Draft Final
ENVIRONMENTAL ASSESSMENT FOR THE DECONSTRUCTION AND RECONFIGURATION OF THE ABOVEGROUND FUEL STORAGE TANK FARM AT WRIGHT-PATTERSON AIR FORCE BASE, OHIO

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June 2018

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
µg/m^3	Microgram(s) per cubic meter
ACM	Asbestos-containing material
AFCEC	Air Force Civil Engineer Center
AFI	Air Force Instruction
AICUZ	Air Installation Compatible Use Zone
AFOSH	Air Force Occupational and Environmental Safety, Fire Protection, and Health
AFPD	Air Force Policy Directive
APE	Area of Potential Effect
AQCR	Air quality control region
AST	Aboveground storage tank
BASH	Bird/Wildlife Aircraft Strike Hazard
BHE	BHE Environmental
BMP	Best management practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
CO	Carbon monoxide
CO_2	Carbon dioxide
dB	Decibel(s)
DLA-E	Defense Logistics Agency–Energy
DNL	Day-night average sound level
DoD	Department of Defense
EA	EA Engineering, Science, and Technology, Inc., PBC
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
ft	Foot (feet)
gal	Gallon(s)
GHG	Greenhouse gas
HDPE	High-density polyethylene

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

INRMP	Integrated Natural Resource Management Plan
IRP	Installation Restoration Program
JAA	Jet A aviation fuel
LBP	Lead-based paint
LUC	Land Use Control
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standard for Hazardous Air Pollutants
NFA	No Further Action
NO_2	Nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
ODNR	Ohio Department of Natural Resources
OEPA	Ohio Environmental Protection Agency
OSHA	Occupational Safety and Health Administration
OU	Operational Units
PLM	Polarized light microscopy
$PM_{2.5}$	Particulate matter equal to or less than 2.5 microns in diameter
PM_{10}	Particulate matter equal to or less than 10 microns in diameter
PPE	Personal protective equipment
PSD	Prevention of significant deterioration
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_2	Sulfur dioxide
TMDL	Total Maximum Daily Load
USAF	U.S. Air Force
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
WPAFB	Wright-Patterson Air Force Base

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1. PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

This chapter provides a statement of the purpose and need for the Proposed Action, the project setting, a background description of the project area, and applicable regulatory requirements.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

