

FINAL

NO ACTION DECISION DOCUMENT

BRAC Portion of Rickenbacker Air National Guard Base (Ohio)

**Sites SS005, SS013, SS014, SS015, SS016, SS017, SS026,
SS039, SS040, EBS 7, EBS 8, EBS 9, EBS 11,
EBS 20, EBS 21, EBS 30, EBS 31, and Bldg. 553**



**AIR FORCE CIVIL ENGINEER CENTER
2261 Hughes Ave., Suite 155
JBSA Lackland, Texas 78236-9853**

September 2014

This page is intentionally left blank.



DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER

September 10, 2014

Ohio Environmental Protection Agency
Attn: Mr. Fred Myers
50 West Town Street
P.O. Box 1049
Columbus, Ohio 43216-1049

RE: *Final No Action Decision Document for 18 Sites at the BRAC Portion of Rickenbacker Air National Guard Base (Ohio).*

Dear Mr. Myers:

Attached for your review is the *Final No Action Decision Document*, for 18 Sites (SS005, SS013, SS014, SS015, SS016, SS017, SS026, SS039, SS040, EBS 7, EBS 8, EBS 9, EBS 11, EBS 20, EBS 21, EBS 30, EBS 31, and Bldg. 553) at the BRAC Portion of Rickenbacker Air National Guard Base (Ohio). This final document contains the sites for which no comments were included in the Ohio EPA comment letter dated 16 July 2014, which provided comments on the draft 30 Sites NA DD. Since no comments on these 18 sites were received, we separated these for expeditious approval (before end of FY 14). A response to comments is also attached which contains responses to general document-wide comments.

If you have any questions please contact me at (207) 328-7109 x7 or by email at Peter.Forbes@us.af.mil.

Sincerely,

A handwritten signature in blue ink that reads "Peter W. Forbes".

PETER W. FORBES, GS-13, DAF
Program Manager
AFCEC/CIBE – Loring

cc:
Paul Kennedy, CRAA (CD)
Thomas L. Smith, US EPA Region 5
Niels D.L. van Hoesel, FPM Remediations
Terry Messenger, Booz Allen Hamilton (CD)

Attachment: *Final No Action Decision Document* for 18 Sites at BRAC Portion of Rickenbacker Air National Guard Base (Ohio)

This page is intentionally left blank.

Review Date:	Contractor Responses to Ohio EPA comments		Document: <u>Draft No Action Decision Document (30 Sites)</u> , BRAC Portion of Rickenbacker ANGB, OH
7/16/2014			
Comment No.	Reference (Page and Paragraph)	Comment	FPM Response
Reviewer – Fred Myers, Ohio EPA, Site Coordinator			
<p>The Ohio Environmental Protection Agency (EPA) reviewed the draft <i>No Action Decision Document</i> (DD) for 30 sites at the former Rickenbacker Air Force Base, received on May 16, 2014. The DD provided information to support unlimited use/unrestricted exposure (UU/UE) closure. The information consisted of descriptions, history, environmental investigation summaries, and current site risks and justifications for UU/UE. If there was historic evidence of a hazardous substance or petroleum release at a site and samples were collected, then contaminants of concern (COC) concentrations were compared to the following 2012 U.S. EPA screening levels: (1) regional screening levels (RSLs) for residential soil; (2) protection of ground water soil screening levels (SSLs); and (3) tap water or maximum contaminant levels (MCLs) for ground water. The COC concentrations were also compared to available soil background values for inorganics. If the concentrations of COCs were below the screening levels or background values, then the site was determined to be suitable for UU/UE.</p> <p>This Response to Comments (RTCs) addresses general (non-site-specific) comments provided by Ohio EPA, which apply to 18 sites for which no site-specific comments were received [list]. These RTCs are submitted along with a <i>No Action Decision Document</i> (DD) for 18 Sites, recommending UU/UE closure, for Ohio EPA approval.</p>			
1 through 14	-	Comments 1 through 14 were site-specific comments that do not pertain to the 18 subject sites included in the 18 Sites No Action DD. Comments 1 through 14 will be addressed in a separate document with a separate response to comments.	
15	Tables: Non-detect (ND) designation.	"ND" is given for COCs in many of the tables. The analytical detection limits should be listed in the tables.	If an individual COC was given in a table and the result was < 0.005, U or ND, the source was reviewed and the corresponding method detection limit and a U qualifier were added to the table. If an entire category of COCs (i.e., VOCs, SVOCs, PCBs, etc.) was not detected, a row was added to the tables to identify that no VOCs/SVOCs/etc. were ever detected.
16	Figure 1-1	This figure did not identify the locations of the following sites: SS010, SS017, EBS Site 7, EBS Site 19, EBS Site 21, EBS Site 22, EBS Site 23, EBS Site 25, EBS Site 28, and EBS Site 553. Also, Figure 1-1 incorrectly identifies the location of Site 007 as being within the former Lockbourne Air Force Base Landfill.	All sites have been shown on Figure 1-1, but several of the labels pointing towards several sites were not shown on Figure 1-1. The figure was corrected and is attached. The boundaries shown were revised based on the revised site boundaries as detailed in the response to comment 17.

			Because Ohio EPA comments were received on Site SS007, that site is not part of this 18 Sites NA DD. The location of Site SS007 will be clarified in a separate 10 Sites NA DD.
17	Figures	<p>The site boundaries depicted in some of the figures do not reflect the site descriptions. In addition, the environmental samples used in the DD to demonstrate UU/UE are not depicted as being within the site boundaries at some of the sites. The boundary depicted for each site should match the site descriptions and encompass the entire area for which the UU/UE determination applies. Listed below are figures that do not match the descriptions.</p> <ul style="list-style-type: none"> • Figure 1-3: The site boundary depicted for Site SS007 does not include the former tank locations. • Figure 1-13: The boundary depicted for Site SS043 does not include the oil water separator, Building 926, or the sample locations. • Figure 1-14: The boundary depicted for EBS Site 1 does not include the former waste water treatment plant structures or sample locations. • Figure 1-16: The two sample locations used to demonstrate UU/UE are located outside of the site boundary of EBS Site 6. • Figure 1-17: The site boundary is depicted as a very small area inside of the aeration tank of the package sewage treatment plant. 	<p>The site boundaries were adapted from historical documents. Subsequent investigations, field work, etc. often was performed outside these preliminary site boundaries.</p> <p>The site boundaries were reviewed and redrawn to incorporate all site related samples and site descriptions.</p>
		In addition to the figures noted above, the Air Force should define the boundaries for which the UU/UE determination applies for all of the sites subject to this DD.	The site boundaries on the figures were reviewed and revised.

FINAL

NO ACTION DECISION DOCUMENT

BRAC Portion of Rickenbacker Air National Guard Base (Ohio)

**Sites SS005, SS013, SS014, SS015, SS016, SS017, SS026,
SS039, SS040, EBS 7, EBS 8, EBS 9, EBS 11,
EBS 20, EBS 21, EBS 30, EBS 31, and Bldg. 553**

Prepared by:

FPM Remediations, Inc.

**584 Phoenix Drive
Rome, New York 13440**

September 2014

This page is intentionally left blank.

TABLE OF CONTENTS

SECTION	PAGE
1.1 Site Names and Locations	1
1.2 Statement of Basis and Purpose	1
1.3 Selected Remedy and Statutory Determinations	2
1.4 Authorized Signature.....	3
1.5 Site Names, Locations, and Descriptions.....	1
1.5.1 SS005: Lateral Safety Zone Spill Site	2
1.5.2 SS013: RB-47 Crash Site.....	2
1.5.3 SS014: JP-4 Spill Site 1960	2
1.5.4 SS015: Southeast Fuel Dump Area.....	3
1.5.5 SS016: Northeast Fuel Dump Area.....	3
1.5.6 SS017: Old Entomology Lab	3
1.5.7 SS026: Electric Transformer Storage	3
1.5.8 SS039: Fuel Dump SW end of old runway.....	3
1.5.9 SS040: Fuel Dump NE end of old runway	4
1.5.10 EBS 7: Package Sewage Treatment Plant, former Bldg. 702	4
1.5.11 EBS 8: Munitions Buildup, former Bldg. 709	4
1.5.12 EBS 9: Missile Maintenance, former Bldg. 710	4
1.5.13 EBS 11: Munitions Storage, former Bldg. 739.....	5
1.5.14 EBS 20: Water Treatment, former Bldg. 413	5
1.5.15 EBS 21: BCE Maintenance Shop, former Bldg. 422.....	5
1.5.16 EBS 30: Fuel Cell Hangar, Bldg. 597.....	6
1.5.17 EBS 31: Club Complex, Bldg. 800.....	6
1.5.18 Bldg. 553: Aircraft Wash Rack.....	6
1.6 History of Remedial Investigations and Actions.....	7
1.6.1 SS005: Lateral Safety Zone Spill Site	7
1.6.2 SS013: RB-47 Crash Site.....	7
1.6.3 SS014: JP-4 Spill Site 1960	8
1.6.4 SS015: Southeast Fuel Dump Area.....	8
1.6.5 SS016: Northeast Fuel Dump Area.....	9
1.6.6 SS017: Old Entomology Lab	9
1.6.7 SS026: Electric Transformer Storage	10
1.6.8 SS039: Fuel Dump SW end of old runway.....	10
1.6.9 SS040: Fuel Dump NE end of old runway	11
1.6.10 EBS 7: Package Sewage Treatment Plant, former Bldg. 702	11
1.6.11 EBS 8: Munitions Buildup, former Bldg. 709	12
1.6.12 EBS 9: Missile Maintenance, former Bldg. 710	12
1.6.13 EBS 11: Munitions Storage, former Bldg. 739.....	12
1.6.14 EBS 20: Water Treatment former Bldg. 413	12
1.6.15 EBS 21: BCE Maintenance Shop, former Bldg. 422.....	13
1.6.16 EBS 30: Fuel Cell Hangar, Bldg. 597.....	13
1.6.17 EBS 31: Club Complex, Bldg. 800.....	13
1.6.18 Bldg. 553: Aircraft Wash Rack.....	13
1.7 Community Participation	14
1.8 Current and Potential Future Site Uses	14

1.9 Site Risks..... 14

 1.9.1 Site SS005..... 14

 1.9.2 Site SS013..... 15

 1.9.3 Site SS014..... 15

 1.9.4 Site SS015..... 15

 1.9.5 Site SS016..... 16

 1.9.6 Site SS017..... 16

 1.9.7 Site SS026..... 17

 1.9.8 Site SS039..... 17

 1.9.9 Site SS040..... 17

 1.9.10 Site EBS 7..... 18

 1.9.11 Site EBS 8..... 18

 1.9.12 Site EBS 9..... 18

 1.9.13 Site EBS 11..... 18

 1.9.14 Site EBS 20..... 18

 1.9.15 Site EBS 21..... 19

 1.9.16 Site EBS 30..... 19

 1.9.17 Site EBS 31..... 19

 1.9.18 Bldg. 553..... 19

1.10 Documentation of Significant Changes..... 19

2.0 COMMUNITY RELATIONS..... 21

 2.1 Stakeholder Issues and Lead Agency Responses..... 21

 2.2 Technical and Legal Issues..... 21

3.0 REFERENCES..... 23

TABLES

Table

1-1 Historical Soil Sampling Results at SS005

1-2 Historical Soil Sampling Results at SS015

1-3 Historical Groundwater Sampling Results at SS015

1-4 Historical Soil Sampling Results at SS016

1-5 Historical Groundwater Sampling Results at SS016

1-6 Historical Soil Sampling Results at SS017

1-7 Historical Groundwater Sampling Results at SS017

1-8 Historical Soil Sampling Results at SS026

1-9 Historical Soil Sampling Results at SS039

1-10 Historical Groundwater Sampling Results at SS039

1-11 Historical Soil Sampling Results at SS040

1-12 Historical Groundwater Sampling Results at SS040

1-13 Historical Soil Sampling Results at EBS 7

1-14 Historical Soil Sampling Results at Bldg. 553

1-15 Site and Parcel Summary

FIGURES

Figure

- 1-1 Rickenbacker ANGB Overview Map
- 1-2 SS005: Lateral Safety Zone Spill Site
- 1-3 Site SS013: RB-47 Crash Site
- 1-4 Site SS014: JP-4 Spill Site 1960
- 1-5 Site SS015: Southeast Fuel Dump Area
- 1-6 Site SS016: Northeast Fuel Dump Area
- 1-7 Site SS017: Old Entomology Lab
- 1-8 Site SS026: Electric Transformer Storage
- 1-9 Site SS039: Fuel Dump SW end of old runway
- 1-10 Site SS040: Fuel Dump NE end of old runway
- 1-11 Site EBS 7: Package Sewage Treatment former Bldg. 702
- 1-12 Site EBS 8: Munitions Buildup former Bldg. 709
- 1-13 Site EBS 9: Missile Maintenance former Bldg. 710
- 1-14 Site EBS 11: Munitions Storage former Bldg. 739
- 1-15 Site EBS 20: Water Treatment former Bldg. 413
- 1-16 Site EBS 21: BCE Maintenance Shop former Bldg. 422
- 1-17 Site EBS 30: Fuel Cell Hangar Bldg. 597
- 1-18 Site EBS 31: Club Complex Building 800
- 1-19 Site Bldg. 553: Aircraft Wash

APPENDICES

- A. Ohio EPA, August 29, 2012. Letter to Peter Forbes (AFCEC/CZRB), Subject: *Site Closure Plan for 11 Sites, Rickenbacker Air National Guard Base, Franklin County, Ohio EPA – DERR Project # 125-000685-104.*
- B. Ohio EPA, April 3, 2013. Letter to Peter Forbes (AFCEC/CZRB), Subject: *Site Closure Plan for 16 Sites, Rickenbacker ANGB, Project # 125-000685-108.*
- C. Ohio EPA, October 29, 2013. Letter to Peter Forbes (AFCEC/CIBE), Subject: *Final Site Closure Plan for 16 sites, Rickenbacker ANGB, Project # 125-000685-108.*

This page is intentionally left blank.

LIST OF ACRONYMS AND ABBREVIATIONS

AF	Air Force
AFBCA	Air Force Base Conversion Agency
AFCEC	Air Force Civil Engineer Center
ANGB	Air National Guard Base
AST	Aboveground Storage Tank
BCT	BRAC Cleanup Team
BRAC	Base Realignment and Closure
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BUSTR	Bureau of Underground Storage Tank Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Chemical of Concern
CRAA	Columbus Regional Airport Authority
DD	Decision Document
DoD	Department of Defense
EBS	Environmental Baseline Survey
FS	Feasibility Study
IRP	Installation Restoration Program
LRA	Local Redevelopment Authority
MDL	Method Detection Limit
NCP	National Contingency Plan
NFA	No Further Action
OHANG	Ohio Air National Guard
Ohio EPA	Ohio Environmental Protection Agency
OWS	Oil Water Separator
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
RAB	Restoration Advisory Board
PRG	Preliminary Remediation Goal
RI	Remedial Investigation
RSL	Regional Screening Level
SCR	Site Closure Report
SEBS	Supplemental Environmental Baseline Survey
SSL	Soil Screening Level
SVOC	Semi-Volatile Organic Compound
STP	Sewage Treatment Plant
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
USEPA	United States Environmental Protection Agency

UST	Underground Storage Tank
UU/UE	Unlimited Use/Unrestricted Exposure
VOC	Volatile Organic Compound
VSI	Visual Site Inspection
WTP	Water Treatment Plant

Declaration

1.1 SITE NAMES AND LOCATIONS

The Base Realignment and Closure (BRAC) Portion of Rickenbacker Air National Guard Base (ANGB), is located south of the City of Columbus and straddles Franklin and Pickaway Counties, Ohio (**Figure 1-1**). This No Action Decision Document (DD) presents the basis for the no action decision for Unlimited Use/Unrestricted Exposure (UU/UE) for the following 18 sites at the BRAC Portion of Rickenbacker ANGB (**Figures 1-2 to 1-19**):

- SS005: Lateral Safety Zone Spill Site
- SS013: RB-47 Crash Site
- SS014: JP-4 Spill Site 1960
- SS015: Southeast Fuel Dump Area
- SS016: Northeast Fuel Dump Area
- SS017: Old Entomology Lab
- SS026: Electric Transformer Storage
- SS039: Fuel Dump SW end of old runway
- SS040: Fuel Dump NE end of old runway
- Environmental Baseline Survey (EBS) 7: Package Sewage Treatment former Bldg. 702
- EBS 8: Munitions Buildup former Bldg. 709
- EBS 9: Missile Maintenance former Bldg. 710
- EBS 11: Munitions Storage former Bldg. 739
- EBS 20: Water Treatment former Bldg. 413
- EBS 21: BCE Maintenance Shop former Bldg. 422
- EBS 30: Fuel Cell Hangar Bldg. 597
- EBS 31: Club Complex Building 800
- Bldg. 553: Aircraft Wash

1.2 STATEMENT OF BASIS AND PURPOSE

This No Action DD presents the basis for the no action decision for 18 Sites (SS005, SS013, SS014, SS015, SS016, SS017, SS026, SS039, SS040, EBS 7, EBS 8, EBS 9, EBS 11, EBS 20, EBS 21, EBS 30, EBS 31, and Bldg. 553) at the BRAC Portion of Rickenbacker ANGB. This document was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the process defined by its implementing regulation, the National Contingency Plan (NCP).

After investigation, Sites SS005, SS013, SS014, SS015, SS016, SS017, SS026, SS039, SS040, EBS 7, EBS 8, EBS 9, EBS 11, EBS 20, EBS 21, EBS 30, EBS 31, and Bldg. 553 were closed in the 1990s with No Further Action (NFA), based on an assessment of commercial/industrial use. The last five-year review approved by state and federal regulators is the Second Five-Year Review Report for the BRAC Portion of Rickenbacker Air National Guard Base (Air Force Civil Engineer Center [AFCEC], February 2014).

On July 25, 2012, AFCEC submitted to Ohio Environmental Protection Agency (Ohio EPA) a *Final Site Closure Report* for 11 sites of which eight are included in this No Action DD: SS026, EBS 7, EBS 8, EBS 9, EBS 11, EBS 19, EBS 20, EBS 21, EBS 23, EBS 28 & EBS 30 (FPM, July 2012) which summarized historic data relative to United States Environmental Protection Agency (USEPA) Residential Regional Screening Levels (RSLs) (USEPA, May 2012), and requested UU/UE closure. Ohio EPA provided a concurrence letter for the Site Closure Report on August 29, 2012, which concurred with the UU/UE site closure recommendation for all 11 sites (**Appendix A**).

On January 4th, 2013, AFCEC submitted to Ohio EPA a *Draft-Final Site Closure Report* for 16 Sites: EBS 2, EBS 3, EBS 6, EBS 25, EBS 26, EBS 31, Bldg. 553, SS005, SS010, SS013, SS014, SS015, SS016, SS017, SS039, and SS040, which summarized historical data relative to Residential RSLs and requested UU/UE closure. Ohio EPA provided a comment letter for the draft-final closure report on April 3rd, 2013, which concurred with the UU/UE closure recommendation for 3 of the 16 sites (EBS 25, EBS 31, and SS013), but indicated that further evaluation of the soil leaching to groundwater pathway would be necessary for the remaining 13 sites (**Appendix B**). In response to the Ohio EPA comment letter, AFCEC submitted a *Final Site Closure Report* for 16 Sites on October 16th, 2013 (FPM, August 2013). Ohio EPA provided a concurrence letter for the final closure report on October 29th, 2013, which concurred with the UU/UE closure recommendation for an additional 11 sites (EBS 3, EBS 6, Bldg. 553, SS005, SS010, SS014, SS015, SS016, SS017, SS039, and SS040); a recommendation was made for additional sampling at Sites EBS 2 and EBS 26 (**Appendix C**). Ten of these sites are included in this No Action DD.

1.3 SELECTED REMEDY AND STATUTORY DETERMINATIONS

The Air Force (AF) has concluded that No Action is necessary at Sites SS005, SS013, SS014, SS015, SS016, SS017, SS026, SS039, SS040, EBS 7, EBS 8, EBS 9, EBS 11, EBS 20, EBS 21, EBS 30, EBS 31, and Bldg. 553 to ensure protection of human health and the environment. Current conditions at the site meet criteria to allow UU/UE, and future land use restriction and CERCLA five-year reviews are no longer required.

The State of Ohio EPA concurs with the selected remedy.

1.4 AUTHORIZED SIGNATURE

U.S. Air Force

By: _____

Date: _____

Connie M. Lotfi, GS-15, DAF
Deputy Director, Installations Directorate
Air Force Civil Engineer Center

This page is intentionally left blank.

Decision Summary

1.5 SITE NAMES, LOCATIONS, AND DESCRIPTIONS

The Rickenbacker ANGB is located in the City of Columbus and in Franklin County and Pickaway County within the state of Ohio. Portions of Rickenbacker ANGB were closed on September 30, 1994, and other portions were realigned as part of the 1991 and 1993 round of BRAC closures as detailed below. **Figure 1-1** shows the Rickenbacker ANGB location.

Rickenbacker ANGB, known as Lockbourne Air Force Base until 1974, was officially activated in 1942 as the Northeastern Training Center of the Army Air Corps, and was used as a training center for glider pilots. By the end of 1942, the Base consisted of 1,574 acres. Glider training was discontinued in 1943 when a school for B-17 pilots was established. The Base was transferred to the Air Technical Service Command and then to the Tactical Air Command in the 1950s. The Base was deactivated by the Air Force in 1949 and used for 18 months as an Ohio Air National Guard (OHANG) training base. At that time, the 121st Tactical Fighter Wing was relocated to the Base. In 1949, the 121st TFW flew F-100 Super Sabres.

On 1 January 1951, the Base was transferred to the Strategic Air Command and reactivated in response to the Korean Conflict. Following additional property acquisitions, the Base was comprised of 4,129 acres. The 301st Bombardment Wing moved to the Base in 1958. The 301st Bombardment Wing was re-designated as the 301st Air Refueling Wing in June 1964 and began flying KC-135 Strato-tankers. In 1972, the refueling mission was assumed by the 160th Air Refueling Group of the OHANG, which is still present at Rickenbacker ANGB.

In July 1965, the 840th Air Division of the Tactical Air Command moved to Rickenbacker with its C-130 Hercules cargo aircraft and took command of the Base. In 1971, command was transferred to Strategic Air Command under the 301st Air Refueling Wing. Also in 1971, the Air Force Reserves 302nd Tactical Airlift Wing was moved to Rickenbacker. The 302nd Tactical Airlift Wing flew C130E cargo planes in support of airlift missions. In 1981, the 301st Tactical Airlift Wing vacated the Base and its units were converted to the 907th Tactical Airlift Group. As a part of the 907th TAG, the 907th Aerial Spray Branch, responsible for aerial pesticide spraying missions at other bases around the country, was located at Rickenbacker ANGB. In the winter of 1991-1992, the Aerial Spray Branch was transferred to the Air Force Reserve unit located in Youngstown, Ohio.

On 1 April 1980, Rickenbacker ANGB closed and the installation was turned over to the OHANG. At that time, an organization known as Detachment 1; OHANG, was created to be the single manager for the military units stationed at Rickenbacker ANGB. The major tenants were the 121st Tactical Fighter Wing, the 160th Refueling Group, and the 907th Tactical Airlift Group. In the fall of 1988, Detachment 1 was deactivated and the 121st Fighter Wing assumed host and

single-manager responsibilities under a sub-unit known as the 121st Consolidated Operating Support. In the fall of 1993, the 160th Air Refueling Group was consolidated into the 121st Air Refueling Wing. The 121st Consolidated Operating Support subunit designation was abolished included resistors, connectors, transformers, antennas, crystals, fiber optics, microcircuits, and the host management responsibilities were incorporated into the command structure of the 121st Air Refueling Wing.

The BRAC portion of Rickenbacker ANGB encompasses 2,076 acres. Rickenbacker ANGB officially closed in September 1994. As a result of the federal screening phase of the BRAC disposal process, 157.78 acres were retained by the Air Force as a cantonment area for the Ohio Air National Guard and 148.03 acres were conveyed to the Army for the Ohio Army National Guard and the Army Reserves. A total of 1,911.63 acres have been retained by or reassigned within the Department of Defense (DoD) or conveyed to the Columbus Regional Airport Authority (CRAA) at Rickenbacker (formerly the Rickenbacker Port Authority), and to another non-federal agency, South Central Power (Parcel E). The BRAC mandated property transfer actions at Rickenbacker ANGB were completed on June 26, 2007. **Table 1-15** includes the site IDs, site names and cross references the sites with each parcel where the site is located.

