Final

Proposed Plan
for Soil, Sediment, and Surface Water
at CC RVAAP-68 Electric Substations (East, West, No. 3)

Former Ravenna Army Ammunition Plant
Portage and Trumbull Counties, Ohio

Contract No. W912QR-15-C-0046

Prepared for:

US Army Corps of Engineers®

United States Army Corps of Engineers
Louisville District

Prepared by:

leidos

Leidos
8866 Commons Boulevard, Suite 201
Twinsburg, Ohio 44087

September 30, 2016

REPORT DOCUMENTATION PAGE

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None.

14. ABSTRACT

This Proposed Plan for the Electric Substations (East, West, No. 3) presents to the public the physical characteristics, geology, and hydrogeology of the Electric Substations (East, West, No. 3). This plan summarizes 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. Therefore, this plan presents a recommendation of No Further Action (NFA) with respect to soil, sediment, and surface water to attain Unrestricted (Residential) Land Use to the public.

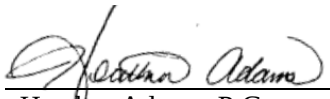
15. SUBJECT TERMS

proposed plan, 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
a. REPORT	b. ABSTRACT	c. THIS PAGE			Nathaniel Peters, II
U	U	U	U	36	19b. TELEPHONE NUMBER *(Include area code)* 502.315.2624

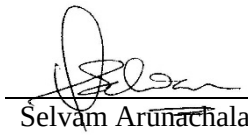
CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

Leidos has completed the Final Proposed Plan for Soil, Sediment, and Surface Water at CC RVAAP-68 Electric Substations (East, West, No. 3) at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of data quality objectives; technical assumptions; methods, procedures, and materials to be used; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing United States Army Corps of Engineers (USACE) policy.



Heather Adams, P.G.
Study/Design Team Leader

05/06/2016
Date

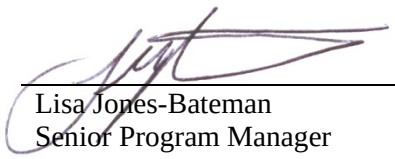


Selvam Arunachalam, PE
Independent Technical Review Team Leader

05/06/2016
Date

Significant concerns and the explanation of the resolution are as follows:

Internal Leidos Independent Technical Review comments are recorded on a Document Review Record per Leidos standard operating procedure ESE A3.1 Document Review. This Document Review Record is maintained in the project file. Changes to the report addressing the comments have been verified by the Study/Design Team Leader. As noted above, all concerns resulting from independent technical review of the project have been considered.



Lisa Jones-Bateman
Senior Program Manager

05/06/2016
Date

Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

OCT 19 2016

Re: US Army Ravenna Ammunition PLT RVAAP
Remediation Response
Project Records
Remedial Response
Trumbull County
267000859221

Mr. Mark Leeper
Restoration/Cleanup Program Manager
Army National Guard Directorate
ARNGD-ILE Clean Up
111 South George Mason Drive
Arlington, VA 22203

SUBJECT: Final Proposed Plan for RVAAP-68, Electrical Substations (East, West, No.3), Dated October 3, 2016

Dear Mr. Leeper:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Final Proposed Plan for RVAAP-68, Electrical Substations (East, West, No.3)" document for the Ravenna Army Ammunition Plant (RVAAP), Portage/Trumbull Counties. The document, dated October 3, 2016, was received at the Northeast District Office (NEDO) on October 4, 2016. No Further Action is proposed for the site.

Based on the information contained in the Final PP document, other investigation documents/reports, and Ohio EPA's oversight participation during the investigation, Ohio EPA approves the Final PP document for the RVAAP-68, Electrical Substations (East, West, No.3).

As stated in the Final PP, the Army will offer a public comment period and hold an open house/public meeting in the near future to present the conclusions and investigative findings for RVAAP-68, Electrical Substations (East, West, No.3).

50 West Town Street • Suite 700 • P.O. Box 1049 • Columbus, OH 43216-1049
epa.ohio.gov • (614) 644-3020 • (614) 644-3184 (fax)

If you have any questions concerning the above, please feel free to contact Ed D'Amato at (330) 963-1170.

Sincerely,

Michael Proffitt
Chief
Division of Environmental Response and Revitalization

ED/nvr

cc: Katie Tait/Kevin Sedlak, ARNG, Camp Ravenna
Gail Harris/Rebecca Shreffler, Vista Sciences
Greg Moore, USACE Louisville

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Bill Damschroder, Esq., Ohio EPA, Legal

Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

June 10, 2015

Re: **US Army Ravenna Ammunition Plt RVAAP Assessment**
Remedial Response
Portage County
267000859221

Mr. Mark Leeper, P.G., MBA
Restoration/Cleanup Program Manager
ARNG Directorate
111 S. George Mason Dr.
Arlington, VA 22204

Subject: **Ohio EPA's Review of Draft Proposed Plan for CC-RVAAP-68, Electrical Substations (East, West, No. 3), Project No. 267-000859-221**

Dear Mr. Leeper:

The Ohio Environmental Protection Agency (Ohio EPA) has reviewed the draft Proposed Plan for CC-RVAAP-68, which was received by this office on May 6, 2016. The document was prepared by Leidos under contract no. W912QR-15-C-0046.

