

Draft

**Site Safety and Health Plan for the
2010 Phase I Remedial Investigation Services at
Compliance Restoration Sites (9 Areas of Concern)
Addendum No.1**

**Ravenna Army Ammunition Plant
Ravenna, Ohio**

**Contract No. W912QR-08-D-0008
Delivery Order No. 0019**

Prepared for:



**US Army Corps
of Engineers®**

**United States Army Corps of Engineers
Louisville District**

Prepared by:



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July 2, 2010

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REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
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1. REPORT DATE (DD-MM-YYYY) 02-07-2010		2. REPORT TYPE Technical		3. DATES COVERED (From - To) July 2010	
4. TITLE AND SUBTITLE Draft Site Safety and Health Plan for the 2010 Phase I Remedial Investigation Services at Compliance Restoration Sites (9 Areas of Concern) Addendum No. 1 Ravenna Army Ammunition Plant Ravenna, Ohio			5a. CONTRACT NUMBER W912QR-08-D-0008		
			5b. GRANT NUMBER NA		
			5c. PROGRAM ELEMENT NUMBER NA		
			5d. PROJECT NUMBER Delivery Order No. 0019		
			5e. TASK NUMBER NA		
			5f. WORK UNIT NUMBER NA		
6. AUTHOR(S) Pacer, Corey, P.E.			8. PERFORMING ORGANIZATION REPORT NUMBER 3827.20100702.003		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Science Applications International Corporation (SAIC) 8866 Commons Blvd, Suite 201 Twinsburg, Ohio 44087			9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) USACE - Louisville District U.S. Army Corps of Engineers 600 Martin Luther King Jr., Place PO Box 59 Louisville, Kentucky 40202-0059		
10. SPONSOR/MONITOR'S ACRONYM(S) NA			11. SPONSOR/MONITOR'S REPORT NUMBER(S) NA		
12. DISTRIBUTION/AVAILABILITY STATEMENT Reference distribution page.					
13. SUPPLEMENTARY NOTES None.					
14. ABSTRACT This Site Safety and Health Plan (SSHP) is an addendum to the Facility-Wide Safety and Health Plan (FWSHP) and set forth the specific procedures required to protect SAIC and SAIC subcontractor personnel involved in field activities. This SSHP addresses the hazards and controls for the Phase I Remedial Investigation (RI) activities, which include property visits and perimeter surveys.					
15. SUBJECT TERMS Site Safety and Health Plan, hazards, hazard controls, hazard analysis, safety procedures					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Joan Cullen
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Draft

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APPROVALS

Draft

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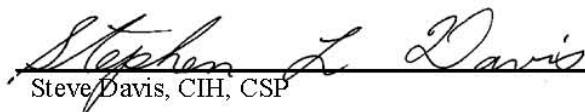
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DOCUMENT DISTRIBUTION
for the
Draft
Site Safety and Health Plan
for the 2010 Phase I Remedial Investigation Services at
Compliance Restoration Sites (9 Areas of Concern)
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Ohio EPA-NEDO = Ohio Environmental Protection Agency-Northeast District Office

NGB = National Guard Bureau

OHARNG = Ohio Army National Guard

RVAAP = Ravenna Army Ammunition Plant

USACE = United States Army Corps of Engineers

REIMS = Ravenna Environmental Information Management System

SAIC = Science Applications International Corporation

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ACRONYMS AND ABBREVIATIONS

ACM	Asbestos-Containing Material
AOC	Area of Concern
AST	Above-ground Storage Tank
bgs	Below Ground Surface
BRACD	Base Realignment and Closure Division
C	Central
Camp Ravenna	Camp Ravenna Joint Military Training Center
CIH	Certified Industrial Hygienist
CPR	Cardiopulmonary Resuscitation
CR	Compliance Restoration
CSP	Certified Safety Professional
DLA	Defense Logistics Agency
DoD	Department of Defense
EH&S	Environmental, Health and Safety
FM	Field Manager
FWSHP	Facility Wide Safety and Health Plan
HAZWOPER	Hazardous Waste Site Operations and Emergency Response
HTRW	Hazardous, Toxic, or Radioactive Waste
IRP	Installation Restoration Program
LL #2	Load Line 2
LL #6	Load Line 6
LL #12	Load Line 12
MC	Munitions Constituent
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
MRS	Munitions Response Site
N	North
NE	Northeast
NGB	National Guard Bureau
NPDES	National Pollutant Discharge Elimination System
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
OJT	On-the-Job Training
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PH	Powerhouse
POL	Petroleum, Oil, and Lubricant

ACRONYMS AND ABBREVIATIONS (CONTINUED)

PPE	Personal Protective Equipment
RAC	Risk Assessment Code
RI	Remedial Investigation
RR	Railroad
RVAAP	Ravenna Army Ammunition Plant
S	South
SAIC	Science Applications International Corporation
SOW	Scope of Work
SS	South Service
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SVOC	Semi-Volatile Organic Compound
USACE	United States Army Corps of Engineers
USAE	USA Environmental, Inc.
USP&FO	United States Property and Fiscal Officer
UST	Underground Storage Tank
UTES	Unit Training Equipment Site
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
WW	Waterworks

1.0 INTRODUCTION

Science Applications International Corporation's (SAIC's) formal policy, stated in the Environmental Health and Safety Program manual, is to take every reasonable precaution to protect the health and safety of our employees, the public, and the environment. To this end, the Ravenna Army Ammunition Plant (RVAAP) *Facility-Wide Safety and Health Plan* (FWSHP) (USACE 2001) and this Site Safety and Health Plan (SSHP) will collectively set forth the specific procedures required to protect SAIC and SAIC subcontractor personnel involved in the field activities. These plans are driven by requirements contained in the most current revision of the United States Army Corps of Engineers (USACE) *Safety and Health Requirements Manual, EM-385-1-1*. SAIC activities are also subject to the requirements of the SAIC Corporate Environmental Compliance and Health and Safety Program and associated procedures. All field personnel are required to comply with the requirements of these programs and plans.