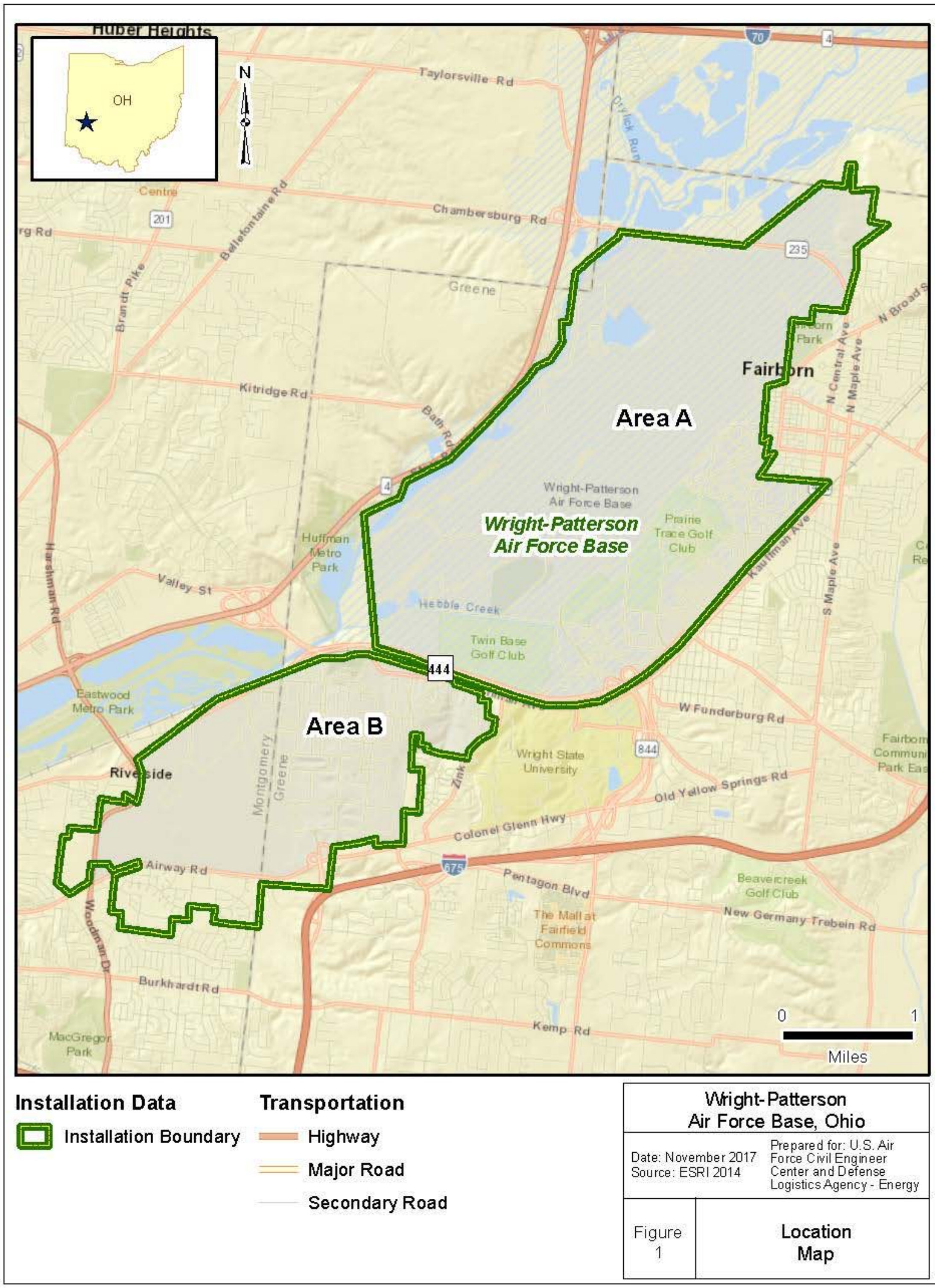
The purpose of the Proposed Action is to eliminate aging infrastructure no longer required to meet the Department of Defense (DoD) mission, through the deconstruction and disposal of nine aboveground storage tanks (ASTs) and associated pipelines. An existing pipeline will be reconfigured/ modified to connect to the three existing adjacent ASTs that will remain in use in the bulk fuel farm.

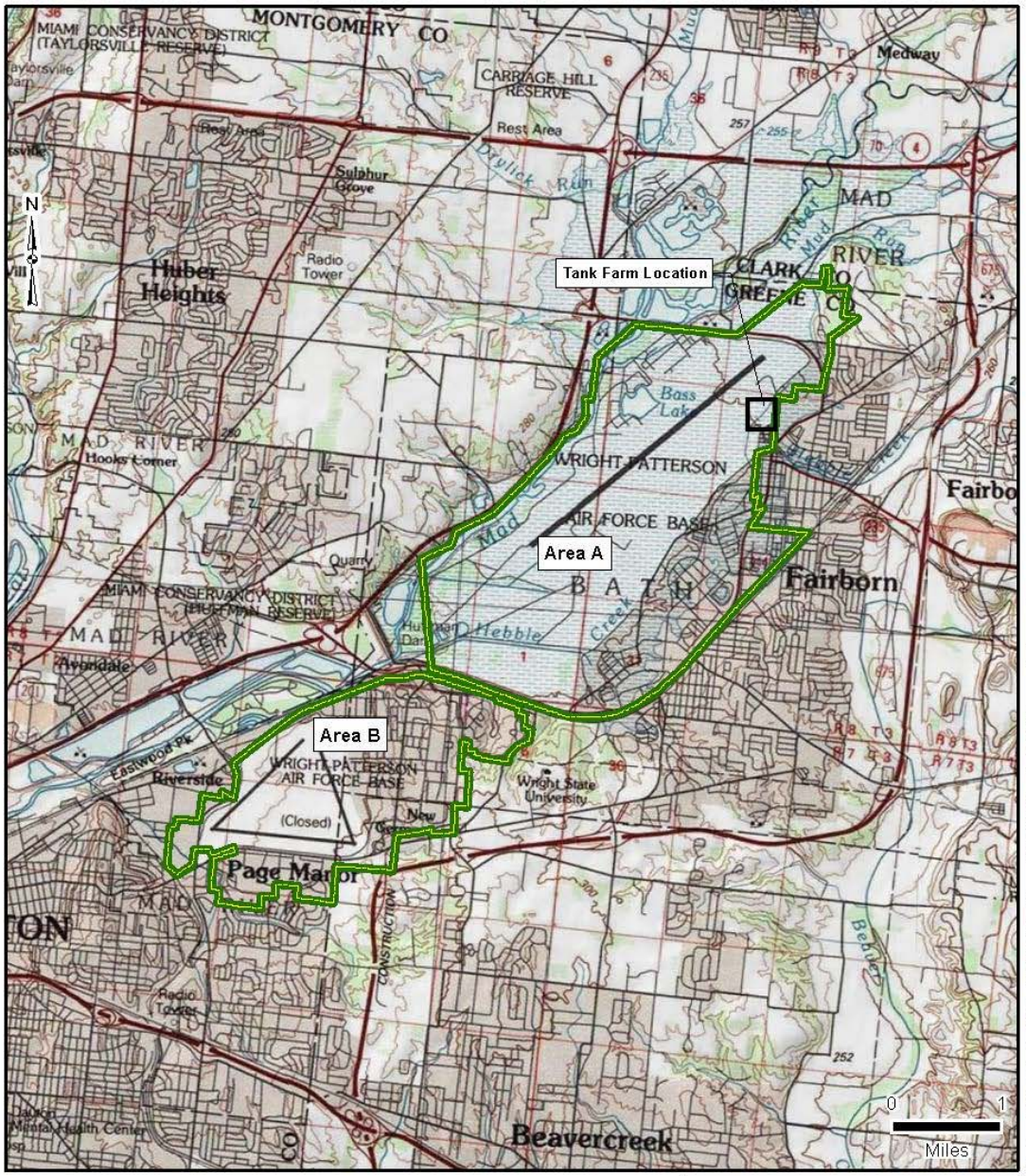
The project is needed because the fuel capacity provided by these ASTs is no longer necessary to support the mission of Wright-Patterson Air Force Base (WPAFB). Historically, WPAFB supported Strategic Air Command with a full-time flying mission. Currently, WPAFB supports a reserve flying mission, which is part time. Therefore, the need for ASTs has decreased at WPAFB. In addition, removing the tanks reduces the costs and responsibility associated with Defense Logistics Agency–Energy (DLA-E) operation and maintenance of the tanks. Most of the ASTs have been out of service for several years, and there are no future plans for their return to service.