1.5.1 SS005: Lateral Safety Zone Spill Site

Lateral Safety Zone Spill Site (SS005) is a grassy area next to an aircraft taxiway. SS005 is a topographically low area south of Pumping Station #7 (Building 899), between Taxiway A and the inner runway within Parcel D1.A. This location was identified in the Phase I Records Search as an area suspected of having had JP-4 fuel spills of 80,000 gallons in 1972 and 600 gallons in 1985 (HMTC, 1987). A drain-tile system, connected to the Base, storm-drain network (Site 25), underlies the spill area. Remedial actions to recover the spilled fuel or remove the impacted soil were not documented. It is unknown whether this release evaporated, entered the storm drain, or seeped into the ground. **Figure 1-2** shows the Site SS005 location.

1.5.2 SS013: RB-47 Crash Site

Site SS013 is the RB-47 Crash Site located in the lateral safety zone between Taxiways C and D in Parcel D1.A. The site is currently grass covered and relatively flat. Under the Installation Restoration Program (IRP), the RB-47 Crash Site was designated as Site 13 (SS013). **Figure 1-3** shows the Site SS013 location.

1.5.3 SS014: JP-4 Spill Site 1960

Site SS014 is the location where 10,000-gallons of JP-4 fuel were spilled onto concrete pavement when two KC-135 refueling aircraft collided on the parking apron in 1960. The site was not well defined, but had been located in the vicinity of the aircraft parking apron near Taxiway F within Parcel D1.A. **Figure 1-4** shows the Site SS014 location.

1.5.4 SS015: Southeast Fuel Dump Area

The Southwest Fuel Dump Area (Site SS015) is located near the western corner of the intersection of the NE-SW Primary Instrument Runway and Taxiway B within Parcel D1.A. Site SS015 consists of a flat, broken asphalt area, locally covered with grass, approximately 25 feet wide by 75 feet long. The site was reportedly used as a fuel dump area for aircraft prior to entering hangars for maintenance. The site may have been used for defueling as early as the 1940s. **Figure 1-5** shows the Site SS015 location.

1.5.5 SS016: Northeast Fuel Dump Area

Under the IRP, the Northeast Fuel Dump Area was designated as site SS016. Site 16 is located in a grassy area near the northern corner of the intersection of the Primary Instrument Runway and Taxiway G within Parcel D1.A. Site SS016 was reportedly used as a fuel dump area for aircraft prior to entering hangars for maintenance. Site 16 may have been used for defueling as early as the 1940s. **Figure 1-6** shows the Site SS016 location.

1.5.6 SS017: Old Entomology Lab

Site SS017 consists of the area surrounding the old entomology laboratory located in the north end of former Building 422 on Hangar Avenue within Parcel D2.A. Pesticide spray equipment was stored at the laboratory and was reportedly cleaned outside the building (HMTC, 1987). Several drums of malathion were described to have been stored outside of the entomology building. **Figure 1-7** shows the Site SS017 location.

1.5.7 SS026: Electric Transformer Storage

The Electric Transformer Storage Area was in use until 1975. The site is located at the southwest end of the Base Salvage Yard (Site 9), between Vause and South Perimeter Roads in Parcel D3.A. There are no records of whether the transformer dielectric fluids contained polychlorinated biphenyls (PCBs) and there are no records of fluid leaks. **Figure 1-8** shows the Site SS026 location.

1.5.8 SS039: Fuel Dump SW end of old runway

The southwest and northeast fuel dumps are areas within Parcel D1.A reportedly used for disposal of fuel during the 1940s. It is suspected that fuel was dumped from aircraft at the northeast and southwest ends of the main NE-SW runway used during that time. Fuel allegedly was dumped from planes under the following scenarios: 1) after emergency landing, 2) after a flight and prior to entering hangars, or 3) after standing down or returning from an alert. Although there are no documents to suggest that such dumping ever occurred, the dumping was

suspected because it was a common practice on air bases prior to the 1950s. **Figure 1-9** shows the Site SS039 location.

1.5.9 SS040: Fuel Dump NE end of old runway

The southwest and northeast fuel dumps are areas within Parcel D1.A reportedly used for disposal of fuel during the 1940s. SS040 was investigated together with SS039 (Section 1.5.8). **Figure 1-10** shows the Site SS040 location.

1.5.10 EBS 7: Package Sewage Treatment Plant, former Bldg. 702

The package Sewage Treatment Plant (STP) located in Parcel D1.A was built in 1959 and serviced the guard house, check-out building, and missile maintenance building of the munitions storage area. The plant consisted of an approximately 225 ft³ below-grade aeration tank. The fenced concrete 11-foot-deep open-top tank was observed to contain at least 6 feet of rainwater on October 7, 1994. Effluent was discharged to a storm sewer at Manhole 117, which eventually discharged to Walnut Creek. **Figure 1-11** shows the Site EBS 7 location.

1.5.11 EBS 8: Munitions Buildup, former Bldg. 709

Munitions buildup was performed in Building 709 in Parcel D1.A, a single-story concrete block building constructed on a concrete pad in 1959. Munitions buildup involved the removal of cartridge ammunition from ammunition cans and subsequent manual loading into aircraft ammunition holders. The building consisted of an office, a receiving bay, and two buildup bays. The bays were each approximately 20 by 30 feet with tile and concrete floors. A Visual Site Inspection (VSI) was conducted at Building 709 in 1995. The VSI identified no areas of concern. The building was empty, housekeeping was good, and no evidence of spills or releases was noted. The floors and sinks contained minor stains. No waste was observed on site. A fuel oil underground storage tank (UST) was once located immediately southwest of the building. The UST was removed in 1994 under Bureau of Underground Storage Tank Regulations (BUSTR). The 1996 Supplemental Environmental Baseline Survey (SEBS) concluded that NFA was recommended for this site (IT, 1996). **Figure 1-12** shows the Site EBS 8 location.

1.5.12 EBS 9: Missile Maintenance, former Bldg. 710

Building 710, located in Parcel D1.A, was a concrete block building, built in 1959 and was used for missile maintenance. The building had office space, storage area and a maintenance bay. The maintenance bay was approximately 40-by-20-foot high with a concrete floor, floor drains (believed to lead to the package STP) and overhead doors at either end. A VSI was conducted at Building 710 during the 1996 SEBS. The building was observed to be empty and the maintenance bay floor had a single stain (with an oil-like appearance) covering approximately 30 in². The furnace room had both an oil-burning furnace and an air conditioner. The floor around

the furnace was stained with what appeared to be petroleum (suspected to be diesel fuel), and the room had a diesel odor. The floor stain in the furnace room potentially had surface organic contamination. However, the stain had no build-up and a sample of the stain could not be collected. A UST, which was pulled under BUSTR, had once been located adjacent to the building. No incident report was ever filed for this tank and the tank was removed successfully in August 1994 (Ogden, 1995). The 1996 SEBS concluded that NFA was recommended for this site (IT, June 1996). **Figure 1-13** shows the Site EBS 9 location.

1.5.13 EBS 11: Munitions Storage, former Bldg. 739

Building 739, located in Parcel D1.A, constructed in 1959, was a concrete building with 25 unconnected bays. Each bay was approximately 10 by 20 feet, had a concrete floor, and a sliding overhead door. The roof and exterior and interior walls of the building were constructed of thick (2 to 3 feet) poured concrete. The Base segregated specific types of munitions into different bays. Over the life of the building, various organizations stored ammunition at the building, including the AF, OHANG and local police departments. A VSI was conducted at Building 739 during the 1996 SEBS. The building was observed to be empty and in good condition. The individual bays had minor dust and stains on walls, and minor stains, dust, and rubber scuff marks on floors. The 1996 SEBS concluded that NFA was recommended for this site (IT, June 1996). **Figure 1-14** shows the Site EBS 11 location.

1.5.14 EBS 20: Water Treatment, former Bldg. 413

Building 413, the Water Treatment Plant (WTP), was located in the north-central portion of Rickenbacker ANGB in Parcel D3.C. The WTP was constructed in 1942, expanded through 1976, and closed in 1993. The treatment units included a tray aerator, upflow clarifier, recarbonation basin, settling basin, rapid sand filters, chlorinator and backwash recovery system. Lime was used to soften the groundwater, and the lime sludge was pumped to sludge drying beds (Facilities 833 - 838). Chlorine gas was used for water chlorination. A VSI was conducted at Building 413 during the 1996 SEBS. The building was empty, and housekeeping was good except for dust and peeling paint. The 1996 SEBS concluded that there was no evidence of any contaminant release associated with Building 413 (IT, June 1996). **Figure 1-15** shows the Site EBS 20 location.

1.5.15 EBS 21: BCE Maintenance Shop, former Bldg. 422

Building 422, the BCE Maintenance Shop, was a 7,500 ft² structure built in 1942 in the north-central portion of the Base in Parcel D2.A. The abandoned building was a single story wood frame constructed on a concrete slab at grade. The building housed the base's heating and air conditioning shop, welding shop, and offices of the 160 CEF entomology group. The entomology group vacated the building in 1980, and the other tenants vacated the building in 1992. A VSI of the building was conducted during the 1996 SEBS. The building was observed

to be in very poor condition, with broken windows, a collapsing roof, and having experienced vandalism. The building contained excess equipment from the former tenants, e.g. furniture, lockers, pipe racks, miscellaneous records and household waste. However, the 1996 SEBS determined that there was no evidence of any contaminant release associated with this building, and in accordance with SEBS recommendations the household wastes be removed and properly disposed of (IT, June 1996). **Figure 1-16** shows the Site EBS 21 location.

1.5.16 EBS 30: Fuel Cell Hangar, Bldg. 597

Built in 1954, Building 597 in Parcel D2.A is currently vacant but was used as a hangar where airplane fuel cells (the fuel bladders in airplane wings) were repaired. The building was constructed of steel frame and walls on a concrete slab at grade. The northwest end of the hangar was used to service A-7 fighter aircraft, and the southeast end was used to service C-130 aircraft. The building was used by the CRAA to store snow removal equipment and electrical supplies for servicing lights of the airfield. Oil Water Separators (OWSs) were located at each end of the building. The building likely contained lead-based paint because it was constructed prior to the 1978 DoD ban on the use of lead-based paint in residential buildings. No areas of concern were noted during the 1996 SEBS and the building was observed to be in good condition. The 1996 SEBS concluded that there was no evidence of any contaminant release associated with this site (IT, June 1996). **Figure 1-17** shows the Site EBS 30 location.

1.5.17 EBS 31: Club Complex, Bldg. 800

The former Consolidated Club Complex contained meeting facilities, a kitchen, a food service area, a swimming pool, and a wading pool in the northern portion of the base within parcel D2.A. The club also consisted of two outdoor pools, a bathhouse, several small support/storage buildings, and a main building. Portions of the complex were first built in 1958. The club was closed and the building was demolished at an unknown date. Since the facility was used for club-related activities only, it is not believed to contain hazardous material. The only hazardous chemicals that might have been stored in large quantities were those related to swimming pool maintenance. **Figure 1-18** shows the Site EBS 31 location.

1.5.18 Bldg. 553: Aircraft Wash Rack

Former Building 553 is a large concrete pad near the northeast corner of 2nd Street and Club Road within Parcel D2.A that was constructed in 1942 for use as an aircraft wash rack. Building 553 itself was a mobile trailer that occupied the site from 1983 to 1994, and of itself had no environmental consequence. The use of the concrete pad as a wash rack was discontinued in the early 1950s when the Base was expanded for a medium bomber mission, and the wash rack became neither large enough nor easily accessible to the new and larger bomber aircraft. This site was identified as an area of concern because historical aircraft washing at the site prior to

construction of Building 553 could have potentially contaminated the surrounding area. **Figure 1-19** shows the Site Bldg. 553 location.

1.6 HISTORY OF REMEDIAL INVESTIGATIONS AND ACTIONS

1.6.1 SS005: Lateral Safety Zone Spill Site

Site investigation activities conducted in 1988 and 1989 included a 17-point soil-gas survey, installation of two monitoring wells, and sampling at two locations for soil and groundwater (**Figure 1-2**). The soil-gas survey defined a potential benzene, toluene, and xylenes plume extending eastward from the suspected spill area in the drainage ditch. During the 1988 SI, the two soil borings were analyzed for total petroleum hydrocarbons (TPH) only and TPH was not detected in the samples. Boring AB-3 was sampled at two different sampling depths and analyzed for Volatile Organic Compounds (VOCs) in 1989. Toluene and xylenes were detected in the soil at concentrations below the BUSTR Category 2 Action Levels and the risk-based, Industrial-use Preliminary Remediation Goal (PRGs) (USAF, 1997a) (**Table 1-1**). Petroleum contaminants (TPH and VOCs) were not detected in the groundwater samples.

The Statement of Basis/Final Decision (USAF, 1997a) indicated that NFA was determined for this site, and stated that the future use of this site is intended to be commercial/industrial. No changes in land use have occurred.

1.6.2 SS013: RB-47 Crash Site

Site SS013 was initially investigated during the Phase I Records Search (HMTC, 1987). In 1958, a RB-47 aircraft crashed during takeoff in the lateral safety zone between Taxiways C and D. The plane ignited; and it was reported that much of the fuel that was carried on the plane was consumed before the fire was extinguished. During runway construction in 1959, the top foot of soil was removed from the SS013 area. Because most of the fuel was consumed by the fire, it was concluded that very little residual contamination reached soil at the site. If any leakage to the ground did occur, the bulk of any residual contamination would have been removed during construction activities in 1959. Based on these findings, Site SS013 was eliminated from subsequent IRP investigations and no environmental samples were collected at Site SS013.

The Statement of Basis/Final Decision (USAF, 1997b) indicated that NFA was determined for this site. No land use restriction was documented in the Statement of Basis/Final Decision. However, this site is included in the Second Five-Year Review (AFCEC, February 2014). No changes in land use have occurred.

1.6.3 SS014: JP-4 Spill Site 1960

The Phase I Records Search identified SS014 as the location of a 10,000-gallon JP-4 fuel spill that occurred in 1960 (HMTC, 1987). The 1988-1989 SI activities included a 12-point soil-gas survey, drilling of two wells (MW-1 and MW-2) and two additional locations (AG-1 and AG-2) with soil and groundwater sampling (**Figure 1-4**). The soil and groundwater samples were analyzed for TPH in 1988 and groundwater was analyzed for TPH and VOCs in 1989. No detectable concentrations of TPH or VOCs were reported for any of the soil or groundwater samples submitted during the SI in both 1988 and 1989 sampling events (USAF, 1997c). Since there were no detections, historical sampling results are not tabulated in this document.

The Statement of Basis/Final Decision (USAF, 1997c) indicated that NFA was determined for this site. No land use restriction was documented in the Statement of Basis/Final Decision. However, this site is included in the Second Five-Year Review (AFCEC, February 2014). No changes in land use have occurred.

1.6.4 SS015: Southeast Fuel Dump Area

The Southwest Fuel Dump Area was initially investigated during the Phase I Records Search (HMTC, 1987). The 1988 SI included a 23-point soil gas survey, and collection of soil and groundwater samples (**Figure 1-5**). Results showed lead detections for all samples, but all detections were below background. Based on the soil gas survey and the soil and groundwater sampling results, two additional soil borings (AB-3 and -4) were completed at the site in 1989. The Benzene, Toluene, Ethylbenzene, Xylene (BTEX) and total TPH concentrations were below the BUSTR Category 3 Action Levels. Lead detections were again below background (**Table 1-2**).

The 1988 and 1989 SI groundwater samples contained elevated lead concentrations (0.12 mg/L at MW-2 in 1988, 0.0675 S mg/L in 1989 and 0.197 mg/L at MW-1 in 1989) (**Table 1-3**). The SI concluded that the lead levels may have been related to high sample turbidity. In 1996, USEPA requested that lead levels in the groundwater at Sites SS015 and SS016 be further evaluated.

As part of a negotiated agreement with the Air Force Base Conversion Agency (AFBCA), verification samples were collected from monitoring wells MW-1 and MW-2 at Site SS016 (the Northeast Fuel Dump Area). The results from these monitoring wells were considered representative of conditions at SS015 and SS016 sites (USAF, 1997d, e). Site SS016 is located at the opposite end of the Primary Runway (Section 1.6.5). Analytical results indicated that VOCs and semi-volatile organic compounds (SVOCs) were not detected, and lead concentrations were below Rickenbacker ANGB background levels. Based on these results, it was concluded

that soil and groundwater at Site SS015 did not contain constituents above any action levels (USAF, 1997d).

The Statement of Basis/Final Decision (USAF, 1997d) indicated that NFA was determined for this site. No land use restriction was documented in the Statement of Basis/Final Decision. However, this site is included in the Second Five-Year Review (AFCEC, February 2014). No changes in land use have occurred.

1.6.5 SS016: Northeast Fuel Dump Area

The Northeast Fuel Dump Area was initially investigated during the Phase I Records Search (HMTC, 1987). The 1988 SI included a 16-point soil gas survey, and collection of soil and groundwater sampling from two wells and two soil borings (**Figure 1-6**). Results showed lead detections for all samples, but all detections were below background. Based on the soil gas survey and soil and groundwater sampling results, two additional soil borings (AB-3 and -4) were completed at the site in 1989. Sampling results showed minor toluene and m,p-xylene detections (**Table 1-4**).

The two monitoring wells at Site SS016 were resampled in 1989. The BTEX and total TPH concentrations were below the BUSTR Category 3 Action Levels. The 1988 and 1989 SI groundwater samples contained lead exceedances similar to SS015 (0.505 mg/L at MW-1 in 1988 and 0.4 mg/L in 1989 and 0.17 S mg/L at MW-2 in 1988 and 0.81 mg/L in 1989) (**Table 1-5**). No VOCs or SVOCs were detected (USAF, 1997e). Based on these results, it was concluded that soil and groundwater at Site SS016 did not contain constituents above any action levels. Filtered samples collected in 1996 showed no lead exceedances. Therefore, lead exceedances were attributed to suspended solids.

The Statement of Basis/Final Decision (USAF, 1997e) indicated that NFA was determined for this site. No land use restriction was documented in the Statement of Basis/Final Decision. However, this site is included in the Second Five-Year Review (AFCEC, February 2014). No changes in land use have occurred.

1.6.6 SS017: Old Entomology Lab

The 1988 SI activities indicated the presence of pesticides in soil (**Table 1-6**) and herbicides and pesticides in groundwater (**Table 1-7**). Herbicides and pesticides were not detected during the second round of groundwater sampling during the SI (ES, 1992). The Phase I Remedial Investigation (RI) data collection activities confirmed the presence of pesticides in soil, but did not detect pesticides or herbicides in groundwater (Parsons, 1995). Phase II RI activities indicated the presence of VOCs, SVOCs, and metals in soil and the presence of SVOCs and metals in groundwater (IT, 1998).

The soil and groundwater data were evaluated in a quantitative human health risk assessment (IT, 1998). Results indicated that the concentration of compounds detected in surface soil and subsurface soil were less than the commercial/industrial PRGs; the carcinogenic risk was less than 1×10^{-6} , and noncarcinogenic hazard was less than 0.1. Carcinogenic risk from groundwater under a residential exposure scenario was 1.3×10^{-3} for adults and 4.6×10^{-4} for children, which was greater than the target risk range of 1×10^{-6} to 1×10^{-4} . The risk was driven by dermal exposure to benzo(a)pyrene. Benzo(a)pyrene was detected only once at the site at 0.11 $\mu\text{g/L}$, which is less than the MCL of 0.2 $\mu\text{g/L}$. Benzo(a)pyrene was not detected above detection limits in the soil samples. Aluminum and vanadium were detected above background within the one groundwater sample. The noncarcinogenic hazard from groundwater exposures was less than the target hazard index of 1. The BRAC Closure Team (BCT) concluded that NFA was required at SS017 because soil contamination did not exceed the target range for carcinogenic risk and noncarcinogenic hazard for industrial exposures, and groundwater contamination did not exceed MCLs (USAF, 1998a).

The Statement of Basis/Final Decision (USAF, 1998a) indicated that NFA was determined for this site that the future use of this site was intended to be commercial/industrial. No changes in land use have occurred.

1.6.7 SS026: Electric Transformer Storage

A site investigation conducted in 1988 consisted of collecting 18 surface soil samples and analyzing them for PCB contamination (**Figure 1-8**). Results from the surface soil sampling indicate that PCB contamination did not exist above detection limits in any of the samples in the former transformer storage area (**Table 1-8**) (USAF, 1997f).

The Statement of Basis/Final Decision (USAF, 1997f) indicated that NFA was determined for this site, and stated that the future use of this site is to remain commercial/ industrial. The Second Five-Year Review (AFCEC, February 2014) summarized Ohio EPA's concurrence that land use restrictions be lifted for this site and five-year reviews are no longer required.

1.6.8 SS039: Fuel Dump SW end of old runway

Four Geoprobe[®] borings were completed during the 1996 SEBS at SS039 (**Figure 1-9**). One soil sample was collected from each boring, and groundwater samples were obtained from two borings that encountered groundwater. Samples were analyzed for VOCs, SVOCs, and metals. Most analyses were below the method detection limits (MDLs) (**Table 1-9** and **1-10**). Most detected compounds were below the Industrial PRGs and background levels.

The Statement of Basis/Final Decision (USAF, 1996) indicated that NFA was determined for this site. No land use restriction was documented in the Statement of Basis/Final Decision. However, this site is included in the Second Five-Year Review (AFCEC, February 2014). No changes in land use have occurred.

1.6.9 SS040: Fuel Dump NE end of old runway

Four Geoprobe® borings were completed during the 1996 SEBS at SS040 (**Figure 1-10**). One soil sample was collected from each boring, and groundwater samples were obtained from two borings that encountered groundwater. Samples were analyzed for VOCs, SVOCs, and metals. Most analyses were below the MDLs (**Table 1-11** and **1-12**). Most detected compounds were below the Industrial PRGs and background levels. All inorganics in soil were within background limits.

In groundwater, the only VOC reported is acetone and elevated acetone levels (3,400 J µg/L at GIR40032 and 2,900 J µg/L at GIR40042) were detected. Because acetone was present in both groundwater samples at concentrations above the PRG, further evaluation of the significance of these results was conducted as recommended in the 1996 SEBS. Five additional Geoprobe® water samples were collected as part of the Phase II RI. Acetone was detected in each of the five samples at concentrations ranging from 2.6 to 8.1 µg/L (approximate locations from the Phase II RI Work Plan are provided in **Figure 1-12**). Acetone was detected at similar levels in laboratory method blanks for these samples. Upon completion of validation, the results were reported as non-detects. Because the reported acetone concentrations were less than the PRG, the previous sample results were not confirmed and the site was recommended for NFA (IT, June 1996).

The Statement of Basis/Final Decision (USAF, 1996) indicated that NFA was determined for this site. No land use restriction was documented in the Statement of Basis/Final Decision. However, this site is included in the Second Five-Year Review (AFCEC, February 2014). No changes in land use have occurred.

1.6.10 EBS 7: Package Sewage Treatment Plant, former Bldg. 702

The 1996 SEBS concluded that the only analyte above method detection limit was barium (0.807 mg/L) in the Toxicity Characteristic Leaching Procedure (TCLP) analysis from the sludge, well below the TCLP toxicity limit (100 mg/L). The SEBS concluded that NFA was recommended for this site (IT, June 1996). The most recent USEPA tapwater screening level for barium is 7.3 mg/L and the MCL is 2 mg/L. The TCLP detection was well below the MCL and tapwater screening level (**Table 1-13**).

The Statement of Basis/Final Decision (USAF, 1996) indicated that NFA was determined for this site, and stated that the future use of this site is intended to be commercial/industrial. The

Second Five-Year Review (AFCEC, February 2014) summarized Ohio EPA's concurrence that land use restrictions be lifted for this site and five-year reviews are no longer required.

1.6.11 EBS 8: Munitions Buildup, former Bldg. 709

This site has no historical evidence of contamination, therefore no investigation was required. The 1996 SEBS recommended NFA for this site (IT, June 1996).

The Statement of Basis/Final Decision (USAF, 1996) indicated that NFA was determined for this site, and stated that the future use of this site is intended to be commercial/industrial. The Second Five-Year Review (AFCEC, February 2014) summarized Ohio EPA's concurrence that land use restrictions be lifted for this site and five-year reviews are no longer required.

1.6.12 EBS 9: Missile Maintenance, former Bldg. 710

This site has no historical evidence of contamination, therefore no investigation was required. The 1996 SEBS recommended NFA for this site (IT, June 1996).

