

Final

**Record of Decision
for CC RVAAP-74
Building 1034 Motor Pool Hydraulic Lift**

**Ravenna Army Ammunition Plant Restoration Program
Portage and Trumbull Counties, Ohio**

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

Prepared for:



**U.S. Army Corps of Engineers
Louisville District**

Prepared by:

PARSONS
401 Diamond Drive NW
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256-837-5200

March 25, 2021

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14. ABSTRACT This Record of Decision (ROD) presents the conclusions and recommendations for subsurface soil and groundwater within CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift at Camp James A. Garfield. There were no Chemicals of Concern (COCs) identified. Therefore, there were no risks and the Area of Concern (AOC) meets the criteria for Unrestricted (Residential) Land Use.				
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April 19, 2021

TRANSMITTED ELECTRONICALLY

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

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859261

Subject: Final Record of Decision for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the "Final Record of Decision for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift," dated March 25, 2021. It was prepared by Parsons.

Ohio EPA has no comments on the Final Record of Decision (Final ROD). 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 document for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift recommending no further action.

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

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RVAAP-74 BUILDING 1034 MOTOR POOL HYDRAULIC LIFT
APPROVAL OF FINAL ROD
PAGE 2 OF 2

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

Sincerely,

Melisa Witherspoon

Melisa Witherspoon
Chief
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CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

Parsons has completed the Final Record of Decision for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of data quality objectives; technical assumptions; methods, procedures, and materials to be used; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing United States Army Corps of Engineers policy.



Kristi Diller, PG
Independent Technical Reviewer

10/21/2020

Date



Edward Heyse, Ph.D., P.E.
Plan Preparer/Reviewer

03/25/2021

Date

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Building 1034 Motor Pool Hydraulic Lift**

Ravenna Army Ammunition Plant Restoration Program
Portage and Trumbull Counties, Ohio

Contract No. W912QR-12-D-0002
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U.S. Army Corps of Engineers
600 Martin Luther King, Jr. Place
Louisville, Kentucky 40202

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ARNG = Army National Guard
DERR = Division of Environmental Response and Revitalization
NEDO = Northeast District Office
OHARNG = Ohio Army National Guard
Ohio EPA = Ohio Environmental Protection Agency
RVAAP = Ravenna Army Ammunition Plant
REIMS = Ravenna Environmental Information Management System
SWDO = Southwest District Office
USACE = U.S. Army Corps of Engineers

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ACRONYMS/ABBREVIATIONS

amsl	above mean sea level
AOC	Area of Concern
Army	United States Department of the Army
ARNG	Army National Guard
bgs	below ground surface
BSVs	background screening values
BUSTR	Bureau of Underground Storage Tank Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CJAG	Camp James A. Garfield Joint Military Training Center
CMCOPCs	Contaminant Migration Chemicals of Potential Concern
COCs	Chemicals of Concern
COECs	Chemicals of Ecological Concern
CUGs	cleanup goals
ERA	Ecological Risk Assessment
FWCUGs	Facility-Wide Cleanup Goals
HHRA	Human Health Risk Assessment
HRR	Historical Records Review
I&E	Installation and Environment
IRP	Installation Restoration Program
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NGT	National Guard Trainee
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
PCBs	polychlorinated biphenyls
REIMS	Ravenna Environmental Information Management System
RI	Remedial Investigation
ROD	Record of Decision
RSL	Regional Screening Level
RVAAP	Ravenna Army Ammunition Plant
SAIC	Science Applications International Corporation
SARA	Superfund Amendments and Reauthorization Act
SEMS	Superfund Enterprise Management System
SRCs	Site-Related Compounds
SVOCs	semivolatile organic compounds
TPH	total petroleum hydrocarbon
USACE	U.S. Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USP&FO	U.S. Property and Fiscal Officer
VOCs	volatile organic compounds

PART I THE DECLARATION

A. SITE NAME AND LOCATION

This Record of Decision (ROD) addresses environmental media within the Compliance Restoration Site CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift Area of Concern (AOC) at the former Ravenna Army Ammunition Plant (RVAAP), Ravenna, Ohio (Figures 1 and 2). The former RVAAP, now known as Camp James A. Garfield Joint Military Training Center (CJAG), is located in northeastern Ohio within Portage and Trumbull counties. CJAG is approximately 3 miles east/northeast of the City of Ravenna and 1 mile north/northwest of the City of Newton Falls. As of September 2013, administrative accountability for the entire 21,683-acre facility has been transferred to the U.S. Property and Fiscal Officer (USP&FO) for Ohio and the property subsequently licensed to the Ohio Army National Guard (OHARNG) for use as a military training site.

CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift is located south of the intersection of George Road and South Service Road just south of Building 1037 in the former Administration Area in the south-central portion of CJAG. The AOC was established to represent the operational area of the former underground hydraulic lift inside Building 1034. The former RVAAP is not on the U.S. Environmental Protection Agency (USEPA) National Priorities List, although it is in the USEPA Superfund Enterprise Management System (SEMS) database. The SEMS USEPA identifier for RVAAP is OH5210020736.

B. STATEMENT OF BASIS AND PURPOSE

This ROD presents the selected remedy for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift, which was chosen by the Army National Guard (ARNG), the lead agency, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on information contained in the Administrative Record file for the AOC.

The Ohio Environmental Protection Agency (Ohio EPA), the support agency, concurred with the selected remedy presented in the *Remedial Investigation CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift* (Parsons 2019) and *Proposed Plan for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift Revision 1.0* (Parsons 2020). The Remedial Investigation (RI) evaluated subsurface soil and groundwater at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift and recommended No Further Action (Parsons 2019). The CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift AOC meets the requirements for No Further Action under CERCLA and is compliant with the requirements of the Ohio EPA *Director's Final Findings and Orders*, dated June 10, 2004 (Ohio EPA 2004).

C. ASSESSMENT OF THE SITE

The lead agency has determined that no action is necessary to protect public health or welfare or the environment at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift.

D. DESCRIPTION OF THE SELECTED REMEDY

No Further Action is necessary at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift for subsurface soil and groundwater to meet Unrestricted (Residential) Land Use. Sediment, surface water, and surface soil are not present at the AOC. Therefore, No Further Action is required for any media at the AOC. The ARNG will not be required to implement land use controls as part of this decision, as no Chemicals of Concern (COCs) were identified in subsurface soil or groundwater for the Resident Receptor.

E. RECORD OF DECISION DATA CERTIFICATION CHECKLIST

Table 1 provides the ROD Data Certification Checklist. This checklist certifies that the ROD contains key remedy selection information which is contained in Part II Decision Summary. Additional information can be found in the Administrative Record file for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift.

Table 1. ROD Data Certification Checklist

ROD Data Checklist Item	ROD Section	Pages
COCs and their respective concentrations	II.G	13
Baseline risk represented by the COCs	II.G	13
CUGs established for COCs and the basis for these goals	Not Applicable	
How source materials constituting principal threats are addressed	Not Applicable	
Current and reasonably anticipated future Land Use assumptions used in the baseline risk assessment and ROD	II.F	13
Suitable potential Land Use, following the selected remedy	II.F	13
Estimated capital and the total present worth costs, discount rate, and the number of years over which the remedy cost estimates are projected	Not Applicable	
Key factor(s) that led to selecting the remedy	Not Applicable	

CUGs = cleanup goals; COCs = Chemicals of Concern; ROD = Record of Decision

F. STATUTORY DETERMINATIONS

The recommendation of No Further Action for subsurface soil and groundwater is protective of human health and the environment. Because this remedy will not result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, a five-year review will not be required.

G. AUTHORIZING SIGNATURE

Approved

Anthony Hammett
Colonel, U.S. Army
Chief, G-9 Army National Guard

Date

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PART II DECISION SUMMARY

A. SITE NAME, LOCATION, AND DESCRIPTION

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

As of September 2013, administrative accountability for the entire acreage of the facility has been transferred to the USP&FO for Ohio and subsequently licensed to OHARNG for use as a military training site (CJAG). The ARNG is the lead agency for any remediation, decisions, and applicable cleanup at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift. These activities are being funded and conducted under the IRP. Ohio EPA is the support agency.

CJAG is 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 (Figure 1). References in this document to the former RVAAP relate to previous activities at the facility as related to former munitions production activities or to activities being conducted under the restoration/cleanup program.

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; Garret, McCormick, and Berry roads on the west; the Norfolk Southern Railroad on the north; and State Route 534 on the east (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 5.7 miles to the southwest, and Wayland 3 miles to the south (Figure 1).

CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift is located south of the intersection of George Road and South Service Road just south of Building 1037 in the former Administration Area in the south-central portion of CJAG. The AOC was established to represent the operational area of the former underground hydraulic lift inside Building 1034.

The original building was constructed in 1941 and was demolished in 2007. The current portion of the building containing the lift was constructed in 1971. Three features remain beneath the floor of the southeastern corner of Building 1034 that are associated with former AOC operations: an oil/water separator, and the front and rear axle portions of the hydraulic lift. The in-ground hydraulic lift is situated in two separate underground vaults. The smaller (eastern) vault contains a fixed hydraulic lift that fitted under the rear axle of a vehicle. The larger, “L” shaped (western) vault contained a separate adjustable hydraulic lift for the front axle and a storage tank for hydraulic fluid. The position of the front axle lift could be adjusted to accommodate different sized vehicles. The lift system was suspected of leaking because hydraulic fluid needed to be added when the lift was in operation. An unsuccessful attempt was made to locate the leak, and the lift was subsequently taken out of service (Science Applications International Corporation [SAIC] 2011). The date that the lift was taken out of service was not recorded. The underground hydraulic lift is in place but is no longer active. Building 1034 is currently unoccupied and used for storage

The AOC is approximately 878 square feet and the approximate surface elevation is 1,022 feet above mean sea level (amsl). The steep grade southeast of Building 1034 suggests that fill material

was placed on top of a much lower original surface grade. Figure 3 shows the site features and topography surrounding Building 1034. Building 1034 is situated in the former Administrative Area and is surrounded by additional buildings and wooded areas. Surface water bodies are not present within CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift or its immediate vicinity. During storm events, precipitation drains from the building roof and either runs off the land following topography toward the surrounding storm sewer network that drains the adjacent area or infiltrates into the subsurface. Infiltration outside the building is likely limited by the presence of silty and clayey soils. Infiltration does not occur within the building. The closest potential groundwater discharge location is a tributary to the West Branch of the Mahoning River approximately 2,000 feet to the east.

