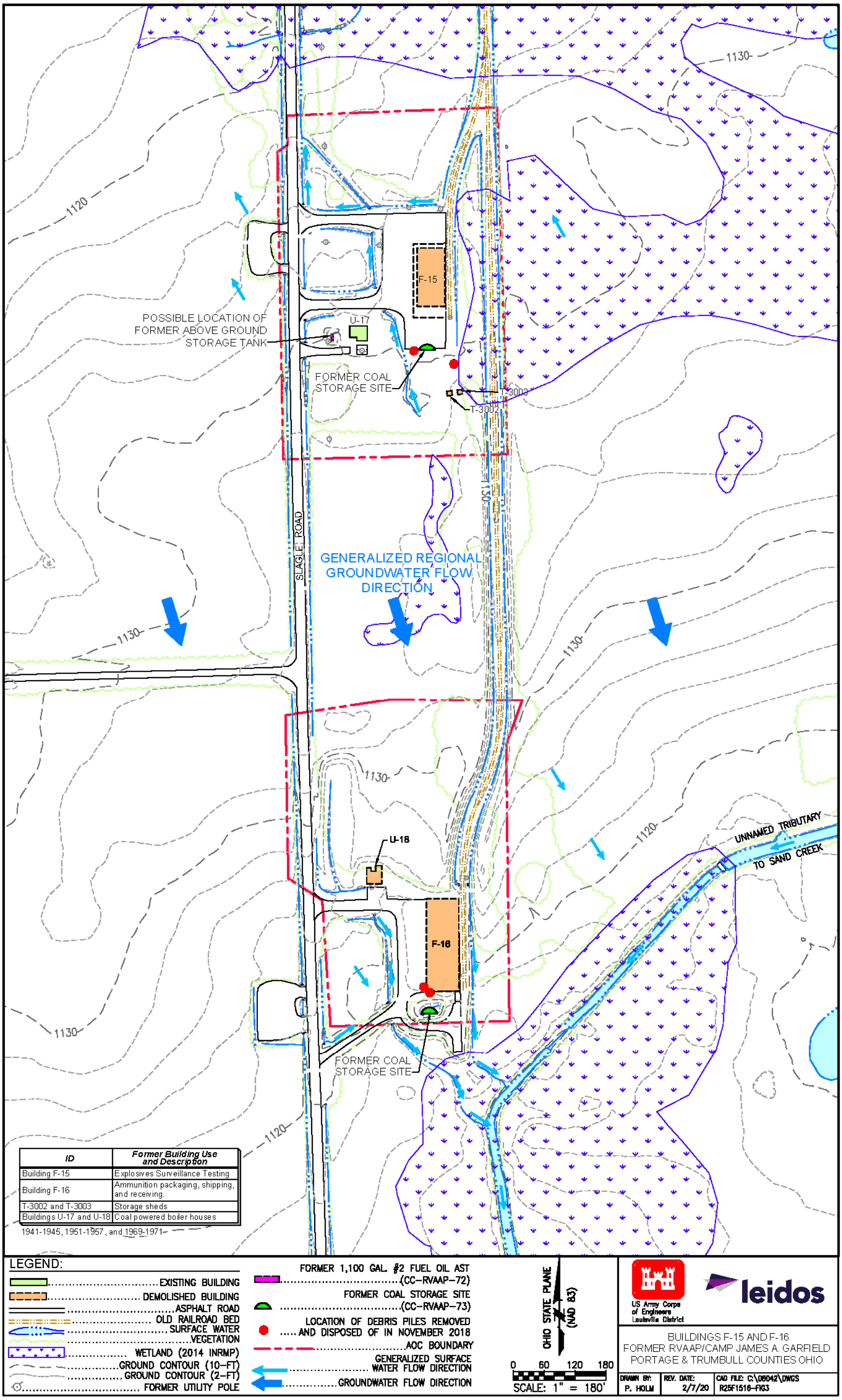

Figure 3. Buildings F-15 and F-16 Site Features

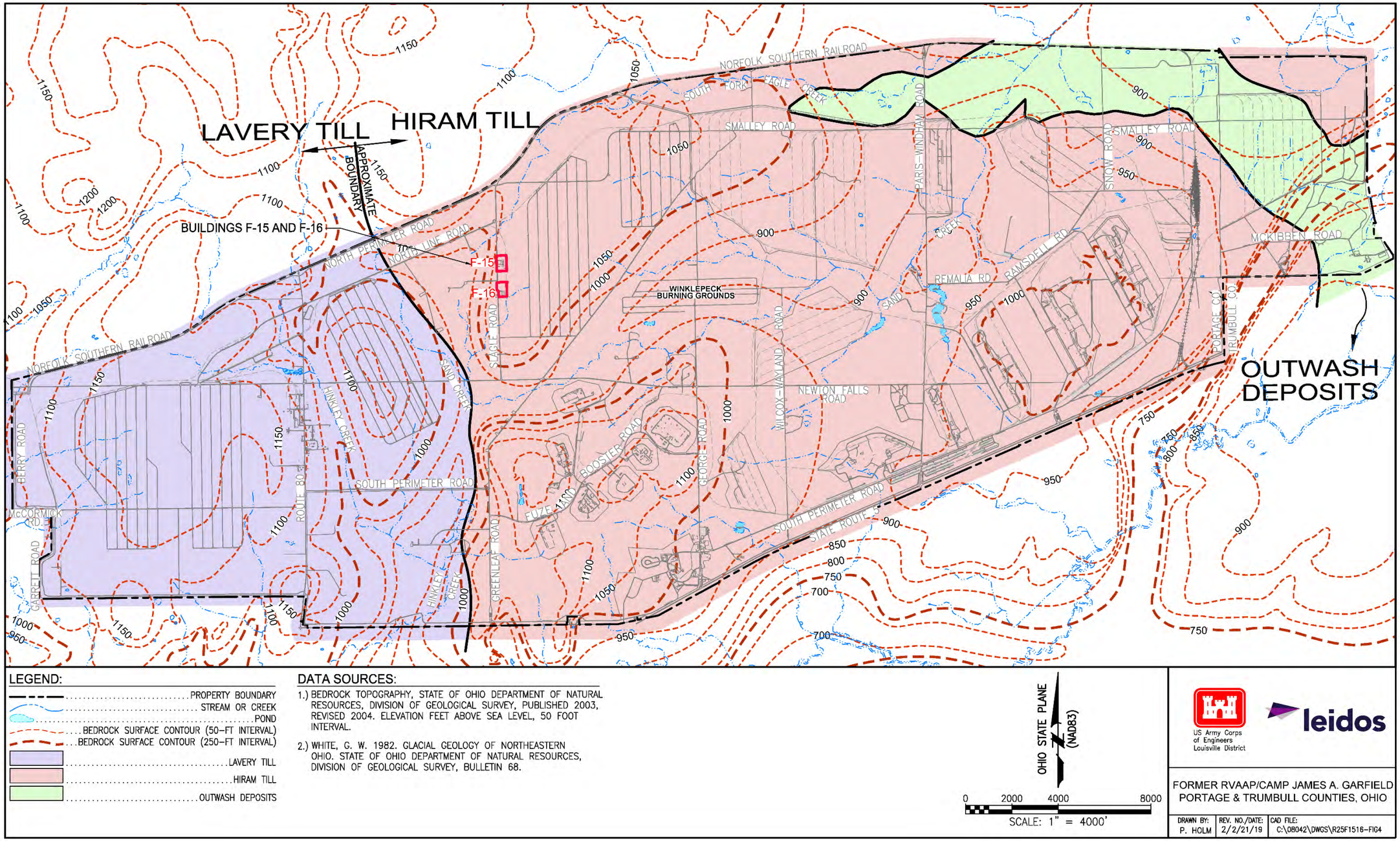

Figure 4. Geologic Map of Unconsolidated