The Statement of Basis/Final Decision (USAF, 1996) indicated that NFA was determined for this site, and stated that the future use of this site is intended to be commercial/industrial. The Second Five-Year Review (AFCEC, February 2014) summarized Ohio EPA's concurrence that land use restrictions be lifted for this site and five-year reviews are no longer required.

1.6.13 EBS 11: Munitions Storage, former Bldg. 739

This site has no historical evidence of contamination, therefore no investigation was required. The 1996 SEBS recommended NFA for this site.

The Statement of Basis/Final Decision (USAF, 1996) indicated that NFA was determined for this site, and stated that the future use of this site is intended to be commercial/industrial. The Second Five-Year Review (AFCEC, February 2014) summarized Ohio EPA's concurrence that land use restrictions be lifted for this site and five-year reviews are no longer required.

1.6.14 EBS 20: Water Treatment former Bldg. 413

This site has no historical evidence of contamination, therefore no investigation was required. The 1996 SEBS concluded NFA recommended for this site (IT, June 1996).

The Statement of Basis/Final Decision (USAF, 1996) stated that the future use of this site was intended to be commercial/industrial. The Second Five-Year Review (AFCEC, February 2014) summarized Ohio EPA's concurrence that land use restrictions be lifted for this site and five-year reviews are no longer required.

1.6.15 EBS 21: BCE Maintenance Shop, former Bldg. 422

This site has no historical evidence of contamination, therefore no investigation was required. The 1996 SEBS concluded NFA recommended for this site (IT, June 1996).

The Statement of Basis/Final Decision (USAF, 1996) indicated that NFA was determined for this site, and stated that the future use of this site is intended to be commercial/industrial. The second Five-Year Review (AFCEC, February 2014) summarized Ohio EPA's concurrence that land use restrictions be lifted for this site and five-year reviews are no longer required.

1.6.16 EBS 30: Fuel Cell Hangar, Bldg. 597

This site has no historical evidence of contamination, therefore no investigation was required. The 1996 SEBS recommended NFA for this site (IT, June 1996).

The Statement of Basis/Final Decision (USAF, 1996) indicated that NFA was determined for this site, and stated that the future use of this site is intended to be commercial/industrial. The second Five-Year Review (AFCEC, February 2014) summarized Ohio EPA's concurrence that land use restrictions be lifted for this site and five-year reviews are no longer required.

1.6.17 EBS 31: Club Complex, Bldg. 800

This site has no historical evidence of contamination, therefore no investigation was required. The 1996 SEBS recommended NFA for this site (IT, June 1996).

The Statement of Basis/Final Decision (USAF, 1996) indicated that NFA was determined for this site. No land use restriction was documented in the Statement of Basis/Final Decision. However, this site is included in the Second Five-Year Review (AFCEC, February 2014). No changes in land use have occurred.

1.6.18 Bldg. 553: Aircraft Wash Rack

Investigation activities conducted in December 1996 consisted of obtaining three subsurface soils samples (USAF, 1998b) (**Figure 1-19**). The samples were collected from the 4-8 ft. interval and analyzed for VOCs, SVOCs, and metals. No SVOC detections were reported in any of the three samples. VOCs and metals detections were reported in the soil samples and metals detections were below background levels (**Table 1-14**). No groundwater samples were collected at this site because there was no evidence of contamination.

The Statement of Basis/Final Decision (USAF, 1998b) stated that the future use of this site was intended to be commercial/industrial. No changes in land use have occurred.

1.7 COMMUNITY PARTICIPATION

Regular Restoration Advisory Board (RAB) meetings, as well as BCT meetings, were held for Rickenbacker ANGB dating back to the mid-1990s during the CERCLA RI/Feasibility Study (FS) process. During these meetings, the public was allowed to comment on the actions being conducted at the ANGB, including NFA for Sites SS005, SS013, SS014, SS015, SS016, SS017, SS026, SS039, SS040, EBS 7, EBS 8, EBS 9, EBS 11, EBS 20, EBS 21, EBS 30, EBS 31, and Bldg. 553, and to have their concerns voiced. Site documents are available for review by the public and other concerned individuals at the Rickenbacker ANGB Administrative Record (<http://afcec.publicadmin-record.us.af.mil/>).

More recent community participation has included 12 BCT meetings between September 2011 and November 2013, which, in addition to the Air Force, were attended by Ohio EPA and CRAA, the recognized Local Redevelopment Authority (LRA). Two of the BCT meetings, on 14 September 2011 and 17 April 2013, were held at the CRAA offices at Rickenbacker ANGB. The remaining BCT meetings were conducted by teleconference. These meetings included discussions concerning the UU/UE closure of Sites SS005, SS013, SS014, SS015, SS016, SS017, SS026, SS039, SS040, EBS 7, EBS 8, EBS 9, EBS 11, EBS 20, EBS 21, EBS 30, EBS 31, and Bldg. 553, and provided a means for the Air Force to obtain and consider input from CRAA, as the LRA and representative of the community's interests.

1.8 CURRENT AND POTENTIAL FUTURE SITE USES

The BRAC portion of Rickenbacker ANGB encompasses 2,076 acres. As a result of the federal screening phase of the BRAC disposal process, 157.78 acres were retained by the Air Force as a cantonment area for the Ohio Air National Guard and 148.03 acres were conveyed to the Army for the Ohio Army National Guard and the Army Reserves. A total of 1,911.63 acres have been retained by or reassigned within DoD or conveyed to CRAA at Rickenbacker and to another non-federal agency, South Central Power (Parcel E). The BRAC mandated property transfer actions at Rickenbacker ANGB were completed on June 26, 2007.

1.9 SITE RISKS

1.9.1 Site SS005

The analytical data were further evaluated in the final 16 Sites Site Closure Report (SCR) (FPM, August 2013) using the Residential RSLs (USEPA, November 2012) and Protection of Groundwater Soil Screening Levels (SSLs) (USEPA, November 2012). **Table 1-1** presents the SS005 historical soil detections along with the Residential RSLs and SSLs. Two VOCs (m,p-

xylene and toluene) were detected but they did not exceed Residential RSLs nor SSLs. Therefore, VOCs are not considered Contaminants of Concern (COCs) at this site.

Soil sample results did not exceed the Residential RSLs and SSLs. There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

Analytical data indicate the risk is acceptable. No chemical or radiological contamination was found above background levels. The field screening results showed no levels above background, within the error associated with field measurements. The three samples taken were analyzed by Paragon Analytics, Inc. for gross beta, Ra-226, Ra-228, Kr-85, Cs-137, Co-60, and tritium. The results showed three analytes above detection limits, gross beta, Ra-226, and Ra-228. The average of the results was above background, but a statistical t-Test showed no statistically significant deviation.

1.9.2 Site SS013

This site has no historical evidence of contamination, therefore no investigation was required. There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.3 Site SS014

No COCs were identified for this site since none of the soil and groundwater samples included detectable TPH or VOCs. There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.4 Site SS015

The analytical data were further evaluated in the final SCR (FPM, August 2013) using the Residential RSLs (USEPA, 2012), Protection of Groundwater SSLs (USEPA, 2012) and background levels (IT, 1998). None of the detections exceeded the Residential RSLs, SSLs and background levels except one lead detection above background (212 NJ mg/kg vs. 37 mg/kg background). However, the background exceedance did not exceed the associated Residential RSL or SSL (**Table 1-2**).

Historic groundwater sampling showed lead exceeding MCLs in unfiltered samples collected in 1988 and 1989 (**Table 1-3**). Resampling of these wells in 1996 and filtering the samples showed no exceedances. Prior exceedances were therefore attributed to suspended solids and, therefore, lead is not considered a COC at this site. One TPH detection was reported at a low level and no VOCs were reported in any of the samples. VOCs are not considered COCs at the site.

There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.5 Site SS016

The analytical data were further evaluated in the final SCR (FPM, August 2013) using the Residential RSLs (USEPA, 2012), Protection of Groundwater SSLs (USEPA, 2012) and background levels (IT, 1998). None of the detections in soils exceeded the RSLs, SSLs or backgrounds levels (**Table 1-4**). Soils are not considered a matrix of concern at this site.

The groundwater results show lead exceedances in the unfiltered samples in the 1988 and 1989 sampling events. However, dissolved lead was not detected during the 1996 sampling event (**Table 1-5**). The lead exceedances were attributed to suspended solids and lead is not considered a groundwater COC at this site. No COCs remain for groundwater at this site and groundwater is therefore not considered a matrix of concern at this site. There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.6 Site SS017

The analytical data were further evaluated in the final SCR (FPM, August 2013) using the Residential RSLs (USEPA, 2012), Protection of Groundwater SSLs (USEPA, 2012) and background levels (IT, 1998). No pesticides, VOCs or SVOCs exceeded the Residential RSLs, SSLs and backgrounds levels (**Table 1-6**). Metals exceedances of the Residential RSLs were reported for aluminum, arsenic, cobalt, iron, and thallium. However, the aluminum, arsenic, cobalt and iron Residential RSL exceedances did not exceed background conditions. Therefore, these metal exceedances are considered background conditions and are not considered COCs at the site.

Silver exceeded background in four of the five samples, but all background exceedances were below Residential RSLs. Silver is therefore not considered a COC at the site. Thallium exceeded the Residential RSLs at three of the five locations, but all Residential RSL exceedances were below the SSLs.

No VOC detections were reported in the groundwater samples. Several Polycyclic Aromatic Hydrocarbons (PAHs) were reported in one groundwater sample, but benzo(a)pyrene was detected below the MCL. Two metals (aluminum and vanadium) were reported above background but they have no MCLs (**Table 1-7**). There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.7 Site SS026

PCBs were identified as a residual COC in soil. However, the SI data indicate that PCBs were not present above detection limits (**Table 1-8**). There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.8 Site SS039

The analytical data were further evaluated in the final SCR (FPM, August 2013) using the Residential RSLs (USEPA, 2012), Protection of Groundwater SSLs (USEPA, 2012) and background levels (IT, 1998). Acetone was the only VOC reported in the soil samples. Four SVOCs were reported, but only bis(2-ethylhexyl)phthalate exceeded Residential RSLs and SSLs in one sample (**Table 1-9**). This sample was collected from 12-14 feet bgs and none of the groundwater samples from that exact same boring detected bis(2-ethylhexyl)phthalate. Arsenic exceeded the Residential RSLs and SSLs in all four soil samples but all exceedances were below background.

In groundwater, one VOC (acetone) was reported in one sample but no MCL is available. One SVOC (di-n-butylphthalate) was reported in one sample, but no MCL is available. Filtered and unfiltered groundwater samples were collected from one boring, but all results were non-detect (**Table 1-10**). There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.9 Site SS040

The soil analytical data were further evaluated in the final SCR (FPM, August 2013) using the Residential RSLs (USEPA, 2012), Protection of Groundwater SSLs (USEPA, 2012) and background levels (IT, 1998). VOC and SVOC detections did not exceed Residential RSLs, SSLs, or background. One metal (arsenic) exceeded the Residential RSLs and SSLs, but all exceedances were below background and, therefore, arsenic is not considered a COC at the site (**Table 1-11**).

No SVOCs were reported in groundwater samples. VOC results showed elevated acetone detections in 1995, but confirmatory sampling at five additional locations in 1996 showed acetone at low levels, consistent with acetone levels often detected in analytical method blanks (laboratory introduced contaminant). Acetone was not considered a COCs at the site (**Table 1-12**). There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.10 Site EBS 7

No COCs have been identified at this site (**Table 1-13**). There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.11 Site EBS 8

There is no history of contamination at this site. There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.12 Site EBS 9

Aside from small, discrete oil stains on the concrete floor, there is no record of historic releases or evidence of contamination at this site. There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.13 Site EBS 11

There is no history of contamination at this site. There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.14 Site EBS 20

There is no history of contamination at this site (FPM, July 2012). Site SS021 is immediately adjacent to EBS Site 20. Groundwater has been sampled at Site SS021 since June 2000 and the COCs (TCE, cis-1,2-DCE and VC) have been well-defined and concentrations have shown a decreasing trend in 21MW003, non detect in 21MW005 and an exceedance of TCE in 21MW004 since April 2009.

The 2011 sampling results show TCE concentrations exceeding MCLs at only one well (21MW004). VC was not detected in October 2011 and cis-1,2-DCE was detected below its action level of 70 µg/L. The recent areal extent of MCL exceedances has been localized. Therefore, it is believed that the groundwater contamination at Site SS021 does not impact EBS Site 20.

1.9.15 Site EBS 21

There is no history of contamination at this site (FPM, July 2012). There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.16 Site EBS 30

There is no history of contamination at this site (FPM, July 2012). There is no evidence of potential groundwater contamination at the site. EBS Site 30, including Building 597, is located approximately 500 ft west of Site 1 (SS001). Site 1 has been extensively characterized, effectively delineated and groundwater contamination is limited to Site 1 likely due to the flat groundwater gradient at the site. Because of this flat gradient, proper delineation and 500-ft distance, it is deemed unlikely that groundwater contamination from Site 1 impacts or has impacted EBS Site 30.

1.9.17 Site EBS 31

There is no history of contamination at this site. The 1996 SEBS concluded NFA for this site (IT, June 1996). There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.9.18 Bldg. 553

The analytical data were further evaluated in the final SCR (FPM, August 2013) using the Residential RSLs (USEPA, 2012), Protection of Groundwater SSLs (USEPA, 2012) and background levels (IT, 1998) and presented in **Table 1-14**. No SVOC detections were reported. VOCs 2-butanone and acetone were detected and both were below the Residential RSLs. Metals exceedances of the Residential RSLs were reported for aluminum, arsenic, cobalt, manganese and vanadium but none of these detections exceeded background levels established during the Phase II RI (USAF, 1998b). Therefore, metals are not considered COCs for this site.

None of the VOCs exceeded the RSLs or SSLs and therefore VOCs are not considered COCs at this site. SVOCs were not detected at this site and are not considered COCs at this site. Metal exceedances were reported above the Residential RSLs but none of the detections exceeded background levels. There is no evidence of potential groundwater contamination at the site and the site is not in close proximity to the Rickenbacker groundwater contamination sites.

1.10 DOCUMENTATION OF SIGNIFICANT CHANGES

In the various Statements of Basis/Final Decisions for these 18 sites, the BCT closed all 18 sites with a recommendation for NFA, based on presumed commercial/industrial use. The AF has

subsequently determined that sites risks are acceptable for UU/UE and no land use restrictions are necessary. Ohio EPA concurred with UU/UE closure for all 18 sites in comment and concurrence letters (**Appendix A through C**). UU/UE site closure will have no significant or fundamental effect on the scope or effectiveness of the remedy.

2.0 COMMUNITY RELATIONS

The Air Force, with consideration of input from the community, has determined that conditions at the sites pose no current or potential threat to human health or the environment. NFA is required for UU/UE.

2.1 STAKEHOLDER ISSUES AND LEAD AGENCY RESPONSES

The various Statements of Basis/Final Decisions for the 18 sites included in this document were approved by the BCT. The documents stated that the sites required NFA because no spill or release had ever occurred, and/or screening sample results were below regional background and ARAR levels and/or were shown to have no statistically significant difference from background. This current document serves as the No Action DD for the UU/UE determination for all 18 sites.

Twelve (12) BCT meetings between September 2011 and November 2013 were attended by the Air Force, Ohio EPA, and CRAA. Two of the BCT meetings, on 09/14/2011 and 04/17/2013, were held at the CRAA offices at Rickenbacker ANGB. The remaining BCT meetings were conducted by teleconference. These meetings included discussions concerning the UU/UE closure of Sites SS005, SS013, SS014, SS015, SS016, SS017, SS026, SS039, SS040, EBS 7, EBS 8, EBS 9, EBS 11, EBS 20, EBS 21, EBS 30, EBS 31, and Bldg. 553, and provided a means for the Air Force to obtain and consider input from CRAA, as the LRA and representative of the community's interests.

2.2 TECHNICAL AND LEGAL ISSUES

Review of site history and historical analytical results has shown that no contamination remains that poses an unacceptable risk to human health or the environment. Because no contaminants above unrestricted regulatory limits are left, CERCLA five-year reviews and land use restrictions are not necessary.

This page is intentionally left blank.

3.0 REFERENCES

- AFCEC, 2014, Second Five-Year Review Report, Rickenbacker Air National Guard Base, OH [AR pending]
- Engineering-Science, 1992, Phase 1 Site Investigation Report, RANGB, Columbus, Ohio. [AR 144].
- FPM, 2012, *Final Site Closure Report for Eleven (11) Sites: SS026, EBS 7, EBS 8, EBS 9, EBS 11, EBS 19, EBS 20, EBS 21, EBS 23, EBS 28 & EBS 30*, Rickenbacker Air National Guard Base, OH, July [AR 1203]
- FPM, 2013, *Final Site Closure Report for 16 Sites: EBS 2, EBS 3, EBS 6, EBS 25, EBS 26, EBS 31, Bldg. 553, SS005, SS010, SS013, SS014, SS015, SS016, SS017, SS039, and SS040*, Rickenbacker Air National Guard Base, OH, August [AR 1202]
- HMTC, 1987, Hazardous Materials Training Center, Phase I Records Search, Rickenbacker Air National Guard Base, Columbus, Ohio [AR 13].
- IT, 1996, Final Supplemental Phase II Environmental Baseline Survey, Rickenbacker Air National Guard Base, Columbus, OH [AR 542].
- IT, 1998, Phase II Remedial Investigation Report, Rickenbacker Air National Guard Base, Columbus, OH [AR 686]
- Ogden, 1995, Final Report Underground Storage Tank Closure Project, Rickenbacker Air National Guard Base, Columbus, OH [AR 670]
- Parsons Engineering-Science, 1995, Final Phase I Remedial Investigation Data Report, Rickenbacker Air National Guard Base, Columbus, OH. [AR 430]
- USAF, 1996, Statement of Basis/Final Decision, Buildings 1034, 701, 702, 709, 710, 739, 740, 921, 942, 929, 931, 937, 380, 409, 413, 422, 423, 435, 550, former coal storage area, former 432, 557, 597, and 800; IRP Site 39, IRP Site 40, and IRP Site 18, Rickenbacker Air National Guard Base, Columbus, OH [AR 551]
- USAF, 1997a, Statement of Basis/Final Decision, NLZG SS05 Lateral Safety Zone Spill, Rickenbacker Air National Guard Base, Columbus, OH [AR 301]
- USAF, 1997b, Statement of Basis/Final Decision, NLZG SS13, RB-47 Crash Site, Rickenbacker Air National Guard Base, Columbus, OH [AR 292]

USAF, 1997c, Statement of Basis/Final Decision, NLZG SS14; KC- 135 Crash Site, Rickenbacker Air National Guard Base, Columbus, OH [AR 291]

USAF, 1997d, Statement of Basis/Final Decision, NLZG SS15, Southwest Fuel Dump Area, Rickenbacker Air National Guard Base, Columbus, OH [AR 302]

USAF, 1997e, Statement of Basis/Final Decision, NLZG SS16, Northeast Fuel Dump Area, Rickenbacker Air National Guard Base, Columbus, OH [AR 325]

USAF, 1997f, Statement of Basis/Final Decision, SS026, Rickenbacker Air National Guard Base, Columbus, OH [AR 298]

USAF, 1998a, Statement of Basis/Final Decision, NLZG SS-17; Old Entomology Laboratory at Rickenbacker Air National Guard Base, Columbus, OH [AR 544]

USAF, 1998b, Statement of Basis/Final Decision, NLZG Building 553; Aircraft Wash Rack Rickenbacker Air National Guard Base, Columbus, OH [AR 564]

USEPA, 2012, RSL/SSL <http://www.epa.gov/region09/superfund/prg/>, May and November 2012.

Note:

AR records can be accessed through at <http://afcec.publicadmin-record.us.af.mil/> (URL is subject to change).

Tables

This page is intentionally left blank.

**Table 1-1
Historical Soil Sampling Results at SS005
Rickenbacker Air National Guard Base**

Sample Location	USEPA Residential RSLs ¹	Protection of Groundwater SSL ²	AB-3	
Sample ID			AB-3-SS1	AB-3-SS2
Sample Depth (ft bgs)			3-5	13-15
Sample Date			11/28/1989	11/28/1989
VOCs (mg/kg)				
m,p-xylene	59*	3.6	0.0013	0.0003 U
Toluene	500*	13.8	0.0017	0.0023

Notes:

ft bgs - feet below ground surface

* 0.1X of the residential RSL for non carcinogens

NA - Not Available

ND - Not detected

J - The compound is positively identified, but the quantitation is an estimation.

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

Only detected organics are shown

Source: Engineering-Science, 1992, SI Report, RANGB, Columbus, Ohio.

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

² USEPA, 2012, Protection of Groundwater SSL, November 2012. <http://www.epa.gov/region09/superfund/> adjusted for DAF 20.

**Table 1-2
Historical Soil Sampling Results at SS015
Rickenbacker Air National Guard Base**

Sample Location	USEPA Residential RSLs ¹	Background ²	Protection of Groundwater SSL ³	AB-1		AB-2		MW-1	
Sample ID				AB-1-SS1	AB-1-SS2	AB-2-SS1	AB-2-SS2	MW-1-SS1	MW-1-SS2
Sample Depth (ft bgs)				0-2	10-12	0-2	5-7	14-16	18-20
Sample Date				8/16/1988	8/16/1988	8/16/1988	8/16/1988	7/22/1988	7/22/1988
VOCs (mg/kg)									
toluene	500*	NA	13.8	NA	NA	NA	NA	NA	NA
m,p-xylene	59*	NA	3.6	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Lead	400	37	280	14.5 NJ	11.9 NJ	16.7 NJ	14.8 NJ	15.9 NJ	14.6 NJ

Notes:

* 0.1X of the residential RSL for non carcinogens

ft bgs - feet below ground surface

NA - Not Available

ND - Not detected

J - The compound is positively identified, but the quantitation is an estimation.

N - Spiked sample recovery not within control limits

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

Only detected organics are shown

Exceedance detections are in **bold**

Source: Engineering-Science, 1992, Phase 1 SI Report, RANGB, Columbus, Ohio.

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1998)

³ USEPA, 2012, Protection of Groundwater SSL, November 2012. <http://www.epa.gov/region09/superfund/> adjusted for DAF 20.

**Table 1-2
Historical Soil Sampling Results at SS015
Rickenbacker Air National Guard Base**

Sample Location	USEPA Residential RSLs ¹	Background ²	Protection of Groundwater SSL ³	MW-2	MW-2	AB-3		AB-4	
Sample ID				MW-2-SS1	MW-2-SS2	AB-3-SS1	AB-3-SS2	AB-4-SS1	AB-4-SS2
Sample Depth (ft bgs)				0-2	5-7	8-10	13-15	8-10	13-15
Sample Date				8/10/1988	8/10/1988	11/2/1989	11/2/1989	11/2/1989	11/2/1989
VOCs (mg/kg)									
toluene	500*	NA	13.8	NA	NA	0.0011 J	0.0011 J	0.0012	0.001 J
m,p-xylene	59*	NA	3.6	NA	NA	0.0003 U	0.0016 J	0.0003 U	0.0003 U
Metals (mg/kg)									
Lead	400	37	280	212 NJ	29 NJ	NA	16.8	11.1	15.5

Notes:

* 0.1X of the residential RSL for non carcinogens

ft bgs - feet below ground surface

NA - Not Available

ND - Not detected

J - The compound is positively identified, but the quantitation is an estimation.

N - Spiked sample recovery not within control limits

U - The analyte was analyzed for, but not detected in any sample. The associated

Only detected organics are shown

Exceedance detections are in **bold**

Source: Engineering-Science, 1992, Phase 1 SI Report, RANGB, Columbus, Oh

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1992)

³ USEPA, 2012, Protection of Groundwater SSL, November 2012. <http://www.epa.gov>

**Table 1-3
Historical Groundwater Sampling Results at SS015
Rickenbacker Air National Guard Base**

Sample Location			MW-1		MW-2	
Sample ID			MW1-GW1	RB15MW-1	MW2-GW1	RB15MW-2
Sample Date	USEPA MCLs ¹	Background ²	1988	1989	1988	1989
VOCs						
No VOCs were detected.						
TPHs	NA	NA	1 U	1 U	1 U	1 U
Metals						
lead (total)	0.015	ND	0.005 U	0.197	0.12	0.0675 S
lead (dissolved) -1996 sampled	0.015	ND	NA	0.005 U	NA	0.005 U

Notes:

NA - Not available

ND - Not Detected

S - The value reported was determined by the method of Standard Additions (MSA).