B. SITE HISTORY AND ENFORCEMENT ACTIVITIES

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

The “motor pool” building previously consisted of two buildings. The original building was constructed in 1941 and was demolished in 2007. The current portion of the building containing the lift was constructed in 1971. It is assumed that the lift was installed in 1971 and was used through the 1990s. The hydraulic lift system remains in place and buried beneath Building 1034, but hydraulic fluids were removed from the hydraulic fluid storage tank and lift system. The hydraulic lift is no longer active; however, during the Historical Records Review (HRR, SAIC 2011), no documents were discovered regarding the specific year the underground hydraulic lift was removed from service. There is no documented evidence of historical military operations being performed at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift.

C. COMMUNITY PARTICIPATION

Using the RVAAP community relations program, the ARNG and Ohio EPA have interacted with the public via news releases, public meetings, reading materials, direct mailings, an internet website, and by 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 at RVAAP 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 twice a year and are open to the public.

Community Relations Plan: The *Community Relations Plan* (Chenga Tri-Services 2020) was prepared 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 NCP Section 300.430(f)(2), the ARNG released the *Proposed Plan for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift Revision 1.0*

(Parsons 2020) to the public on September 14, 2020. The Proposed Plan and other project-related documents are 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 Proposed Plan was published in local newspapers *Record-Courier* and *Tribune Chronicle* (Attachments 1 through 3), as specified in the *Community Relations Plan* (Chenga Tri-Services 2020). The notice of availability initiated the 30-day public comment period beginning September 14, 2020 and ending October 13, 2020.

The ARNG held a virtual public meeting on September 22, 2020 to present the Proposed Plan. At this meeting, representatives of the 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. The ARNG considered public input from the public meeting on the Proposed Plan when selecting the remedy.

D. SCOPE AND ROLE OF RESPONSE ACTIONS

The overall program goal of the IRP at the former RVAAP is to address contamination from past activities and restore ARNG lands to useable conditions. The future use for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift is for military training. Unrestricted (Residential) Land Use was evaluated using the Residential Receptor exposure scenario to assess baseline conditions. The Resident Receptor is the Representative Receptor for Unrestricted (Residential) Land Use, and the National Guard Trainee (NGT) is the Representative Receptor for Military Training Land Use. Military Training Land Use is the most likely future use. The achievement of Unrestricted (Residential) Land Use does not require restrictions such as land use controls. Based on the Human Health Risk Assessment (HHRA), all COCs were eliminated from further evaluation for Resident Receptor and NGT, and No Further Action is required for protection of human health. No ecological risks were identified in the Ecological Risk Assessment (ERA) for the AOC.

E. SITE CHARACTERISTICS

Site characteristics, nature and extent of contamination, and the conceptual site model for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift are summarized in the *Final Remedial Investigation CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift* (Parsons 2019).

E.1 Physical Characteristics

This section describes the topography/physiology, geology, hydrogeology, ecology, and surface water features of CJAG and CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift 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 feet amsl in the far western portion of CJAG to low areas at approximately 930 feet amsl in the far eastern portion of CJAG.

The surface features present at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift are generally similar to the rest of CJAG, with mildly undulating topography. The approximate surface elevation of the area is 1,022 feet amsl. The steep grade southeast of Building 1034 suggests that fill material was placed on top of a much lower original surface grade. Figure 3 shows the site features and topography surrounding Building 1034. Building 1034 is situated in the former Administrative Area and is surrounded by additional buildings and wooded areas.

E.1.2 Geology

The regional geology at the facility consists of horizontal to gently dipping bedrock strata of Mississippian and Pennsylvanian age overlain by varying thicknesses of unconsolidated glacial deposits. The bedrock and unconsolidated geology at CJAG are shown on Figure 4 and Figure 5, respectively, and discussed below.

The Sharon Member of the Pennsylvanian Pottsville formation is the primary bedrock unit underlying CJAG (Figure 4). The lower portion of the Sharon Sandstone Member is informally referred to as the Sharon Conglomerate. In the western portion of the facility, the upper members of the Pottsville Formation, including the Massillon Sandstone, Mercer Shale, and uppermost Homewood Sandstone, have been identified (Figure 4). Bedrock at CJAG is overlain by deposits of the Wisconsin-age Lavery Till in the western portion of CJAG and the younger Hiram Till and associated outwash deposits in the eastern two-thirds of CJAG (Figure 5). Unconsolidated glacial deposits vary considerably in their character and thickness across CJAG, from zero in some of the eastern portions of CJAG to an estimated 150 ft in the south-central portion.

It is likely that the native soil types in the vicinity of CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift have been disturbed or covered over to a degree that the original soil in the Building 1034 area can no longer be definitively identified. The native soil at CC RVAAP-74 was mapped by the United States Department of Agriculture as Mahoning silt loam (0-2 % slopes) and directly adjacent native soil as Mahoning silt loam (2-6 % slopes). However, surface soils could not be collected, observed, and documented at CC RVAAP-74 because the AOC is covered by a concrete floor. Boring logs generated during drilling and logging of the soil up to 24 feet below grade beneath the floor indicate that the soil is predominantly yellowish-brown/brown silty clay, which is assumed to be Hiram Till glacial deposits or fill material from site construction. A black soil layer was observed in at least 14 of the boring logs. The black stained layer was about 2 inches thick and located at approximately 7.5 feet below grade. The black soils contain plant fibers and woody material indicating natural organic material. The black layer is likely the original topsoil before fill material was placed on top of it for grading for site construction.

Although borings at the AOC have not been advanced to the top of bedrock, the bedrock beneath the area is assumed to be the upper portion of the Pennsylvanian Pottsville Formation (Sharon Sandstone). Based on approximate surface elevation (Figure 3) and the top of bedrock elevation (Figure 4), the depth to bedrock in this area is estimated to be approximately 20 feet below ground surface (bgs).

E.1.3 Hydrogeology

Groundwater occurs in both the unconsolidated deposits and bedrock units beneath CJAG. The groundwater elevations of the unconsolidated deposits are shown on Figure 6. The potentiometric surface of the Homewood Sandstone Member (uppermost aquifer of the Pottsville Formation) is presented on Figure 7; the potentiometric surface of the upper Sharon Sandstone Member (intermediate aquifer of the Pottsville Formation) is presented on Figure 8; and the potentiometric surface of the Basal Sharon Sandstone Member (referred to in this RI as the Sharon Conglomerate; the deepest aquifer of the Pottsville Formation) is presented on Figure 9. The potentiometric surfaces at CJAG for unconsolidated deposits (Figure 6) and bedrock (Figures 7 to 9) are based on the facility-wide July 2015 groundwater monitoring event (TEC-Weston Joint Venture 2016).

The hydrogeology for the CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift is based on data presented in Facility-Wide Groundwater Monitoring Annual Report (TEC-Weston Joint Venture 2016) and from boring logs and wells installed at the site. Three groundwater monitoring wells (074MW-001, 074MW-002, and 074MW-003) were installed between 9 and 16 February 2018. These monitoring wells were installed with screens set approximately 10-20 feet bgs across the water table. Local groundwater flow in the unconsolidated aquifer is towards the southeast, as shown on Figure 6.

The closest bedrock monitoring well is FWGmw-016, located approximately 1,150 feet south of the AOC. This well monitors the Sharon Sandstone bedrock aquifer and is screened from 54.5-64.5 feet bgs. The depth to groundwater in this monitoring well location was approximately 17 feet bgs during the June 2018 groundwater monitoring event, with a potentiometric elevation of 997.04 feet amsl. As shown on Figure 8, the generalized groundwater flow direction within the Sharon Sandstone aquifer beneath this area is to the east. Monitoring well 069MW-003 is located approximately 640 feet northwest of the AOC and is screened between 23 and 28 feet bgs within the weathered bedrock of the Upper Sharon Aquifer. In December 2018, the elevation of the water in 069MW-003 was 1012.80 feet amsl.

An inactive groundwater supply well is located approximately 240 feet west-northwest of the AOC. The well was installed to a total depth of 97 feet bgs and cased to 57 feet bgs (Water Well Log Number 763132). The well was gauged on 4 June 2018; depth to water was 21.49 feet and depth to soft bottom was 84.75 feet. At the time of this report, the well pump was inoperable, and the well is inactive.

E.1.4 Ecology

The ERA in the RI Report concluded that there are no important and significant ecological resources at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift. No habitat is present as it consists of the area in/under Building 1034 (Figure 10). Affected subsurface soil is covered by the building and occurs at a depth interval below the zone of biological activity (Brady and Weil 2001). Therefore, the ecological exposure pathway is incomplete (Parsons 2019).

CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift is confined to the building. Therefore, contaminated soil to wetlands or surface water is not a primary migration pathway at the AOC. No detailed ecological study has been performed areas surrounding the AOC. If the building is demolished as part of future use, wildlife inhabiting the area would be potential receptors of Chemicals of Ecological Concern (COECs) in soil, if identified. However, significant ecological

receptors are unlikely given that the AOC is marginal habitat, surface soil is not impacted by Site-Related Compounds (SRCs), and any discharges of groundwater to surface water are at least 2,000 feet from the AOC.