The FWSHP addresses program issues, hazards, and hazard controls common to the entire facility. This SSHP will be an addendum to the FWSHP serving as a lower tier document addressing the hazards and controls for the Phase I Remedial Investigation (RI) activities, which include a property visit and perimeter survey. Both activities are non-intrusive. Copies of the FWSHP and the SSHP Addendum will be present at the work site during the property visit and perimeter survey. Neither the FWSHP nor the SSHP Addendum are stand-alone documents; therefore, one cannot be implemented without the other.

SAIC will perform a non-intrusive property visit and perimeter survey at nine (9) areas of concern (AOCs) at RVAAP, herein referred to as Compliance Restoration (CR) sites. The 9 CRs include the following:

- CC-RVAAP-68 Electric Substations (East, West, No. 3);
- CC-RVAAP-69 Building 1048 Fire Station;
- CC-RVAAP-70 East Classification Yard;
- CC-RVAAP-72 Facility-Wide Underground Storage Tanks;
- CC-RVAAP-73 Facility-Wide Coal Storage;
- CC-RVAAP-74 Building 1034 Motor Pool Hydraulic Lift;
- CC-RVAAP-75 George Road Sewage Treatment Plant;
- CC-RVAAP-76 Depot Area; and
- CC-RVAAP-77 Building 1037 Laundry Waste Water Sump.

A description of each CR site and the potential contaminants associated with each may be found in Section 2.2 of this SSHP.

1 The property visit will be conducted to document and assess areas of past and current Department of
2 Defense (DoD) use, storage, disposal, and areas of potential release. The property visit will also focus on
3 evaluating areas where unknowns or data gaps exist. In addition, a perimeter survey will be conducted to
4 document the surrounding areas adjacent to the CR sites. The perimeter survey will document current
5 land uses, sensitive environments, and potential overland migration pathways. No intrusive field work
6 will be conducted during either the property visit or perimeter survey.

7
8 The potential for chemical overexposure appears to be very low based on the nature of planned tasks.
9 Physical hazards are associated with slips, trips, and falls during the property visit and perimeter survey.
10 Task-specific hazard controls have been specified for these tasks. Due to the nature of the tasks, it is
11 anticipated that Level D personal protective equipment (PPE) will be required. If site conditions should
12 change, the work will stop and the Site Safety and Health Officer (SSHO) will re-assess site conditions
13 and hazard mitigation steps. Further details regarding PPE are contained in Section 7.0.

14
15 At least one of the CR sites is located within the boundary of a munitions response site (MRS) and the
16 potential exists to encounter discarded military munitions, munitions debris, and/or unexploded ordnance
17 during the non-intrusive field activities (e.g. property visit). Therefore, U.S.A. Environmental (USAE),
18 SAIC's subcontractor, will provide munitions and explosives of concern (MEC) avoidance services at the
19 sites within known MRS boundaries or suspect munitions.

2.0 FACILITY DESCRIPTION AND POTENTIAL CONTAMINANTS

2.1 FACILITY DESCRIPTION

When the RVAAP Installation Restoration Program (IRP) began in 1989, RVAAP was identified as a 21,419-acre installation. The property boundary was resurveyed by Ohio Army National Guard (OHARNG) over a 2-year period (2002 and 2003) and the total acreage of the property was found to be 21,683.289 acres. As of February 2006, a total of 20,403 acres of the former 21,683-acre RVAAP has been transferred to the National Guard Bureau (NGB) and subsequently licensed to OHARNG for use as a military training site.

The current RVAAP consists of 1,280 acres scattered throughout the OHARNG Camp Ravenna Joint Military Training Center, herein referred to as Camp Ravenna (Figure 1-2). Camp Ravenna is in northeastern Ohio within Portage and Trumbull Counties, approximately 3 miles (4.8 km) east-northeast of the City of Ravenna and approximately 1 mile (1.6 km) northwest of the City of Newton Falls. The RVAAP portions of the property are solely located within Portage County. RVAAP/Camp Ravenna is a parcel of property approximately 11 miles (17.7 km) long and 3.5 miles (5.6 km) wide bounded by State Route 5, the Michael J. Kirwan Reservoir, 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 1-1 and 2-1). Camp Ravenna is surrounded by several communities: Windham on the north; Garrettsville 6 miles (9.6 km) to the northwest; Newton Falls 1 mile (1.6 km) to the southeast; Charlestown to the southwest; and Wayland 3 miles (4.8 km) to the south.

When RVAAP was operational, Camp Ravenna did not exist and the entire 21,683-acre parcel was a government-owned, contractor-operated industrial facility. The RVAAP IRP encompasses investigation and cleanup of past activities over the entire 21,683 acres of the former RVAAP. References to RVAAP in this document are considered to be inclusive of the historical extent of RVAAP, which is inclusive of the combined acreages of the current Camp Ravenna and RVAAP, unless otherwise specifically stated.

The following is a description of each CR site included in the Scope of Work (SOW) for this project.

2.1.1 CC-RVAAP-68 Electric Substations (East, West, No. 3)

The east electrical substation is located in proximity to the intersection of Remalia Road and Load Line No. 2 Road at the RVAAP facility. The substation comprises an area of approximately 12,300 square feet, which includes the land surrounding Building 25-27. Building 25-27 is included as part of this AOC.

The west electrical substation is located west of Load Line 5 on Fuze & Booster Service Road at the RVAAP facility. The substation comprises an area of approximately 3,000 square feet, which includes the land surrounding Building 28-28, which was formerly used as the transformer station. Building 28-28

is not included as part of this AOC. Substation No. 3 is located in the Fuze & Booster Service area between Load Lines 10 and 11 at the RVAAP facility. The substation comprises an area of approximately 10,000 square feet. The substation and all transformer equipment have been removed from the site.