Deposits on Camp James A. Garfield

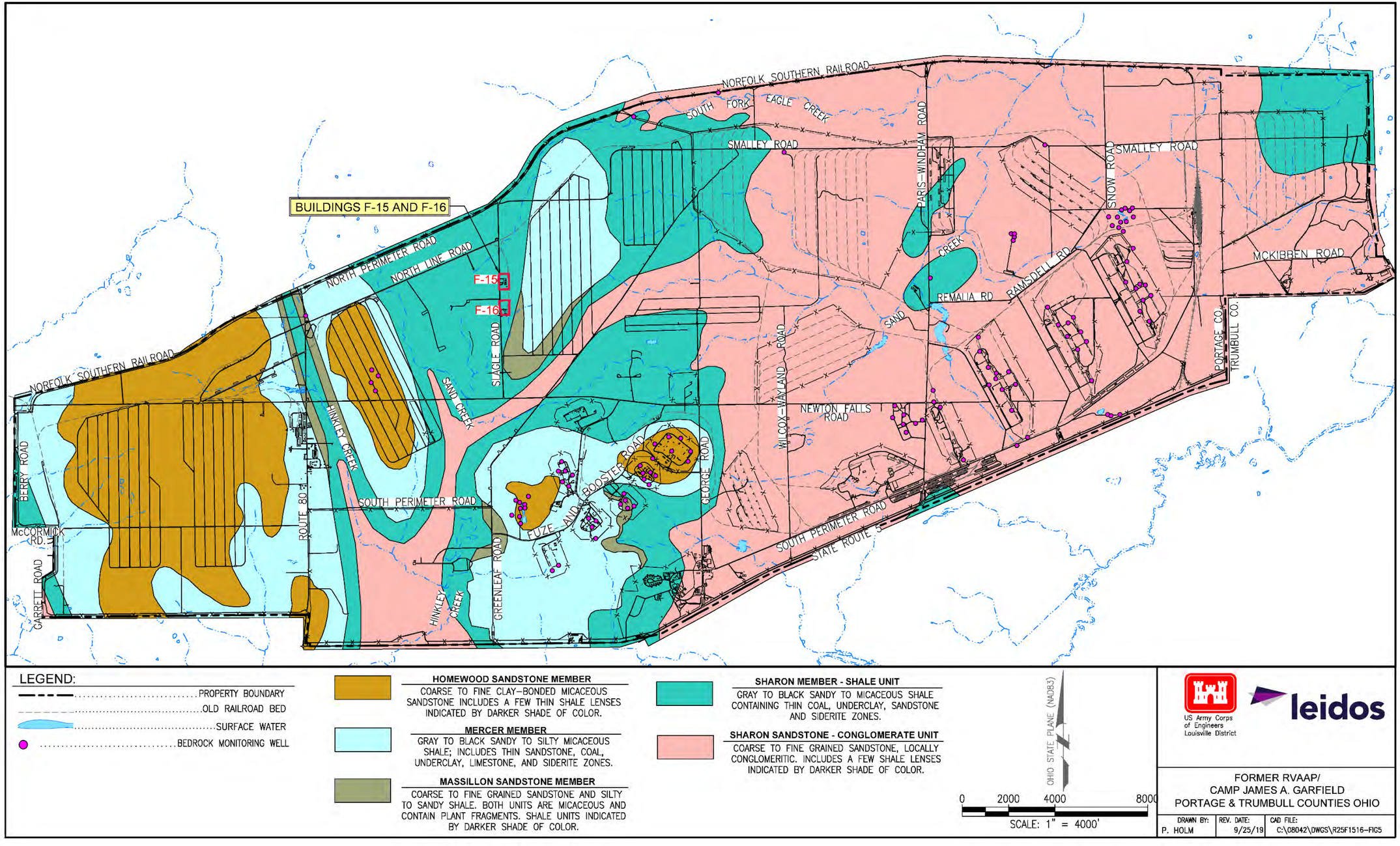

Figure 5. Geologic Bedrock Map and Stratigraphic Description of Units on Camp James A. Garfield