1.3 PROJECT LOCATION

WPAFB is located in Greene and Montgomery counties, Ohio, approximately 10 miles east of Dayton, Ohio (Figures 1 and 2). WPAFB encompasses 8,145 acres and is classified as non-industrial with mixed development. The physical layout of the installation is divided into two distinct areas: Area A and Area B (Figures 1 and 2). Area A primarily houses administrative functions, and contains the Headquarters for the Air Force Materiel Command, National Air and Space Intelligence Center, the Wright-Patterson Medical Center, and the military housing area. Area A also encompasses the only active airfield on-Base and houses the headquarters for the 88th Air Base Wing; Kittyhawk Community Center; military family housing area; and several morale, welfare, and recreation facilities (WPAFB 2016). Area B is separated from Area A by State Route 444. Area B is principally comprised of research, development, and education functions and contains the Life Cycle Management Center, Wright Laboratory, the Air Force Institute of Technology, and the National Museum of the U.S. Air Force (USAF) (WPAFB 2016).

The bulk fuel farm is located east of the airfield in Area A. The bulk fuel farm consists of an existing AST farm located at 5785 Skeel Avenue, Area A, on the northeastern portion of WPAFB (Figure 3). The tank farm encompasses approximately 20 acres of land used for loading/unloading and storing fuel and associated easements (Weston Solutions 2012).


OH
N
Huber Heights
Taylorsville Rd
Chambersburg Rd
Bellefontaine Rd
Brandt Pike
Centre
Greene
Kitridge Rd
Bath Rd
Fairborn
Area A
Wright-Patterson Air Force Base
Wright-Patterson Air Force Base
Prairie Trace Golf Club
Huffman Metro Park
Valley St
Harshman Rd
Hebble Creek
Twin Base Golf Club
Kauffman Ave
S Maple Ave
N Central Ave
N Maple Ave
N Broad St
444
Eastwood Metro Park
Area B
Riverside
Montgomery
Greene
W Funderburg Rd
Wright State University
Old Yellow Springs Rd
Colonel Glenn Hwy
Zink
Airway Rd
Pentagon Blvd
Beavercreek Golf Club
New Germany Trebein Rd
The Mall at Fairfield Commons
Woodman Dr
Burkhardt Rd
Kemp Rd
MacGregor Park
Fairborn Community Park East
0
1
Miles
Installation Data
Installation Boundary
Transportation
Highway
Major Road
Secondary Road
Wright-Patterson Air Force Base, Ohio
Date: November 2017
Source: ESRI 2014
Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 1
Location Map