2.1.2 CC-RVAAP-69 Building 1048 Fire Station

The fire station was located in the Plant Administration Area in the northwest quadrant of the intersection of George Road and South Service Road. In 1968, the fire station was referred to as the Fire and Guard Building, and consisted of 12,130 square feet. The fire station building was demolished in late 2008, and the site currently remains undeveloped.

2.1.3 CC-RVAAP-70 East Classification Yard

The Ravenna facility was originally equipped with east and west classification yards during the facility's early operational years. The classification yards were used for the switching and maintenance of railroad cars.

The east classification yard is located east of Load Line 1 and the Main Defense Logistics Agency (DLA) Ore Storage Area in close proximity to the intersection of Ramsdell Road and Irons Road. The rail yard reportedly consisted of 18 tracks with a 750 car capacity, and 3 Hi-X tracks with a 120 car capacity, which also included the wash rack south of the main track area. This yard was equipped with a locomotive repair building (Round House) and a herbicide storage shed along Tracks # 47 and 48.

2.1.4 CC-RVAAP-72 Facility-Wide Underground Storage Tanks

Facility records document the former presence and use of 50 underground storage tanks (USTs) at the Ravenna facility. Approximately 34 of the USTs were installed in 1941, with the remaining USTs installed between 1941 and 1981. The USTs were used for the storage of gasoline, diesel fuel, No. 5 heating oil, and No. 6 fuel oil. The USTs located in the Depot Area were reportedly filled with potassium dichromate to prevent corrosion when not in use. Readily available records suggest that nearly all of the USTs have been closed by removal, and the tanks have been scrapped. Table 2-1 presents a list of the former USTs at RVAAP.

Closure documents and official tank status records have not been obtained for most of the USTs. As such, additional records searches are required to further characterize the USTs. Petroleum and/or potassium dichromate impacted soils and/or groundwater may exist at several of the former UST sites. Possible USTs that were located within the Atlas Scrap Yard (Service Stations #1 and #2) are located within an MRS and MEC avoidance procedures will be required for property visits and perimeter surveys in this area.

Table 2-1. Former USTs at RVAAP

Tank Number	Location	Tank Number	Location
RV-1	George Road Gas Station	RV-52	Old ATLAS – Building T-18
RV-2	George Road Gas Station	RV-55	PH #1
RV-3	Post #1 Generator	RV-56	PH #1
RV-10	Post 24, Building F-4	RV-57	PH #2
RV-11	RR Yard	RV-58	PH #2
RV-12	PH #6	RV-59	PH #4
RV-13	Building U-6 (N) Depot	RV-60	PH #4
RV-14	Building U-6 (S) Depot	RV-61	PH #5
RV-15	Building U-3 (S) Depot	RV-62	PH #5
RV-16	Building U-3 (N) Depot	RV-63	PH #7
RV-17	Building A-6 (N) Depot	RV-64	PH #7
RV-18	Building A-6 (C) Depot	RV-66	PH #6
RV-19	Building A-6 (S) Depot	RV-67	PH #6
RV-20	Building DB-27 LL #2	RV-73	Building T-2501
RV-21	Building DB-27 LL#2	RV-80	George Road Gas Station
RV-22	RR Yard	RV-81	Building 1047
RV-23	Building 1045 (Administration)	RV-82	Building 1047
RV-29	Building FE-22 LL #12	RV-83	Building 1047
RV-33	Deactivation Furnace	RV-86	Telephone Building (100' N)
RV-37	Building A-1 Depot	RV-87	Telephone Building (NE)
RV-41	Building 2F-11 LL #6	RV-88	Fire Station #2
RV-46	EE-102 (Bolton HSE)	RV-89	George Road Sewage Treatment Plant (S at SS Road)
RV-47	Post 32 (Freedom)	RV-91	UTES – West Main Building
RV-50	WW #4 – Heat	RV-92	UTES – West Main Building
RV-51	WW #4 – Gen	RV-95	UTES – East Main Building

2 C = Central

3 LL #2 = Load Line 2

4 LL #12 = Load Line 12

5 LL #6 = Load Line 6

6 N = North

7 NE = Northeast

8 PH = Powerhouse

9 RR = Railroad

10 S = South

11 SS = South Service

12 UTES = Unit Training Equipment Site

13 WW = Waterworks

15 2.1.5 CC-RVAAP-73 Facility-Wide Coal Storage

17 Facility records document the former presence of approximately 17 coal storage locations at the Ravenna
 18 facility. Coal was historically used to fuel powerhouses and various other buildings at the site. Typically,
 19 coal storage consisted of placing the coal on the ground surface as coal piles or placing the coal in railcars
 20 adjacent to the subject buildings. The total area of potentially impacted media associated with the coal

consists of approximately 222,500 square feet (about 5 acres). Coal storage occurred at the following locations on the Ravenna property:

- Load Line 1 Powerhouse;
- Load Line 2 Powerhouse;
- Load Line 4 Powerhouse;
- Load Line 12 Powerhouse;
- Building F-15;
- Building F-16;
- Atlas Scrap Yard (MRS);
- North Line Road Coal Tipple;
- Sand Creek Coal Tipple;
- East Classification Yard Round House;
- Administration Area;
- Depot Area Building U-5;
- Depot Area Building U-14;
- Fuze and Booster Road Powerhouse No. 5;
- Fuze and Booster Road Inert Storage No. 2F-N21;
- Fuze and Booster Service Road Powerhouse; and
- Area 6 Inert Storage.

Former coal storage sites located within Atlas Scrap Yard may also be within the Atlas Scrap Yard MRS; therefore, MEC avoidance procedures may required for property visits and perimeter surveys in these areas.

2.1.6 CC-RVAAP-74 Building 1034 Motor Pool Hydraulic Lift

An in-ground hydraulic floor lift system has been identified inside the existing Motor Pool building. The hydraulic floor lift system is described in a 1969 drawing as a twin-post lift system constructed of metal. The below-grade system consists of a cast in concrete “L” shaped pit measuring approximately 12 feet and 4 feet in length, 3 feet in width, and 4 feet in depth. The pit is reportedly buried at depths ranging from 4 feet below ground surface (bgs) to approximately 8 feet bgs. The twin-post lift reportedly has a clearance of 6 feet between the floor surface and the bottom of the lift (height in the air). The floor lift system remains in place. It is also believed that an additional floor lift system was historically used at the Building 1034 Motor Pool facility.