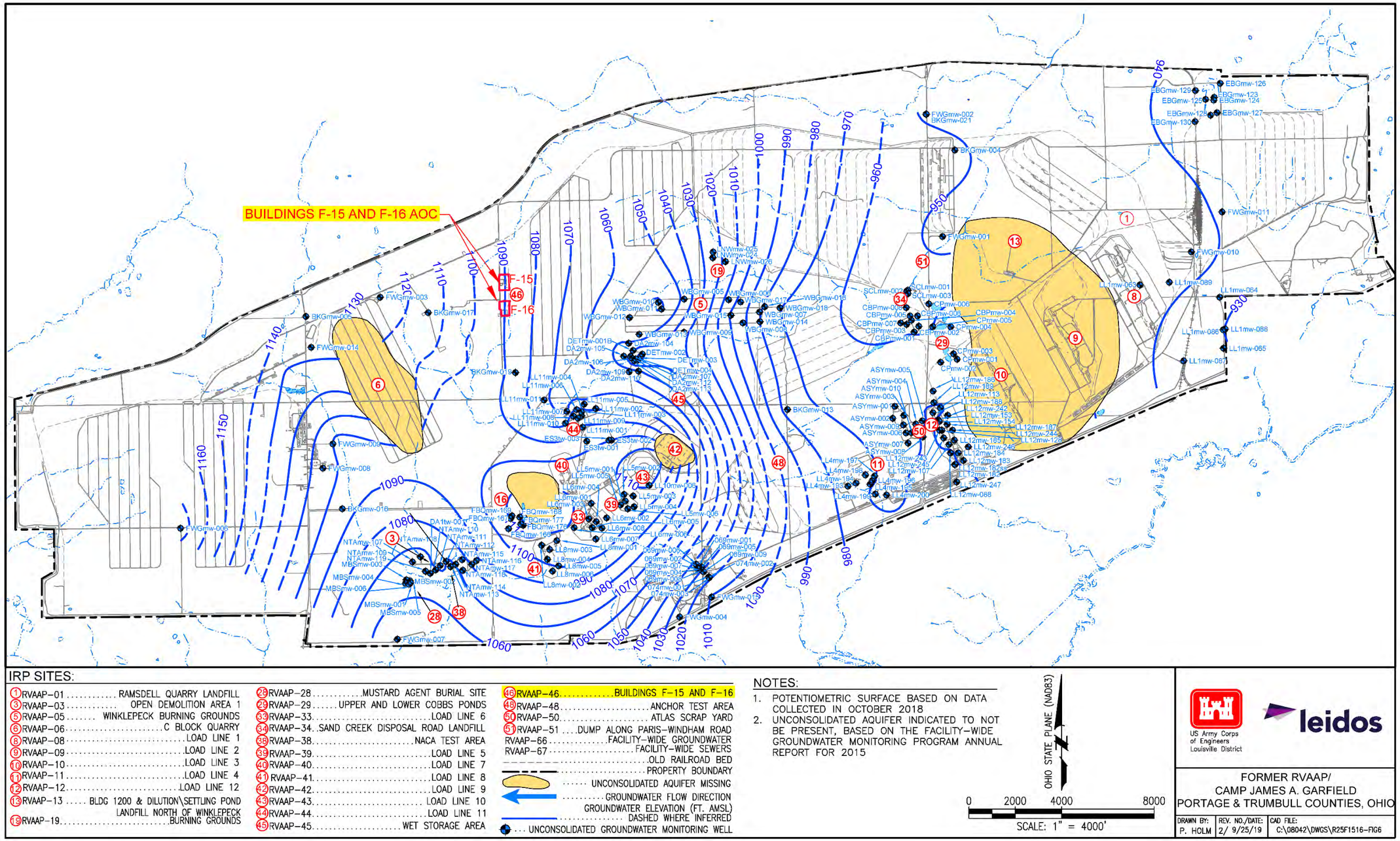

Figure 6. Potentiometric Surface of Unconsolidated Aquifer at Camp James A. Garfield