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

Exceedance detections are in **bold**

Only detected organics are shown; metals are shown in their entirety

Source: Engineering-Science, 1992, SI Report, RANGB, Columbus, Ohio.

1 USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

2 Rickenbacker background levels from Phase II Remedial Investigation (IT, 1998)

**Table 1-4
Historical Soil Sampling Results at SS016
Rickenbacker Air National Guard Base**

Sample Location	USEPA Residential RSLs ¹	Background ²	Protection of Groundwater SSL ³	AB-1		AB-2		MW-1	
Sample ID				AB-1-SS1	AB-1-SS2	AB-2-SS1	AB-2-SS2	MW-1-SS1	MW-1-SS2
Sample Depth (ft bgs)				0-2	5-7	0-2	5-7	0-2	10-12
Sample Date				8/17/1988	8/17/1988	8/17/1988	8/17/1988	7/26/1988	7/26/1988
VOCs (mg/kg)									
toluene	500*	NA	13.8	NA	NA	NA	NA	NA	NA
m,p-xylene	59*	NA	3.6	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Lead	400	37	280	18.3 NJ	20.7 NJ	14.9 NJ	15.7 NJ	11.8 NJ	10.9 NJ

Notes:

* 0.1X of the residential RSL for non carcinogens

ft bgs - feet below ground surface

J - The compound is positively identified, but the quantitation is an estimation.

N - Spiked sample recovery not within control limits

NA - Not Available

ND - Not detected

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

Source: Engineering-Science, 1992, Phase 1 SI Report, RANGB, Columbus, Ohio.

Only detected organics are shown

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1998)

³ USEPA, 2012, Protection of Groundwater SSL, November 2012. <http://www.epa.gov/region09/superfund/> adjusted for DAF 20.

**Table 1-4
Historical Soil Sampling Results at SS016
Rickenbacker Air National Guard Base**

Sample Location	USEPA Residential RSLs ¹	Background ²	Protection of Groundwater SSL ³	MW-2	MW-2	AB-3		AB-4	
Sample ID				MW-2-SS1	MW-2-SS2	AB-3-SS1	AB-3-SS2	AB-4-SS1	AB-4-SS2
Sample Depth (ft bgs)				0-2	10-12	3-5	13-15	3-5	13-15
Sample Date				8/16/1988	8/16/1988	11/2/1989	11/2/1989	11/2/1989	11/2/1989
VOCs (mg/kg)									
toluene	500*	NA	13.8	NA	NA	0.0024 J	0.0008	0.0014 J	0.0025 J
m,p-xylene	59*	NA	3.6	NA	NA	0.0003 U	0.0003 U	0.0003 U	0.0064 J
Metals (mg/kg)									
Lead	400	37	280	14.9 NJ	14.6 NJ	14.9	15.9	17.6	9

Notes:

* 0.1X of the residential RSL for non carcinogens

ft bgs - feet below ground surface

J - The compound is positively identified, but the quantitation is an estimation.

N - Spiked sample recovery not within control limits

NA - Not Available

ND - Not detected

U - The analyte was analyzed for, but not detected in any sample. The associated Source: Engineering-Science, 1992, Phase 1 SI Report, RANGB, Columbus, Ohio
Only detected organics are shown

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov>.

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1991)

³ USEPA, 2012, Protection of Groundwater SSL, November 2012. <http://www.epa.gov>.

**Table 1-5
Historical Groundwater Sampling Results at SS016
Rickenbacker Air National Guard Base**

Sample Location	USEPA MCLs ¹	Background ²	MW-1		MW-2	
Sample ID			MW1-GW1	RB16MW-1	MW2-GW1	RB16MW-2
Sample Date			1988	1989	1988	1989
VOCs						
No VOCs were detected.						
SVOCs						
No SVOCs were detected.						
TPHs	NA	NA	1 U	1	1 U	1 U
Metals						
lead (total)	0.015	ND	0.505	0.4	0.17 S	0.81
lead (dissolved) -1996 sampled	0.015	ND	NA	0.005 U	NA	0.005 U

Notes:

* 0.1X of the residential RSL for non carcinogens

NA - Not available

ND - Not Detected; no VOCs nor SVOCs were detected above the method detection limits.

S - The value reported was determined by the method of Standard Additions (MSA).

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

Exceedance detections are in **bold**

Only detected organics are shown

Source: Engineering-Science, 1992, SI Report, RANGB, Columbus, Ohio.

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1998)

**Table 1-6
Historical Soil Sampling Results at SS017
Rickenbacker Air National Guard Base**

Sample Location	USEPA Residential RSLs ¹	Background ²	Protection of Groundwater SSL ³	HB-1		HB-2		HB-3	HB-4	HB-5	HB-6	HB-7	HB-11	HB-12
				HB-1-SS1	HB-1-SS2	HB-2-SS1	HB-2-SS2	HB-3-SS3	HB-4-SS1	HB-5-SS1	HB-6-SS1	HB-7-SS1	HB-11	HB-12
Sample ID				0-1.3	1.3-2.6	0-1.3	2-4	2.6-4	0-1.3	0-1.3	0-1.3	0-1.3	0-2	0-2
Sample Depth (ft bgs)				6/15/1988	6/15/1988	6/15/1988	11/23/1993	8/11/1988	8/11/1988	8/11/1988	8/11/1988	8/11/1988	11/23/1993	11/23/1993
Sample Date														
Pesticides														
4,4'-DDD	2	NA	0.128	0.0072 U	0.0072 U	0.0072 U	0.0072 U	0.00414 W	0.0281 W	0.00648 W	0.00978 W	0.0462 W	0.056	0.029 J
4,4'-DDE	1.4	NA	0.92	0.024 SJ	0.0071 SJ	0.007 SJ	0.011 J	0.0026 U	0.0129 W	0.00552 W	0.00465 W	0.0189 W	0.053	0.043
4,4'-DDT	1.7	NA	1.34	0.022 SJ	0.008 U	0.008 U	0.0037 J	0.008 U	0.066 J	0.022 J				
chlordan, alpha	1.6	NA	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0038 J	0.0027 U
methoxychlor	310	NA	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.017 U	0.017 U
VOCs (mg/kg)														
acetone	6,100*	NA	48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-butanone	2,800*	NA	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
carbon disulfide	82*	NA	4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs (mg/kg)														
benzo(b)fluoranthene	0.15	NA	0.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics (mg/kg)														
aluminum	7,700*	22,242	4.6x10 ⁶	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
arsenic	0.39	31	5.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
barium	1,500*	241	1,640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beryllium	16*	1.4	64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
chromium	NA	26	3.6x10 ⁶	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cobalt	2.3*	23	4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
copper	310*	46	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
iron	5,500*	52,525	5,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
lead	400	37	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
manganese	180*	1,733	420	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
nickel	150*	105	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
silver	39*	1.9	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
thallium	0.078*	ND	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
vanadium	39*	52	1,560	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
zinc	2,300*	136	5,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

* 0.1X of the residential RSL for non carcinogens

ft bgs - feet below ground surface

J - The compound is positively identified, but the quantitation is an estimation.

ND - Not Detected (detection limits for the 1995 data are unavailable in the Phase II RI report)

NA - Not Available

S - The value reported was determined by the method of Standard Additions (MSA).

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

W - post digestion spike for furnace AA analysis is out of control limits

Exceedance detections are in **bold**

Only detected organics are shown

Source: Phase II RI (IT, 1998)

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1998)

³ USEPA, 2012, Protection of Groundwater SSL, November 2012. <http://www.epa.gov/region09/superfund/> adjusted for DAF 20.

**Table 1-6
Historical Soil Sampling Results at SS017
Rickenbacker Air National Guard Base**

Sample Location	USEPA Residential RSLs ¹	Background ²	Protection of Groundwater SSL ³	SB-13	SB-14	SB-15	SB-16	SB-17	AB-1	MW-2		MW-3
Sample ID				SB-13	SB-14	SB-15	SB-16	SB-17	AB-1-1	MW-2-2	MW-2-16	MW-3-13
Sample Depth (ft bgs)				0-2	0-2	0-3	0-2	0-2	1-3	2-4	16-18	13-15
Sample Date				12/20/1995	12/20/1995	12/20/1995	12/20/1995	12/20/1995	11/23/1993	11/22/1993	11/22/1993	11/22/1993
Pesticides												
4,4'-DDD	2	NA	0.128	NA	NA	NA	NA	NA	0.002 U	0.0022 U	0.0019 U	0.002 U
4,4'-DDE	1.4	NA	0.92	NA	NA	NA	NA	NA	0.0023 U	0.0025 U	0.0022 U	0.0023 U
4,4'-DDT	1.7	NA	1.34	NA	NA	NA	NA	NA	0.002 U	0.0022 U	0.0019 U	0.002 U
chlordan, alpha	1.6	NA	2.8	NA	NA	NA	NA	NA	0.0028 U	0.003 U	0.0027 U	0.0028 U
methoxychlor	310	NA	44	NA	NA	NA	NA	NA	0.045 J	0.019 U	0.017 U	0.017 U
VOCs (mg/kg)												
acetone	6,100*	NA	48	0.069 J	ND	0.081 J	ND	ND	NA	NA	NA	NA
2-butanone	2,800*	NA	20	0.011 J	ND	0.015 J	ND	ND	NA	NA	NA	NA
carbon disulfide	82*	NA	4.2	ND	ND	0.003	ND	ND	NA	NA	NA	NA
SVOCs (mg/kg)												
benzo(b)fluoranthene	0.15	NA	0.7	ND	ND	ND	ND	0.025 J	NA	NA	NA	NA
Inorganics (mg/kg)												
aluminum	7,700*	22,242	4.6x10 ⁰	7,600	9,100	11,000	11,000	13,000	NA	NA	NA	NA
arsenic	0.39	31	5.8	16	15	16	22	18	NA	NA	NA	NA
barium	1,500*	241	1,640	77 J	82 J	140 J	110 J	82 J	NA	NA	NA	NA
beryllium	16*	1.4	64	0.54	0.53	0.63	0.73	0.67	NA	NA	NA	NA
chromium	NA	26	3.6x10 ⁰	9.3	11	13	13	15	NA	NA	NA	NA
cobalt	2.3*	23	4.2	11	11	12	19	11	NA	NA	NA	NA
copper	310*	46	920	21	21	20	33	23	NA	NA	NA	NA
iron	5,500*	52,525	5,400	21,000	23,000	27,000	30,000	27,000	NA	NA	NA	NA
lead	400	37	280	10	10	12	15	12	NA	NA	NA	NA
manganese	180*	1,733	420	360 J	380 J	450 J	500 J	300 J	NA	NA	NA	NA
nickel	150*	105	400	28	30	30 J	47	30	NA	NA	NA	NA
silver	39*	1.9	12	1.6	2	2.3	2.7	2	NA	NA	NA	NA
thallium	0.078*	ND	2.8	1 J	0.58 J	ND	ND	1.5 J	NA	NA	NA	NA
vanadium	39*	52	1,560	24	25	28	29	35	NA	NA	NA	NA
zinc	2,300*	136	5,800	76 J	83 J	81 J	110 J	91 J	NA	NA	NA	NA

Notes:

* 0.1X of the residential RSL for non carcinogens

ft bgs - feet below ground surface

J - The compound is positively identified, but the quantitation is an estimation.

ND - Not Detected (detection limits for the 1995 data are unavailable in the Pha

NA - Not Available

S - The value reported was determined by the method of Standard Additions (M

U - The analyte was analyzed for, but not detected in any sample. The associate

W - post digestion spike for furnace AA analysis is out of control limits

Exceedance detections are in **bold**

Only detected organics are shown

Source: Phase II RI (IT, 1998)

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 19

³ USEPA, 2012, Protection of Groundwater SSL, November 2012. <http://www.epa.gov>

Table 1-7
Historical Groundwater Sampling Results at SS017
Rickenbacker Air National Guard Base

Sample Location	USEPA	Background ²	MW-1		MW-2
			MW-GW1	17MW1GW1	17MW2GW1
Sample ID	MCLs ¹		1988	1996	1996
VOCs (µg/L)					
NO VOCs were detected.					
SVOCs (µg/L)					
acenaphthene	NA	NA	NA	11	10 U
carbazole	NA	NA	NA	1	10 U
dibenzofuran	NA	NA	NA	5	10 U
PAHs (µg/L)					
anthracene	NA	NA	NA	3.2	0.051 U
benzo(a)anthracene	NA	NA	NA	0.11	0.1 U
benzo(a)pyrene	0.2	NA	NA	0.11	0.1 U
chrysene	NA	NA	NA	0.2	0.1 U
fluoranthene	NA	NA	NA	2.9	0.31 U
fluorene	NA	NA	NA	5.4	0.31 U
phenanthrene	NA	NA	NA	0.65	0.20 U
pyrene	NA	NA	NA	1.8	0.1 U
Pesticides (µg/L)					
4,4'-DDD	NA	NA	0.2 SJ	NA	NA
Herbicides (µg/L)					
2,4,5-TP	NA	NA	2	NA	NA
Metals (mg/L)					
aluminum	NA	1	NA	1.1	0.43
barium	2	0.152	NA	0.11	0.094
calcium	NA	195	NA	100 J	95 J
iron	NA	283	NA	2.2	0.79
magnesium	NA	106	NA	18 J	33 J
manganese	NA	5.3	NA	0.3	0.066
potassium	NA	1.2	NA	0.86 J	0.6 U
sodium	NA	31	NA	5.8 J	7.8 J
vanadium	NA	ND	NA	0.013	0.01 U
zinc	NA	0.0504	NA	0.024	0.02 U

Notes:

J - The compound is positively identified, but the quantitation is an estimation.

NA - Not available

ND - Not Detected

S - The value reported was determined by the method of Standard Additions (MSA).

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

Exceedance detections are in **bold**

Only detected organics are shown; metals are shown in their entirety

Source: Engineering-Science, 1992, SI Report, RANGB, Columbus, Ohio. Phase II Remedial Investigation (IT, 1998)

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1998)

**Table 1-8
 Historical Soil Sampling Results at SS026
 Rickenbacker Air National Guard Base**

Compounds	USEPA Residential RSL	Surface Soil
		SU-1 to SU-18
PCBs (µg/kg)		
PCB-1260	220	130 U

Notes:

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.
 Source: Engineering-Science, 1992, SI Report, RANGB, Columbus, Ohio.

**Table 1-9
Historical Soil Sampling Results at SS039
Rickenbacker Air National Guard Base**

Sample ID	USEPA Residential RSLs ¹	Background ²	Protection of Groundwater SSL ³	SIR39011	SIR39021	SIR39031	SIR39041
Sample Depth (ft bgs)				6-8	12-14	10-12	2-6
Sample Date				4/26/1995	4/26/1995	4/26/1995	4/26/1995
VOCs (mg/kg)							
Acetone	6,100*	NA	48	1.2	0.044 J	0.023 J	0.037 J
SVOCs (mg/kg)							
phenol	1,800*	NA	52	0.9 J	3.8 J	3.1	0.58
bis (2-ethyl hexyl)phthalate	35	NA	28	0.41 U	82 J	0.39 U	0.38 U
di-n-butylphthalate	610*	NA	34	6.1	0.37 U	0.39 U	0.38 U
fluoranthene	230*	NA	1,400	0.41 J	0.37 U	0.39 U	0.38 U
Metals (mg/kg)							
antimony	3.1*	ND	5.4	R	34.1 U	35.3 U	7 UJ
arsenic	0.39	31	5.8	20	10.2 J	14 J	17.9 J
beryllium	16*	1.4	64	0.76	2.84 U	2.94 U	0.58 U
cadmium	7*	1.7	7.6	0.62 U	2.84 U	2.94 U	0.59
chromium	NA	26	3.6x10 ⁶	18.6	13.5	9.5	15.6
copper	310*	46	920	27.6	28.3	21	23
lead	400	37	280	14 J	9.7 J	10.6	15.2
mercury	10	ND	2	0.1 U	0.1 U	0.1 U	0.1 U
nickel	150*	105	400	32	37	34	22
selenium	39*	ND	5.2	0.62 U	0.6 U	0.6 U	0.6 U
silver	39*	1.9	12	1.2 U	5.7 U	5.9 U	1.2 U
thallium	0.078*	ND	2.8	1.2 U	5.7 U	5.9 U	1.2 U
zinc	2,300*	136	5,800	90.2 J	85	76	78.7

Notes:

* 0.1X of the residential RSL for non carcinogens

ft bgs - feet below ground surface

J - The compound is positively identified, but the quantitation is an estimation.

ND - Non Detect

NA - Not Available

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

Exceedance detections are in **bold**

Only detected organics are shown

Source: Final 1996 SEBS (IT, 1996)

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1998)

³ USEPA, 2012, Protection of Groundwater SSL, November 2012. <http://www.epa.gov/region09/superfund/> adjusted for DAF 20.

Table 1-10
Historical Groundwater Sampling Results at SS039
Rickenbacker Air National Guard Base

Sample ID	USEPA MCLs ¹	Background ²	GIR39022 (UF) 1995	GIR39022 (F) 1995	GIR39032 1995
VOCs (ug/L)					
acetone	NA	NA	10 U	NA	40
SVOCs (ug/L)					
di-n-butylphthalate	NA	NA	10 U	NA	81 J
metals (mg/L)					
antimony	0.006	ND	0.06 U	0.06 U	NA
arsenic	0.01	0.0216	0.005 U	0.005 U	NA
beryllium	0.004	ND	0.005 U	0.005 U	NA
cadmium	0.005	ND	0.005 U	0.005 U	NA
chromium	0.01	ND	0.01 U	0.01 U	NA
copper	1.3	ND	0.02 U	0.02 U	NA
lead	0.015	ND	0.005 U	0.005 U	NA
mercury	0.002	ND	0.0002 U	0.0002 U	NA
nickel	NA	ND	0.04 U	0.04 U	NA
selenium	0.05	ND	0.01 U	0.01 U	NA
silver	NA	0.0216	0.01 U	0.01 U	NA
thallium	0.002	ND	0.01 U	0.01 U	NA
zinc	NA	0.0504	0.05 U	0.05 U	NA

Notes:

J - The compound is positively identified, but the quantitation is an estimation.

ND - Not Detected

NA - Not available

UF - unfiltered, F - filtered

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

Only detected organics are shown; metals are shown in their entirety

Source: Engineering-Science, 1992, SI Report, RANGB, Columbus, Ohio. Phase II Remedial Investigation (IT, 1998)

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1998)

**Table 1-11
Historical Soil Sampling Results at SS040
Rickenbacker Air National Guard Base**

Sample ID	USEPA Residential RSLs ¹	Background ²	Protection of Groundwater SSL ³	SIR40011 6-8 4/26/1995	SIR40021 4-6 4/26/1995	SIR40031 5-7 4/25/1995	SIR40041 10-12 4/26/1995
VOCs (mg/kg)							
acetone	6,100*	NA	48	6.3 J	3.5	4.8	7.6
2-butanone	2,800*	NA	20	0.012 U	0.011 U	1.5	0.061 U
SVOCs (mg/kg)							
di-n-butylphthalate	610*	NA	34	0.28	0.38 U	0.38 U	0.40 U
bis(2-ethylhexyl)phthalate	35	NA	28	0.33	0.24 J	0.38 U	0.40 U
Metals (mg/kg)							
antimony	3.1*	ND	5.4	7.4 U	6.9 U	34.8 U	36.8 U
arsenic	0.39	31	5.8	23 J	20 J	17.3 J	21.3 J
beryllium	16*	1.4	64	0.92	0.74	2.9 U	3.07 U
cadmium	7*	1.7	7.6	0.79	0.85	2.9 U	3.07 U
chromium	NA	26	3.6x10 ⁶	20.2	14.5	8.8	9.8
copper	310*	46	920	45.6	36.1	28	24
lead	400	37	280	15.5 J	18.3	11.6	12.8
mercury	10	ND	2	0.1 U	0.1 U	0.1 U	0.1 U
nickel	150*	105	400	45	38.8	35 J	35 J
selenium	39*	ND	5.2	1.2 U	1.1 U	1.2 U	0.6 U
silver	39*	1.9	12	1.2 U	1.1 U	5.8 U	6.1 U
thallium	0.078*	ND	2.8	0.62 U	0.57 U	5.8 U	6.1 U
zinc	2,300*	136	5,800	133	104	72	94

Notes:

* 0.1X of the residential RSL for non carcinogens

ft bgs - feet below ground surface

J - The compound is positively identified, but the quantitation is an estimation.

NA - Not Available

ND - Non Detect

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

Exceedance detections are in **bold**

Only detected organics are shown

Source: Final 1996 SEBS (IT, 1996)

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1998)

³ USEPA, 2012, Protection of Groundwater SSL, November 2012. <http://www.epa.gov/region09/superfund/> adjusted for DAF 20.

**Table 1-12
Historical Groundwater Sampling Results at SS040
Rickenbacker Air National Guard Base**

Sample ID	USEPA	GIR40022	GIR40032	GIR40042	40SB101GW01	40SB102GW01	40SB103GW01	40SB104GW01	40SB105GW01
Sample Date	MCLs ¹	1995	1995	1995	1996	1996	1996	1996	1996
VOCs (µg/L)									
acetone	NA	10 U	3,400 J	2,900 J	2.6	8.1	4	2.9	2.9
SVOCs (µg/L)									
	NA	ND	NA	NA	NA	NA	NA	NA	NA

Notes:

J - The compound is positively identified, but the quantitation is an estimation.

NA - Not available

ND - Not Detected

U - The analyte was analyzed for, but not detected in any sample. The associated numerical value is at or below the MDL.

Only detected organics are shown

Source: Engineering-Science, 1992, SI Report, RANGB, Columbus, Ohio. Phase II Remedial Investigation (IT, 1998)

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

Table 1-13
Previous Sampling Results at EBS Site 7
Rickenbacker Air National Guard Base

Compounds	MCL	USEPA Tapwater RSL (µg/L)	TCLP Analysis
Inorganic (µg/L)			
barium	2	7.3	0.807

Notes:

Sludge sample collected from aeration tank. Barium was the only TCLP analyte detected.

Source: Final 1996 Supplemental EBS (IT, 1996)

Table 1-14
Historical Soil Sampling Results at Building 553
Rickenbacker Air National Guard Base

Sample Location	USEPA Residential RSLs ¹	Background ²	Protection of Groundwater SSL ³	SB01	SB02	SB03
Sample ID				0553-SB01-S002	0553-SB02-S002	0553-SB03-S002
Sample Depth (ft bgs)				4-8	4-8	4-8
Sample Date				1997	1997	1997
VOCs (mg/kg)						
2-butanone	2,800*	NA	20	U	0.0079	0.0062
acetone	6,100*	NA	48	0.047 J	0.078 J	0.062 J
Metals (mg/kg)						
aluminium	7,700*	22,242	4.6x10 ⁶	1,700	8,600 ◊	15,000
arsenic	0.39	31	5.8	2.6	14 ◊	22
barium	1,500*	241	1640	130	69	100 J
beryllium	16*	1.4	64	0.99	0.62 ◊	1.1
cadmium	7*	1.7	7.6	1	U	U
calcium	NA	172,987	NA	21,000	77,000 J◊	28,000 J
chromium	NA	26	3.6x10 ⁶	18	10 J	17 J
cobalt	2.3*	23	4.2	7.4	11 ◊	15
copper	310*	46	920	26	23 ◊	28
iron	5,500	52,525	5,400	14,000	26,000 J◊	32,000 J
lead	400	37	280	14	10 J◊	13 J
magnesium	NA	33,508	NA	12,000	24,000 J	11,000 J
manganese	180*	1,733	420	120	330 J	220 J
mercury	10	ND	2	U	0.026	U
nickel	150*	105	400	25	26 J	33 J
potassium	NA	2,571	NA	1,500	1,700	2,500
sodium	NA	ND	NA	120	140	130
vanadium	39*	52	1,560	34	22	40
zinc	2,300*	136	5,800	71	90 ◊	75

Notes:

* 0.1X of the residential RSL for non carcinogens

ft bgs - feet below ground surface

◊ - The higher numerical value of the duplicate sample is reported

J - The compound is positively identified, but the quantitation is an estimation.