2.1.7 CC-RVAAP-75 George Road Sewer Treatment Plant

The George Road Sewer Treatment Plant is an inactive domestic sewage treatment plant. The plant was gravity fed and consisted of two Imhoff tanks, two trickling filters, and a clarifier. Sludge was dried in a greenhouse structure and spread over the ground surface (location unknown). The design capacity was

1 350,000 gallons per day. Reportedly, approximately 1,200 cubic feet of sludge was spread every three
2 years.

3
4 Wastes handled at the site consisted of domestic sewage and discharge from RVAAP-15 (Load Line 6)
5 and RVAAP-30 (Load Line 7) pink water treatment. This site also received sludge from the Depot
6 Sewage Treatment Plant (RVAAP-15). The site maintained a current Ohio National Pollution Discharge
7 Elimination System (NPDES) permit (#31000000BD), which allowed discharge to Outfall No. 002 (to the
8 adjacent receiving stream). The NPDES permit was maintained until 1993 when the facility ceased
9 operations.

11 **2.1.8 CC-RVAAP-76 Depot Area**

12
13 The Depot Area consisted of a waste oil storage tank located between Depot Buildings U-4 and U-5. The
14 tank was an above-ground storage tank (AST) constructed of steel with a capacity of 400 gallons. The
15 tank sat on crushed slag next to the motor oil storage shed. Waste oil from the motor pool area was stored
16 in the AST until it was removed by an oil reclaimer. The AST was in operation from 1983 through 1993.
17 In 1993, the contents of the AST were removed and the tank remained inactive until its removal (after
18 1996). The AST has since been removed and an earthen embankment remains at the location of the
19 former tank.

20
21 In addition, other areas within the Depot Area have been identified for inclusion under this CR site.
22 Buildings 1W-2 and U-10 were reportedly used for the demilitarization and maintenance of various
23 munitions. As such, portions of this CR site may possibly contain MEC, Munitions Constituents (MC),
24 and/or Munitions Debris (MD), although it is not currently a recognized MRS.

26 **2.1.9 CC-RVAAP-77 Building 1037 Laundry Waste Water Sump**

27
28 The Building 1037 Laundry Waste Water Sump consists of a former below ground concrete sump located
29 on the north side of Building 1037. The sump had a capacity of approximately 5,765 gallons. The unit
30 was previously used as a settling tank for the discharge of laundry rinse water. Wash water was emptied
31 approximately 12 times during 8 hours of operation and rinsing 3 times each 8 hours. The wash water
32 entering the tank prior to the rinse water discharge had sufficient settling time so that the increase in rate
33 from the rinse water did not disturb the settled matter on the tank bottom. Rinse water was then sent to
34 RVAAP-22 (George Road Sewage Treatment Plant). The concrete waste water sump was removed in
35 2009.

2.2 POTENTIAL CONTAMINANTS

Table 2-2 presents the list of potential contaminants at each CR site.

Table 2-2. List of Potential Contaminants at Each CR Site

CR Site	Potential Contaminants
CC-RVAAP-68 Electric Substations	VOCs, SVOCs, PCBs
CC-RVAAP-69 Building 1048 Fire Station	VOCs
CC-RVAAP-70 East Classification Yard	VOCs, SVOCs, PCBs
CC-RVAAP-72 Facility-Wide Underground Storage Tanks	VOCs, SVOCs
CC-RVAAP-73 Facility-Wide Coal Storage	SVOCs, metals
CC-RVAAP-74 Building 1034 Motor Pool Hydraulic Lift	SVOCs, PCBs
CC-RVAAP-75 George Road Sewage Treatment Plant	Explosives, metals (specifically mercury)
CC-RVAAP-76 Depot Area	Explosives, VOCs, SVOCs
CC-RVAAP-77 Building 1037 Laundry Waste Water Sump	Explosives

PCB = Polychlorinated Biphenyl

SVOC = Semi-Volatile Organic Compound

VOC = Volatile Organic Compound

3.0 HAZARD/RISK ANALYSIS

The purpose of the task hazard/risk analysis is to identify and assess potential hazards that may be encountered by personnel and to prescribe required controls. Table 3-1 provides a general checklist of hazards that may be posed by this project and an indication whether that hazard type is present for this project. If additional tasks or significant hazards are identified during the work, this document will be modified by addendum or field change order to include the additional information.

Table 3-1. Hazards Inventory

Yes	No	Hazard
	X	Confined space entry
	X	Excavation entry (excavations may be entered)
	X	Heavy equipment (drill rigs, backhoe)
	X	Fire and explosion (fuels)
	X	Electrical shock (utilities and tools)
X		Exposure to chemicals (contaminants and chemical tools)
X		Temperature extremes
X		Biological hazards (poison ivy, Lyme disease, West Nile disease)
	X	Radiation or radioactive contamination
	X	Noise (heavy equipment)
	X	Drowning
	X	ACM
X		MEC (potential to encounter UXO)

ACM = Asbestos-Containing Material

MEC = Munitions and Explosives of Concern

UXO = Unexploded Ordnance

The specific tasks for this project include conducting a property visit and perimeter survey at each CR site.

3.1 TASK-SPECIFIC HAZARD ANALYSIS

Table 3-2 presents task-specific hazards, relevant hazard controls, and required monitoring, if appropriate, for all of the planned tasks.

3.2 POTENTIAL EXPOSURES

The tasks to be conducted as part of this project include a property visit and perimeter survey at each CR site. These tasks are non-intrusive in nature. However, at least one of the CR sites is located within a known munitions response site. Therefore, potential exposures include MEC and unexploded ordnance (UXO).