Ohio EPA has no comments. In the final proposed plan, please include the date the public meeting will occur.

If you have any questions or concerns, please free feel to contact me at (330) 963-1170.

Sincerely,

Edward D'Amato
Project Coordinator
Ohio EPA - Division of Environmental Response and Revitalization

ED/nvr

ec: Bob Princic, Supervisor, DERRNEDO
Rod Beals, Manager, DERR, NEDO
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September 30, 2016

DOCUMENT DISTRIBUTION
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Ed D'Amato, Project Manager, Ohio EPA NEDO-DERR	1	3
Brian Tucker, Ohio EPA, CO-DERR	1	1
Kelly Kaletsky, Ohio EPA, CO-DERR	Email transmittal letter only	
Bob Princic, Ohio EPA, NEDO-DERR	Email transmittal letter only	
Rod Beals, Ohio EPA, NEDO-DERR	Email transmittal letter only	
Mark Leeper, ARNG-ILE Cleanup	0	1
Katie Tait, OHARNG, Camp Ravenna Kevin Sedlak, ARNG, Camp Ravenna	1	1
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Admin Records Manager – Camp Ravenna	2	2
Pat Ryan, Leidos-REIMS	0	1
Jed Thomas, Leidos	1	1
Kevin Jago, Leidos	1	1
Leidos Contract Document Management System	0	1

ARNG = Army National Guard.
CO = Central Office.
DERR = Division of Environmental Response and Revitalization.
ILE = Installation, Logistics, and Environment.
OHARNG = Ohio Army National Guard.
Ohio EPA = Ohio Environmental Protection Agency.
NEDO = Northeast Ohio District Office.
REIMS = Ravenna Environmental Information Management System.
USACE = United States Army Corps of Engineers.

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LIST OF TABLE AND FIGURES

LIST OF ACRONYMS

amsl	Above Mean Sea Level
AOC	Area of Concern
bgs	Below Ground Surface
BSV	Background Screening Value
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMCOC	Contaminant Migration Chemical of Concern
COC	Chemical of Concern
COPC	Chemical of Potential Concern
COPEC	Chemical of Potential Ecological Concern
EPC	Exposure Point of Concentration
ERA	Ecological Risk Assessment
FS	Feasibility Study
FWCUG	Facility-wide Cleanup Goal
HHRA	Human Health Risk Assessment
HQ	Hazard Quotient
ISM	Incremental Sampling Methodology
MDC	Maximum Detected Concentration
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
PCB	Polychlorinated Biphenyl
PP	Proposed Plan
RI	Remedial Investigation
ROD	Record of Decision
RVAAP	Ravenna Army Ammunition Plant
SARA	Superfund Amendments and Reauthorization Act
SRC	Site-related Contaminant
SVOC	Semi-volatile Organic Compound
TAL	Target Analyte List
USEPA	United States Environmental Protection Agency
USP&FO	U.S. Property and Fiscal Officer
VOC	Volatile Organic Compound

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1.0 INTRODUCTION

This Proposed Plan (PP) presents the conclusions and recommendations for soil, sediment, and surface water within the Compliance Restoration site CC (Army Environmental Compliance-Related Cleanup Program) RVAAP-68 Electric Substations (East, West, No. 3). This PP specifically addresses area of concern (AOC) CC RVAAP-68 at the former Ravenna Army Ammunition Plant (RVAAP). The former RVAAP is now known as Camp Ravenna Joint Military Training Center (Camp Ravenna) and is located in Portage and Trumbull counties, Ohio (Figure 1). The U.S. Department of the Army (U.S. Army), in coordination with the Ohio Environmental Protection Agency (Ohio EPA), issues this PP to provide the public with information to comment upon the selection of an appropriate response action. The remedy will be selected for the Electric Substations (East, West, No. 3) after all comments submitted during the 30-day public comment period are considered. Therefore, the public is encouraged to review and comment on all alternatives presented in this PP.

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

This PP summarizes information that can be found in greater detail in the *Remedial Investigation Report CC RVAAP-68 Electric Substations (East, West, No. 3)* (USACE 2015) and other documents contained in the Administrative Record file for this AOC.

Public Comment Period:
November 14, 2016 to December 14, 2016

Public Meeting:
The U.S. Army will hold an open house and public meeting to present the conclusions and additional details presented in the *Remedial Investigation Report CC RVAAP-68 Electric Substations (East, West, No. 3)* (USACE 2015). Oral and written comments will also be accepted at the meeting. The open house and public meeting are scheduled for 6:00PM, November 29, 2016, at the Shearer Community Center, 9355 Newton Falls Road, Ravenna, Ohio 44266.

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

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

Hours of operation:
9AM-9PM Monday-Thursday
9AM-6PM Friday
9AM-5PM Saturday
1PM-5PM Sunday

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

Hours of operation:
10AM-8PM Monday-Thursday
9AM-5PM Friday and Saturday

Online
http://www.rvaap.org/

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

Camp Ravenna Joint Military Training Center (former Ravenna Army Ammunition Plant)
Environmental Office
1438 State Route 534 SW
Newton Falls, Ohio 44444
(330) 872-8003
Note: Access is restricted to Camp Ravenna, but the file can be obtained or viewed with prior notice to Camp Ravenna.

The U.S. Army's preferred alternative at the Electric Substations is no further action for soil, sediment, and surface water.