Table 1-14
Historical Soil Sampling Results at Building 553
Rickenbacker Air National Guard Base

NA - Not Available

ND - Not detected

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

Detection limits not provided in the decision document

Exceedance detections are in **bold**

No groundwater samples taken

Only detected organics are shown

Source: Bldg.553 Statement of Basis/Decision Document (USAF, 1998)

¹ USEPA, 2012, Regional Screening Level, November 2012. <http://www.epa.gov/region09/superfund/>

² Rickenbacker background levels from Phase II Remedial Investigation (IT, 1998)

³ USEPA, 2012, Protection of Groundwater SSL, November 2012. <http://www.epa.gov/region09/superfund/> adjusted for DAF 20.

Table 1-15
Site and Parcel Summary
Rickenbacker Air National Guard Base

Site ID	Site Name	Parcel
SS005	Lateral Safety Zone Spill Site	D1.A
SS013	RB-47 Crash Site	D1.A
SS014	JP-4 Spill Site 1960	D1.A
SS015	Southeast Fuel Dump Area	D1.A
SS016	Northeast Fuel Dump Area	D1.A
SS017	Old Entomology Lab	D2.A
SS026	Electrical Transformer Storage	D3.A
SS039	Fuel Dump SW end of old runway	D1.A
SS040	Fuel Dump NE end of old runway	D1.A
EBS 7	Package Sewage Treatment Plant, former Bldg.702	D1.A
EBS 8	Munitions Buildup, former Bldg. 709	D1.A
EBS 9	Missile Maintenance, former Bldg. 710	D1.A
EBS 11	Munitions Storage, former Bldg. 739	D1.A
EBS 20	Water Treatment Plant, former Bldg. 413	D3.C
EBS 21	BCE Maintenance Shop, former Bldg. 422	D2.A
EBS 30	Fuel Cell Hangar, Bldg. 597	D2.A
EBS 31	Consolidated Club Complex, Bldg. 800	D2.A
Building 553	Aircraft Wash Rack	D2.A

Figures

This page is intentionally left blank.

Path: Y:\GIS_Projects\Rickenbacker\Projects\18_DD\Fig_1_1.mxd



Legend

- IRP Site
- Installation Boundary

**BRAC Portion of Rickenbacker
Air National Guard Base**
Columbus, OH

FIGURE 1-1

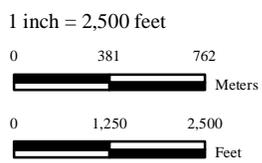
Site Locations

NOTES:
Revision Date: 9/8/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000

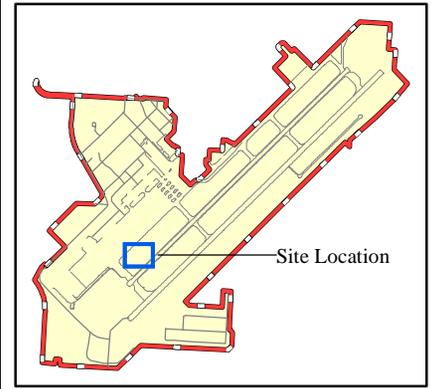
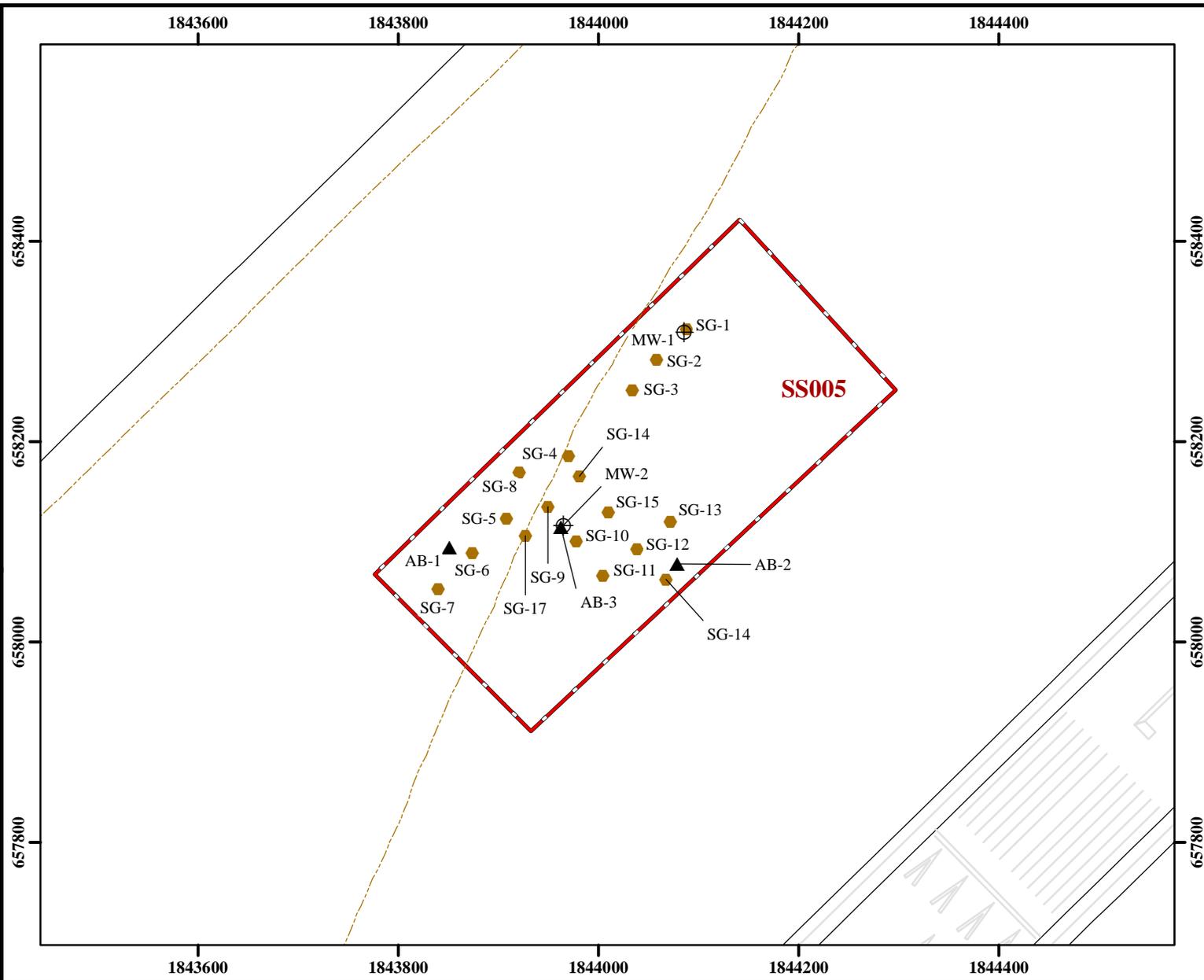
Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US



2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\18_DD\Fig 1.2.mxd



Key Features

- ⊕ Monitoring Well
- ▲ Soil Boring Sample Location
- Soil Vapor Monitoring Location
- - - Ditch
- Airfield
- ▭ Site Boundary

Parcel D1.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-2

SS005
Lateral Safety Zone Spill Site



FPM Remediations, Inc.

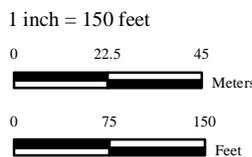
2014

- NOTES:**
1. Source : SI, 1998 AR144
 2. Revision Date: 9/8/2014

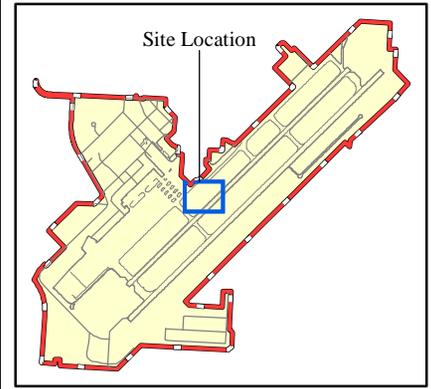
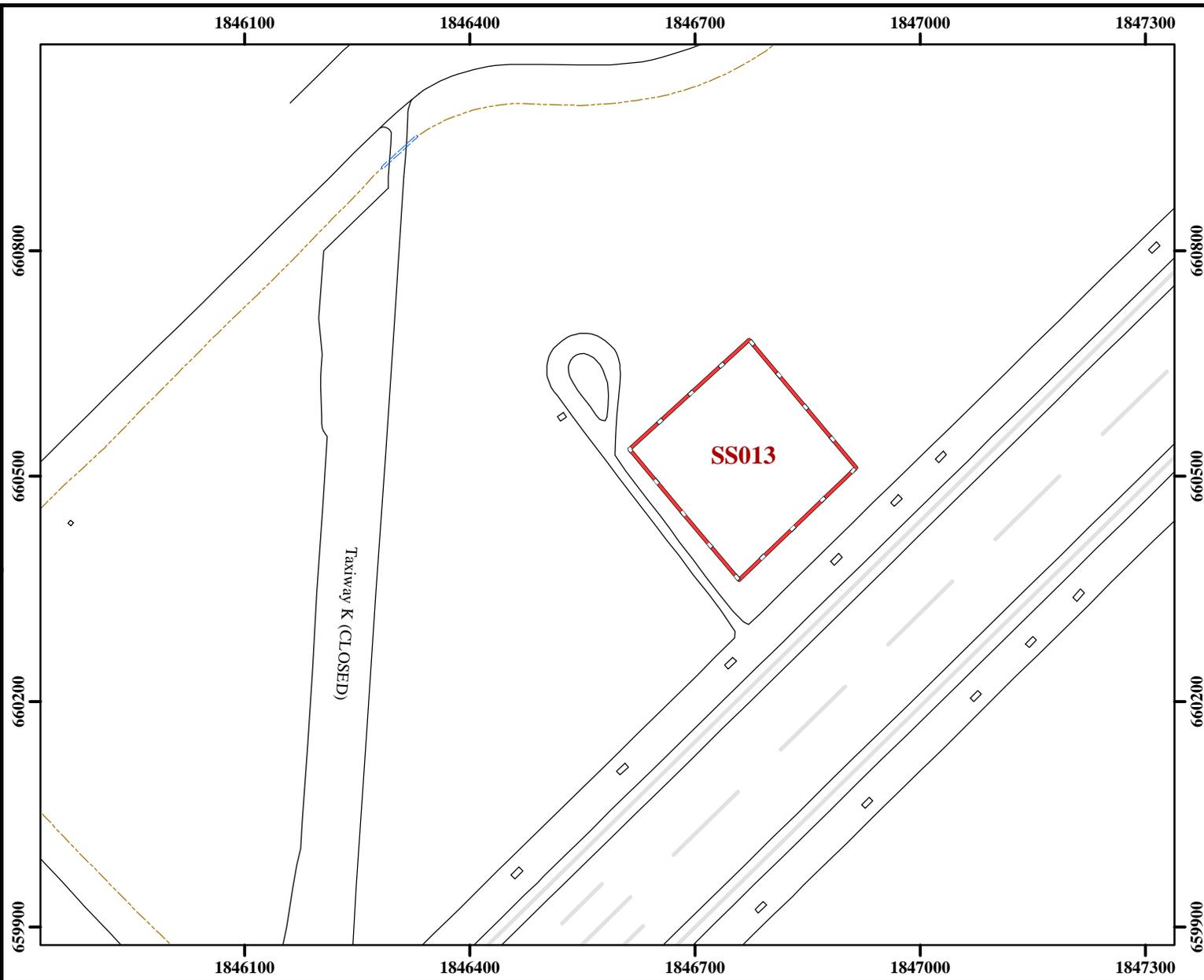
Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000

Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US



Path: Y:\GIS_Projects\Rickenbacker\Projects\18_DD\Fig L_3.mxd



- Key Features**
- Ditch
 - Culvert
 - Pavement
 - Site Boundary

Parcel D1.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-3

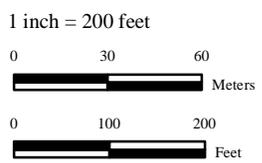
SS013
RB-47 Crash Site

NOTES:
 1. Source: Fig 3C, Phase I Record Search
 HMTC 1987 AR 13
 2. Revision Date: 9/8/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000

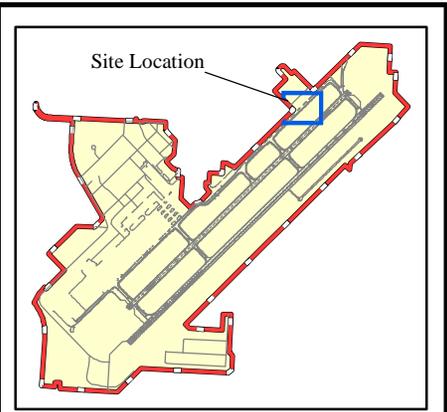
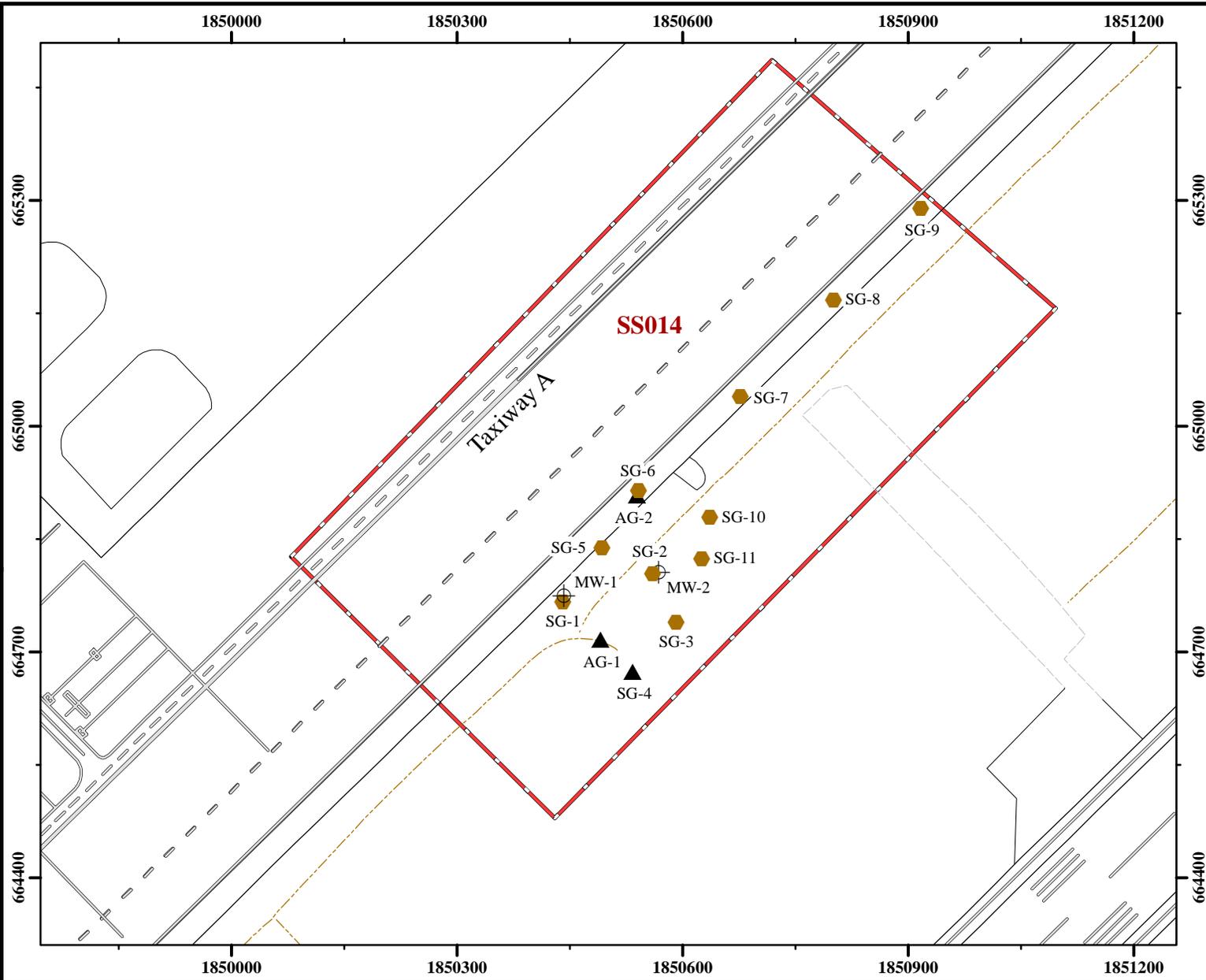
Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US



2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\18_DD\Fig 1_4.mxd



Key Features

- Monitoring Well
- Soil Boring Sample Location
- Soil Vapor Monitoring Point
- Ditch
- Existing Pavement
- Removed Pavement
- Site Boundary

Parcel D1.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-4

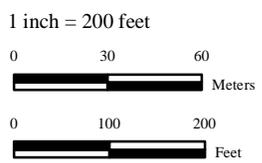
SS014
JP-4 Spill Site - 1960

NOTES:
 1. Source: SI, 1989 AR144
 2. Revision Date: 9/8/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000

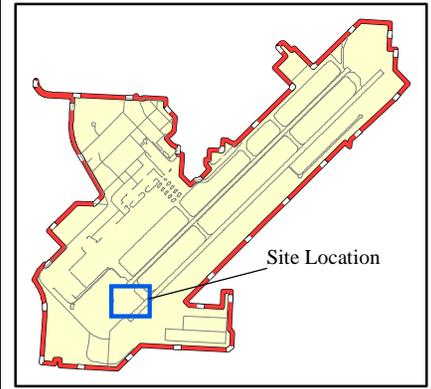
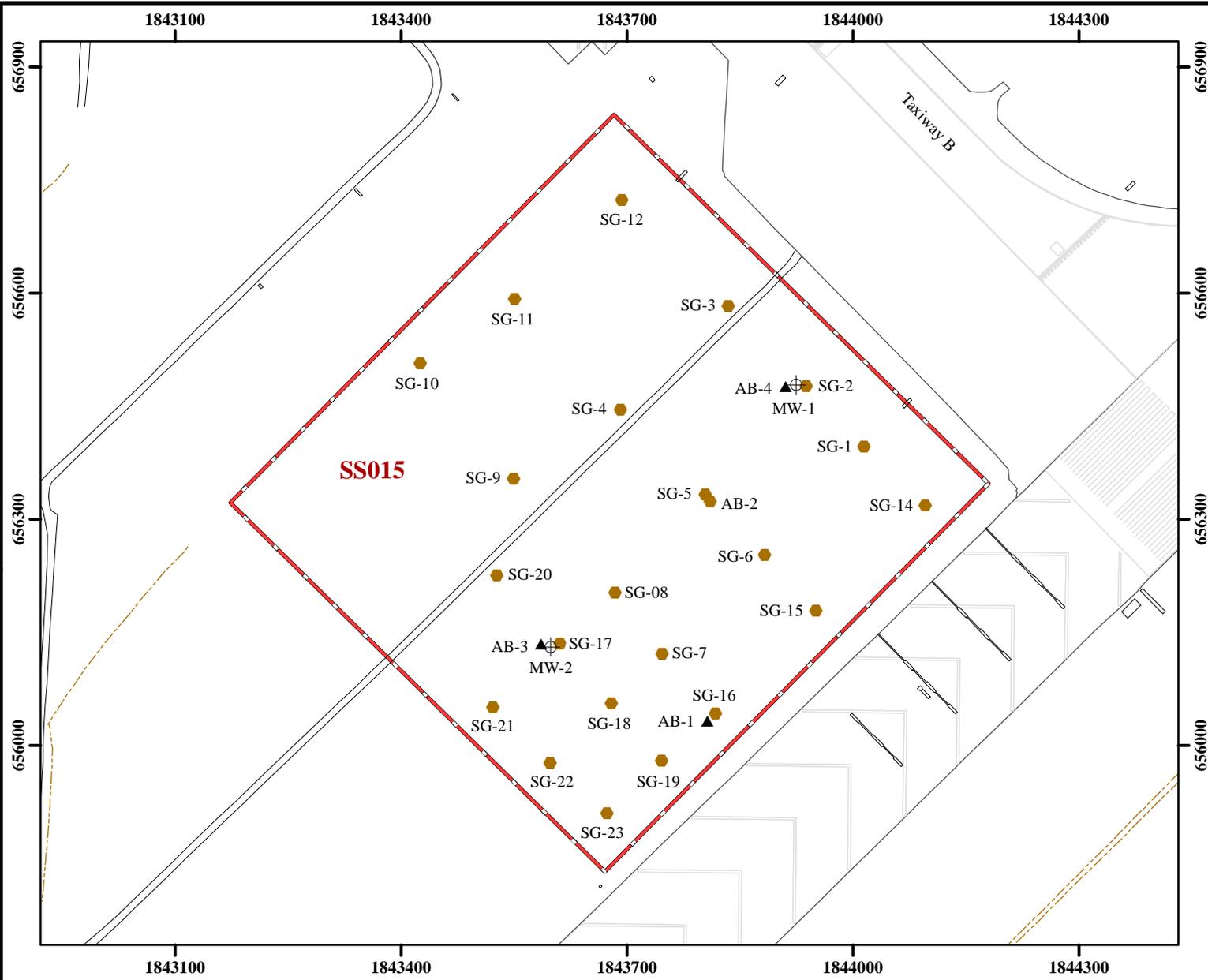
Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US



2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\18_DD\Fig 1-5.mxd



Key Features

- ⊕ Monitoring Well
- ▲ Soil Boring Sample Location
- Soil Vapor Monitoring Point
- Road/Airfield
- - - Ditch
- ▭ Site Boundary

Parcel D1.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-5

SS015
Southeast Fuel Dump Area

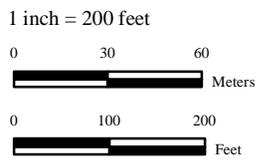


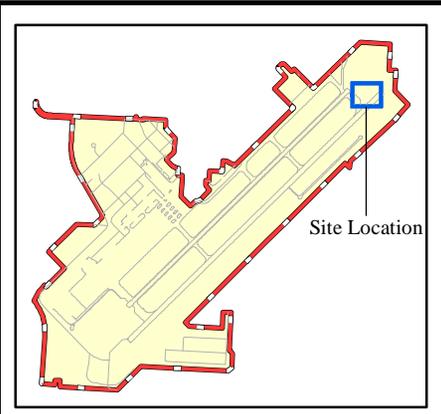
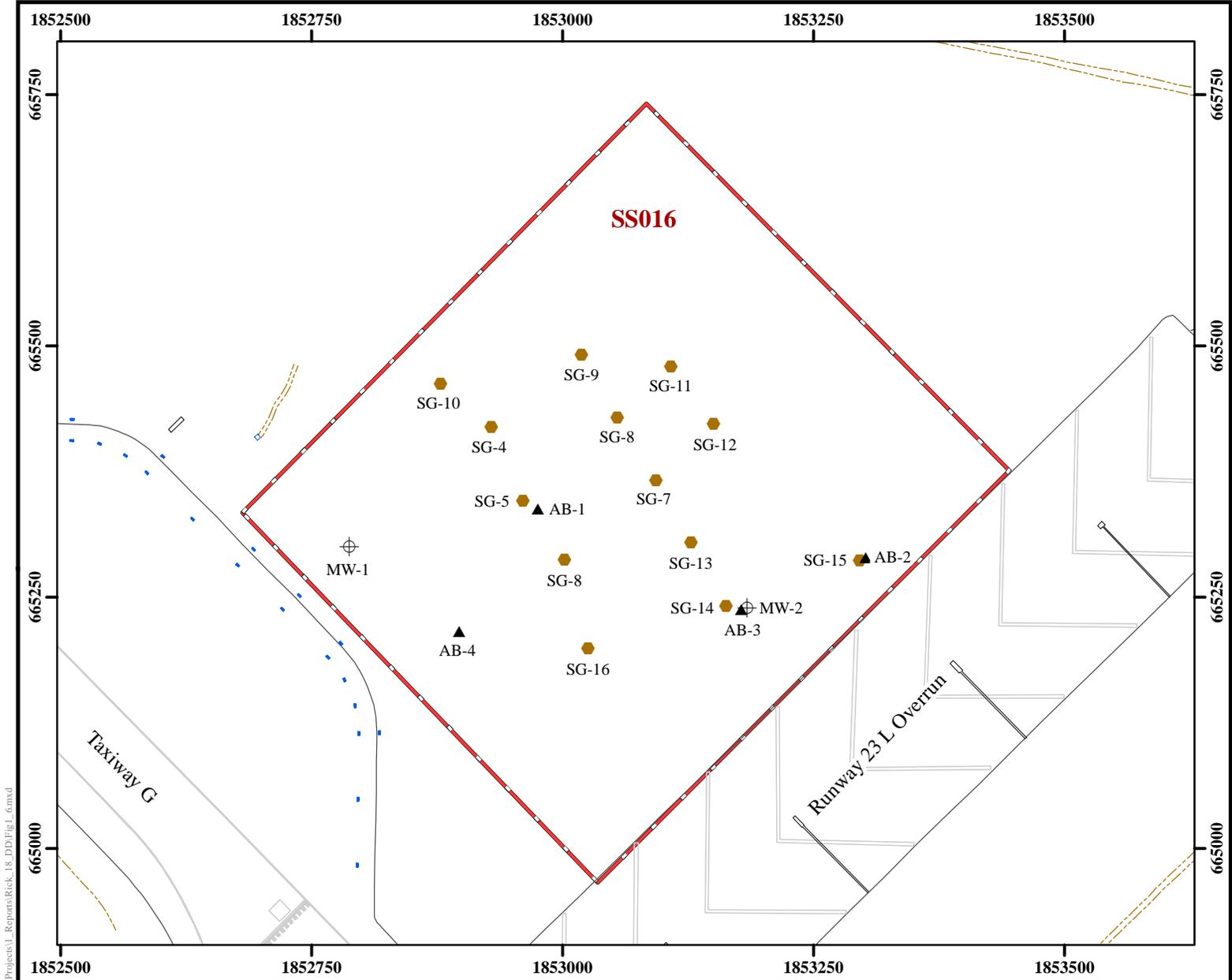
FPM Remediations, Inc.