Table 3-2. Hazards Analysis

Date Prepared: 1 July 2010

Project: RVAAP 2010 Phase I Remedial Investigation Services at

9 Compliance Restoration Sites

Job: Site Walk and/or Civil Survey

Prepared By: Corey Pacer, PE

Reviewed By: Stephen L. Davis, CIH, CSP

Risk Assessment Code (RAC):

M

E = Extremely High Risk

H = High Risk

M = Moderate Risk

L = Low Risk

P r o b a b i l i t y

Frequent

Likely

Occasional

Seldom

Unlikely

Recommended Protective Clothing & Equipment:
Level D PPE

S e v e r i t y	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	H	M	M	L
	Negligible	H	M	M	L	L

JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	EM 385-1-1 (PARA REF)
General	Biological hazards (bees, ticks, Lyme disease, histoplasmosis, wasps, snakes)	Level D PPE Insect repellant, as necessary. Pant legs tucked into boots or otherwise closed to minimize tick entry and contact with harmful plants. Inspect for ticks during the day and at the end of each work day (See Section 9.0). Avoidance of accumulations of bird or bat droppings (See Section 9.0). Protective ointments and/or specialized cleaners if working in areas with poisonous plants. Site specific instruction in recognition and avoidance of harmful plants and/or animals.	EM 385-1-1 06.D
	Temperature extremes	Administrative controls (see Section 8.0). Cooled (shaded) or warmed break area depending on the season. Routine breaks in established break area and unscheduled breaks if needed (See Section 8.0) Chilled water if temperature exceeds 70°F. Monitoring – Ambient temperature measurements at least twice daily. Temperatures greater than 80°F, temperatures less than 30°F, and the use of impermeable clothing require additional controls (See Section 8.0) Site and season specific instruction in weather hazards and hazard controls.	EM 385-1-1 06.I

JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	EM 385-1-1 (PARA REF)
General	Contact with MEC	On-site training in ordnance recognition for all field personnel. Clearance of sites by UXO personnel for intrusive work. Withdrawal of all non-UXO personnel if ordnance or suspected ordnance is discovered. Monitoring - Visual surveys for ordnance. Instrument surveys by UXO technicians in munitions disposal areas.	EM 385-1-1 33.A
	Exposure to chemicals	Wash face and hands and any other exposed areas prior to taking anything by mouth. Hazardous waste site operations training and medical clearance.	EM 385-1-1 06.A and B and section 28
	Severe weather	Locate nearest severe weather shelter/strong structure before beginning field work. Suspend fieldwork if lightning within 10 miles of site or tornado warning issued. Do not work in areas subject to flash flooding.	EM 385-1-1 06.I
Vehicle Operation	Vehicle accidents	Vehicle Operation (valid driver's license, seat belt use, routine vehicle inspections, no cell phone use while driving, compliance with applicable laws and regulations, and defensive driving). The visual inspection includes the vehicle and any associated items such as trailers or external cargo carriers. The operator verifies that the following items are present and functional: seatbelt(s), lights, turn signals, operating brakes, speedometer, fuel gage, horn, windshield, windshield wiper, defrosting/defogging system, rear view mirror, cab, non-slip surfaces on steps, and tires (approximately proper inflation). While driving on RVAAP facility personnel shall take necessary precautions to avoid hitting deer.	EM 385-1-1 06
Equipment to be Used		Inspection Requirements	Training Requirements
Vehicles		Daily safety inspections of operations. Initial and at least weekly inspections of equipment. Daily vehicle inspection	HAZWOPER 40-hour training current refresher training Medical clearance Properly trained personnel to operate equipment Valid driver's licenses Site-specific training including site hazard communication training CPR and First Aid training for at least 2 onsite personnel and at least one person per field team

CELRL Form 1259, 1 November 2001

Previous Versions are Obsolete and Should Not Be Used

CPR = Cardiopulmonary Resuscitation

HAZWOPER = Hazardous Waste Site Operations and Emergency Response

MEC = Munitions and Explosives of Concern

PPE = Personal Protective Equipment

RAC = Risk Assessment Code

RVAAP = Ravenna Army Ammunition Plant

UXO = Unexploded Ordnance

4.0 MUNITIONS AND EXPLOSIVES OF CONCERN AVOIDANCE

Prior to conducting a property visit and/or perimeter survey at any CR site within a MRS, SAIC field personnel will adhere to the following protocol.

Prior to the start of field operations within an MRS, SAIC field crews will be provided MEC/UXO awareness, identification, safety, and avoidance briefings or training. SAIC field crews will be escorted by the UXO Technician at all times until the UXO Technician has completed visual and magnetometer survey of access routes and work areas. All cleared areas will be marked.

Escorted personnel will follow behind the UXO Technician. If anomalies or MEC/UXO are detected, the UXO Technician will halt escorted personnel in place, mark the item(s), select a course around the item, and instruct escorted personnel to follow. The anomaly will be reported to the on-site SAIC Project Manager or designee, who will initiate the appropriate response actions.

Cleared access routes will be at least twice as wide as the widest vehicle entering the MRS. At a minimum, the work area will be a square, with a side dimension equal to twice the length of the largest vehicle or piece of equipment for use on-site.

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5.0 STAFF ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES

This Section presents the personnel responsible for site safety and health and emergency response. Table 5-1 identifies the SAIC and subcontractor staff that will fill key roles. Refer to Section 3.0 of the FWSHP for information on the roles and responsibilities of key positions.

Table 5-1. Staff Organization

Position	Name	Phone
SAIC Health and Safety Manager	Steve Davis CIH, CSP	865-481-4755
SAIC Project Manager	Kevin Jago	865-481-4614
SAIC Project Engineer	Corey Pacer	330-353-6153
SAIC Site Safety and Health Officer	Heather Miller	330-573-8571
USA Environmental MEC Avoidance	Don Shaw	813-846-9138

CIH= Certified Industrial Hygienist

CSP = Certified Safety Professional

MEC = Munitions and Explosives of Concern

SAIC = Science Applications International Corporation

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6.0 TRAINING

Training requirements, from Section 4.0 of the FWSHP, are summarized in Table 6-1 and in Table 3-2.