The U.S. Army encourages the public to review these documents to gain a more comprehensive understanding of the AOC, activities that have been conducted to date, and the rationale for this preferred alternative.

2.0 RVAAP DESCRIPTION AND BACKGROUND

The facility, consisting of 21,683 acres, is federally owned and is located in northeastern Ohio within Portage and Trumbull counties, approximately 4.8 kilometers (3 miles) east/northeast of the City of Ravenna and approximately 1.6 kilometers (1 mile) northwest of the City of Newton Falls (Figure 1). The facility, previously known as RVAAP, was formerly used as a load, assemble, and pack facility for munitions production. As of September 2013, administrative accountability for the entire acreage of the facility has been transferred to the U.S. Property and Fiscal Officer (USP&FO) for Ohio and subsequently licensed to the Ohio Army National Guard (OHARNG) for use as a military training site (Camp Ravenna). References in this document to 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.

3.0 ELECTRIC SUBSTATIONS (EAST, WEST, NO. 3) DESCRIPTION AND BACKGROUND

The three former substations (Figure 2) were key distribution points for electrical power throughout the facility. Electricity for the facility was purchased from the Ohio Edison Company and was supplied from Newton Falls and Garrettsville, Ohio. Distribution of electricity occurred through the substations, each at approximately 24,000 volts.

The use of several hazardous and regulated materials was documented during the operation of the three former substations, including petroleum products (fuels and oils), polychlorinated biphenyls (PCBs), and lead acid batteries. Annual PCB inventory inspections were conducted on a facility-wide basis to document quantities of PCB oil located throughout the facility. The results of the inspections were documented in annual PCB inventory reports, which listed all PCB-containing items, including transformers, capacitors, contaminated soil, and hydraulic equipment containing contaminated oil.

East Substation

The former East Substation was in use from the 1940s through 1993, servicing Load Lines 1, 2, 3, 4, and 12, as well as providing power for miscellaneous facilities on the eastern side of the facility. While in use, the East Substation consisted of an approximately 1,170-square-foot (ft^2) brick Switch House (Building 25-27) constructed of a 6-inch-thick reinforced concrete floor. The interior of the building was divided into a general area for the switch gear panel and a smaller room used for storing lead acid batteries for backup power. In August 1993, the transformers were drained and moved to Building 854 for disposal. The only remaining structure at the East Substation is the former Switch House Building, which was not included as part of the Remedial Investigation (RI).

West Substation

The former West Substation serviced the Fuze and Booster Hill area, including Load Lines 5 through 11, the Administration Area, and George Road Area. The layout of the West Substation was similar to the former East Substation with a 964 ft^2 brick building (Building 28-28) with a switch gear panel room and battery storage room (currently in use by OHARNG), with two pad-mounted transformers, and other electrical equipment, surrounded by a metal fence. Equipment was removed from service in 1993. The only remaining structure at the West Substation is Building 28-28. This building is not included as part of this RI and is currently used by OHARNG for military training exercises.

Substation No. 3

There was no building associated with former Substation No. 3. Equipment was stored outside within a fenced compound. The only structures that remain at former Substation No. 3 include the concrete foundations for the transformers, other electrical equipment, and stumps from former utility poles. Transformers and other electrical equipment were used to service the western portion of the facility, including the Depot Area.

4.0 AREA OF CONCERN CHARACTERISTICS

The surface features present at the Electric Substations (East, West, No. 3) are presented on Figure 3. Substation areas are generally clear of large shrubs or trees, but, at a distance, surrounded by wooded areas. Railroad spurs and/or roads are located immediately adjacent to each area. The West Substation and Substation No. 3 are both located on a topographic high elevation due to the presence of the upper members of the Pottsville Formation in this area.

East Substation

The topography at the former East Substation is generally flat with a slight grade to the north-northwest, such that the area drains toward the roadside ditch along Remalia Road. There are no wetlands, creeks, streams, or other water bodies within the East Substation Area. The nearest wetland downgradient from this ditch is located approximately 0.25 mi to the west. The approximate surface elevation of the site is 994 ft above mean sea level (amsl). The area comprises approximately 12,300 ft^2 and is covered with grass and some low-growing shrubs. The gravel pad adjacent to Building 25-27, where the former transformers were located, was present during the 2013 field sampling event. Building 25-27 is a brick building on a concrete slab foundation, measuring approximately 47 by 28 ft.

No facility-wide groundwater monitoring wells are located at the former East Substation. Dry silty clay is predominantly present beneath the East Substation, which is located within an area of the facility where the unconsolidated aquifer is not present. The first aquifer encountered is likely in the Sharon Sandstone at depths greater than 13 ft below ground surface (bgs).

West Substation

The topography at the former West Substation is generally flat, with an approximate surface elevation of 1,115 ft amsl. While the larger area surrounding the West Substation drains generally to the north, the localized AOC area reportedly drains to the south to the small ditch that runs parallel to the southwest side of the building and along the southeast boundary parallel to Fuze and Booster Road (SAIC 2011). There are no wetlands, creeks, streams, or other water bodies within the West Substation Area. The nearest wetland downgradient from this ditch is located approximately 800 ft to the northeast. The former substation comprised an area of approximately 3,000 ft^2. Grass surrounds the area where the transformers were located and around Building 28-28. In addition, there is a gravel area west of Building 28-28 used for parking by OHARNG personnel. The concrete foundations for the transformers still exist at the AOC.