Installation Data

Installation Boundary

Wright-Patterson Air Force Base, Ohio	
Date: November 2017 Source: ESRI 2014	Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 2	USGS Topographic Map


N
Tank Farm Location
444
0
1
Miles
Installation Data
Installation Boundary
Wright-Patterson
Air Force Base, Ohio
Date: November 2017
Source: ESRI 2014
Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 3
Site Plan

1.4 BACKGROUND

WPAFB has been a leader in military aviation development from the time of airplane inventors Wilber and Orville Wright to today's aerospace age. The base is headquarters for a vast, worldwide logistics system, a world-class laboratory research function, and is the foremost acquisition and development center in the USAF. WPAFB houses dozens of associate organizations representing a broad spectrum of Air Force and DoD activities. The 88th Air Base Wing, the host unit, operates the airfield, maintains all infrastructure, and provides security, communications, medical, legal, personnel, finance, transportation, air traffic control, weather forecasting, public affairs, recreation, and chaplain services (WPAFB undated).

Originally the 445th Airlift Wing was activated as a reserve fighter-bomber wing in July 1952. The 445th Airlift Wing was reactivated at WPAFB on 1 October 1994 when the former 906th Fighter Group and 907th Tactical Airlift Group combined. Since reactivating, the 445th Airlift Wing provides worldwide airlift of troops, supplies, and operational support to almost every Air Force contingency. The mission of the 445th Airlift Wing is to attain and maintain operational readiness, provide strategic transport of personnel and equipment, provide aeromedical evacuation, and recruit and train toward these goals. The wing converted to flying C-17s after the USAF retired the aging C-5s in 2011 (WPAFB undated).

WPAFB contains two airfields. The airfield at Patterson Field, in Area A, is the principle site for aircraft operations at WPAFB. The airfield at Wright Field in Area B is used for the arrival of aircraft for the National Museum of the United States Air Force. Portions of the airfield in Area B are used for vehicle circulation and parking. Both airfields have associated taxiways and glideslopes associated with safety and airfield operations clearance zones.

The bulk fuel farm consists of an existing AST farm located at 5785 Skeel Avenue, Area A on the northeastern portion of WPAFB. The WPAFB bulk fuel farm serves as a bulk storage facility that is operated under permit by the DLA-E for the receipt, storage, and distribution of motor vehicle gasoline, diesel, Jet A aviation fuel (JAA), and deicing fluid (propylene glycol). The bulk storage tanks consist of ten 10,000-barrel JAA ASTs; one 20,000-barrel JAA AST; one 5,000-barrel diesel AST; one 15,000-gallon (gal) gasoline AST; and two 25,000-gal propylene glycol ASTs. Structures onsite include support structures (office building and Pumphouse), along with loading/unloading manifolds (loading pads and truck loading rack), and other ancillary facilities (Figure 4). The JAA ASTs supported the 445th Airlift Wing flying mission. Over time, the JAA ASTs were used less as there was a decline in the 445th Airlift Wing's flying mission as it went from a Strategic Air Command to a reserve flying mission. This unit is focusing more on research and development and/or other evolving missions.

Each of the tanks that stored JAA are constructed of steel and are located within individually diked areas that include a surface liner. The tanks contain internal floating roofs and are installed on concrete pads. Fuel is delivered to the tanks via a receipt line that originates in the off-load area to the north of the tank farm through a manifold to each individual tank. Fuel is issued from each tank via individual issue pipelines connected via manifold within the diked area and supply a filling station near the northwest corner of the tank farm. Storm drains are located

within the tank farm that drain to an onsite oil/water separator and discharge at an outfall located west across the airfield runways. Additionally, water collected at the tank bottoms is discharged to a secondary oil/water separator via individual drainage lines that originate at each tank.

The 15,000-gal AST that stored gasoline is located in a diked area separate from and west of the bulk aviation fuel tanks (Figure 4). The tank is steel construction and is installed on a concrete pad. Gasoline is transferred between the tank and a fuel loading and offloading pad east of the tank via underground piping that surfaces at the fueling station.