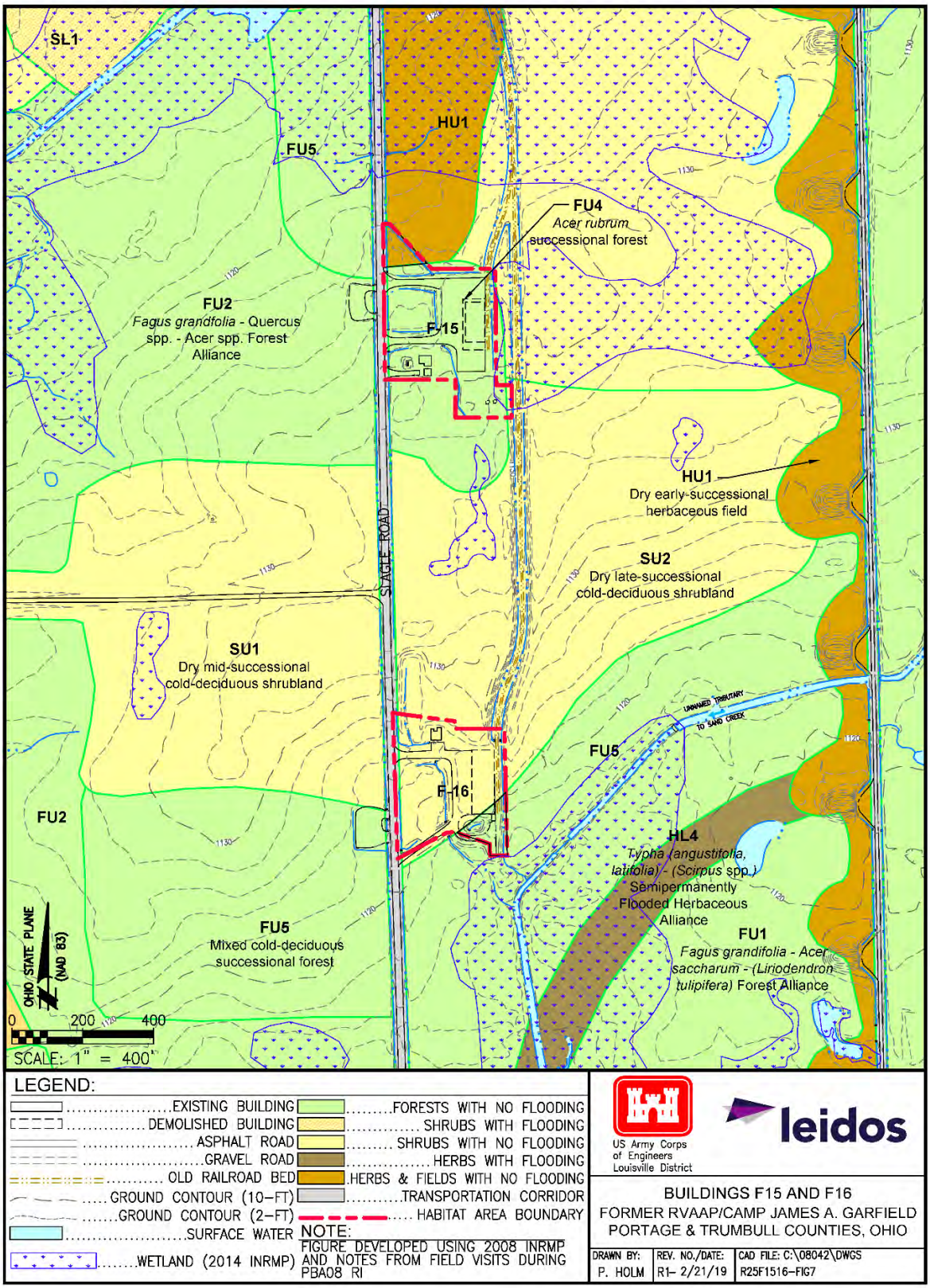

Figure 7. Natural Resources Inside and Near Habitat Area at Buildings F-15 and F-16