2014

NOTES:
1. Source: SI, 1989 AR144
2. Revision Date: 9/8/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
Projection: Lambert Conformal Conic
False Easting: 1,968,500.0000
Central Meridian: -82.5000
Standard Parallel 2: 40.0333
Latitude Of Origin: 38.0000
Horizontal Datum: North American 1983
False Northing: 0.0000
Standard Parallel 1: 38.7333
Units: Foot US





Key Features

- ⊕ Monitoring Well
- ▲ Soil Boring Sample Location
- Soil Vapor Monitoring Location
- Storm Drain Grate
- Road/Airfield
- Runway Markings
- - - Ditch
- ▭ Site Boundary

Parcel D1.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-6

SS016
Northeast Fuel Dump Area

NOTES:

1. Source: Phase II RI, 1998
2. Revision Date: 9/8/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000

Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US

1 inch = 150 feet

0 22.5 45 Meters

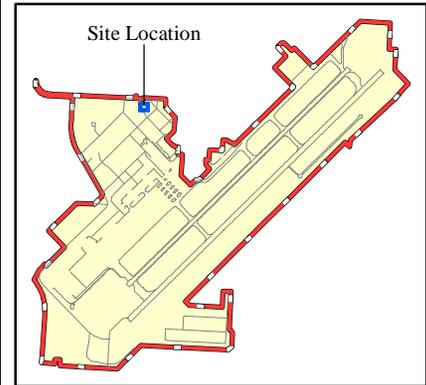
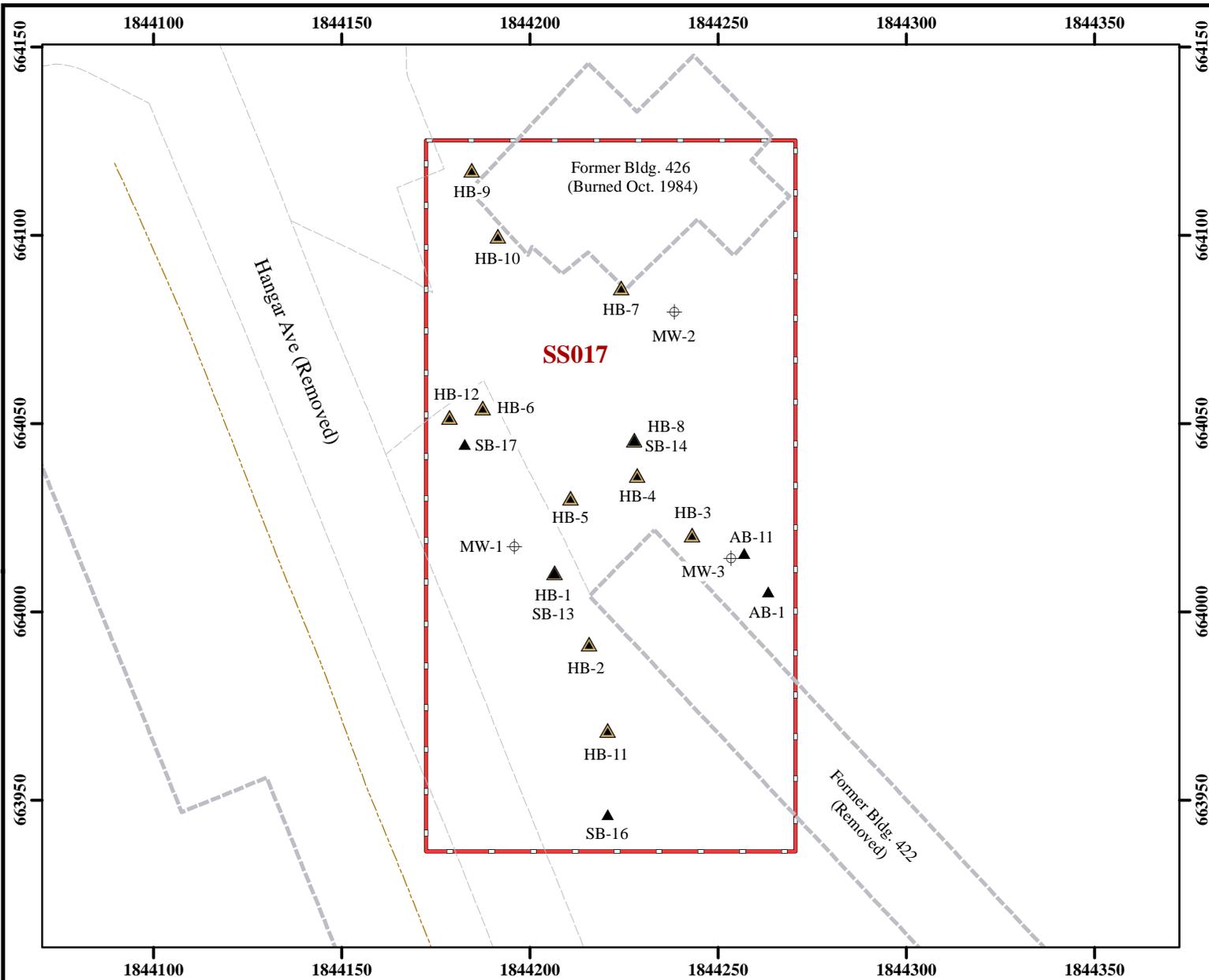
0 75 150 Feet

FPM Remediations, Inc.

2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\18_DD\Fig_L_G.mxd

Path: Y:\GIS_Projects\Rickenbacker\Projects\18_DD\Fig L7.mxd



Key Features

- ⊕ Monitoring Well
- ▲ Soil Boring Sample Location
- ▲ Soil Boring Sample Location (Hand Boring)
- - - Ditch
- - - Removed Road/Pavement
- - - Demolished Facility
- ▭ Site Boundary

Parcel D2.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-7

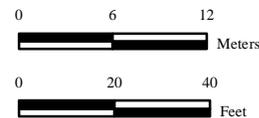
SS017
Old Entomology Lab

NOTES:

1. Source: Phase II RI, 1998
2. Revision Date: 9/8/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000
 Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333
 Units: Foot US

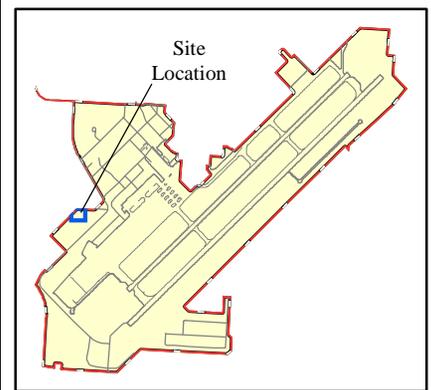
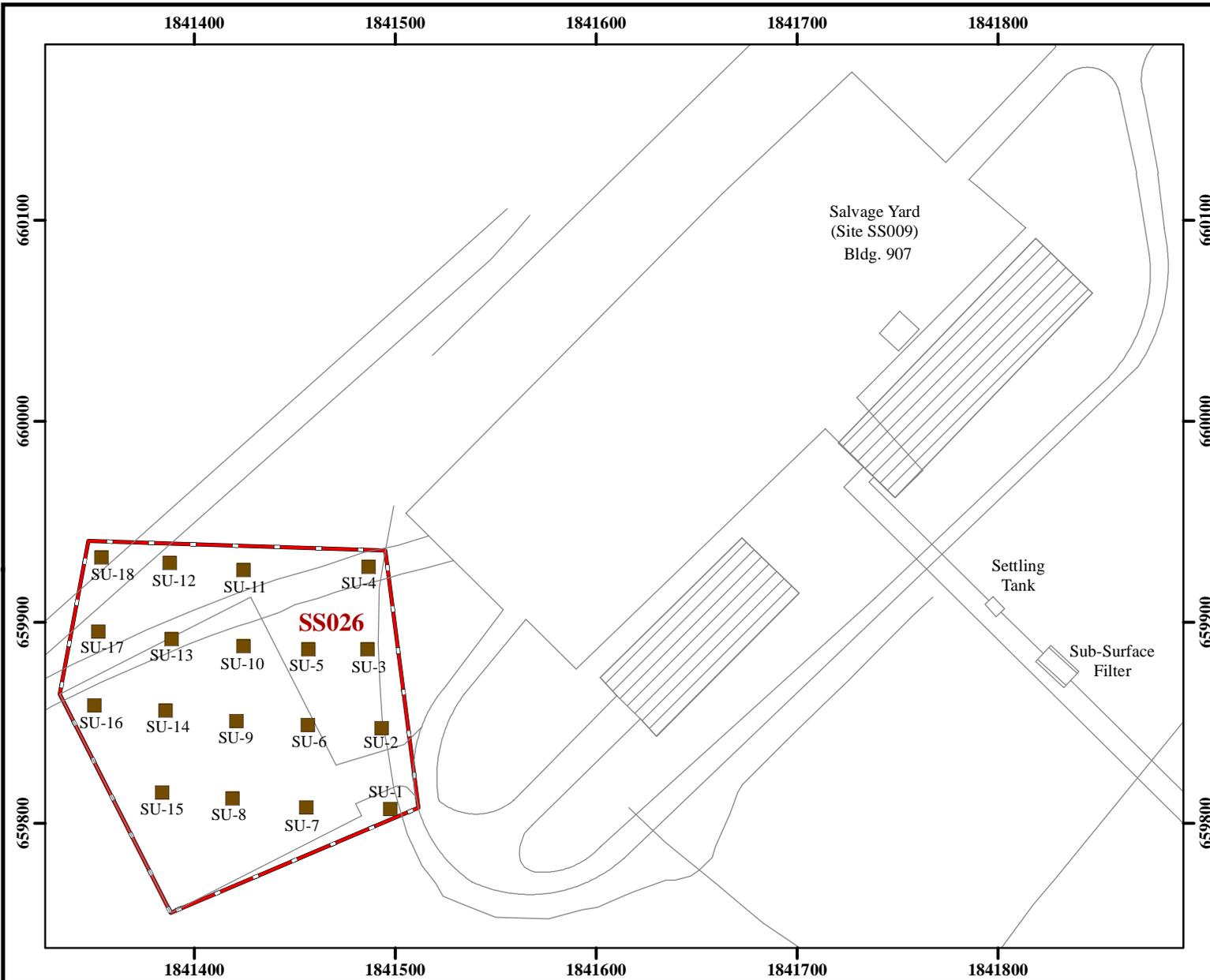
1 inch = 40 feet



FPM Remediations, Inc.

2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\18_DD\Fig 1-8.mxd



- Legend**
- Surface Soil Sample Location
 - Rickenbacker Infrastructure
 - Building - Demolished
 - Site Boundary

Parcel D3.A
BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-8

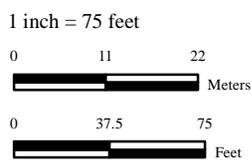
SS026
Electric Transformer Storage

NOTES:
Revision Date: 9/10/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000
 Base Map Date:
 Base Map Source:

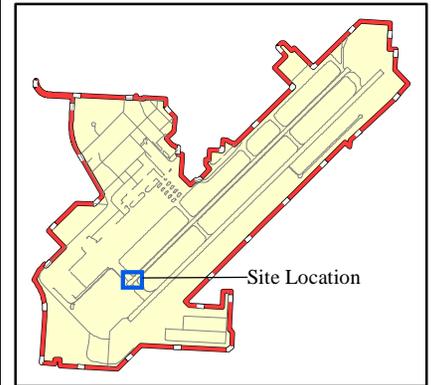
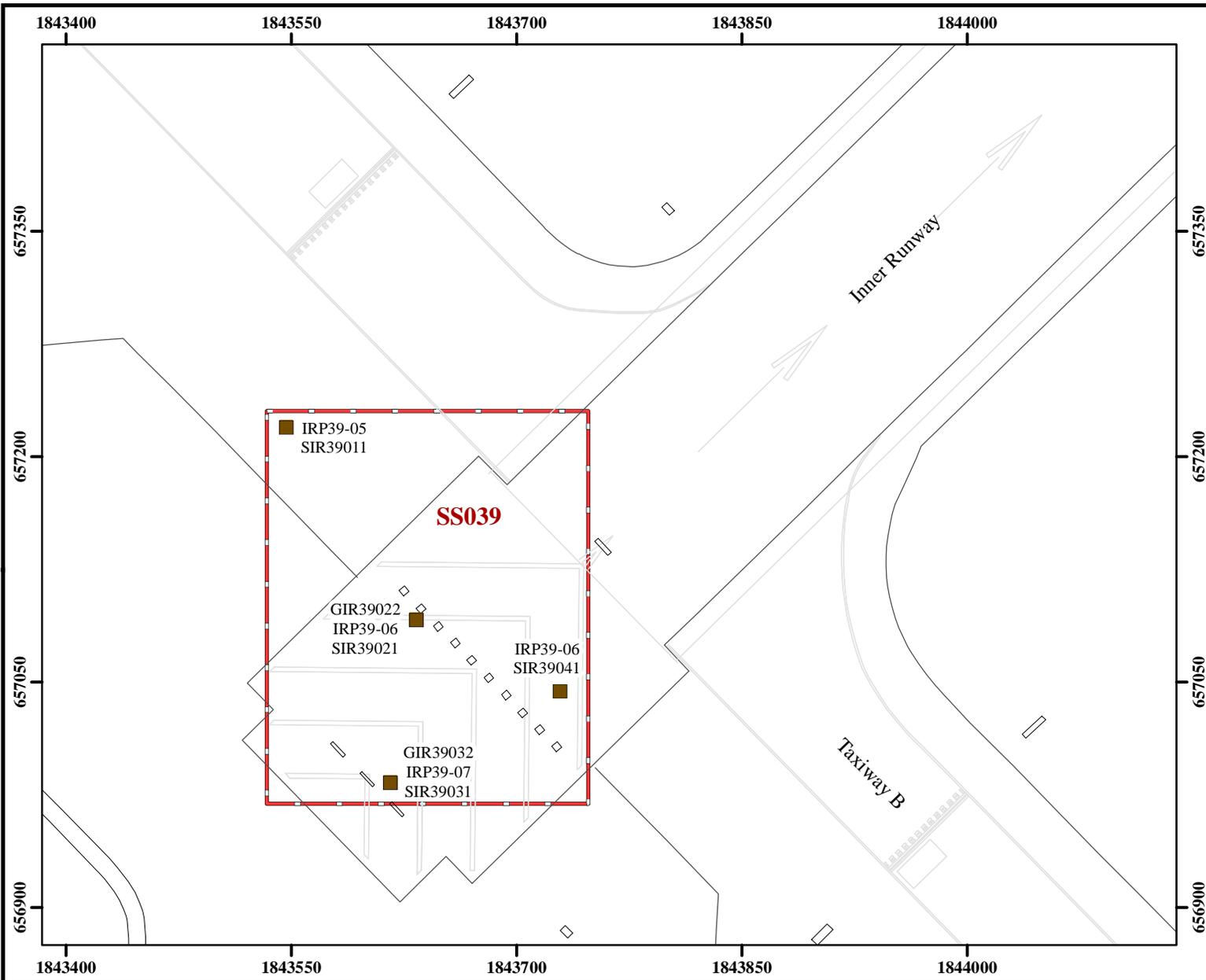
Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US



2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\18_DD\Fig 1-9.mxd



Key Features

-  Surface Soil Sample Location
-  Road/Airfield
-  Runway Markings
-  Site Boundary

Parcel D1.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-9

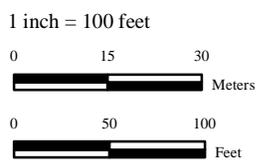
SS039
Fuel Dump SW end
of old Runway

NOTES:
 1. Source: Phase II EBS, 1996
 2. Revision Date: 9/8/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000

Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

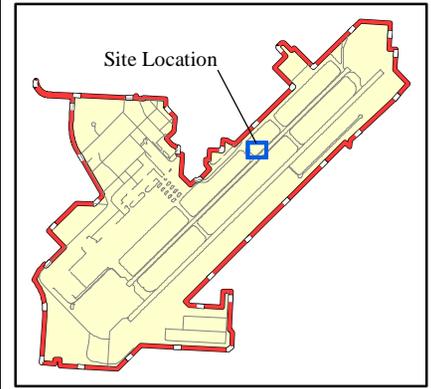
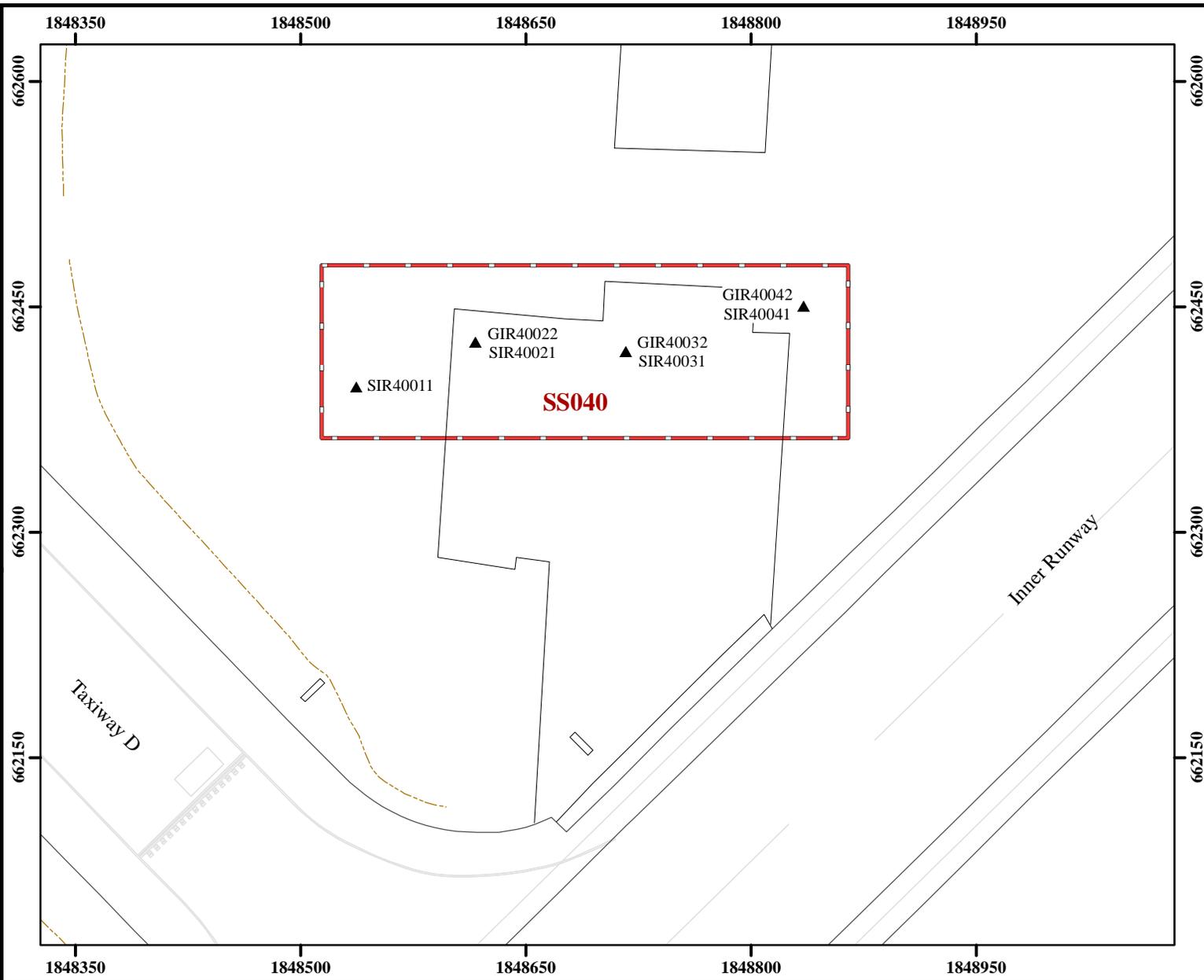
Units: Foot US



FPM Remediations, Inc.

2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\1_Reports\Riek_18_DD\Fig_1_10.mxd



Key Features

- ▲ Soil Boring Sample Location
- - - Ditch
- Airfield
- Runway Markings
- ▭ Site Boundary

Parcel D1.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-10

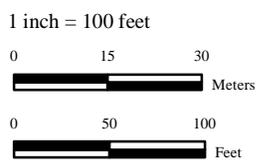
SS040
Fuel Dump NE end
of old Runway

NOTES:
 1. Source: Phase II EBS, 1996
 2. Revision Date: 9/8/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000

Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

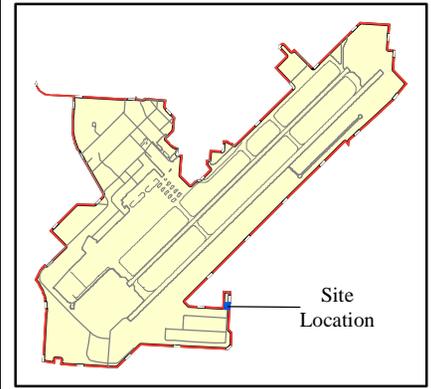
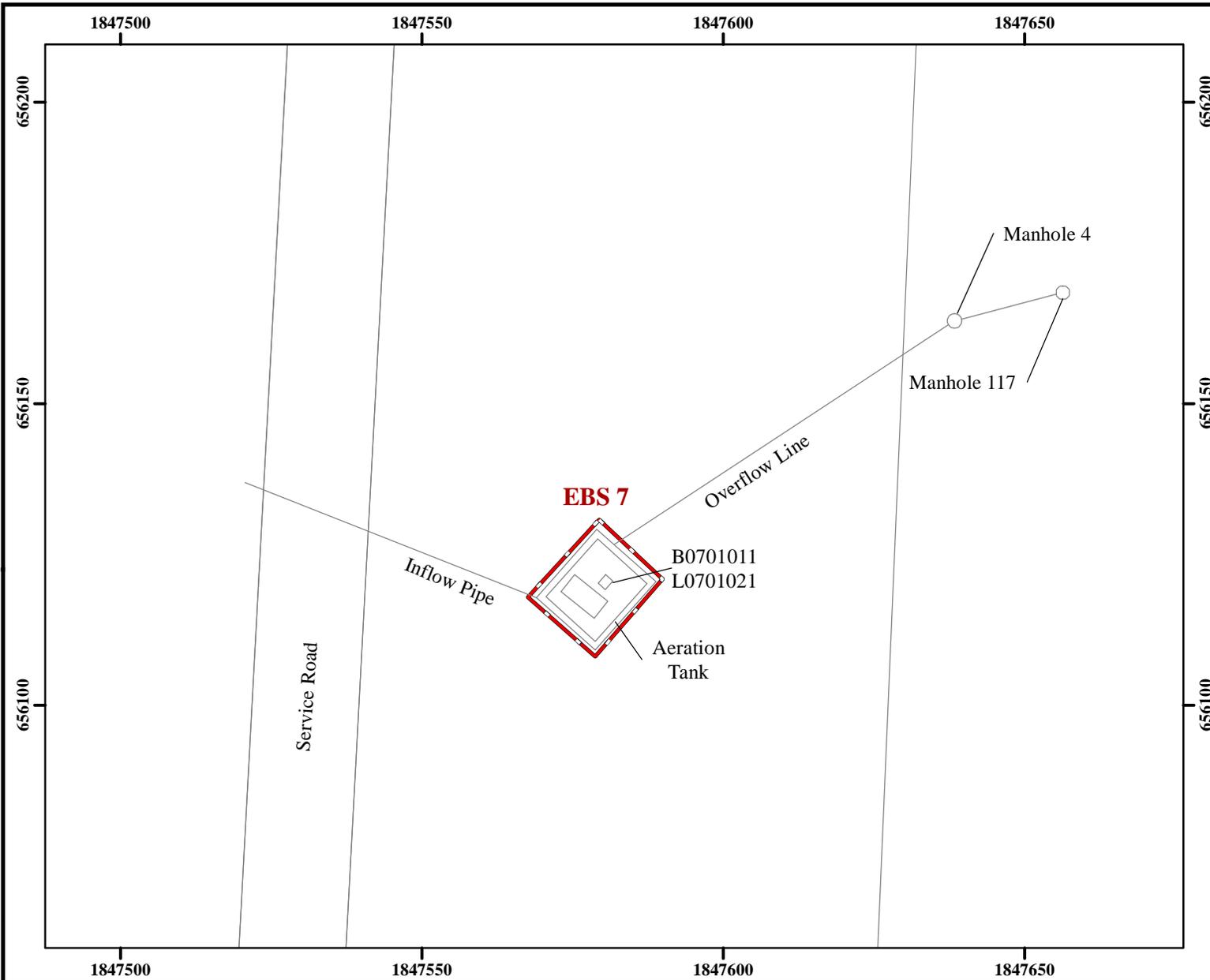
Units: Foot US



FPM Remediations, Inc.