No facility-wide groundwater monitoring wells are located at the former West Substation. Based on RI boring logs, there may be a thin, perched wet zone on top of moist silty clay at approximately 4 ft bgs. Silty clay is present to at least 13 ft bgs with no indication that groundwater was encountered. The West Substation is located in an area of localized high groundwater levels (mounded) with a relatively flat gradient. Therefore, groundwater flow direction beneath the West Substation could vary in the unconsolidated aquifer; however, based on the topographic map, it likely flows northeast.

Substation No. 3

The topography at the former Substation No. 3 is generally flat with an approximate surface elevation of 1,093 ft amsl. There are no wetlands, creeks, streams, or other water bodies within the Substation No. 3 area. However, a wetland and associated aquatic habitat are located just beyond the southeast site boundary. This AOC drains to the southeast toward a large wetland and an unnamed tributary to Sand Creek. The substation comprised an area of approximately 10,000 ft^2. There is an approximately 12-inch culvert metal corrugated pipe located along the driveway to the northeast. The AOC is located in an open field and is surrounded by wooded areas. No building existed at former Substation No. 3. The concrete foundations used to support the transformers still remain at the AOC.

No facility-wide groundwater monitoring wells are located at the Substation No. 3 AOC. Borings logs from Substation No. 3 indicate that a wet, silty sand layer may exist intermittently at approximately 5 ft bgs. This suggests that the wet layer is likely small in lateral extent and thin in vertical extent. The unconsolidated groundwater beneath Substation No. 3 likely flows east-southeast.

4.1 Remedial Investigation Activities

The media sampled as part of the RI included surface soil (0-1 ft bgs), subsurface soil (1-13 ft bgs), wet sediment, and surface water. Sample results were used to define the nature and extent of contamination, conduct fate and transport soil screening analyses, and support human health and ecological risk assessments. Investigative samples were collected using incremental sampling methodology (ISM), discrete, and composite methods. All samples were analyzed for Target Analyte List (TAL) metals, including mercury, semi-volatile organic compounds (SVOCs), and PCBs. In addition, one surface soil and three subsurface soil samples also were analyzed for the full suite of analyses (i.e., TAL metals, SVOCs, PCBs, organochlorine pesticides, volatile organic compounds [VOCs], and explosives/propellants).

RI data were used to determine site-related chemicals (SRCs) and chemicals of potential concern (COPCs). The COPCs identified for each substation are presented below:

East Substation

- Surface Soil – Chromium, benzo(a)-anthracene, benzo(b)pyrene, benzo(b)-fluoranthene, and dibenz(a,h)anthracene
- Subsurface Soil – Benzo(a)pyrene
- Sediment and Surface Water – Media not present.

West Substation

- Surface Soil – Chromium, cobalt, benzo-(a)anthracene, benzo(b)pyrene, benzo(b)-fluoranthene, and dibenz(a,h)anthracene
- Subsurface Soil – Benzo(a)pyrene
- Sediment and Surface Water – Media not present.

Substation No. 3

- Surface Soil – Arsenic and chromium.
- Subsurface Soil – No COPCs identified
- Sediment and Surface Water – Chromium and benzo(a)pyrene (downgradient from Substation No. 3).

Of the COPCs, only benzo(b)pyrene, benzo(b)-fluoranthene, and dibenz(a,h)anthracene in surface soil at the West Substation and arsenic in the surface soil at Substation No. 3 were identified as chemicals of concern (COCs). As presented in Table 1, the concentrations of these chemicals were only slightly above their respective Resident Receptor Adult facility-wide cleanup goal (FWCUG) or the facility background concentration.

Table 1. Electric Substations Chemicals of Concern

Media	Chemical of Concern	Maximum Detected Concentration (mg/kg)	Resident Receptor Adult FWCUG (HQ=1.0, TR=10-5) (mg/kg)	Background Concentration (mg/kg)
West Substation				
Surface soil	Benzo(b)pyrene	0.33	0.221	0
	Benzo(b)fluoranthene	0.52	2.21	0
	Dibenz(a,h)anthracene	0.057	0.221	0
Substation No. 3				
Surface soil	Arsenic	16	4.25	15.4

Note: Background calculations for benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene were not established in the facility-wide background study. Accordingly, the concentration of 0 mg/kg is used in the data screening process.
FWCUG = Facility-Wide Cleanup Goal. HQ = Hazard Quotient. TR = Target Risk.

Furthermore, the total cancer risk and the total hazard quotient (HQ) are below the Ohio EPA risk limits for the Resident Receptor exposure to benzo(b)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and arsenic at a maximum detected concentration of 16 mg/kg is considered background. In addition, there is no known use of these chemicals at the electric substations of this AOC. The horizontal and vertical extent of these chemicals has been defined at each substation.

4.2 Fate and Transport Evaluation

The potential for soil and sediment contaminants to impact groundwater was evaluated in a fate and transport evaluation presented in the RI Report (USACE 2015). The fate and transport evaluation included modeling and comparing the model results to current groundwater monitoring data. Modeling evaluated the potential for contaminants to leach from soil and sediment and impact groundwater beneath the AOC. Modeling also evaluated if contaminants could potentially migrate to the closest surface water feature.