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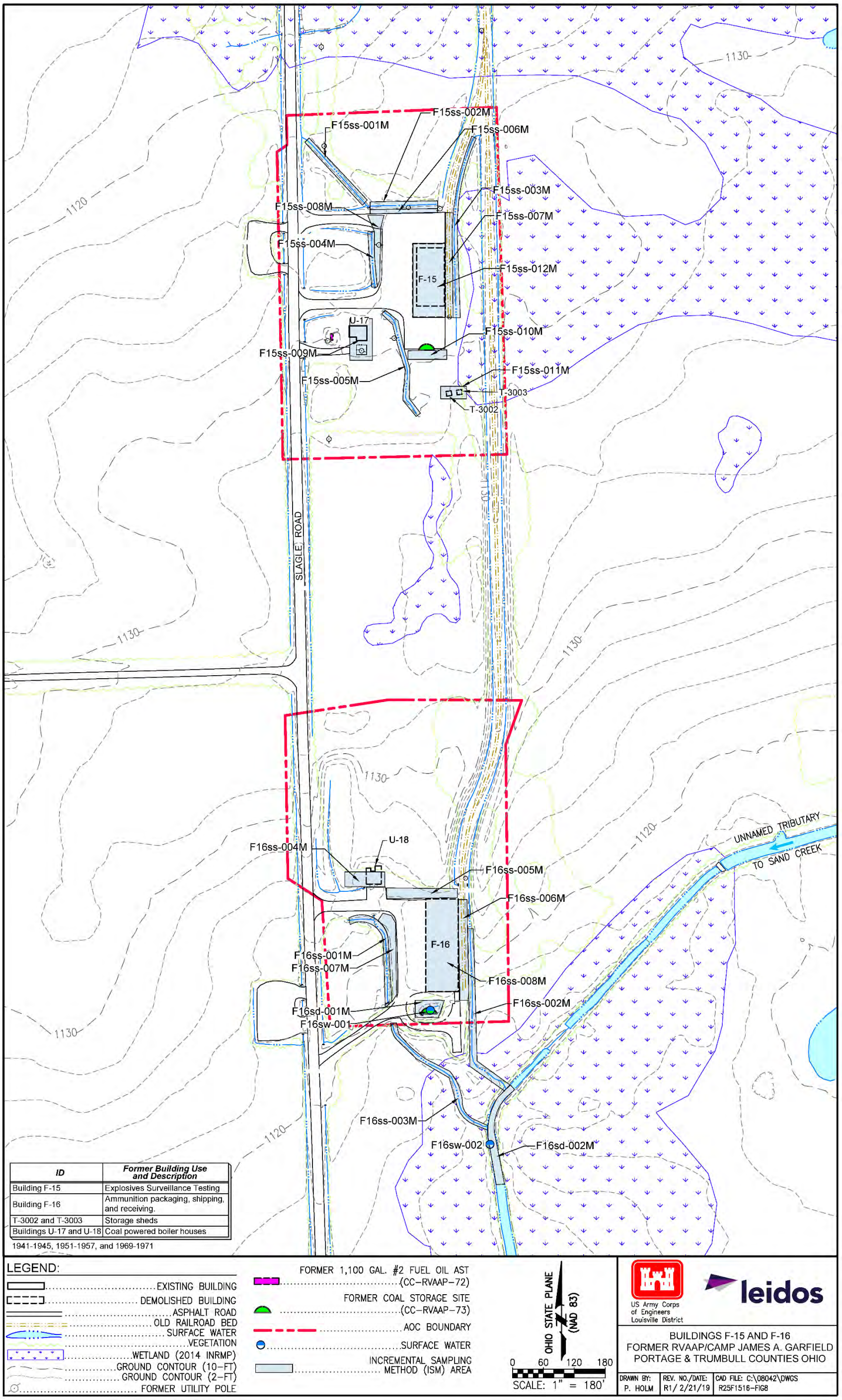