2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\1_Reports\Riek_18_DD\Fig_1-11.mxd



Legend
 — Rickenbacker Infrastructure
 [Red Outline] Site Boundary

Parcel D1.A
 BRAC Portion of Rickenbacker ANGB
 Columbus, OH

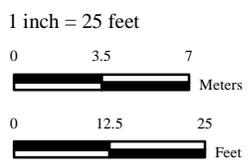
FIGURE 1-11
 EBS 7
 Package Sewage Treatment
 Former Building 702

NOTES:
 Revision Date: 9/10/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000
 Base Map Date:
 Base Map Source:

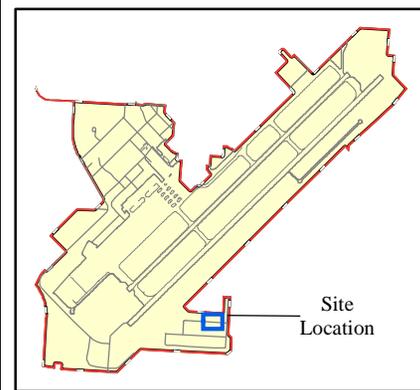
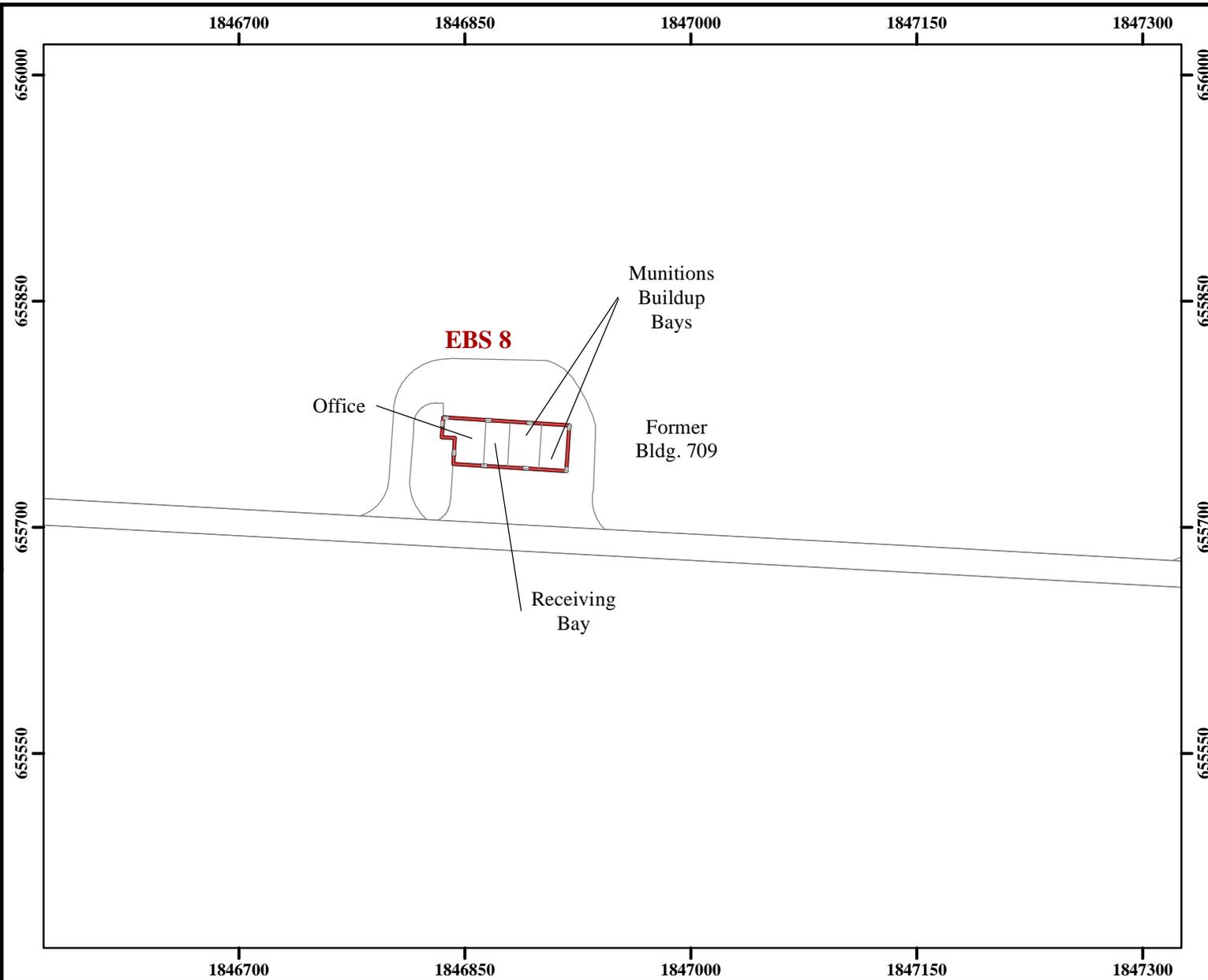
Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US



2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\1_Reports\Riek_18_DD\Fig_1_12.mxd



Legend
 — Rickenbacker Infrastructure
 □ Site Boundary

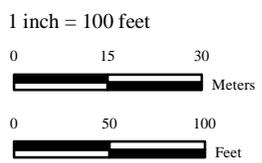
Parcel D1.A
 BRAC Portion of Rickenbacker ANGB
 Columbus, OH

FIGURE 1-12
 EBS 8
 Munitions Buildup
 Former Building 709

NOTES:
 Revision Date: 9/10/2014

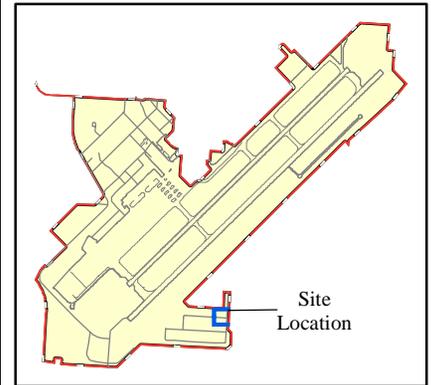
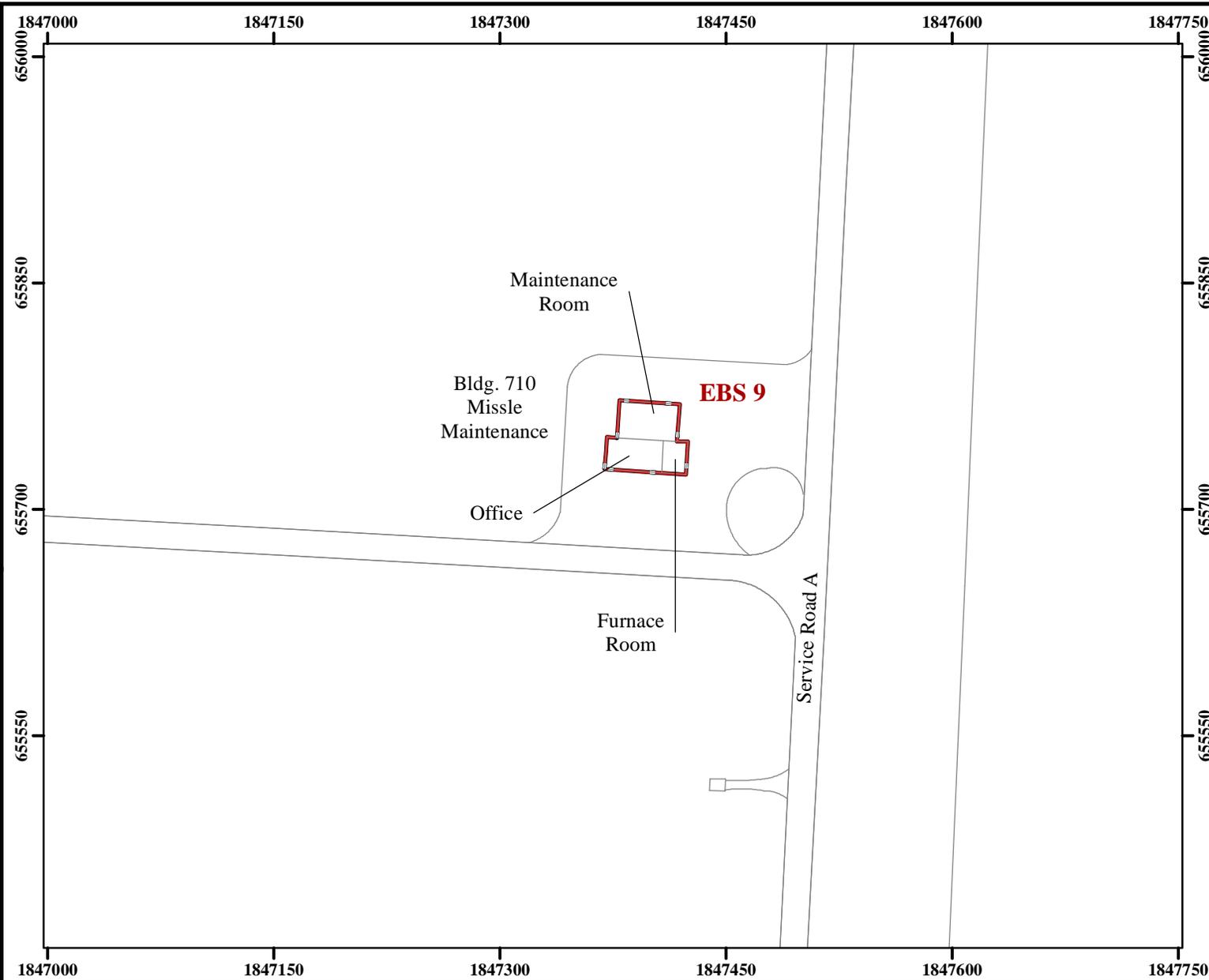
Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000
 Base Map Date:
 Base Map Source:

Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333
 Units: Foot US



2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\1_Reports\Riek_18_DD\Fig 1-13.mxd



Legend
 — Rickenbacker Infrastructure
 □ Site Boundary

Parcel D1.A
 BRAC Portion of Rickenbacker ANGB
 Columbus, OH

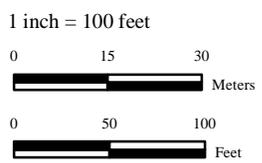
FIGURE 1-13
 EBS 9
 Missile Maintenance
 Former Building 710

NOTES:
 Revision Date: 9/10/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000
 Base Map Date:
 Base Map Source:

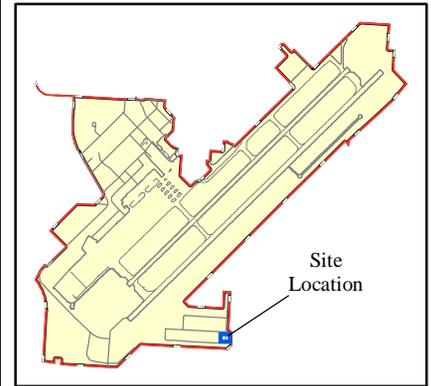
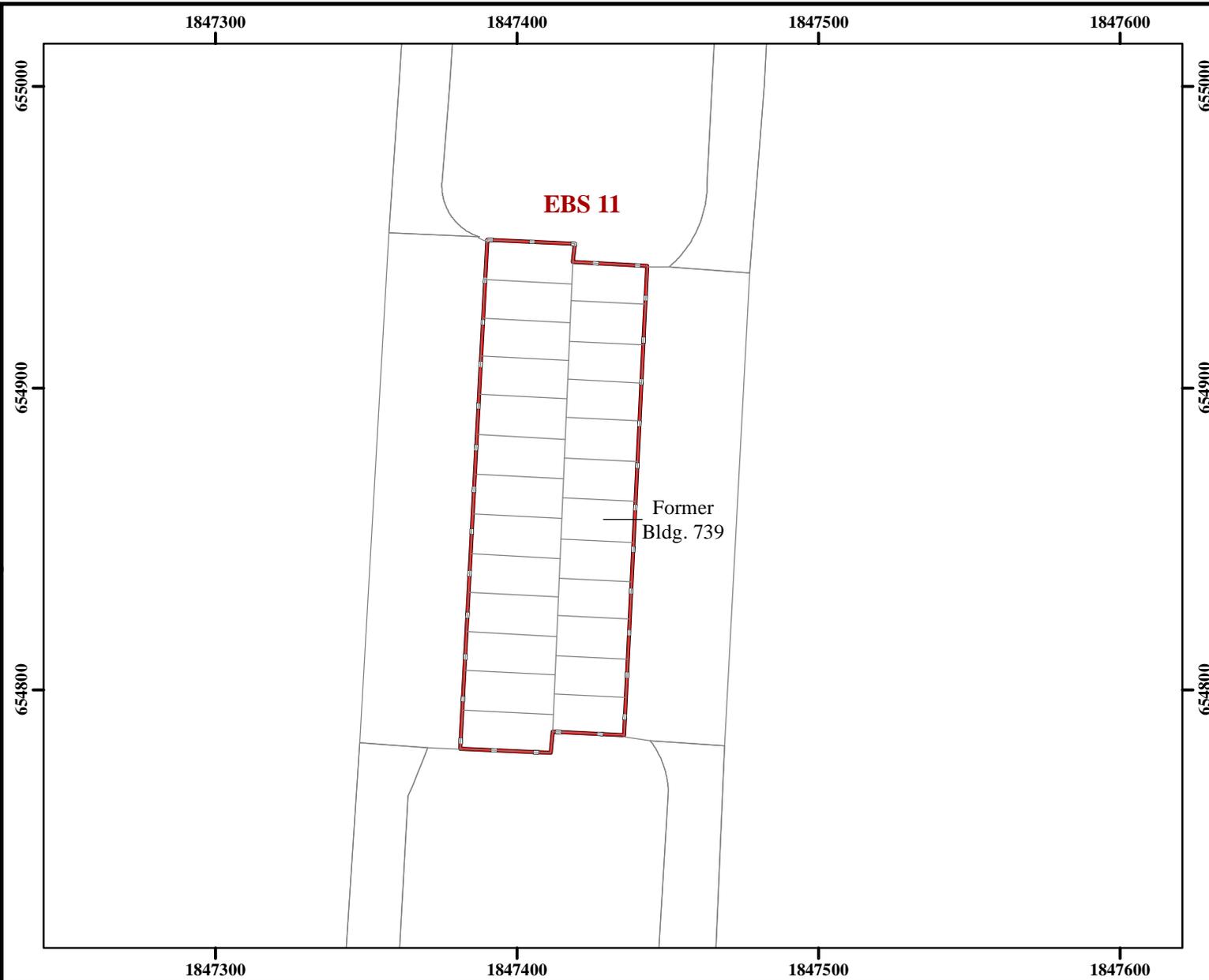
Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US



2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\1_Reports\Riek_18_DD\Fig_1_14.mxd



Legend
 — Rickenbacker Infrastructure
 [Red Outline] Site Boundary

Parcel D1.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-14

EBS 11 Munitions Storage Former Building 739



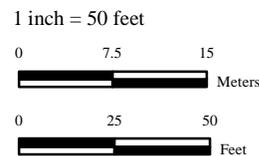
FPM Remediations, Inc.

2014

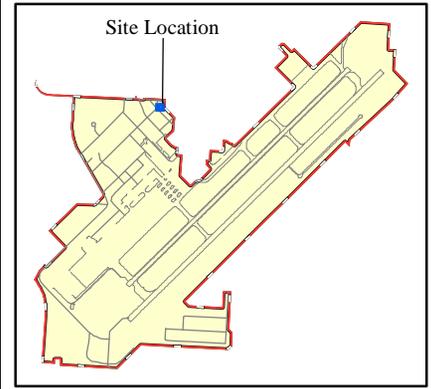
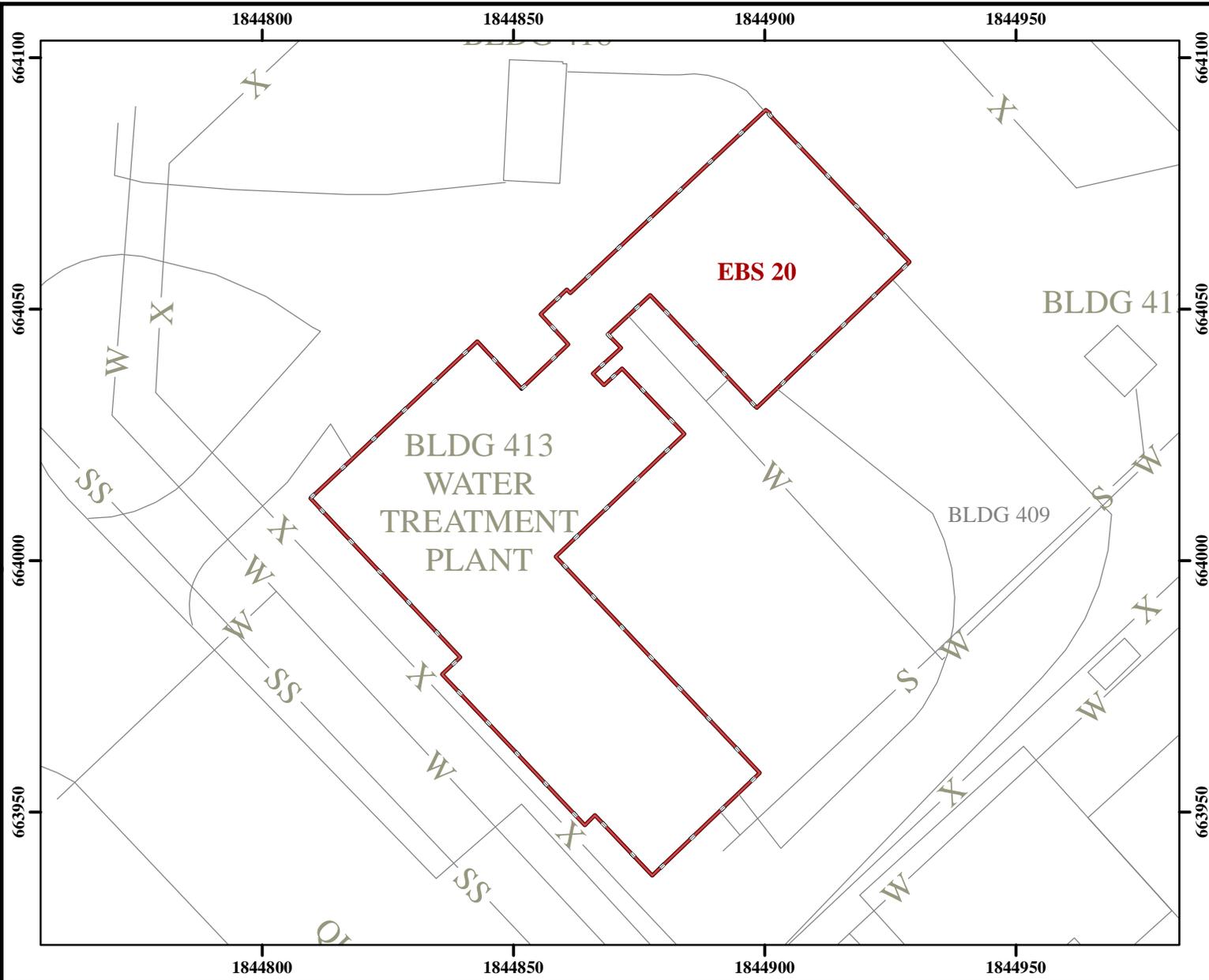
NOTES:
Revision Date: 9/10/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000
 Base Map Date:
 Base Map Source:

Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333
 Units: Foot US



Path: Y:\GIS_Projects\Rickenbacker\Projects\1_Reports\Riek_18_DD\Fig_1-15.mxd



Legend

- Rickenbacker Infrastructure
- ▭ Site Boundary

Parcel D3.C

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-15

EBS 20
Water Treatment
Former Building 413



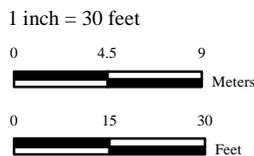
FPM Remediations, Inc.