E.1.5 Surface Water

Surface water and sediment are not present within CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift. During storm events, precipitation drains from the building roof and either runs off the land following topography toward the surrounding storm sewer network that drains the adjacent area or infiltrates into the subsurface.

E.2 Site Investigations

The following environmental investigations have been completed for the CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift:

- *Historical Records Review Report for the 2010 Phase I Remedial Investigation Services at Compliance Restoration Sites (9 Areas of Concern), Ravenna Army Ammunition Plant, Ravenna, Ohio (SAIC 2011).*
- *Remedial Investigation Report for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift, Ravenna Army Ammunition Plant, Ravenna, Ohio (Parsons 2019).*

E.2.1 Historical Records Review

No documentation of prior investigations specific to the CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift was found during the HRR (SAIC 2011). The HRR identified CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift as an area that required further investigation, specifically, the oil/water separator and the hydraulic lift. CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift contains an underground hydraulic lift that was originally suspected to have leaked hydraulic fluid; however, no leak was located (SAIC 2011). The HRR made specific recommendations for sampling and analysis at the potential release areas within the AOC.

E.2.2 Remedial Investigation

The RI Report (Parsons 2019) included samples that were collected by ECC in 2013 and by Parsons in 2018. Initial field work was conducted between 2 and 4 April 2013 and included advancing 18 soil borings and collecting 30 subsurface soil samples (including 1 field duplicate). Three additional soil borings were advanced and 5 subsurface soil samples were collected between 12 and 14 August 2013. Additional field work was conducted between 1 and 20 February 2018. Four subsurface soil samples (including 1 field duplicate) were collected from three soil borings. Four groundwater grab samples were collected from 4 well points (used to determine placement of the permanent groundwater monitoring wells). One temporary groundwater monitoring well was installed to determine the presence or absence of mobile light non-aqueous phase liquid. Three permanent groundwater monitoring wells were installed. Four rounds of quarterly groundwater sampling were conducted between 6 March 2018 and 13 December 2018, and 16 groundwater samples (including 4 field duplicates) were collected from the three permanent groundwater monitoring wells.

Sampling locations for subsurface soil samples from direct-push borings and groundwater samples from well points and monitoring wells at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift are shown on Figure 11. Soil sample analyses included total petroleum hydrocarbon (TPH) (C10-C20 and C20-C34), semivolatile organic compounds (SVOCs), volatile organic compound (VOCs), and polychlorinated biphenyls (PCBs). Groundwater sample analyses included VOCs, polyaromatic hydrocarbons, and PCBs. One soil sample was also analyzed for the full suite of analytes (Target Analyte List metals, including mercury, SVOCs, VOCs, explosives/propellants, and organochlorine pesticides).

E.3 Nature and Extent of Contamination

The SRCs were identified in the soil evaluated at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift (subsurface soil and groundwater) during the RI (Parsons 2019). Inorganic SRCs were identified by comparing analytical data to the background screening values (BSVs). If organic compounds were detected, they were retained as SRCs because BSVs have not been established. The SRCs identified in soil were metals, TPH (C10-C20 and C20-C34), SVOCs, and VOCs, while SVOCs and VOCs were identified as SRCs in groundwater. All SRCs were retained to evaluate the risk to groundwater receptors as well as human receptors.

To delineate the horizontal and vertical extent of contamination, those SRCs identified in surface and subsurface soil were compared with the most stringent Resident Receptor Facility-Wide Cleanup Goals (FWCUGs, SAIC 2010) or United States Environmental Protection Agency (USEPA) Residential Regional Screening Levels (RSLs, USEPA 2018) if a FWCUG was not established at a target risk of 1×10^{-6} and a Hazard Quotient of 0.1. The majority of SRCs identified had concentrations less than the FWCUGs (or RSLs for those SRCs without FWCUGs). Because TPH (C10-C20 and C20-C34) are petroleum compounds, the U.S. Army Corps of Engineers (USACE) and Ohio EPA have agreed to use Ohio Bureau of Underground Storage Tank Regulations (BUSTR) Delineation Levels and Action Levels (Ohio Department of Commerce 2017) as screening criteria for TPH (C10-C20 and C20-C34). A summary of the RI data is presented below.

Subsurface Soil

Twenty-six SRCs were identified in subsurface soil at the AOC: 2 inorganics, 2 petroleum hydrocarbons, 20 SVOCs, and 2 VOCs. The SRCs with concentrations that exceeded the FWCUGs (or the Residential RSLs or BUSTR for chemicals without an established FWCUG) in subsurface soil are as follows:

- TPH (C20-C34)
- benzo(a)pyrene

Benzo(a)pyrene in soil was detected at concentrations only slightly greater than the RSL. TPH (C20-C34) and benzo(a)pyrene detections in subsurface soil at concentrations above FWCUGs (or the Residential RSLs or BUSTR for chemicals without an established FWCUG) in subsurface soil are limited and adequately defined.

Groundwater

Six SRCs were identified in groundwater at the AOC: 4 SVOCs and 2 VOCs. None of the SRC concentrations exceeded the FWCUGs (or the Residential RSLs for chemicals without an established FWCUG) in groundwater; therefore, no COPCs were identified in groundwater.

Fate and transport modeling eliminated all SRCs in soil as potential risks to groundwater. No Final Contaminant Migration Chemicals of Potential Concern (CMCOPCs) were identified.

E.4 Conceptual Site Model

Conceptual site model elements are discussed in this section, including primary and secondary sources and release mechanisms, contaminant migration pathways and discharge or exit points, and potential human and ecological receptors.

E.4.1 Primary and Secondary Contaminant Sources and Release Mechanisms

The hydraulic lift system remains in place and buried beneath Building 1034, but hydraulic fluids were removed from the hydraulic fluid storage tank and lift system. Therefore, the primary contaminant source has been removed (i.e., no continued leaking). Secondary sources (contaminated media) evaluated as part of the RI are described in the following sections.

E.4.2 Contaminant Migration Pathways and Exit Points

No groundwater receptors have been identified for this AOC. However, the potential for soil contaminants to impact groundwater was evaluated in a fate and transport evaluation presented in the RI Report (Parsons 2019). Inorganic and organic SRCs in subsurface soil were further evaluated to determine if residual concentrations in soil pose a risk to groundwater. No CMCOPCs were identified at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift. The SRCs were screened out as CMCOPCs during the soil screening analysis. Therefore, results from the fate and transport analyses indicate SRCs in soil do not pose risks to groundwater.

E.4.3 Potential Human Receptors and Ecological Resources

In February 2014, the ARNG and Ohio EPA amended the risk assessment process to address changes in the IRP. 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 – NGT.
3. Commercial/Industrial Land Use – Industrial Receptor (USEPA Composite Worker).

The OHARNG Land Use for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift is military training. The Representative Receptor is the NGT. Unrestricted (Residential) Land Use for the Residential Receptor is also included to evaluate COCs, as required by the CERCLA process. An evaluation using Resident Receptor (Adult and Child) FWCUGs (SAIC 2010) 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. No COCs were identified in the RI for surface or subsurface soil for the Resident Receptor for the CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift. Therefore, No Further Action is obtained for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift subsurface soil and groundwater.

Important ecological resources are not present at the CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift AOC. No habitat is present as it consists of the area in/under Building 1034. Affected subsurface soil is covered by the building; therefore, the ecological exposure pathway is incomplete. No Further Action is considered necessary for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift for the protection of ecological receptors.

F. CURRENT AND POTENTIAL FUTURE LAND AND RESOURCES USES

The current and future use of CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift is for military training. In accordance with CERCLA, as well as suggested in the NCP, it is a requirement of the RVAAP Risk Assessment process to include an evaluation of the Unrestricted (Residential) Land Use scenario. This ROD discusses future Land Use and potential soil, sediment, and surface water impacts to 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 COECs, 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 *Final Remedial Investigation, CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift* (Parsons 2019) and *Proposed Plan for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift Revision 1.0* (Parsons 2020) in the Administrative Record and Information Repositories.

G.1 Human Health Risk Assessment

A baseline HHRA was performed during the RI to identify COCs and provide a risk management evaluation to determine if remediation is required under CERCLA based on potential risks to human receptors. The exposure media and depths evaluated in the HHRA for the Resident Receptor (Adult and Child) were subsurface soil (1-13 feet bgs) and groundwater. Surface water and sediment are not present within any of the AOCs, and no COCs were identified in nearby surface water or sediment.

No COCs were identified in subsurface soil or groundwater for the Resident Receptor. Therefore, No Further Action is required for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift subsurface soil or groundwater for protection of human health.

G.2 Ecological Risk Assessment

The ERA evaluated the potential for chemical constituents detected in subsurface soil (1-13 feet bgs) and groundwater to adversely affect ecological receptors. A Level I Scoping ERA found that although there was the potential for a release, no important ecological resources are present. Therefore, no further investigation (e.g., Level III Baseline ERA) or remedial action is considered

necessary at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift for the protection of ecological receptors. No COECs were identified for the AOC.

G.3 Basis for Action Statement

No COCs were identified in the HHRA, and no COECs were identified in the ERA. Therefore, No Further Action is necessary to protect public health and welfare or the environment from actual or threatened releases of hazardous substances.

H. DOCUMENTATION OF NO SIGNIFICANT CHANGE

The *Proposed Plan for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift Revision 1.0* was released for public comment on September 14, 2020. The Proposed Plan recommends No Further Action for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift. No significant changes were necessary or appropriate following conclusion of the public comment period.