Each bulk aviation fuel tank is connected by a common manifold that is serviced by a fire suppression line originating on the east side of the pump house. The gasoline tank is not serviced by the fire suppression system.

The tank farm area is enclosed within a fence and accessed via a gated entrance. The area is adjoined to the north and west by the airfield, to the south by landscaped areas and structures associated with airfield operations, and to the east by Skeel Avenue, beyond which are athletic fields, the City of Fairborn Division of Water maintenance yard, and a water tower.

Installation Data

1.5 REGULATORY COMPLIANCE REQUIREMENTS

1.5.1 National Environmental Policy Act

Under the National Environmental Policy Act of 1969 (NEPA), federal agencies are required to assess the environmental consequences of their Proposed Actions systematically during the decision-making process. The intent of NEPA is to protect, restore, or enhance the environment through well-informed federal decisions. The NEPA process evaluates potential environmental consequences associated with a Proposed Action and considers alternative courses of action. The Council on Environmental Quality (CEQ) was established under NEPA to implement and oversee federal policy in this process. In 1978, CEQ issued regulations implementing the process (40 Code of Federal Regulations [CFR] Parts 1500–1508, Regulations for Implementing the Procedural Provisions of the NEPA) and specified the following reasons to prepare an Environmental Assessment:

- Briefly provide evidence and analysis for determining whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact (FONSI)

- Provide evidence and analysis for determining whether to prepare a Finding of No Practicable Alternative with the FONSI should the Proposed Action impact a floodplain or navigable waterway

- Aid in an agency's compliance with NEPA when an Environmental Impact Statement is unnecessary

- Facilitate preparation of an Environmental Impact Statement when one is necessary.

USAF has CEQ-approved implementing regulations for NEPA, within the Environmental Impact Analysis Process, as set forth in 32 CFR Part 989, as amended.

The NEPA process provides the opportunity to consider additional data, changes to the project, and additional alternatives, as well as an opportunity for public comment on those alternatives. The Environmental Assessment and FONSI will provide recommendations using the most recent data collected that will enable project proponents to make decisions that *are based on an understanding of environmental consequences, and take actions that protect, restore, and enhance the environment* (40 CFR Section 1500.1), through the avoidance or minimization of any impacts during deconstruction activities.

In accordance with Air Force Instruction (AFI) 32-7061, *The Environmental Impact Analysis Process (EIAP)*, as promulgated at 32 CFR Part 989, upon completion of the Environmental Assessment review and consultation process, the project sponsor, USAF, would determine whether the Proposed Action would result in significant impacts to the environment or other resources. If significant impacts are expected to result, the USAF would then be required to decide whether to move forward with the development of an Environmental Impact Statement or

to abandon the Proposed Action altogether. If no significant impacts are expected, then the USAF can publish a FONSI and move forward with the Proposed Action as such.

1.5.2 Applicable Environmental and Regulatory Compliance

To comply with NEPA, the planning and decision-making process for federal actions involves a study of relevant environmental statutes and regulations. The NEPA process, however, does not replace procedural or substantive requirements of other environmental statutes and regulations. It addresses them collectively in the form of an Environmental Assessment or Environmental Impact Statement, which enables the decision maker to have a comprehensive view of major environmental issues and requirements associated with a Proposed Action. According to CEQ regulations, the requirements of NEPA must be integrated "with other planning and environmental review procedures required by law or by agency so that all such procedures run concurrently rather than consecutively."

Air Force Policy Directive (AFPD) 32-70, Environmental Quality, states that the USAF will comply with applicable federal, state, and local environmental laws and regulations, including NEPA. Through the analysis that will be conducted as part of the Environmental Assessment, the Proposed Action and alternatives will be assessed to ensure compliance with all applicable laws and regulations, including the following:

- Clean Air Act (42 U.S. Code [U.S.C.] § 7401 et seq.)
- Clean Water Act (33 U.S.C. § 1251 et seq.)
- Endangered Species Act (16 U.S.C. § 1531 et seq.)
- National Historic Preservation Act (16 U.S.C. § 470 et seq.)
- Archaeological Resources Protection Act (16 U.S.C. §§ 470aa-470mm)
- Resource Conservation and Recovery Act (42 U.S.C. § 6901 et seq.)
- Migratory Bird Treaty Act (16 U.S.C. § 703-712)
- Toxic Substances Control Act of 1970 (15 U.S.C. § 2601-2671)
- Occupational Safety and Health Act (29 U.S.C. § 651)
- Executive Order (EO) 11988, *Floodplain Management*
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*
- AFI 91-202, The US Air Force Mishap Prevention Program
- AFI 32-7044, Storage Tank Environmental Compliance.