Table 6-1. Training Requirements

Training	Worker	Supervisor	Site Visitor (exclusion zone)
HAZWOPER (40-hr, 3-day OJT)	√	√	√
HAZWOPER Annual Refresher (8 hr)	√	√	√
HAZWOPER Supervisors Training (8 hr)		√	
Pre-entry Briefing	√	√	√
Site-Specific Hazard Communication (contained in pre-entry briefing)	√	√	√
Safety Briefing (daily and whenever conditions or tasks change)	√	√	√
CPR and First Aid Training	√	√	

√ = required

HAZWOPER = Hazardous Waste Site Operations and Emergency Response

OJT = On-the-Job Training

CPR = Cardiopulmonary Resuscitation

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1 **7.0 PERSONAL PROTECTIVE EQUIPMENT**

- 2 General guidelines for selection and use of PPE are presented in Section 5.0 of the FWSHP. Specific
- 3 PPE requirements for this work are presented in the hazard/risk analysis section (Section 3.0).

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8.0 MEDICAL SURVEILLANCE

Medical surveillance requirements, as presented in Section 6.0 of the FWSHP, are summarized in Table 8-1.

Table 8-1. Medical Surveillance Requirements

Baseline	Routine	Overexposure	Termination
Prior to work assessment	Every 12 months, unless greater frequency is deemed appropriate by attending physician. Not to exceed 2-year interval.	Upon developing symptoms or where exposure limits have been exceeded or suspected to have been exceeded.	Upon termination or re-assignment.

All medical exams shall include (see Section 6.2 of the Facility Wide Safety and Health Plan):

- medical/work history;
- physical exam by physician;
- audiometry;
- blood screening and blood count;
- chest x-ray, as specified by physician;
- electrocardiogram, as specified by physician;
- spirometry; and
- urinalysis.

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1 **9.0 EXPOSURE MONITORING/AIR SAMPLING PROGRAM**

2 The Phase I RI activities are not expected to pose airborne exposure hazards given that the work to be
3 performed is non-intrusive and will not generate airborne hazards. Therefore, an exposure monitoring/air
4 sampling program is not applicable.

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1 **10.0 HEAT/COLD STRESS MONITORING**

- 2 General requirements for heat/cold stress monitoring are contained in Section 8.0 of the FWSHP.

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1 **11.0 STANDARD OPERATING SAFETY PROCEDURES**

- 2 Standard operating safety procedures are described in Section 9.0 of the FWSHP.

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1 **12.0 SITE CONTROL MEASURES**

2 Site control measures are described in Section 10.0 of the FWSHP. No formal site control is expected to
3 be necessary for this project, as the work to be performed is non-intrusive. In addition, the RVAAP
4 facility is not open to the public, and only authorized personnel are allowed entry.

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1 **13.0 PERSONAL HYGIENE AND DECONTAMINATION**

- 2 Personal hygiene and decontamination requirements are described in Section 11.0 of the FWSHP and in
3 Section 3.0 of this addendum.

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14.0 EMERGENCY PROCEDURES AND EQUIPMENT

Emergency contacts, telephone numbers, directions to the nearest medical facility, and general procedures can be found in the FWSHP (Section 12.0). All emergencies on-site will be coordinated first through **Guard Post 1 [(330) 358-2017]** who will coordinate the response. The SAIC Field Operations Manager will remain in charge of all SAIC and subcontractor personnel during emergency activities. The SAIC field office will serve as the assembly point if it becomes necessary to evacuate one or more remedial locations. During mobilization, the SSHO will verify that the emergency information in Section 12 of the FWSHP is correct.

Each field team shall have a 2-way radio capable of contacting Guard Post 1 for communications purposes.

During field operations all on-site personnel shall have CPR/first aid training.

Table 14-1. Emergency Contact Phone Number

Position	Phone
RVAAP Guard Post 1 (Police, Fire, Emergency Medical)	(330) 358-2017
Hospital (Robinson Memorial, Ravenna)	(330) 297-2449/0811
RVAAP Facility Manager Mark Patterson	(330) 358-7311
RVAAP Operation and Maintenance Contractor Jim McGee, Vista Sciences	(330) 358-3005
USACE Mark W. Nichter	(502) 315-6375
Ohio EPA, Eileen Mohr	Office: (330) 963-1221
SAIC Project Manager, Kevin Jago Corey Pacer	Office: (865) 481-4614 Cell: (330) 617-3146 Office: (330) 405-5811 Cell: (330) 353-6153
SAIC Health and Safety Personnel, Steve Davis CIH, CSP (Program Health and Safety Manager) Heather Miller (Project Health and Safety Officer)	(865) 481-4755 Office: (330) 405-5814 Cell: (330) 573-8571

CIH= Certified Industrial Hygienist

CSP = Certified Safety Professional

Ohio EPA = Ohio Environmental Protection Agency

RVAAP = Ravenna Army Ammunition Plant

SAIC = Science Applications International Corporation

USACE = U.S. Army Corps of Engineers

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1 **15.0 LOGS, REPORTS, AND RECORD KEEPING**

- 2 Logs, reports, and record keeping requirements are described in Section 13 of the FWSHP.

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16.0 REFERENCES

USACE (U.S. Army Corps of Engineers) 2001. *Facility Wide Safety and Health Plan for Environmental Investigations at the Ravenna Army Ammunition Plant, Ravenna, Ohio*, DACA62-00-D-0001, D.O. CY02, March 2001.

USACE 2003. Safety and Health Manual, EM-385-1-1.