PART III RESPONSIVENESS SUMMARY FOR PUBLIC COMMENTS ON THE U.S. ARMY PROPOSED PLAN FOR CC RVAAP-74 BUILDING 1034 MOTOR POOL HYDRAULIC LIFT

A. OVERVIEW

On September 14, 2020, the ARNG released the *Final Proposed Plan for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift Revision 1.0* (Parsons 2020) for public comment. A 30-day public comment period was held from September 14, 2020, to October 13, 2020. Notifications of the public comment period were published in local newspapers (Attachments 1 through 3) and on the RVAAP Restoration Program website (www.rvaap.org). The ARNG hosted a virtual public meeting on September 22, 2020 to present the Proposed Plan and take questions and comments from the public for the record.

No Further Action was the preferred Alternative selected in the Proposed Plan for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift. During the public meeting, Ohio EPA concurred with the recommendation. No oral comments were received at the public meeting, and the community voiced no objections to No Further Action for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift during the public comment period.

B. SUMMARY OF STAKEHOLDER ISSUES AND LEAD AGENCY RESPONSES

No comments were received verbally during the public meeting, and no written comments were received during the 30-day public comment period.

C. TECHNICAL AND LEGAL ISSUES

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

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PART IV REFERENCES

- ARNG 2014. Final Technical Memorandum: Land Uses and Revised Risk Assessment Process for the RVAAP Installation Restoration Program
- Brady, N.C. and R.R., Weil (Brady and Weil) 2001. The Nature and Property of Soils, Thirteenth Edition. (Prentice- Hall: New York).
- Ohio Department of Commerce, Division of State Fire Marshal 2017. Bureau of Underground Storage Tank Regulations (BUSTR). Technical Guidance Manual for Closure, Corrective Action, and Petroleum Contaminated Soil Rules. 1 July 2012. Revised September 2017.
- Ohio Environmental Protection Agency (Ohio EPA) 2004. Director’s Final Findings and Orders. June 10.
- Parsons 2019. Final Remedial Investigation (RI) CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift, Ravenna Army Ammunition Plant, Ravenna, Ohio. October 3.
- Parsons 2020. Final Proposed Plan for CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift Revision 1.0, Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio. August 21.
- Science Applications International Corporation (SAIC) 2010. Facility-Wide Human Health Cleanup Goals for the Ravenna Army Ammunition Plant, RVAAP. Ravenna, Ohio. March.
- SAIC 2011. Historical Records Review (HRR) Phase I Remedial Investigation Services at Compliance Restoration Sites (9 Areas of Concern), Ravenna Army Ammunition Report, Ohio. April.
- TEC-Weston Joint Venture 2016. Final Facility-Wide Groundwater Monitoring Program RVAAP-66 Facility-Wide Groundwater Annual Report for 2015 Sampling Events, Former Ravenna Army Ammunition Plant, Ravenna, Ohio. May 6.
- United States Environmental Protection Agency (USEPA) 2018. USEPA Regional Screening Level (RSL). November.
- Chenga Tri-Services 2020. Community Relations Plan 2020, Ravenna Army Ammunition Restoration Program, Portage and Trumbull Counties, Ohio. February 27.

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FIGURES

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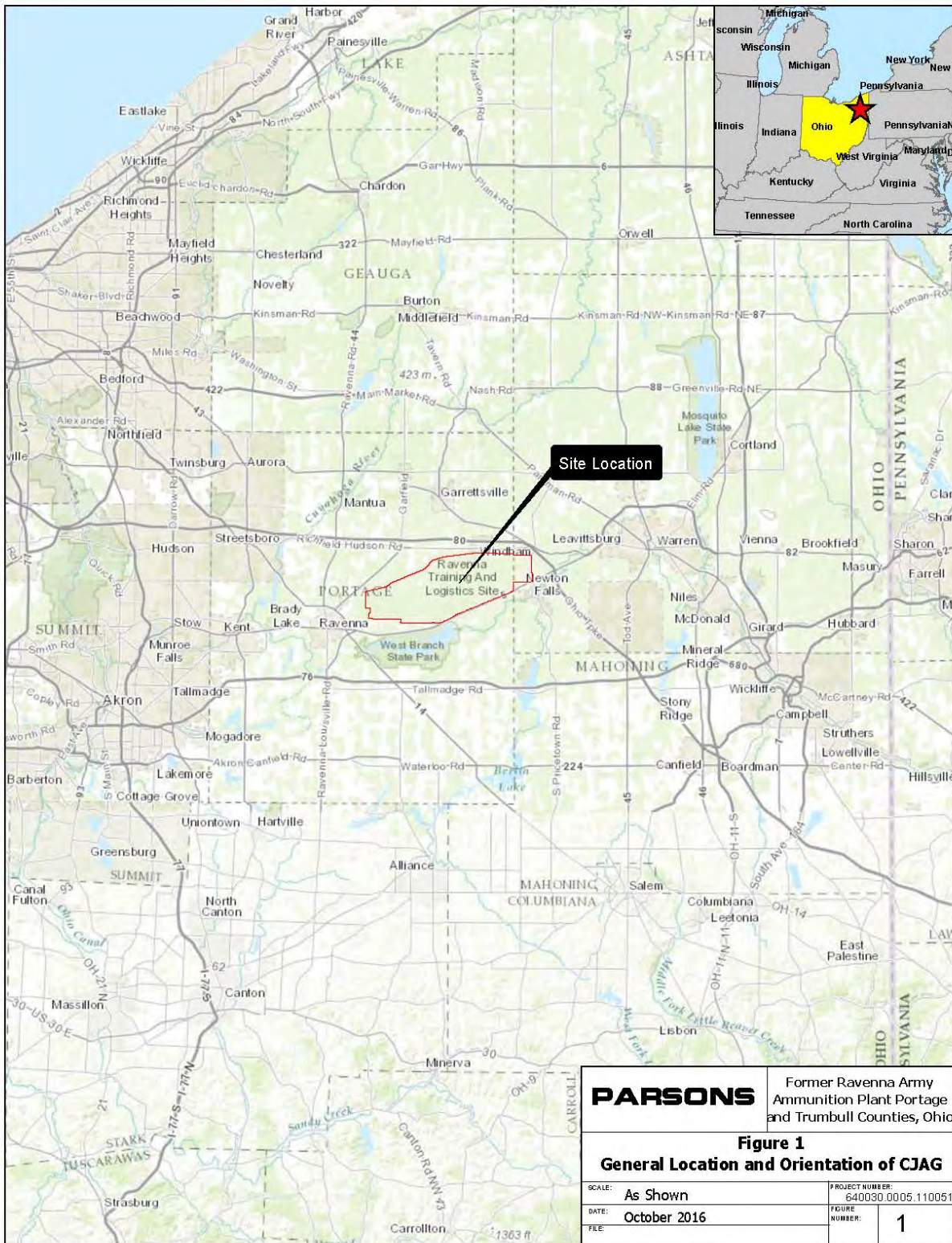


Figure 1. General Location and Orientation of Camp James A. Garfield

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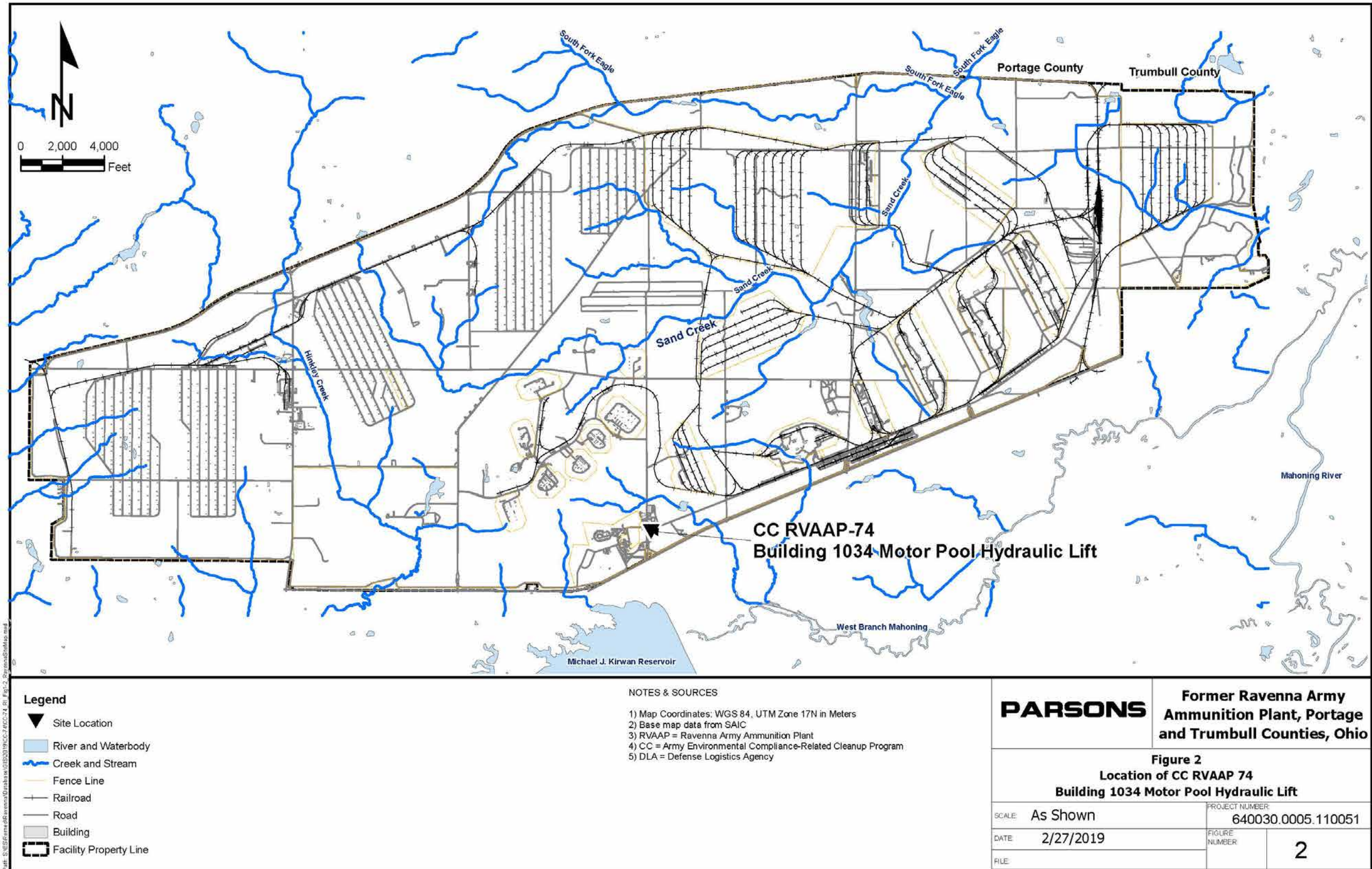