The Environmental Assessment will analyze 11 resource areas: Land Use, Air Quality, Noise, Geology and Soils, Water Resources, Biological Resources, Cultural Resources, Socioeconomic Resources, Infrastructure, Health and Safety, and Hazardous Materials and Waste.

Removing the tanks reduces DLA-E's costs and responsibility associated with the operation and maintenance of the tanks. Removal would be conducted in accordance with the following directives and guidance:

- AFPD 32-90, Real Property Asset Management, which provides guidance for lands, buildings, structures, utility, systems, improvements, and appurtenances. The AFPD states:

  The USAF must use a systematic approach to determine if retaining property assets provide the best value to the USAF. Otherwise, the USAF shall leverage market-based principles in the disposition of its excess real property assets, in order to reduce overall installation sustainment and custody costs, while following federal statues and Department of Defense regulations.

- AFI 32-9004, Disposal of Real Property, requires that the USAF dispose of excess real property that does not support the USAF mission. Because the tanks have not been used in several years, DLA-E proposes to deconstruct the inactive tanks and restore the area to a natural state.

1.5.3 Agency Coordination

NEPA requirements help ensure that environmental information is made available to the public during the decision-making process and prior to actions being taken. A premise of NEPA is that the quality of federal decisions will be enhanced if proponents provide information to the public and involve the public in the planning process. CEQ regulations implementing NEPA specifically state, "There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a Proposed Action. This process shall be termed scoping." WPAFB coordinated with relevant federal and state agencies on 20 October 2017. In addition, WPAFB also conducted government to government tribal consultation. Letters included a description of the purpose of the project, the Proposed Action, and alternatives. Each letter and agency responses are included in Appendix A. WPAFB will consider federal, state, and local views in implementing the Proposed Action or alternatives. Agency responses will be incorporated into the analysis of potential environmental impacts as part of the Environmental Assessment. The following federal and state agencies were consulted:

<u>Federal Agencies:</u>

- U.S. Fish and Wildlife Service
- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers
- U.S. Department of Housing and Urban Development.

<u>State Agencies:</u>

- Ohio Department of Natural Resources
- Ohio Department of Transportation
- Miami Conservancy District
- Ohio Historic Preservation Office.

Responses were received from the U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers, Miami Conservancy District, and Ohio Historic Preservation Office. No issues were identified in the responses (Appendix A).

1.5.3.1 Government to Government Consultation

EO 13175, *Consultation and Coordination with Tribal Governments*, directs federal agencies to coordinate and consult with Native American tribal governments whose interest might be directly or substantially affected by activities on federally administrated lands. Consistent with EO 13175; Department of Defense Instruction 4710.02, *Interactions with Federally-Recognized Tribes*; and AFI 90-2002, *Air Force Interaction with Federally-Recognized Tribes*, federally recognized tribes that are historically affiliated with lands near the Proposed Action have been invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation or the interagency coordination process, as it requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The Installation Commander is the point-of-contact for consultation with Native American tribes. Government-to-government consultation is included in Appendix A. The following tribal governments were consulted:

Tribal Governments:

- Sac and Fox of the Mississippi in Iowa
- Saginaw Chippewa Indian Tribe
- Keweenaw Bay Indian Community
- Cherokee Nation
- Seneca Nation of Indians
- Seneca Cayuga Tribe of Oklahoma.

A response was received from the Seneca Nation of Indians. No issues were identified in the response (Appendix A). Additional attempts to consult with the tribal governments were made through phone calls. Appendix A includes a Memorandum for Record which documents the Section 106 consultation efforts with the tribal governments.

1.6 SCOPE OF THE ENVIRONMENTAL ANALYSIS

The Environmental Assessment is organized into six chapters and includes two appendices as follows:

- ***Chapter 1*** provides the project location, project description, purpose and need for the Proposed Action, and regulatory compliance requirements.

- ***Chapter 2*** contains a description of the Proposed Action and alternatives, including the No Action Alternative.

- ***Chapter 3*** contains a description of the environmental resources and baseline conditions that could potentially be affected by the Proposed Action and alternatives, and presents an analysis of the potential environmental consequences of implementing the Proposed Action and the No Action alternative.

- ***Chapter 4*** includes a description of the environmental consequences and an analysis of potential cumulative impacts.