Figure 8. Buildings F-15 and F-16 Sample Locations

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APPENDIX A.

Affidavits

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Affidavit of Publication, Tribune Chronicle, August 2, 2019

PROOF OF PUBLICATION

STATE OF OHIO
TRUMBULL COUNTY SS CONNIE PACEK

BEING DULY SWORN, UPON OATH STATES THAT SHE IS AN AUTHORIZED REPRESENTATIVE OF THE TRIBUNE CHRONICLE, (A DIVISION OF EASTERN OHIO NEWSPAPERS INC) A DAILY NEWSPAPER PRINTED IN THE CITY OF WARREN, COUNTY OF TRUMBULL, STATE OF OHIO AND OF GENERAL CIRCULATION IN THE CITY OF WARREN, TRUMBULL COUNTY, OHIO AND IS INDEPENDENT IN POLITICS.

THAT THE ATTACHED ADVERTISEMENT WAS PUBLISHED IN THE TRIBUNE CHRONICLE EVERY FRIDAY FOR ONE CONSECUTIVE WEEKS AND THAT THE FIRST INSERTION WAS ON FRIDAY THE 2ND DAY OF August 2019

CONNIE PACEK

SWORN TO BEFORE ME AND SUBSCRIBED IN MY PRESENCE ON THIS 7TH DAY OF August 2019

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NOTICE OF DOCUMENT AVAILABILITY
Proposed Plans for National Advisory Committee for Aeronautics (NACA) Test Area, Landfill North of Winkepeck Burning Grounds (LNWBG), and Buildings F-15 and F-16 at the Former Ravenna Army Ammunition Plant (RVAAP)

The Proposed Plan for NACA Test Area presents a recommendation of Ex-situ Thermal Treatment of Contaminated Soil. The Proposed Plans for LNWBG and Buildings F-15 and F-16 present a recommendation of No Further Action. Each Proposed Plan provides the rationale for these recommendations. The Proposed Plans are available for public review from July 29, 2019 to August 27, 2019.

The Proposed Plans are available at:

Newton Falls Public Library
204 South Canal Street
Newton Falls, Ohio 44444

Reed Memorial Library
167 East Main Street
Ravenna, Ohio 44266

The Proposed Plans are also available at: www.rvaap.org

Please join us for an OPEN HOUSE and PUBLIC MEETING

The Army National Guard will host an informational open house and a public meeting to explain the recommendations in the Proposed Plans. Oral and written comments will be accepted at the meeting. Written comments may also be mailed to the Camp James A. Garfield Environmental Office 1438 State Route 534 SW, Newton Falls, OH 44444. Comments will be accepted during the public comment period from July 29, 2019 to August 27, 2019

The public meeting is scheduled for:
Thursday August 15, 2019
6:00 pm Open House
6:30 pm Public Meeting

at:
Sheaver Community Center
(Paris Township Hall)
9355 Newton Falls Road
Ravenna, OH 44266

For more information or if you need special accommodations to attend, please contact Katie Tait at 814-336-6136.