The conclusions of the fate and transport modeling are that all SRCs in soil are currently eliminated as potential risks to groundwater. Final contaminant migration chemicals of concern (CMCOCs) were not identified at any of the three substations.

5.0 SCOPE AND ROLE OF RESPONSE ACTION

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 Camp Ravenna, such as Military Training Land Use. In the event that COCs are identified for the Resident Receptor, the human health receptor associated with Military Training Land Use (National Guard Trainee) was evaluated.

Groundwater will be addressed under the RVAAP Facility-wide Groundwater AOC (RVAAP-66) as a separate decision. However, the selected remedy for soil at the Electric Substations (East, West, No. 3) must also be protective of groundwater.

6.0 SUMMARY OF HUMAN AND ECOLOGICAL RISKS

6.1 Human Health Risk Assessment

A human health risk assessment (HHRA) was performed to identify COCs and provide a risk management evaluation to determine if remediation is required under CERLCA based on potential risks to human receptors.

The Resident Receptor was evaluated as a first step and, if COCs were identified, then the National Guard Trainee was evaluated to refine potential risks. If no COCs were identified for the Resident Receptor, the National Guard Trainee was not evaluated because the exposure scenario for the Resident Receptor is more conservative (i.e., protective) than that of the National Guard Trainee.

The following media were evaluated in the HHRA for the Resident Receptor: surface soil (0-1 ft), subsurface soil (1-13 ft), and sediment. Surface water was not evaluated in the HHRA because no SRCs were identified in that medium. The evaluation for the Resident Receptor is summarized below.

East Substation
No COCs were identified for surface soil, subsurface soil, or sediment for the Resident Receptor. Therefore, no further action is required for the protection of human health.

West Substation
No COCs were identified for subsurface soil or sediment. Resident Receptor COCs in surface soil were identified for the West Substation. However, the total cancer risk and the total HQ are below the Ohio EPA and United States Environmental Protection Agency (USEPA) risk limits for exposure to surface soil; therefore, no further action is required for the protection of human health.

Substation No. 3

No COCs were identified for subsurface soil, sediment, or surface water. One COC (arsenic) in surface soil was identified for Substation No. 3. The total cancer risk for the Resident Receptor is greater than the Ohio EPA risk limit, but within the USEPA acceptable risk range for surface soil at Substation No. 3. However, based on the uncertainty analysis, the arsenic exposure point concentration (EPC) for surface soil is essentially equal to the background concentration for arsenic; therefore, arsenic is eliminated as a COC and no further action is required for the protection of human health.

6.2 Ecological Risk Assessment

The ecological risk assessment (ERA) was conducted to evaluate the potential for chemical constituents detected in surface soil, sediment, and surface water to adversely affect ecological receptors. Maximum detected concentrations (MDCs) were compared to BSVs and to conservative ecological screening benchmarks for generic receptors to identify chemicals of potential ecological concern (COPECs). The list of COPECs was subsequently refined on a COPEC-by-COPEC basis. Considering site-specific factors, and taking into account mitigating uncertainties, it is not likely that exposure to surface soil would adversely affect communities or populations of common ecological receptors or individuals of State-listed species at the Electric Substations (East, West, No. 3).

For surface soil, risks are not likely for all COPECs. For surface water, risks are not likely for all COPECs to communities or populations of common ecological receptors or individuals of State-listed species in the Electric Substations (East, West, No. 3). Considering the conservative assumptions incorporated into the ERA and the limited ecological value of the Electric Substations (East, West, No. 3), further evaluations are not expected to identify any actionable risk to ecological receptors.

No further investigation (e.g., Level III baseline ERA) or removal action is considered necessary for environmental media at the Electric Substations (East, West, No. 3) for the protection of ecological receptors.

7.0 CONCLUSIONS

No remediation is required under CERCLA to be protective for the Resident Receptor. The horizontal and vertical extent of soil, sediment, and surface water contamination has been delineated. The RI conducted at the Electric Substations (East, West, No. 3) has adequately characterized surface and subsurface soil at the three substation areas, which comprise the operational areas of this AOC, and sediment and surface water downgradient from Substation No. 3.

The HHRA concluded that no further action was required for the protection of human health for the Electric Substations (East, West, No. 3). The ERA concluded there are no important and significant ecological resources, and the fate and transport assessment determined chemicals in soil and sediment are not impacting groundwater. Accordingly, the U.S. Army, in coordination with Ohio EPA, is recommending no further action to attain Unrestricted (Residential) Land Use for soil, sediment, and surface water at the Electric Substations (East, West, No. 3).

This recommendation is not a final decision. The U.S. Army, in coordination with Ohio EPA, will select the remedy for the Electric Substations (East, West, No. 3) after reviewing and considering all comments submitted during the 30-day public comment period.

8.0 COMMUNITY PARTICIPATION

8.1 Community Participation

Public participation is an important component of the remedy selection. The U.S. Army, in coordination with Ohio EPA, is soliciting input from the community on the preferred alternative.

The comment period extends from November 14, 2016 to December 14, 2016. This period includes a public meeting at which the U.S. Army will present this PP. The U.S. Army will accept oral and written comments at this meeting.