2014

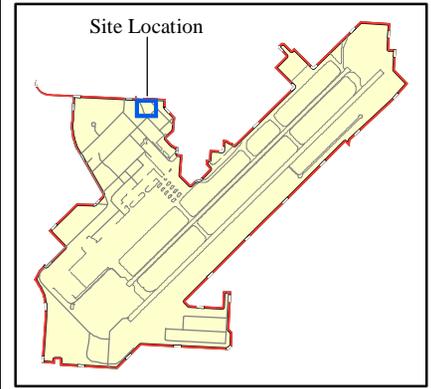
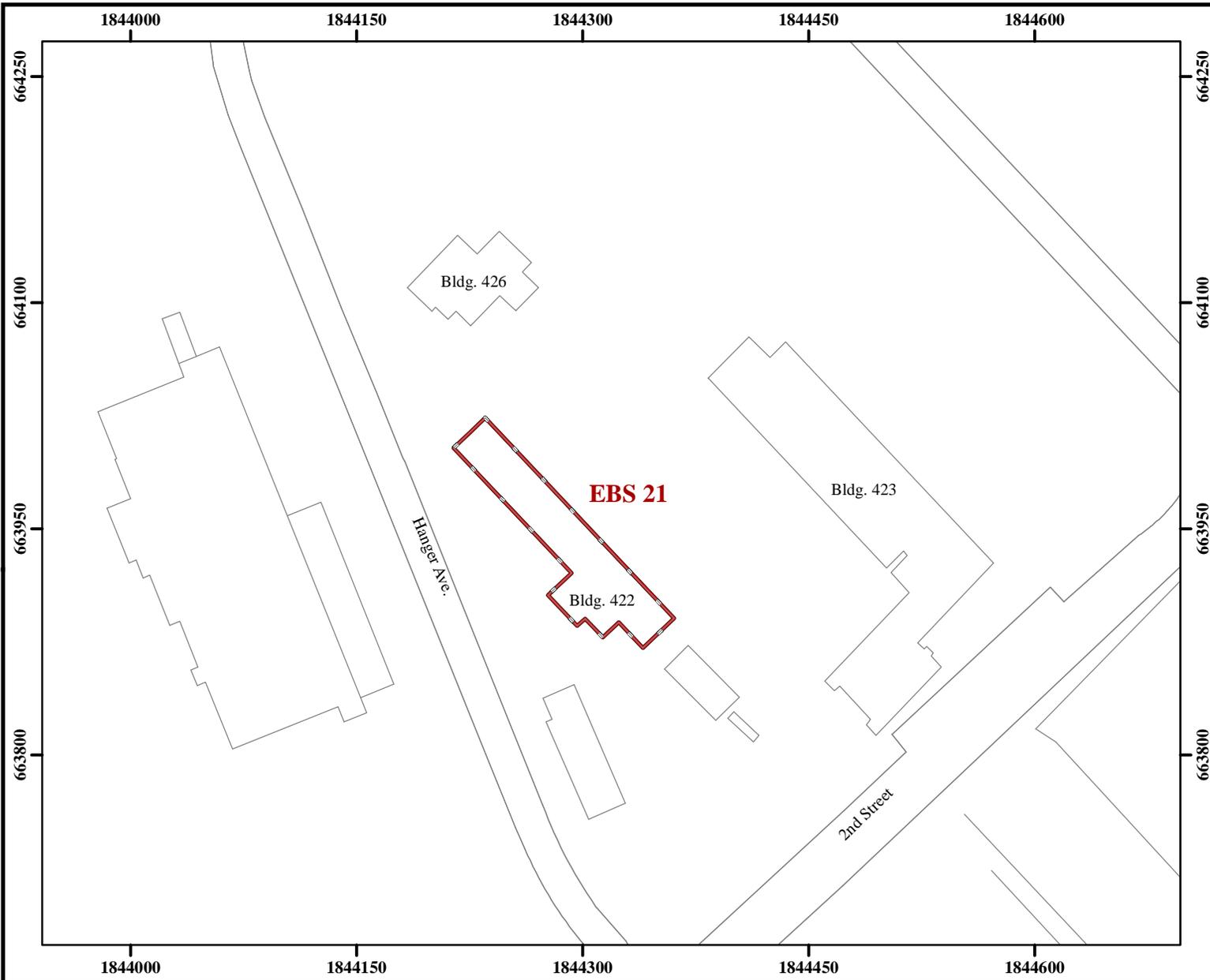
NOTES:
Revision Date: 9/10/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000
 Base Map Date:
 Base Map Source:

Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333
 Units: Foot US



Path: Y:\GIS_Projects\Rickenbacker\Projects\18_Reports\Rtek_18_DD\Fig_1-16.mxd



Legend
 — Rickenbacker Infrastructure
 [Red Outline] Site Boundary

Parcel D2.A
 BRAC Portion of Rickenbacker ANGB
 Columbus, OH

FIGURE 1-16
 EBS 21
 BCE Maintenance Shop
 Former Building 422



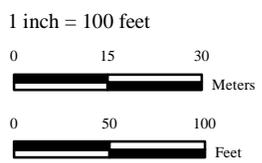
2014

NOTES:
 Revision Date: 9/10/2014

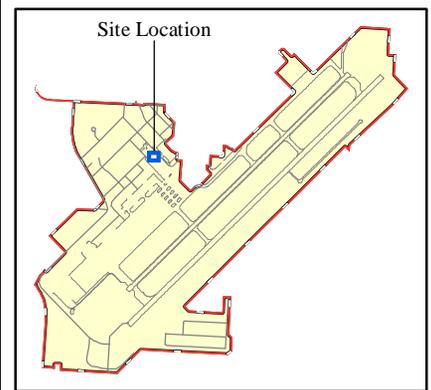
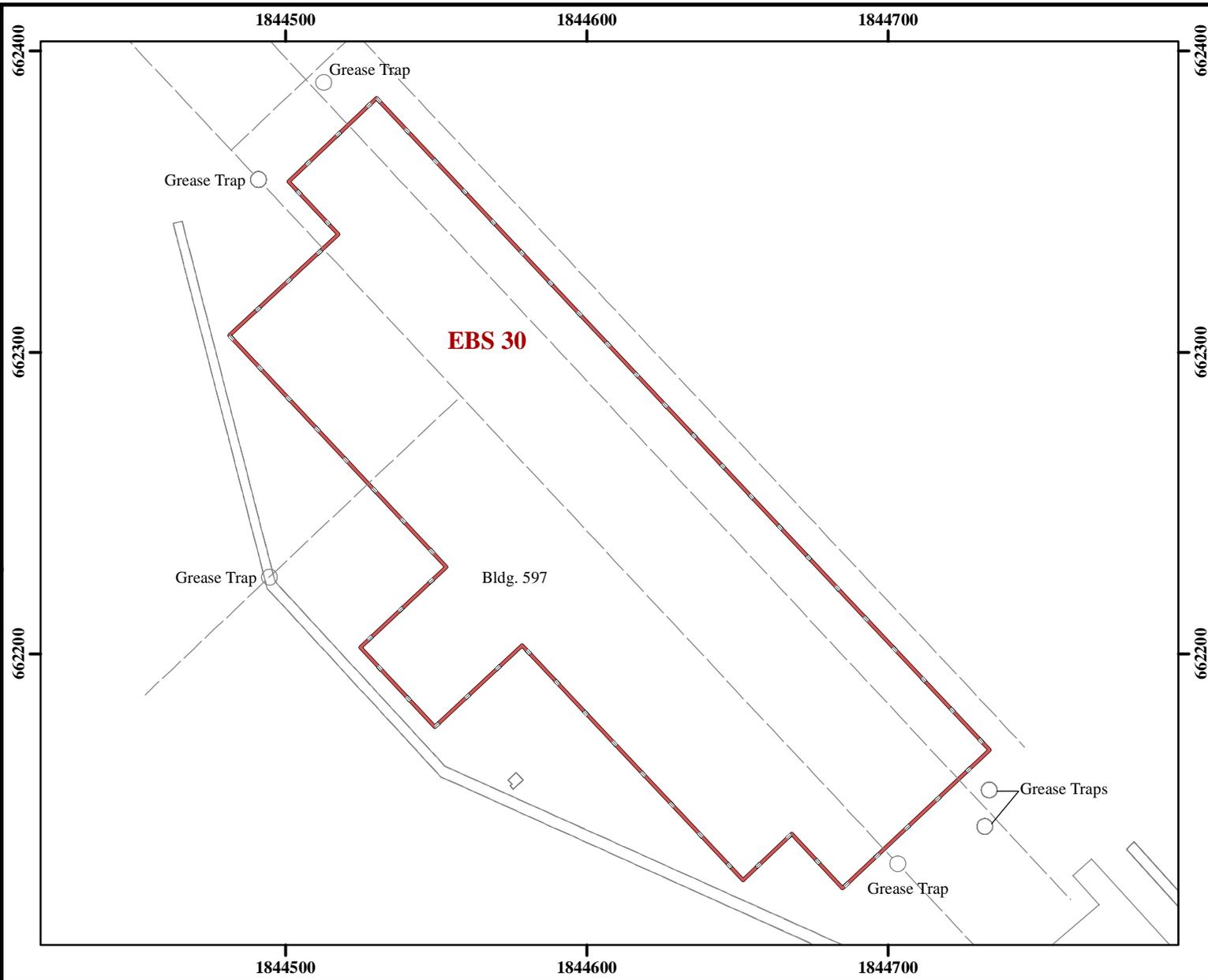
Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000
 Base Map Date:
 Base Map Source:

Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US



Path: Y:\GIS_Projects\Rickenbacker\Projects\18_Reports\Rick_18_DD\Fig_17.mxd



- Legend**
- Box Culvert
 - Rickenbacker Infrastructure
 - ▭ Site Boundary

Parcel D2.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-17

EBS 30
Fuel Cell Hanger
Building 597



FPM Remediations, Inc.

2014

NOTES:
Revision Date: 9/10/2014

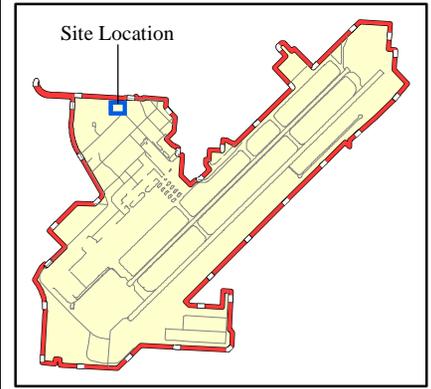
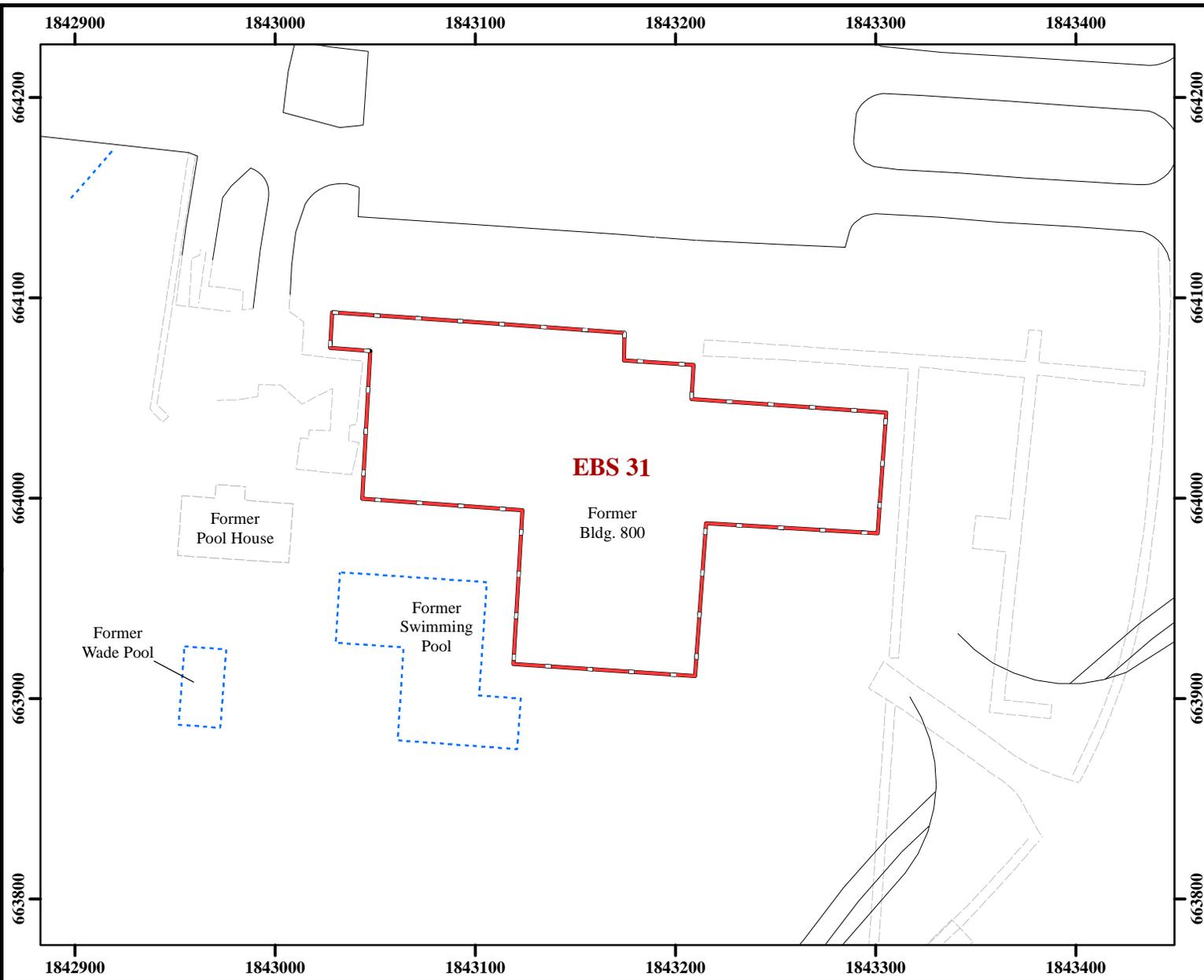
Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000
 Base Map Date:
 Base Map Source:

Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US



Path: Y:\GIS_Projects\Rickenbacker\Projects\1_Reports\Riek_18_DD\Fig_1_18.mxd



Key Features

- Demolished Facility
- Existing Road/ Pavement
- Road (Removed)
- Culvert (Removed)
- Pool (Removed)
- ▭ Site Boundary

Parcel D2.A

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-18

EBS 31
Club Complex, Building 800

- NOTES:**
1. Source: Phase II EBS, 1996
 2. Revision Date: 9/8/2014

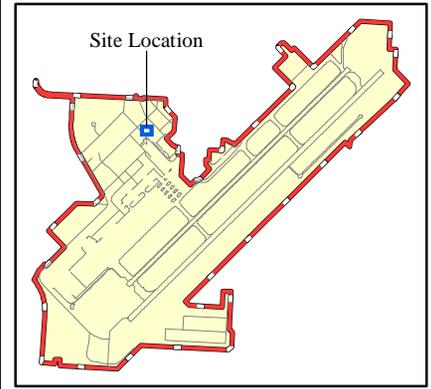
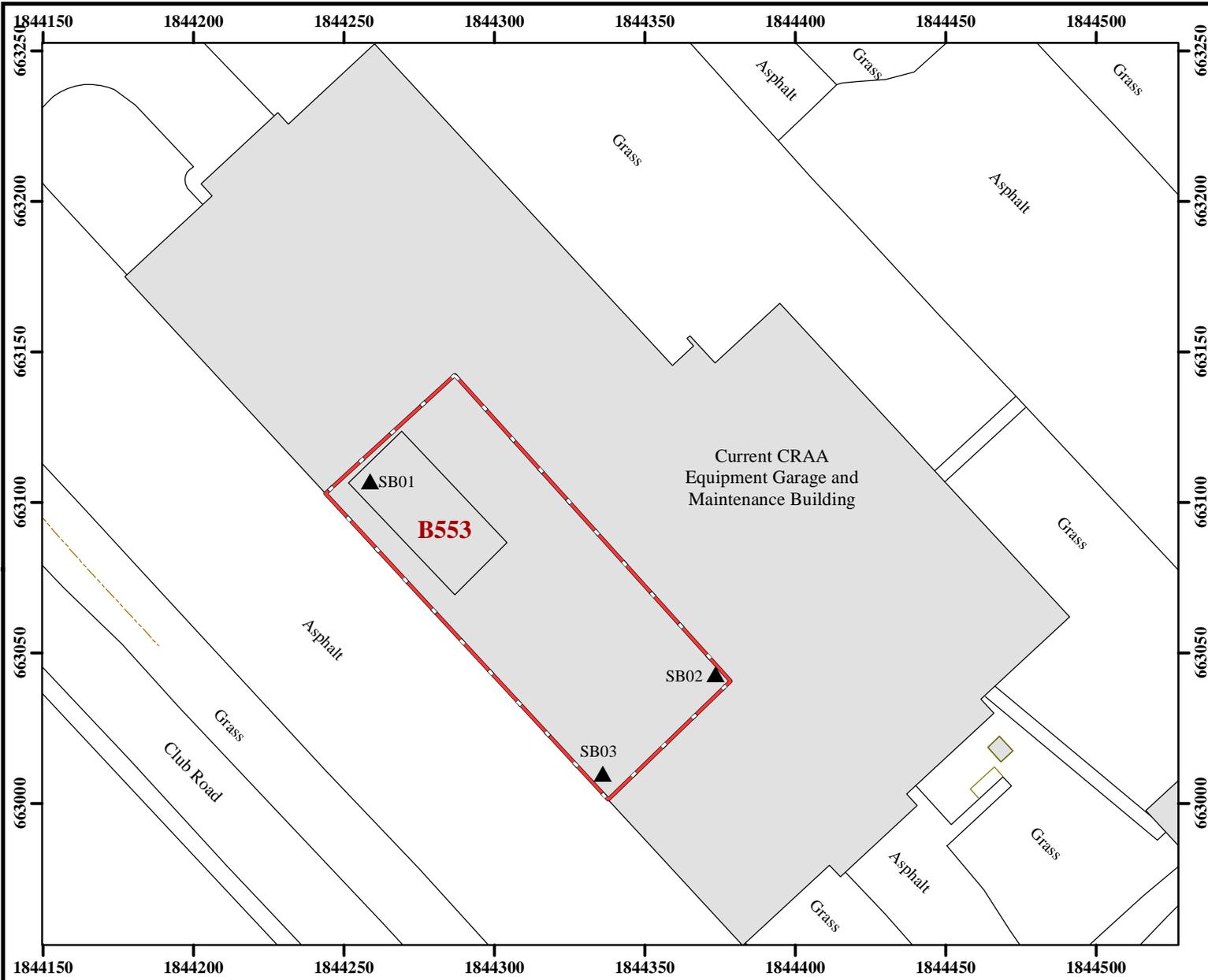
Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000
 Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333
 Units: Foot US



FPM Remediations, Inc.

2014

Path: Y:\GIS_Projects\Rickenbacker\Projects\18_DD\Fig_1-19.mxd



Key Features

- ▲ Soil Boring Sample Location
- - - Ditch
- Road
- ▒ Facility
- ▭ Site Boundary

Parcel D1.C

BRAC Portion of Rickenbacker ANGB
Columbus, OH

FIGURE 1-19

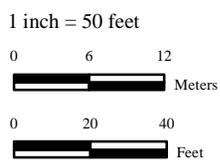
Building 553
Aircraft Wash

NOTES:
 1. Source: NFRAP Bldg 553, AR 564
 2. Revision Date: 9/10/2014

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 Projection: Lambert Conformal Conic
 False Easting: 1,968,500.0000
 Central Meridian: -82.5000
 Standard Parallel 2: 40.0333
 Latitude Of Origin: 38.0000

Horizontal Datum: North American 1983
 False Northing: 0.0000
 Standard Parallel 1: 38.7333

Units: Foot US



FPM Remediations, Inc.

2014

Appendix A

Ohio EPA, August 29, 2012. Letter to Peter Forbes (AFCEC/CZRB), Subject: *Site Closure Plan for 11 Sites, Rickenbacker Air National Guard Base, Franklin County, Ohio EPA – DERR Project # 125-000685-104.*

This page is intentionally left blank.



Environmental
Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

August 29, 2012

Mr. Peter Forbes
Environmental Program Manager
Air Force Center for Engineering and Environment
154 Development Drive, Suite G
Limestone, ME 04750-6122

**Re: Site Closure Plan for 11 Sites
Rickenbacker Air National Guard Base
Franklin County
Ohio EPA – DERR Project # 125-000685-104**

Dear Mr. Forbes:

The Ohio Environmental Protection Agency (EPA) reviewed the *Final Site Closure Report for 11 Sites*, received on July 26, 2012. The report was prepared by FPM Remediations, Inc. and was submitted to the Base Realignment and Closure Team members for review and approval. Ohio EPA reviewed the document pursuant to the Defense-State Memorandum of Agreement.

FPM Remediations, Inc. evaluated the historical information available for the sites; assessed the potential for migration of contamination onto or beneath the sites; and conducted visual site inspections in June 2012. The report concludes that there is no evidence of a release of hazardous wastes or substances at seven sites, and that the concentrations of potential contaminants of concern at the other four sites are below U.S. EPA Regional Screening Levels for residential land use. The report recommends (1) re-categorize as "Response Complete;" (2) lift land use restrictions; and (3) cease CERCLA five-year reviews.

Ohio EPA submitted comments to the Air Force on the Draft Final Site Closure Report on May 15, 2012. Our comments were adequately addressed. The report adequately documents the history, current condition, and potential for future impacts of each site. Ohio EPA concurs with the conclusions and recommendations as stated in Section 4.0 in the report.

If you have any questions, please contact me at (614) 728-3830.

Sincerely,

Fred Myers
Site Coordinator
Division of Environmental Response and Revitalization
Central District Office

c: CDO File Copy

ec: Justin Burke, DERR, CO
Deborah Strayton, DERR, CDO

FM/nsm RANG 11 sites closure letter final

Central District Office
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

614 | 728 3778
614 | 728 3898 (fax)
www.epa.ohio.gov

Appendix B

Ohio EPA, April 3, 2013. Letter to Peter Forbes (AFCEC/CZRB), Subject: *Site Closure Plan for 16 Sites, Rickenbacker ANGB, Project # 125-000685-108.*

This page is intentionally left blank.



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

April 3, 2013

Mr. Peter Forbes
AFRPA, Department of the Air Force
154 Development Drive, Suite G
Limestone, ME 04751-6122

**Re: Site Closure Plan for 16 sites
Rickenbacker ANGB
Project # 125-000685-108**

Dear Mr. Forbes:

The Ohio Environmental Protection Agency (EPA) reviewed the *Draft-Final Site Closure Plan for 16 Sites* (closure plan), received on January 7, 2013. FPM Remediations, Inc. prepared the closure plan and submitted it to the Base Realignment and Closure Team members for review and approval. Ohio EPA reviewed the document for technical adequacy and state applicable or relevant and appropriate requirements (ARARs) pursuant to the Defense-State Memorandum of Agreement. Ohio EPA's comments are listed below.

Comment 1: The closure plan states that Environmental Baseline Survey (EBS) 25 (Heavy Equipment Building 550), EBS 31 (Club Complex Building 800), and Site SS013 (RB-47 Crash Site) have no indication of a release of hazardous substances; therefore, no further action is necessary for these sites. However, the other 13 sites are subject to the comments listed below because of the reliance on historical environmental data to demonstrate that the sites meet residential (unrestricted) land use standards.

Comment 2: The concentrations of chemicals of concern (COCs) in soil must be compared to the most recent U.S. EPA regional screening level (RSL) table, protection of ground water soil screening levels (SSLs) or, alternatively, site-specific derived leach-based values to demonstrate that a site meets unrestricted land use criteria. The closure plan compares the existing data to residential SSLs in the U.S. EPA RSL table.

Comment 3: The sample detection limits for COCs in soil should be less than the respective U.S. EPA protection of ground water SSLs or site-specific derived leach-based values. Soil samples may need to be collected at sites where the detection limits exceed unrestricted land use criteria.

Comment 4: Ground water monitoring may be required at sites where concentrations of COCs in soil exceed the protection of ground water SSLs or derived leach-based values. If additional ground water monitoring is required, monitoring wells must be appropriately located, installed, and constructed for compliance level monitoring. Data from existing ground water monitoring samples that were collected from open boreholes or temporary direct-push installed wells are not suitable for demonstrating that a site meets unrestricted land use criteria; however, these data can be used for screening purposes (see Chapter 15 of Ohio EPA's *Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring*).

Comment 5: Section 3.12.2 states that Figure 3-11 shows the location of Site SS015. However, Figure 3-12 depicts the location of Site SS015. The text should be corrected.

Comment 6: We recommend that EBS Site 2, former sewage water treatment plant, be closed in accordance with Ohio EPA guidance. Please contact Mr. Cole Miller, Division of Surface Water, Central District Office at 614-728-3846 for technical guidance and applicable requirements.

Ohio EPA's comments do not constitute a determination that any of the 16 sites have achieved or will achieve unrestricted land use. Implementing or addressing Ohio EPA's comments is not a guarantee that Ohio EPA will concur with a determination of unrestricted land use.

If you have any questions, please contact me at (614) 728-3830.

Sincerely,



Fred Myers
Site Coordinator
Division of Environmental Response and Revitalization
Central District Office

cc: CDO File Copy

ec: Justin Burke, DERR-CO
Audrey Rush, DERR-CO
Jason Reed, DDAGW-CDO
Deborah Strayton, DERR-CDO
Cole Miller, DSW-CDO

Appendix C

Ohio EPA, October 29, 2013. Letter to Peter Forbes (AFCEC/CIBE), Subject: *Final Site Closure Plan for 16 sites, Rickenbacker ANGB, Project # 125-000685-108.*

This page is intentionally left blank.



**Environmental
Protection Agency**

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

October 29, 2013

Mr. Peter Forbes
AFRPA, Department of the Air Force
154 Development Drive
Suite G
Limestone, ME 04751-6122

**Re: Final Site Closure Plan for 16 sites
Rickenbacker ANGB
Project # 125-000685-108**

Dear Mr. Forbes:

The Ohio Environmental Protection Agency (EPA) has reviewed the *Final Site Closure Plan for 16 Sites*, received on October 17, 2013. Ohio EPA evaluated the closure plan pursuant to the Defense-State Memorandum of Agreement. Based on the information provided in the closure plan, Ohio EPA concurs with the conclusions and recommendations for each site, except for Environmental Baseline Survey (EBS) Site 2, Abandoned Sewage Water Treatment Plant. The sampling data submitted in the closure plan for EBS Site 2 was not collected at or near the potential sources (sludge beds and tanks). Environmental samples must be biased to potential sources or source areas to adequately demonstrate that unrestricted land use applies.

If you have any questions, please contact me at (614) 728-3830.

Sincerely,

Fred Myers
Site Coordinator
Division of Environmental Response and Revitalization
Central District Office

ec: Justin Burke, DERR-CO
Audrey Rush, DERR-CO
Jason Reed, DDAGW-CDO
Deborah Strayton, DERR-CDO
Jeri Main Savelle, File Copy

FM/ct 12500685108 RANG 16 add sites concur final2

Central District Office
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

614 | 728 3778
614 | 728 3898 (fax)
www.epa.ohio.gov