#214-1T-August 2, 2019 #4203

Affidavit of Publication, Record-Courier, August 5, 2019

31193993

Proof of Publication
Record Publishing Company
1050 W. Main Street,
Kent, OH 44240
Phone (330) 541-9400
Fax (330) 673-6363

I, Matthew Dyer being first duly sworn depose and say that I am Advertising Clerk of
Record Publishing Company

30 Record-Courier a newspaper printed and published in the city of Kent, and of General circulation in the County of Portage, State of Ohio, and personal knowledge of the facts herein stated and that the notice hereto annexed was Published in said newspapers for 1 insertions on the same day of the week from and after the 5th day of August, 2019 and that the fees charged are legal.

Name of Account: Leidos
Ad Number: 12580840
No. of Lines: 28

Day(s) Published: 08/05.
Printers Fee: $115.20

Sworn to and subscribed before this 5th day of August, 2019.

Elizabeth McDaniel
Notary Public
Commission Expires June 19, 2021

Notice of Document Availability

Proposed Plans for National Advisory Committee for Aeronautics (NACA) Test Area, Landfill North of Winklepeck Burning Grounds (LNWBG), and Buildings F-15 and F-16 at the Former Ravenna Army Ammunition Plant (RVAAP)

The Proposed Plan for NACA Test Area presents a recommendation of Ex-situ Thermal Treatment of Contaminated Soil. The Proposed Plans for LNWBG and Buildings F-15 and F-16 present a recommendation of No Further Action. Each Proposed Plan provides the rationale for these recommendations. The Proposed Plans are available for public review from July 29, 2019 to August 27, 2019.

The Proposed Plans are available at:

Newton Falls Public Library
204 South Canal Street
Newton Falls, Ohio 44444

Reed Memorial Library
167 East Main Street
Ravenna, Ohio 44266

The Proposed Plans are also available at: www.rvaap.org

Please join us for an OPEN HOUSE and PUBLIC MEETING.

The Army National Guard will host an informational open house and a public meeting to explain the recommendations in the Proposed Plans. Oral and written comments will be accepted at the meeting. Written comments may also be mailed to the Camp James A. Garfield Environmental Office; 1438 State Route 534 SW, Newton Falls, OH 44444. Comments will be accepted during the public comment period from July 29, 2019 to August 27, 2019.

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Ravenna, OH 44266

For more information or if you need special accommodations to attend, please contact Katie Tait at 614-336-6136.

RC Aug 5, 2019 12550R40

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APPENDIX B.

Ohio EPA Comments

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Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

January 28, 2020

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

Re: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
267000859111

Subject: Concurrence with the Response to Ohio EPA Comments on the Draft Record of Decision for Soil, Sediment, and Surface Water at RVAAP-46 Buildings F-15 and F-16 at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio, Dated December 19, 2019

Dear Mr. Connolly:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the response to Ohio EPA's comments on the "Draft Record of Decision for Soil, Sediment, and Surface Water at RVAAP-46 Buildings F-15 and F-16" at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio, dated December 19, 2019. The report was prepared for the U.S. Army Corps of Engineers, Louisville District by Leidos.

Ohio EPA concurs with your response to our comments. Please forward the final version of the Record of Decision (ROD) to Ohio EPA for review.

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

Sincerely,

Kevin M. Palombo
Environmental Specialist
Division of Environmental Response and Revitalization

KMP:cla
ec: David Connolly, ARNG
Rebecca Shreffler, Chenega
Katie Tait, OHARNG RTLS
Kevin Sedlak, ARNG
Craig Coombs, USACE
Nat Peters, USACE
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Bob Princic, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR
William Damschroder, Ohio EPA, Legal

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NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

December 19, 2019

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Kevin Palombo
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-46 Buildings F-15 and F-16, Responses to Ohio Environmental Protection Agency (Ohio EPA) Comments, Draft Record of Decision (Work Activity No. 267-000-859-111)

Dear Mr. Palombo:

The Army appreciates your time and comments (dated December 17, 2019) on the Draft Record of Decision for Soil, Sediment, and Surface Water at RVAAP-46 Buildings F-15 and F-16. Enclosed for your review are responses to your comments. Upon resolution of these comments, the Army will provide a Final version of the document for Ohio EPA concurrence.