8.2 Public Comment Period

The 30-day comment period is from November 14, 2016 to December 14, 2016, and provides an opportunity for public involvement in the decision-making process for the proposed action. The public is encouraged to review and comment on this PP.

All public comments will be considered by the U.S. Army and Ohio EPA before selecting a remedy. During the comment period, the public is encouraged to review documents pertinent to CC RVAAP-68 Electric Substations (East, West, No. 3).

This information is available at the Information Repository and online at www.rvaap.org. To obtain further information, contact Kathryn Tait of the Camp Ravenna Environmental Office at kathryn.s.tait.nfg@mail.mil.

8.3 Written Comments

If the public would like to comment in writing on this PP or other relevant issues, please deliver comments to the U.S. Army at the public meeting or mail written comments (postmarked no later than December 14, 2016).

POINT OF CONTACT FOR WRITTEN COMMENTS

Mailing Address:
Camp Ravenna Joint Military Training Center
Environmental Office
Attn: Kathryn Tait
1438 State Route 534 SW
Newton Falls, Ohio 44444

E-mail Address:
kathryn.s.tait.nfg@mail.mil

8.4 Public Meeting

The U.S. Army will hold an open house and public meeting on this PP on November 29, 2016, at 6:00PM, in the Shearer Community Center, 9355 Newton Falls Road, Ravenna, Ohio 44266 to accept comments.

This meeting will provide an opportunity for the public to comment on the proposed action. Comments made at the meeting will be transcribed.

8.5 U.S. Army Review of Public Comments

The U.S. Army will review the public's comments as part of the process in reaching a final decision for the most appropriate action to be taken.

The Responsiveness Summary, a document that summarizes the U.S. Army's responses to comments received during the public comment period, will be included in the Record of Decision (ROD). The U.S. Army's final choice of action will be documented in the ROD.

INFORMATION REPOSITORIES

Reed Memorial Library
167 East Main Street
Ravenna, Ohio 44266
(330) 296-2827
Hours of operation:
9AM-9PM Monday-Thursday
9AM-6PM Friday
9AM-5PM Saturday
1PM-5PM Sunday

Newton Falls Public Library
204 South Canal Street
Newton Falls, Ohio 44444
(330) 872-1282
Hours of operation:
10AM-8PM Monday-Thursday
9AM-5PM Friday and Saturday

Online
http://www.rvaap.org/

The ROD will be added to the RVAAP Restoration Program Administrative Record and Information Repositories.

ADMINISTRATIVE RECORD FILE

Camp Ravenna Joint Military Training Center (former Ravenna Army Ammunition Plant)
Environmental Office
1438 State Route 534 SW
Newton Falls, Ohio 44444
(330) 872-8003
Note: Access is restricted to Camp Ravenna, but the file can be obtained or viewed with prior notice to Camp Ravenna.

GLOSSARY OF TERMS

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

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

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

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

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

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

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

Feasibility Study (FS): a CERCLA document that reviews and evaluates multiple remedial technologies under consideration at a site. It also identifies the preferred remedial action alternative.

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

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

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

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

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

environmental risks that result from the contamination.

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

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

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

REFERENCES

OHARNG (Ohio Army National Guard) 2014. *Integrated Natural Resources Management Plan at the Camp Ravenna Joint Military Training Center, Portage and Trumbull Counties, Ohio.* December 2014.

Ohio EPA (Ohio Environmental Protection Agency) 2009. *Technical Decision Compendium: Human Health Cumulative Carcinogenic Risk and Non-carcinogenic Hazard Goals for DERR Remedial Response Program.* August 2009.

SAIC (Science Application International Corporation) 2011. *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*. December 2011.

USACE (United States Army Corps of Engineers) 2015. *Remedial Investigation Report CC RVAAP-68 Electric Substations (East, West, No. 3), Former Ravenna Army Ammunition Plant Portage and Trumbull Counties, Ohio.* July 2015.