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17.0 FACILITY AND HOSPITAL MAPS

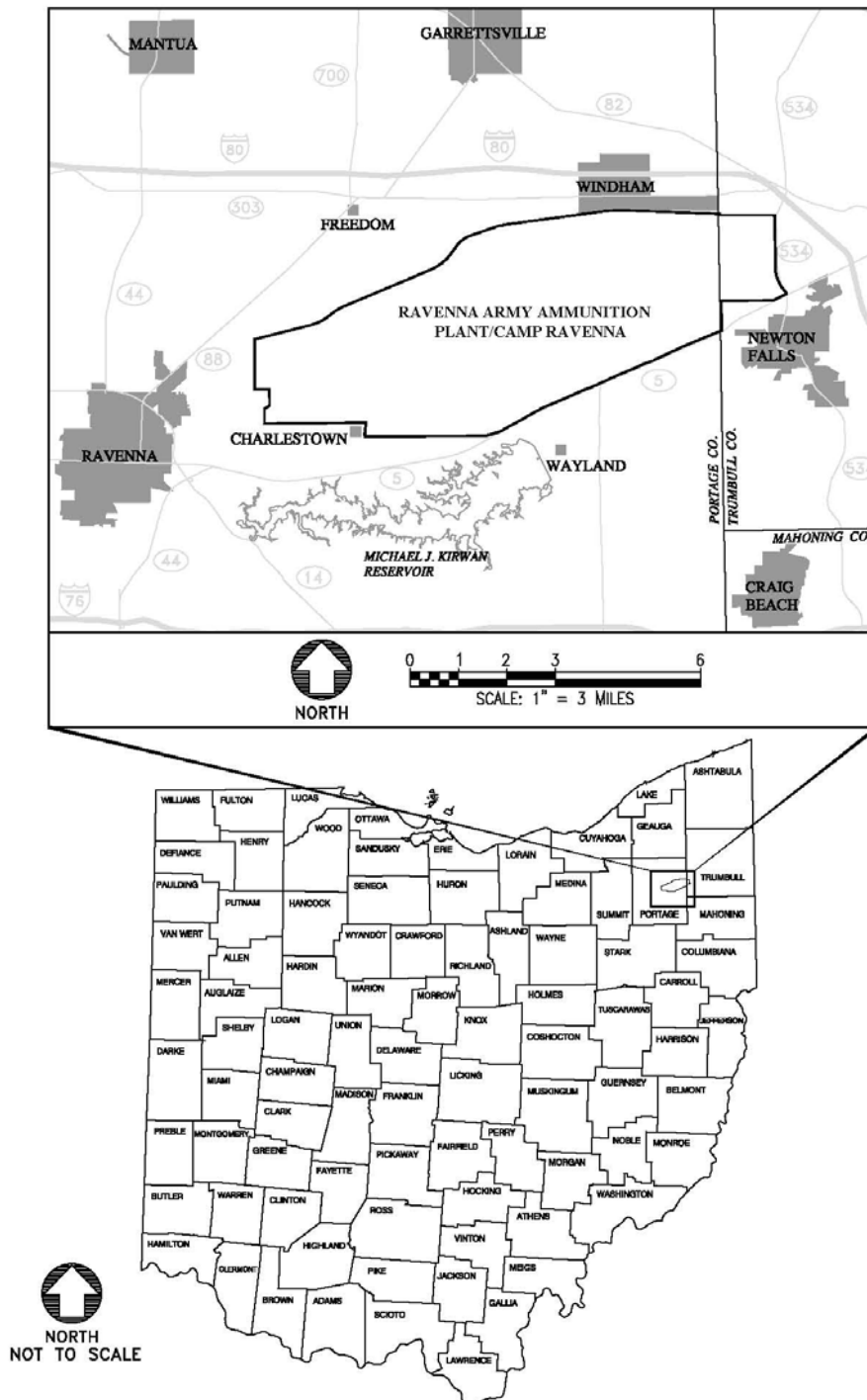


Figure 17-1. General Location and Orientation of RVAAP/Camp Ravenna

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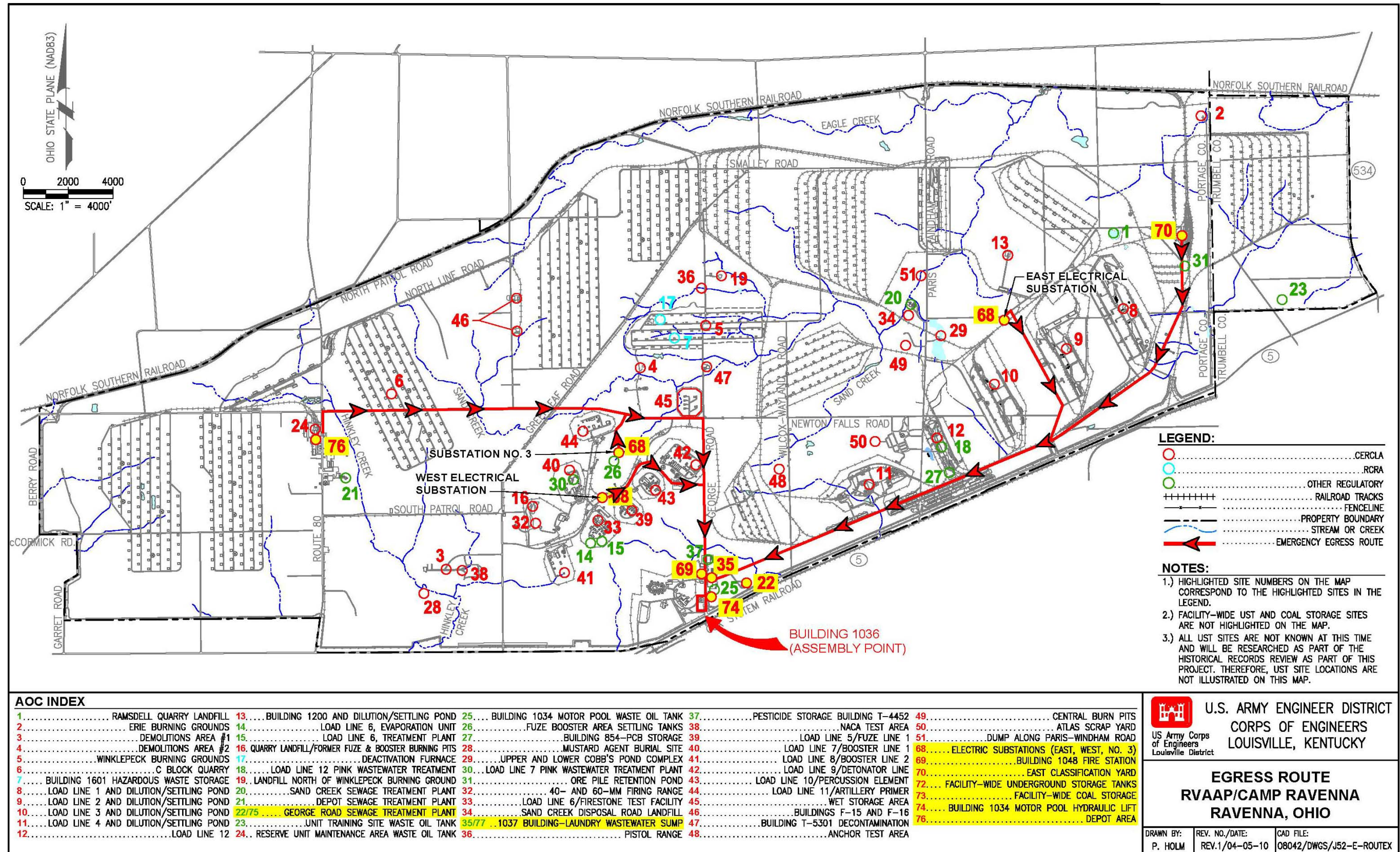