Figure 2. Location of CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift

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Figure 3. Site Features and Topography at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift

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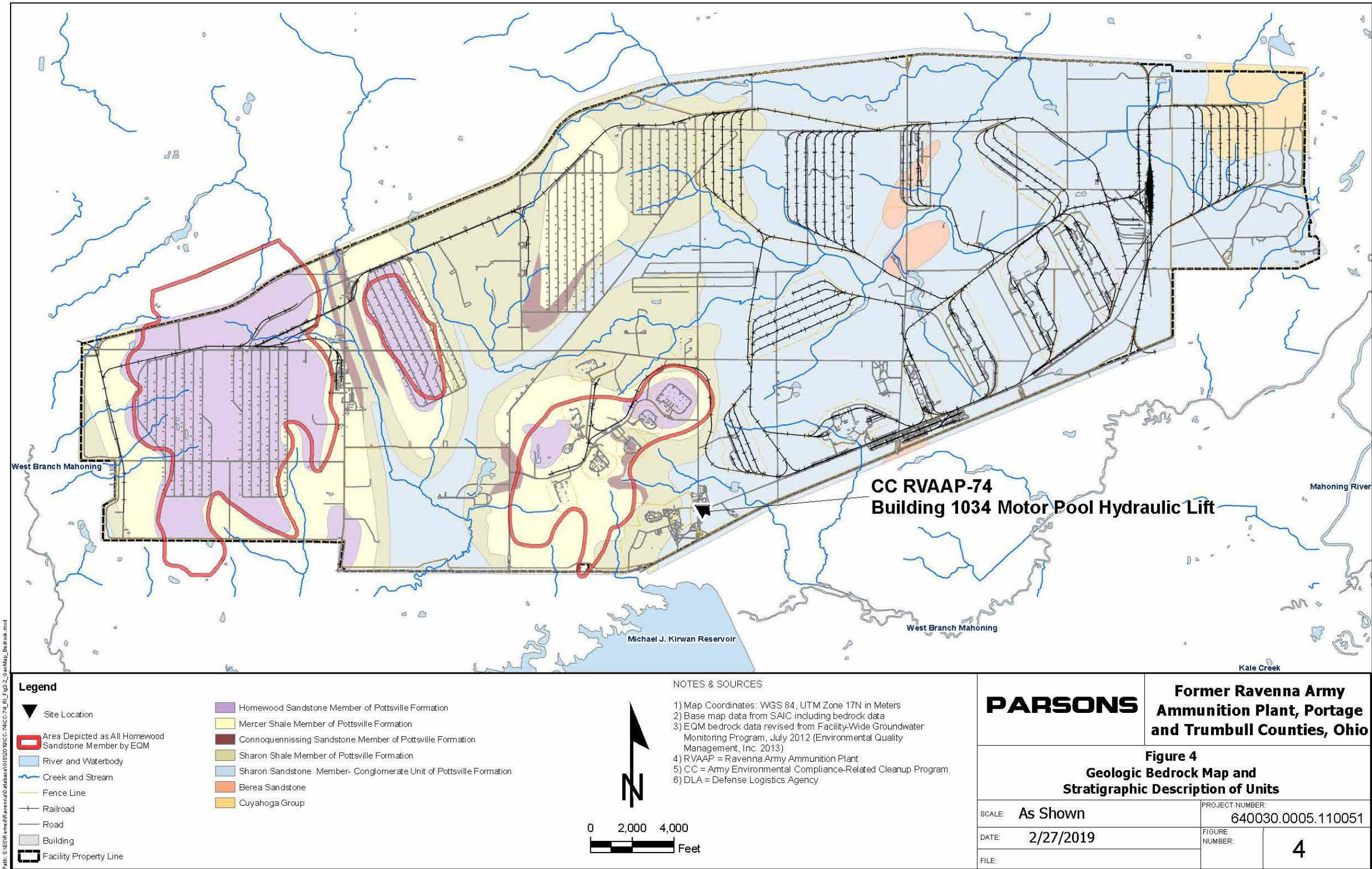


Figure 4. Geologic Bedrock Map and Stratigraphic Description of Units

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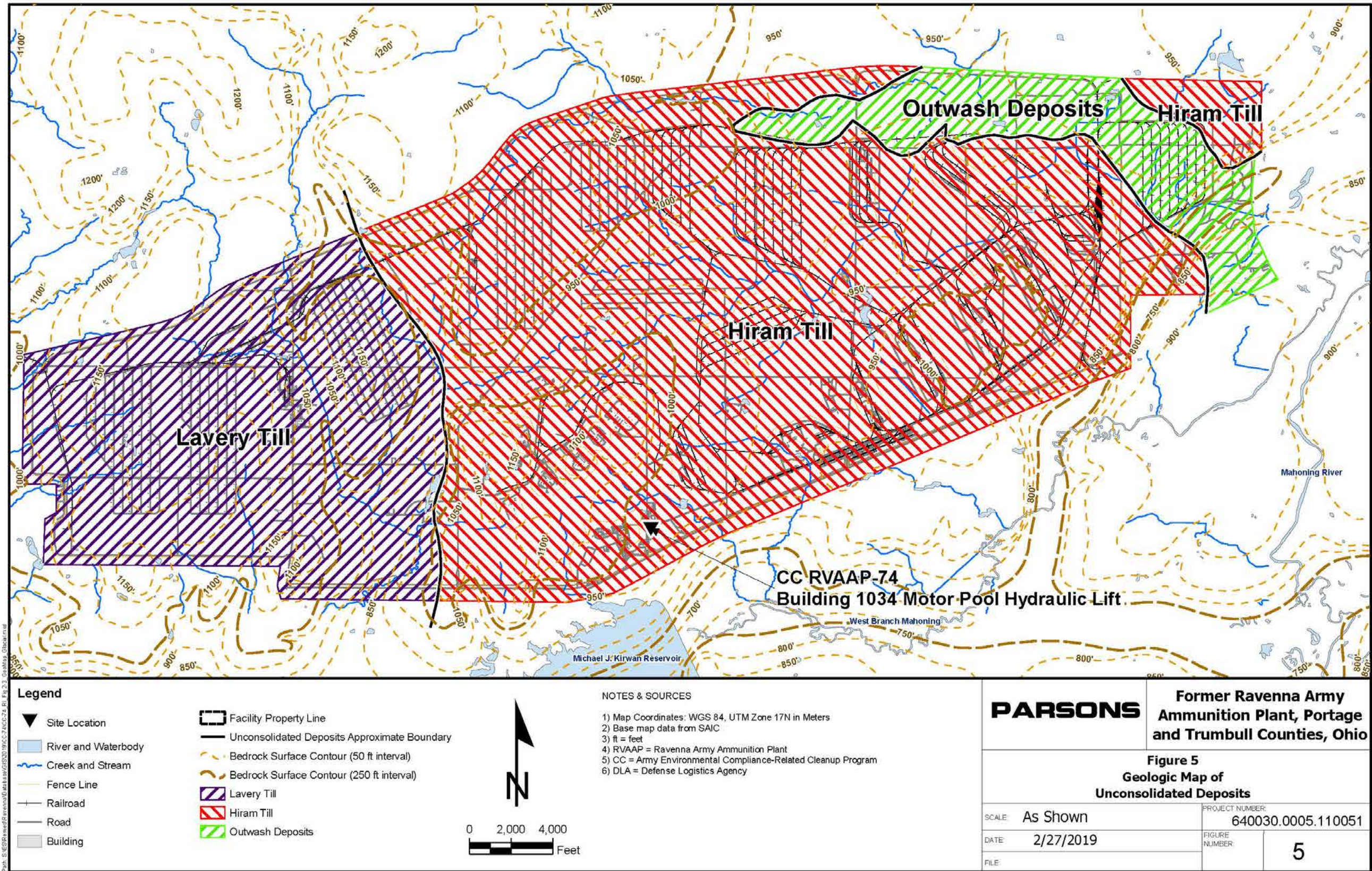