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FIGURES

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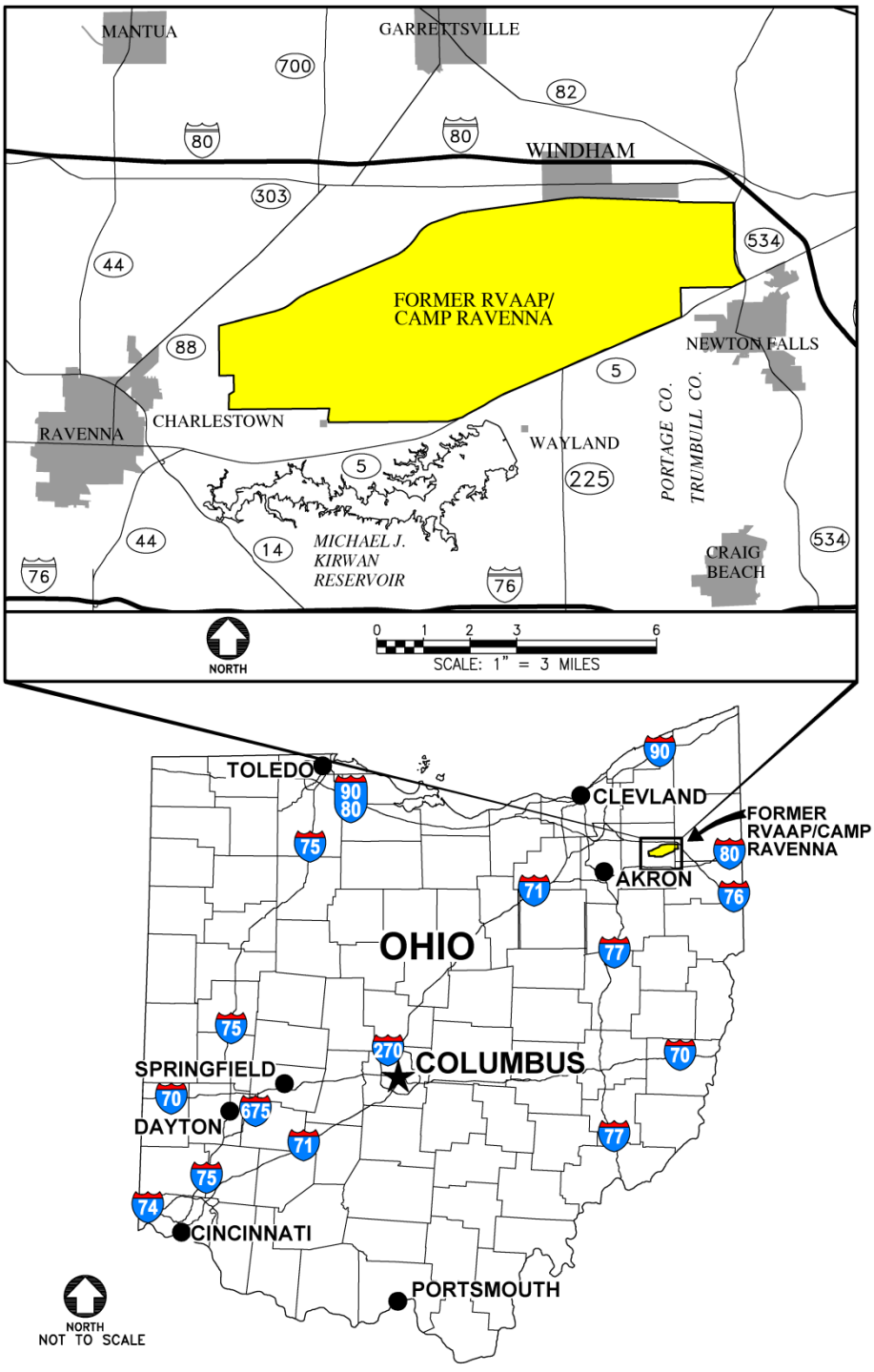

Figure 1. General Location and Orientation of Camp Ravenna

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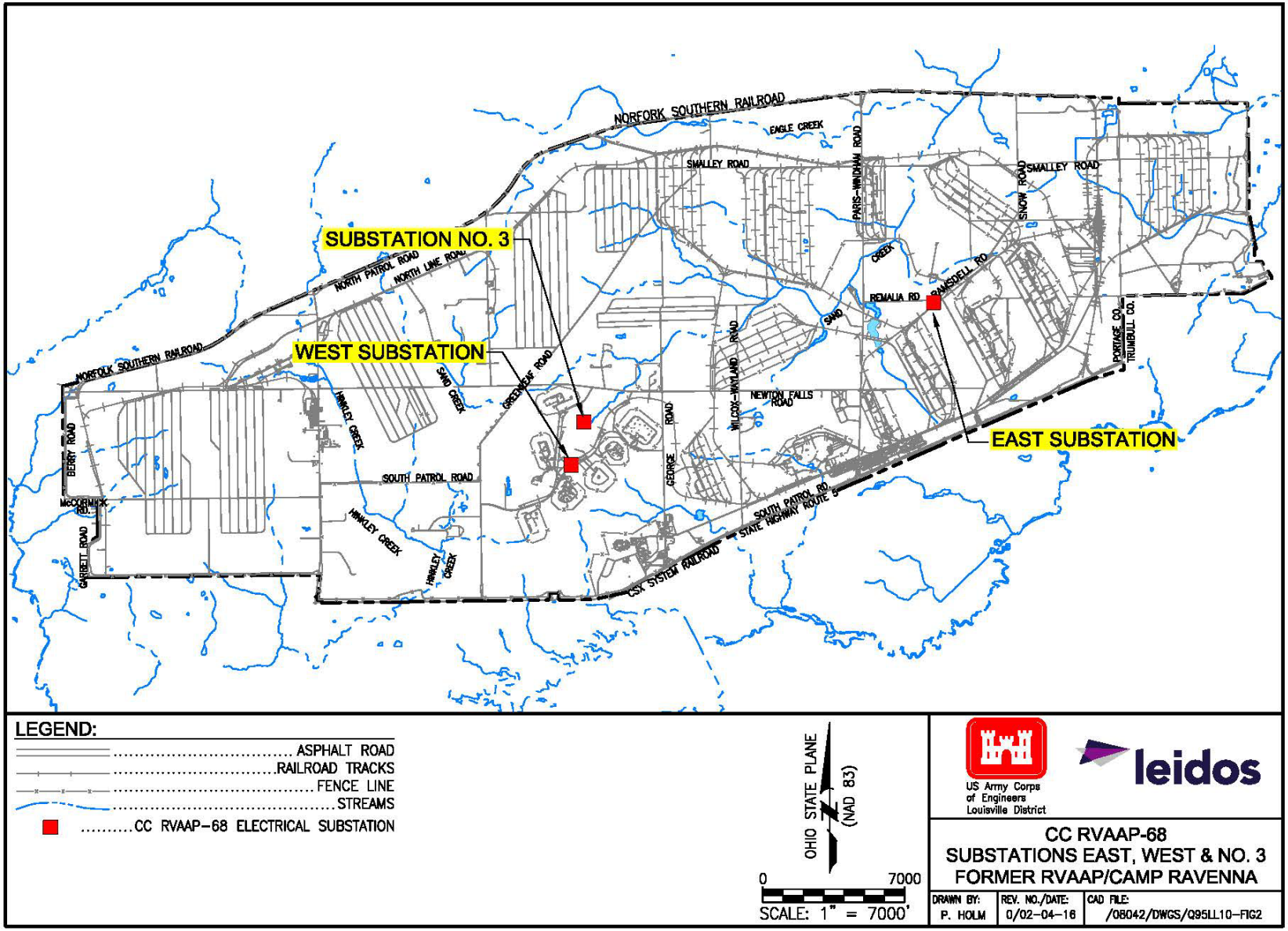