- ***Chapter 5*** lists the preparers of the Environmental Assessment.

- ***Chapter 6*** lists the references used in the preparation of the Environmental Assessment.

- ***Appendix A*** lists the agencies included in the initial coordination, coordination letters, and responses received.

- ***Appendix B*** provides the air modeling data.

1.6.1 Issues and Concerns Eliminated from Detailed Study

NEPA, which is implemented through CEQ regulations, requires federal agencies to consider alternatives to proposed actions and to analyze impacts to those alternatives. Potential impacts of the proposed alternatives described in this document will be assessed in accordance with the AFI 32-7061, *The Environmental Impact Analysis Process*, which requires that impacts to resources be analyzed in terms of context, duration, and intensity. Environmental issues analyzed in this Environmental Assessment include the following:

- Land Use
- Air Quality
- Noise
- Geological Resources
- Water Resources
- Biological Resources
- Cultural Resources
- Socioeconomic Resources
- Infrastructure
- Health and Safety
- Hazardous Materials and Waste.

The USAF initially considered a broad range of potential environmental impacts associated with the implementation of the Proposed Action and No Action Alternative. Because of the nature of activities being proposed, the potential for environmental impacts on many of the environmental resource areas normally evaluated in an Environmental Assessment in detail does not exist for this project. In accordance with CEQ guidance, all environmental resources were initially considered, but some were subsequently eliminated from further consideration in the

Environmental Assessment if a determination was made that there was no potential for impacts. The following resources were determined to have limited potential for impacts and therefore are not being evaluated in this Environmental Assessment.

Environmental Justice: EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low- Income Populations*, pertains to environmental justice issues and relates to various socioeconomic groups and the disproportionate impacts that could be imposed on them. This EO requires that federal agencies' actions substantially affecting human health or the environment do not exclude persons, deny persons benefits, or subject persons to discrimination because of their race, color, or national origin. The EO was enacted to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Consideration of environmental justice concerns includes race, ethnicity, and the poverty status of populations in the vicinity of a Proposed Action.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* further requires that all federal agencies address the environmental health risks and safety risks on children. The deconstruction and reconfiguration activities with the Proposed Action would be contained within the WPAFB boundaries and would not impact on- or off-base communities. Although minor, short-term impacts to traffic in the area would be anticipated, a traffic construction route has been established to lessen the potential impact of construction traffic. Therefore, no populations (minority, low-income, or otherwise) would be disproportionately or adversely impacted and no adverse impact with regard to environmental justice would result. Implementation of the Proposed Action would not result in increased exposure of children to environmental health risks or safety risks such as those associated with the generation, use, or storage of hazardous materials. Standard construction site safety precautions (e.g., fencing and other security measures) would reduce potential risks to minimal levels and any potential impacts to children would be negligible and short term.

1.7 NOTICE OF AVAILABILITY

EO 11988 *Floodplain Management*, requires federal agencies to conduct a 30-day public scoping period announcing an action is being proposed within a floodplain—" Each agency shall provide opportunity for early public review of any plans or proposals for actions in floodplains, in accordance with § 2(b) of EO 11514, as amended, including the development of procedures to accomplish this objective for federal actions whose impact is not significant enough to require the preparation of an environmental impact statement under § 102(2)(C) of NEPA of 1969, as amended." An early 30-day public notification was published in the *Fairborn Daily Herald* on 27 December 2017 and the *Dayton Daily News* on 29 December 2017. This notification informed the public that WPAFB is planning an action within the floodplain. No public comments were received during the comment period.

A Notice of Availability for the Draft Final Environmental Assessment was published in the *Dayton Daily News* and the *Fairborn Daily Herald* initiating a 30-day public review and comment period. A hard copy of the Draft Final Environmental Assessment is available at the

Fairborn Branch of the Greene County Public Library located at 1 East Main Street in Fairborn, Ohio.

An electronic copy of the Environmental Assessment is also provided on the WPAFB Environmental Management website at *http://www.wpafb.af.mil/Units/cev1/*. The Notice of Availability and comments received will be included in Appendix A of the Final Environmental Assessment.

2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Proposed Action and alternatives considered but eliminated from further detailed analysis. This chapter also discusses the No Action Alternative, as required under CEQ regulations (40 CFR § 1502.14[d]).