Figure 5. Geologic Map of Unconsolidated Deposits

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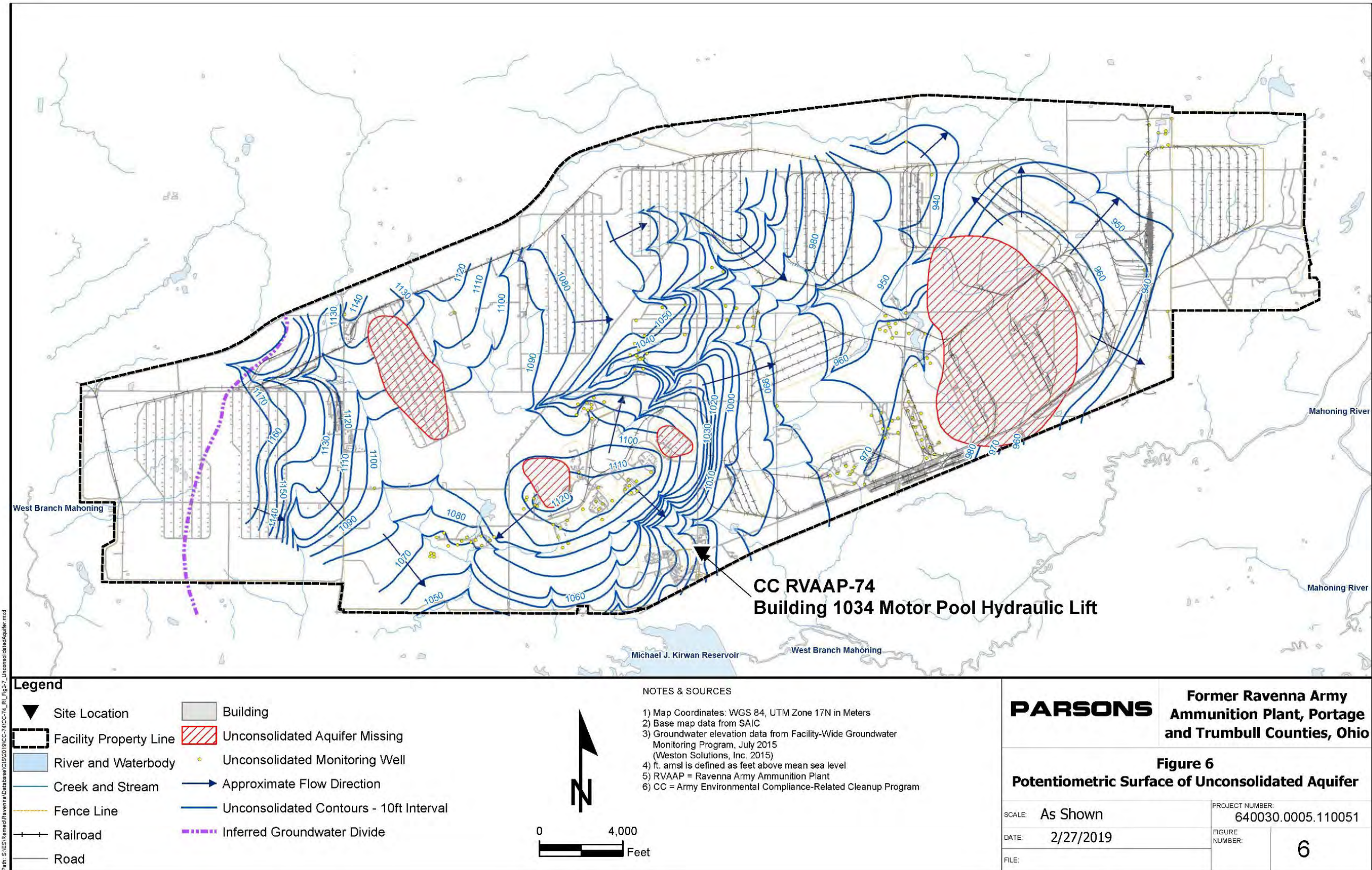


Figure 6. Potentiometric Surface of Unconsolidated Aquifer

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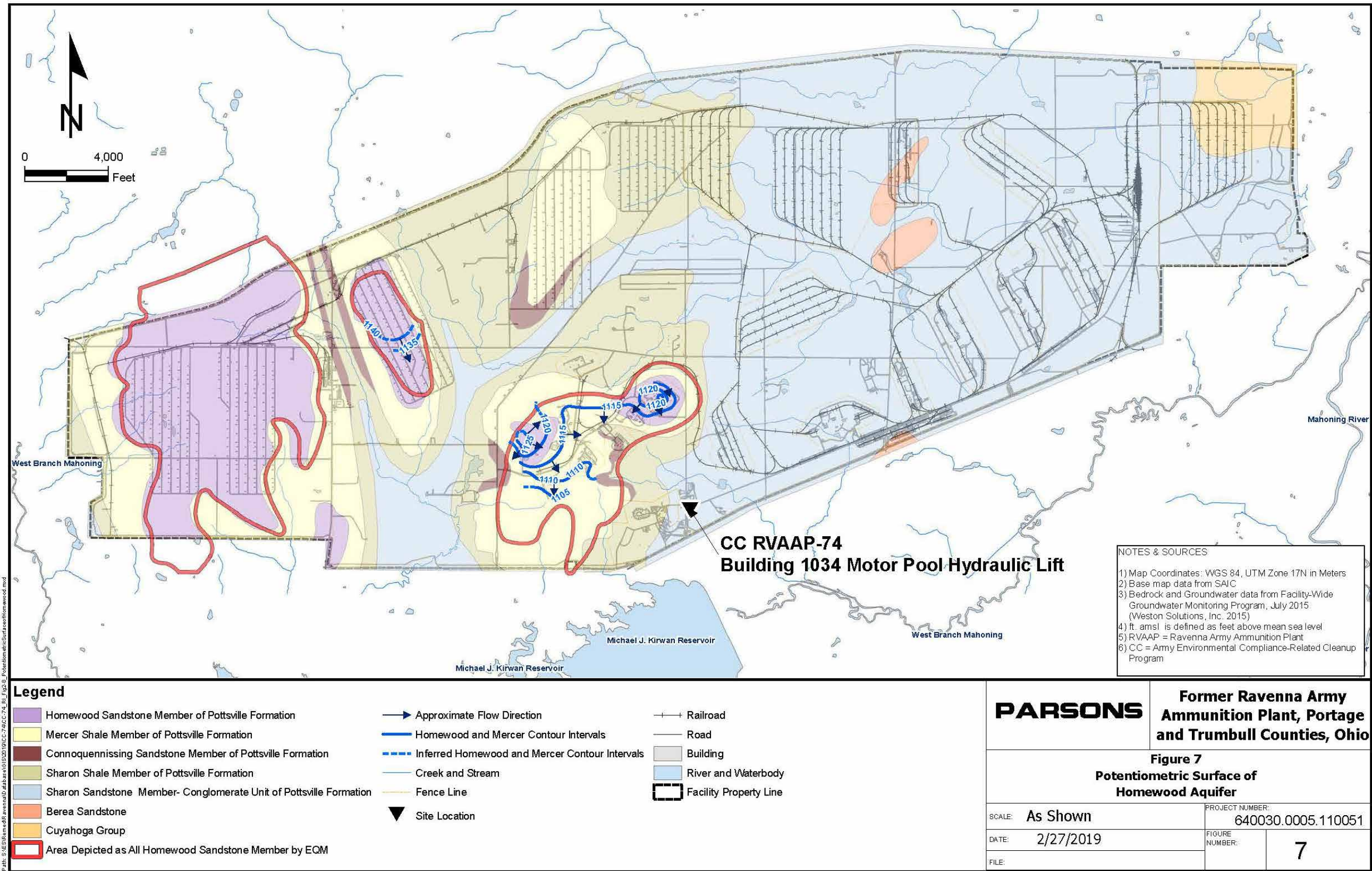


Figure 7. Potentiometric Surface of Homewood Aquifer

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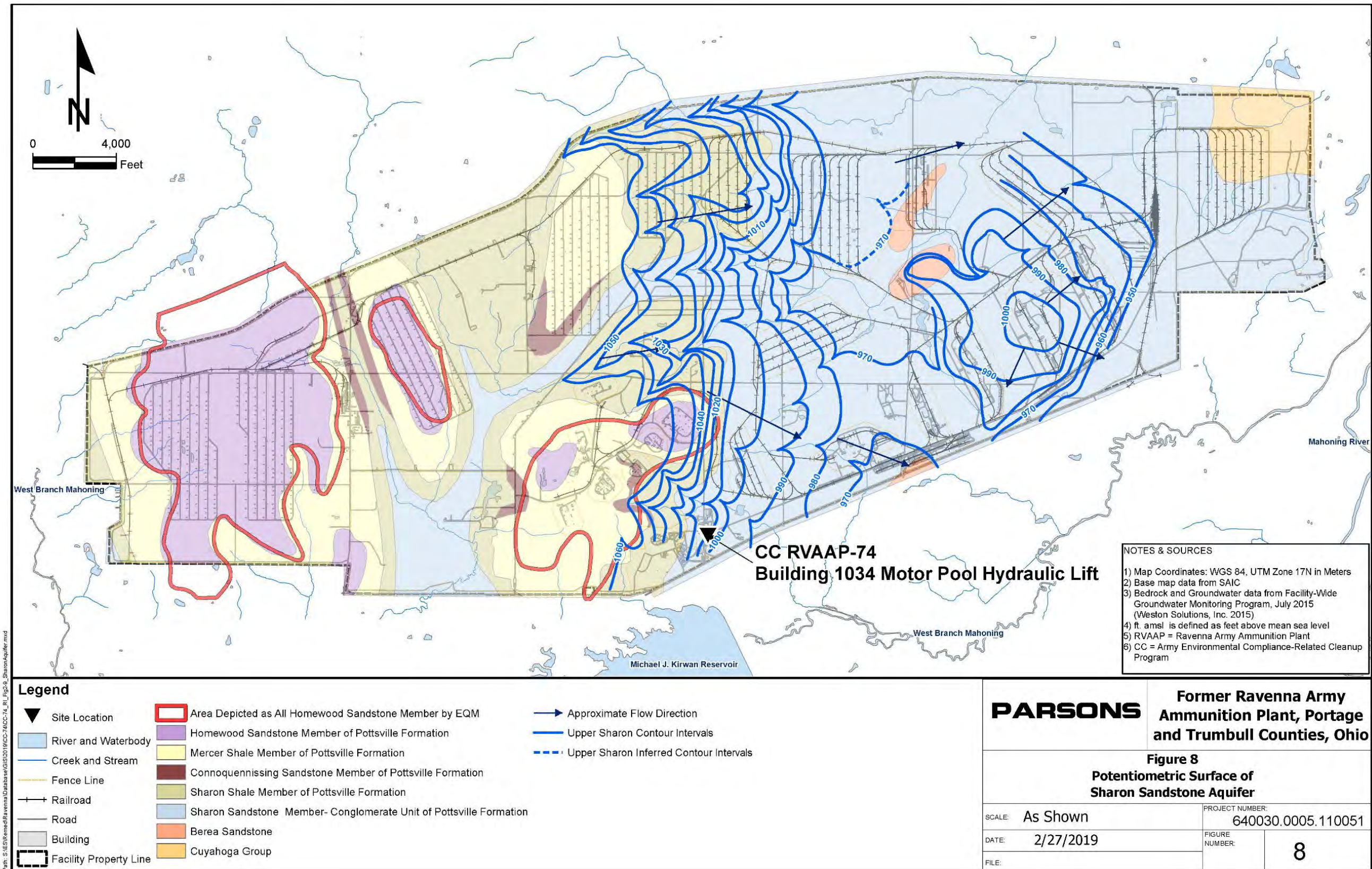