Figure 17-2. Egress Route

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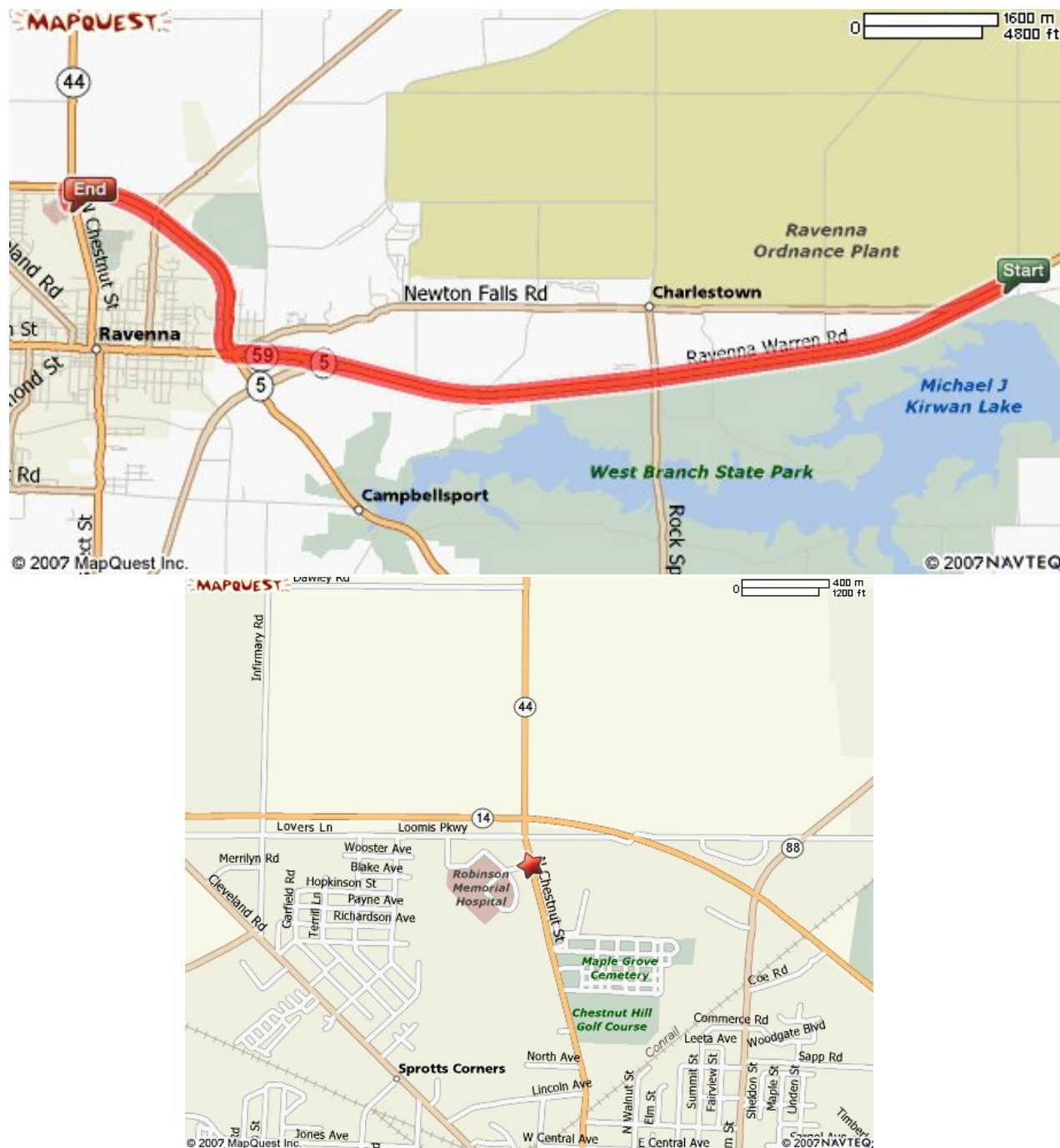


Figure 17-3. Route Map to Pre-Notified Medical Facility
Robinson Memorial Hospital
6847 N. Chestnut Street
Ravenna, Ohio
(330) 297-0811

Directions: West on State Route 5. Stay straight onto OH-59 West.
Turn Right onto OH-14/OH-44. Turn Left onto North Chestnut St.

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