Figure 2. Location of Electric Substations (East, West, No. 3) at Camp Ravenna

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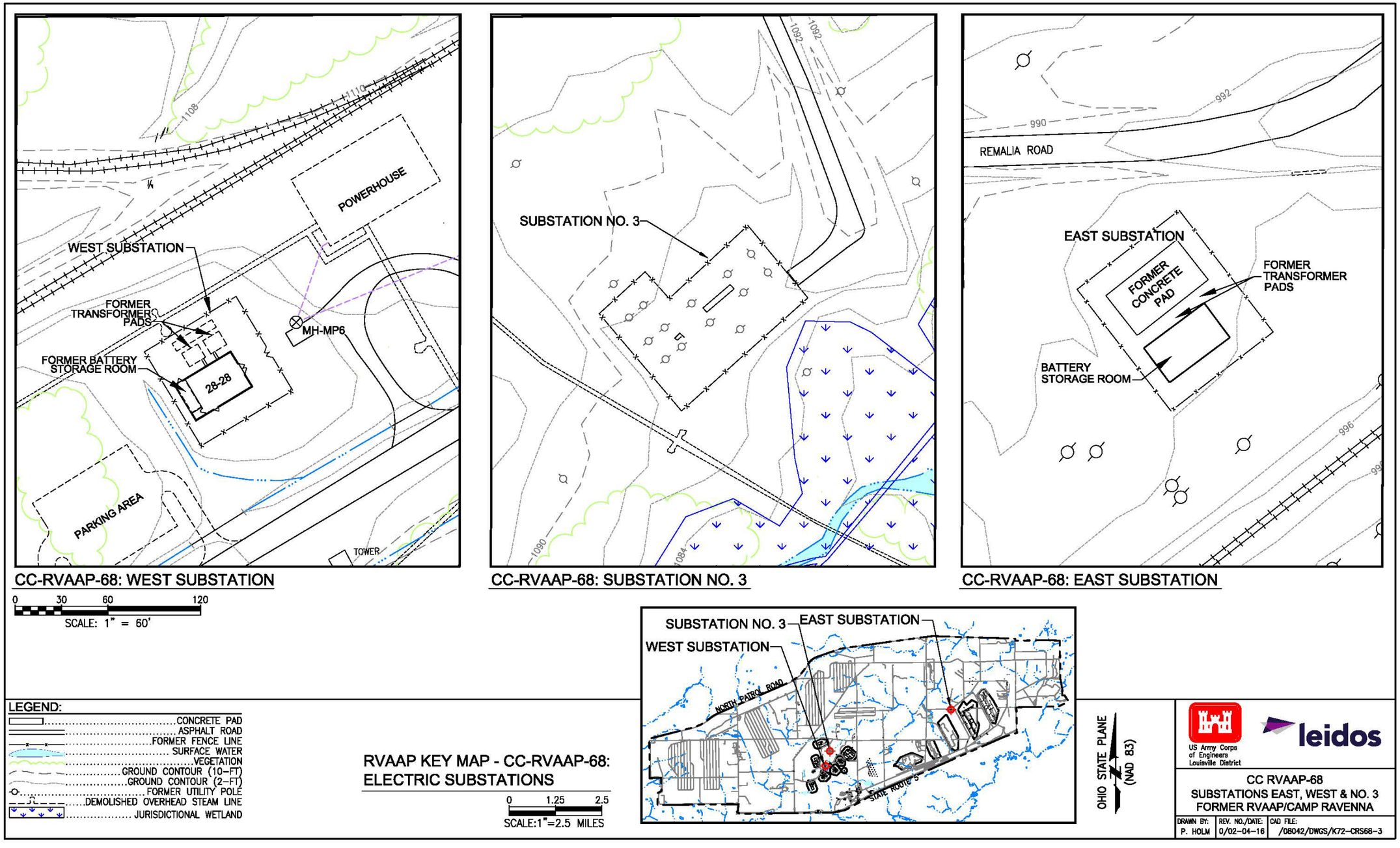

Figure 3. Electric Substations (East, West, No. 3) Site Features

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