The comment responses were prepared for the Army National Guard in support of the RVAAP restoration program. Please contact the undersigned at (703) 607-7589 or david.m.connolly8.civ@mail.mil if there are issues or concerns with this submission.

Sincerely,

Date: 2019.12.19 14:57:05 -05'00'

David Connolly
RVAAP Restoration Program Manager
Army National Guard Directorate

cc: Bob Princic, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR
Kevin Sedlak, ARNG, Camp James A. Garfield
Katie Tait, OHARNG, Camp James A. Garfield
Craig Coombs, USACE Louisville
Nathaniel Peters, II, USACE Louisville
Jed Thomas, Leidos
Gail Harris, Vista Sciences Corporation
Rebecca Shreffler, Chenega

Subject: Former Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-46 Buildings F-15 and F-16 (Work Activity No. 267-000-859-111)

Ohio EPA Comment 1:

Please change the document distribution list to include Kevin Palombo. Megan Oravec can be removed.

Army Response: Agree. The document distribution list has been revised.

Ohio EPA Comment 2:

This Draft ROD document generally follows U.S. EPA's "Guide to Preparing Superfund Proposed Plans, Records of Decision and other Remedy Selection Decision Documents" EPA540-R-98-031, July 1999. Ohio EPA noted that under Part Declaration, certain sections required by the guidance are missing. Sections describing the "Assessment of the Site" and the "Data Certification Checklist" were omitted from this ROD. Please provide these sections or the rationale for their omission.

Army Response: Clarification. The Buildings F-15 and F-16 Record of Decision is selecting a No Further Action remedy for soil, sediment, and surface water at the site. Accordingly, per Section 8.1 of the "Guide to Preparing Superfund Proposed Plans, Records of Decision and other Remedy Selection Decision Documents", this record of decision is structured as presented in Highlight 8-6: Documenting a No Action Decision: No Further Action Necessary. This highlight indicates that the "Assessment of Site" and "Data Certification Checklist" sections are not part of a record of decision that documents the selection of a no further action remedy.

Ohio EPA Comment 3:

Page 4, Section 8, paragraph 4 of the document provides a description of debris piles that were removed from Buildings F-15 and F-16. Please identify these locations on Figure 3.

Army Response: Agree. Figure 3 has been revised to show the locations of the debris piles that are presented on Fact Sheet 4-8 of the Solid Waste Management Plan - Evaluation, Identification, and Management of Potential Solid Waste Sites.

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

December 17, 2019

Re: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859111

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

Subject: Comments on the Draft Record of Decision Plan for Soil and Surface Water at RVAAP-46 Buildings F-15 and F-16 at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio, Dated November 7, 2019

Dear Mr. Connolly:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Draft Record of Decision for Soil and Surface Water at RVAAP-46 Buildings F-15 and F-16" at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio, Dated November 7, 2019. The report was prepared for the U.S. Army Corps of Engineers, Louisville District by Leidos.

Please forward the final version of the Record of Decision (ROD) to Ohio EPA for review after you have addressed the comments below:

COMMENTS

1. Please change the document distribution list to include Kevin Palombo. Megan Oravec can be removed.

2. This Draft ROD document generally follows U.S. EPA's "Guide to Preparing Superfund Proposed Plans, Records of Decision and other Remedy Selection Decision Documents" EPA540-R-98-031, July 1999. Ohio EPA noted that under Part I Declaration, certain sections required by the guidance are missing. Sections describing the "Assessment of the Site" and the "Data Certification Checklist" were omitted from this ROD. Please provide these sections or the rationale for their omission.

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3. Page 4, Section B, paragraph 4 of the document provides a description of debris piles that were removed from Buildings F-15 and F-16. Please identify these locations on Figure 3.

If you have questions or would like to set up a meeting to discuss these comments, please call me at (330) 963-1292.

Sincerely,

Kevin M. Palombo
Environmental Specialist
Division of Environmental Response and Revitalization

KP/sc

ec: David Connolly, ARNG
Kevin Sedlak, ARNG, Camp James A. Garfield
Katie Tait, OHARNG, Camp James A. Garfield
Craig Coombs, USACE Louisville
Nathaniel Peters, USACE Louisville
Rebecca Shreffler, Chenega Tri-Services, LLC
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Bob Princic, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR
William Damschroder, Ohio EPA, CO, Legal

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