Figure 8. Potentiometric Surface of Sharon Sandstone Aquifer

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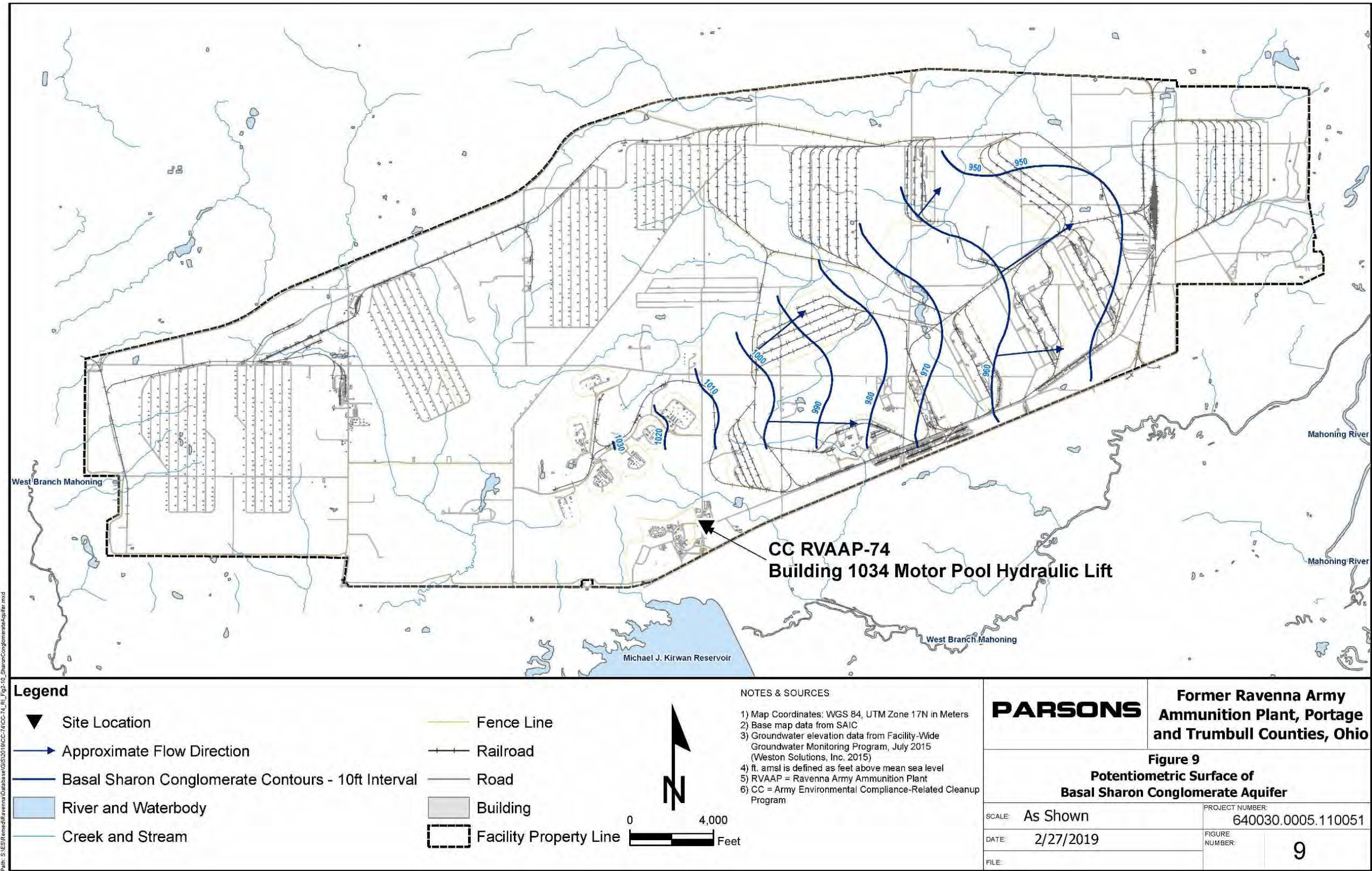


Figure 9. Potentiometric Surface of Basal Sharon Conglomerate Aquifer

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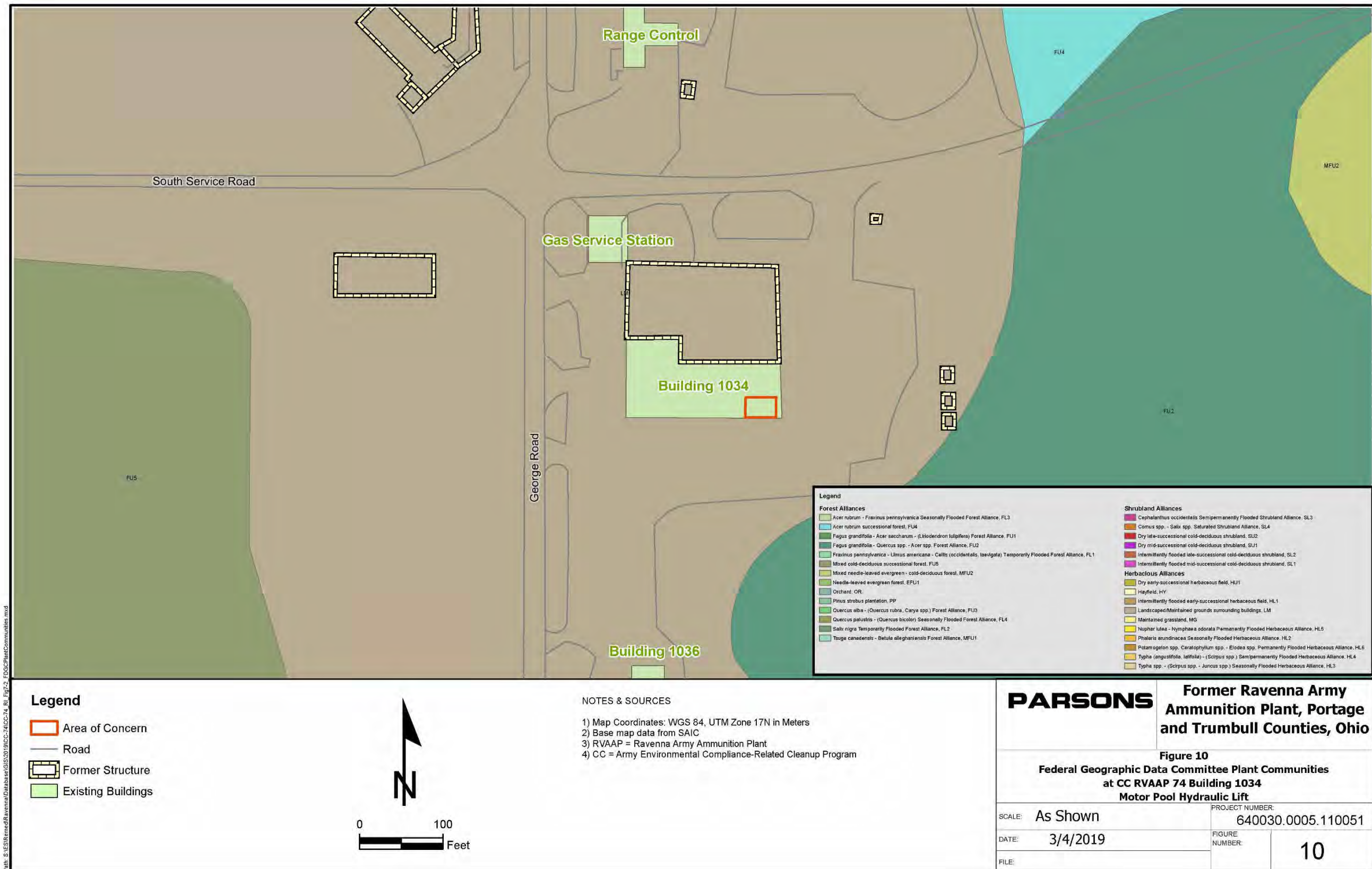


Figure 10. Federal Geographic Data Committee Plant Communities at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift

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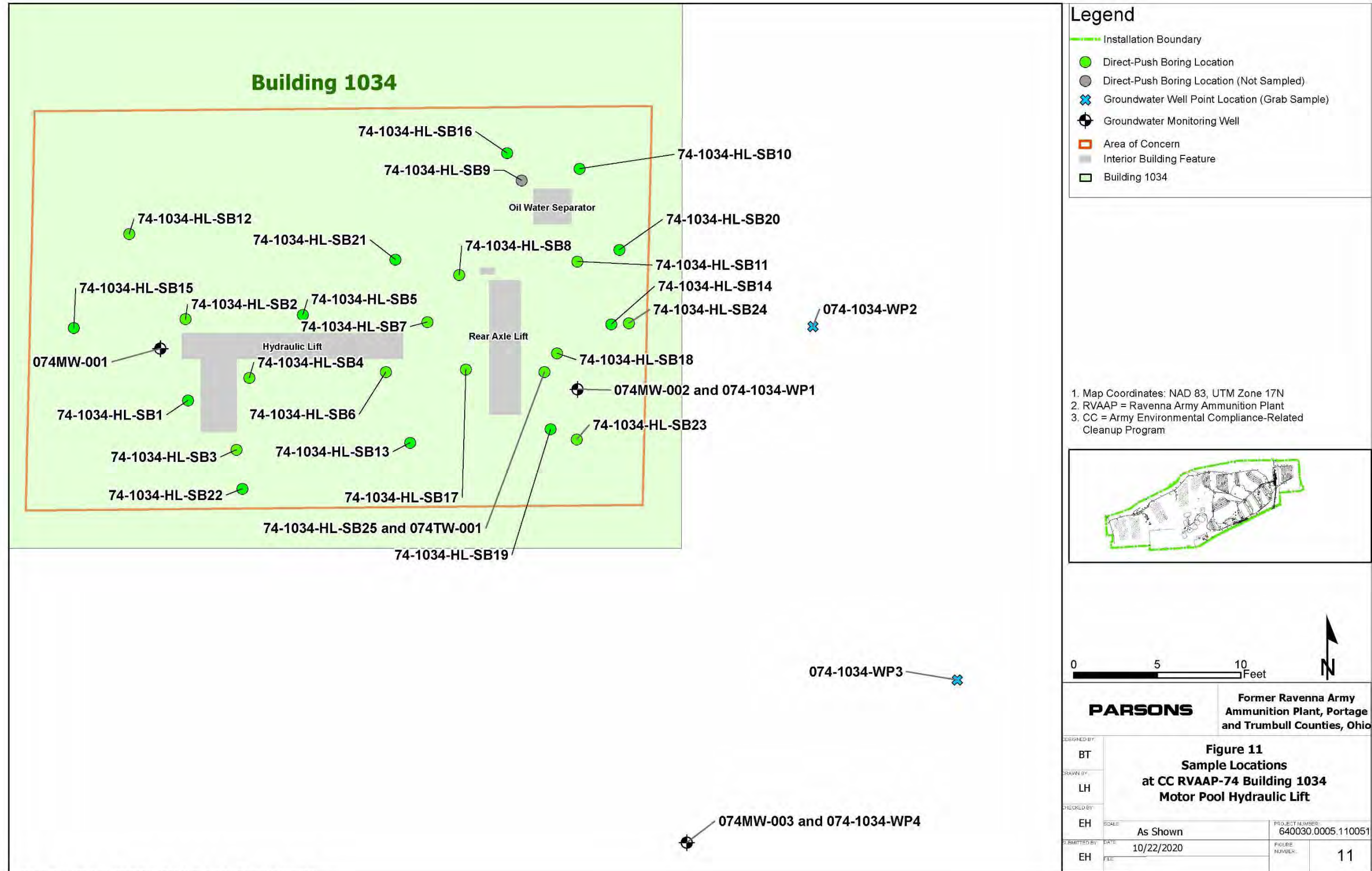


Figure 11. Sample Locations at CC RVAAP-74 Building 1034 Motor Pool Hydraulic Lift

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ATTACHMENTS

Attachment 1. Public Notice

PUBLIC NOTICE

Camp James A. Garfield Joint Military Training Center
Environmental Office
1438 State Route 534 SW-Newton Falls, Ohio 44444
614-336-6136

Virtual Public Meeting to be held September 22, 2020 for Army National Guard Release of a Proposed Plan for the Building 1034 Motor Pool Hydraulic Lift at the Former Ravenna Army Ammunition Plant

Ravenna- The Army National Guard, in consultation with the Ohio Environmental Protection Agency, submits for public review and comment a Proposed Plan for a site at the former Ravenna Army Ammunition Plant (RVAAP) in Portage and Trumbull counties, Ohio.

The Building 1034 Motor Pool Hydraulic Lift is within the former RVAAP (now known as Camp James A. Garfield) in Portage and Trumbull Counties, Ohio. This site is being addressed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Proposed Plan presents the current status and information regarding the site. The Proposed Plan details the recommendation for the site and provides the rationale for this recommendation.

On September 22, 2020, a virtual public meeting will be held beginning at 6:00 p.m. at www.webex.com (or by calling 1-833-752-1090); **Meeting Number:** 1460282415; **Password:** RavennaCC-74 (phone only 72836622). Details on how to attend the meeting can be found at: www.rvaap.org.

At 6:15 pm, the Army National Guard will briefly describe the site assessment, present the recommendation for the site, and request verbal comments from the public. Written comments regarding recommendations may be submitted to the Army National Guard during the 30-day comment period from September 14, 2020 to October 13, 2020. All written comments should be addressed to CJAG Environmental Office; 1438 State Route 534 SW, Newton Falls, Ohio, 44444 or sent via email to kathryn.s.tait.nfg@mail.mil.

In accordance with CERCLA, the recommendation presented in the Proposed Plan is also presented in the earlier remedial investigation report. All reports are available for public review at the RVAAP Restoration Program Information Repository at the Reed Memorial Library (167 East Main Street, Ravenna) and the Newton Falls Public Library (204 South Canal Street, Newton Falls). The reports are also available online at www.rvaap.org.

The final remedy for the site will be selected based, in part, on public comments. In coordination with the Ohio Environmental Protection Agency, the Army National Guard will select a final remedy after reviewing and considering all public comments received during the 30-day public comment period from September 14, 2020 to October 13, 2020. The Army National Guard encourages the public to review and comment on the recommendation presented in this document.

For more information or to participate in the review, please visit the RVAAP Restoration website (www.rvaap.org) or call Katie Tait at 614-336-6136.

Attachment 2. Affidavit from Kent Record Courier Newspaper

31243510

Proof of Publication

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

I, Teresa S. Milam
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 annexed was Published in said newspapers for 2 insertions on the same day of the week from and after the day of September, 2020 and that the fees charged are legal.

Teresa S. Milam

Name of Account: Parsons/ Ed Heysse
Ad Number: 12671160
No. of Lines: 79

Day(s) Published: 09/13, 09/20,
Printers Fee: \$138.15

Sworn to and subscribed before this 21st day of September, 2020.

Elizabeth McDaniel
Elizabeth McDaniel
Notary Public
Commission Expires June 19, 2021

PUBLIC NOTICE
Camp James A. Garfield Joint Military Training Center
Environmental Office
1438 State Route 534 SW-
Newton Falls, Ohio 44444
614-336-6136
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Attachment 3. Affidavit from Warren Tribune Newspaper

PUBLIC NOTICE
 Camp James A. Garfield Joint
 Military Training Center
 Environmental Office
 1438 State Route 534 SW
 Newton Falls, Ohio 44444
 614-336-6136

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At 6:15 pm, the Army National Guard will briefly describe the site assessment, present the recommendation for the site, and request verbal comments from the public. Written comments regarding recommendations may be submitted to the Army National Guard during the 30-day comment period from September 14, 2020 to October 13, 2020. All written comments should be addressed to CJAG Environmental Office; 1438 State Route 534 SW, Newton Falls, Ohio, 44444 or sent via email to kathryn.s.tait.nfg@mail.mil.

In accordance with CERCLA, the recommendation presented in the Proposed Plan is also presented in the earlier remedial investigation report. All reports are available for public review at the RVAAP Restoration Program Information Repository at the Reed Memorial Library (167 East Main Street, Ravenna) and the Newton Falls Public Library (204 South Canal Street, Newton Falls). The reports are also available online at www.rvaap.org.

The final remedy for the site will be selected based, in part, on public comments. In coordination with the Ohio Environmental Protection Agency, the Army National Guard will select a final remedy after reviewing and considering all public comments received during the 30-day public comment period from September 14, 2020 to October 13, 2020. The Army National Guard encourages the public to review and comment on the recommendation presented in this document.

For more information or to participate in the review, please visit the RVAAP Restoration website (www.rvaap.org) or call Katie Tait at 614-336-6136.

#257-2T-September 13 & 20, 2020 #5333

PROOF OF PUBLICATION

STATE OF OHIO
 TRUMBULL COUNTY

SS: CONNIE PACEK

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Attachment 4. Regulatory Correspondence

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

March 23, 2021

TRANSMITTED ELECTRONICALLY

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

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859261

Subject: Draft Record of Decision for Building 1034 Motor Pool Hydraulic Lift

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the Draft Record of Decision for Building 1034 Motor Pool Hydraulic Lift," dated March 08, 2021.

Ohio EPA has no comments but has a recommendation:

1. Section E.1.3, Lines 366-367 states: "An inactive groundwater supply well is located approximately 240 feet west-northwest of the [Area of Concern]." Ohio EPA recommends abandoning this well. Please note this recommendation is not a comment that requires response.

Please submit the document in final form.

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

RECEIVED
MAR 23 2021

Northeast District Office • 2110 East Aurora Road • Twinsburg, OH 44087-1924
epa.ohio.gov • (330) 963-1200 • (330) 487-0769 (fax)

MR. SEDLAK
U.S. ARMY RAVENNA AMMUNITION PLT. RVAAP
MARCH 23, 2021
PAGE 2 OF 2

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

Sincerely,



Edward D'Amato
Site Coordinator
Division of Environmental Response and Revitalization

ED/sc

ec: Katie Tait, OHARNG RTLS
Nat Peters, USACE
Steven Kvaal, USACE
Rebecca Shreffler, Chenega
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
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