2.1 PROCESS FOR SELECTING ALTERNATIVES

The following selection criteria were used to evaluate the Proposed Action and alternatives:

Selection Criteria 1: Required Fuel Capacity to Support the Mission – Currently the bulk fuel farm has the tank capacity to store 5.3 million gallons of fuel. Over the past ten years, the average use of fuel has decrease to approximately 484,000 gallons per month (Table 2-1). In October 2014, the jet fuel authorized maximum inventory level for the bulk fuel farm was reduced to 650,000 gallons. At this time, WPAFB also switched from using JP-8 fuel to Jet-A fuel, which is commercially available and does not require DLA-Energy to preposition large amounts of fuel at the base as it has in the past. Bulk fuel farm tank capacity should be reduced to 1.2 million gallons of fuel, which would allow for storing of the authorized inventory limit of 650,000 gallons while retaining approximately 550,000 gallons of excess capacity as working ullage. This exceeds all known mission requirements including the Petroleum War Reserve Stock level, which is approximately 259,000 gallons. Demolishing the bulk fuel farm tanks will right-size the system avoiding the cost of maintaining or repairing excess infrastructure in accordance with DLA-Energy and Air Force Petroleum Office good management practices. IAW DLA-Energy P-15, Defense Capital Working Fund Capitalization, infrastructure that is excess to the mission needs may be returned to the Service relieving DLA of the responsibility to fund maintenance and repair of excess tankage. If the tanks are not demolished now, any future maintenance, repair or demolition could become the responsibility of the base.

Table 2-1. Annual Use of Jet Fuel and Diesel Fuel at WPAFB

Year	Jet Fuel (gallons)	Diesel (gallons)
FY08	5,930,789	100,522
FY09	5,429,716	108,008
FY10	4,373,589	96,125
FY11	4,574,417	108,757
FY12	5,956,706	58,838
FY13	6,982,282	89,833
FY14	6,106,072	94,098
FY15	5,510,081	95,119
FY16	6,182,535	80,454
FY17	5,976,804	102,274

Selection Criteria 2: Meet Anti-Terrorism/Force Protection (AT/FP) Requirements – AFI 10-245, *Antiterrorism* is a high priority, comprehensive program which focuses on defensive measures to reduce the risk to AF personnel and property to terrorist acts. ATFP systems are designed to

reduce the vulnerability of and to protect lives, facilities, equipment and information. To reduce risk of terrorist acts, remaining bulk fuel tanks should be furthest from the installation fence line. The three bulk fuel tanks proposed to remain are located furthest from the security fence. Tank 255 would be the closest of the remaining tanks at approximately 235 feet from the fence line.

Selection Criteria 3 – Support Hydrant System – Location of the proposed remaining bulk fuel tanks must support WPAFB's hydrant system. Tanks 254 and 255 are directly tied into the Type III hydrant system, without these tanks there would be no other way to get fuel to the hydrant system. Tank 254 is remaining as a bulk storage tank to support the fill stands and transfer fuel to the West Ramp hydrant system on the other side of the airfield.

2.2 PROPOSED ACTION

Air Force Civil Engineer Center (AFCEC), DLA-E, and WPAFB are working together to deconstruct and remove nine storage tanks and associated dikes, pipelines, gasoline loading/unloading station (concrete pad), and other infrastructure associated with the nine deconstructed tanks (Figure 5). As shown in Figure 4, the fuel tanks to be deconstructed include seven 10,000-barrel jet fuel ASTs, one 20,000-barrel jet fuel AST, and one 15,000-gal gasoline AST. None of the jet fuel pipelines are located underground; however, portions of the gasoline piping are underground. Stormwater management infrastructure for the bulk tank farm area would be removed. The inventory of assets shown in Table 2-2 has been identified by the USAF and DLA-E as those that are included in the scope of this project. The deconstruction process would involve the following:

- Construction traffic would enter the installation through Gate 16A and continue northeast on Communications Boulevard, and turn left onto Skeel Avenue. Skeel Avenue would be followed past the intersection with Littrell Road where the construction access entrance to the bulk fuel farm would be located (Figure 6).

- Construction vehicles would remove approximately 1,075 loads of waste from the bulk fuel farm for off-Base disposal. The vehicles would exit the installation through Gate 26A. Vehicles would turn left out of the Bulk Fuel Farm onto Skeel Avenue, then take the right fork onto Loop Road. Loop Road would be followed to Medway Road (Gate 26A) (Figure 6). Materials suitable for recycling on the installation would be segregated and transported to the Base Recycling Center (Building 293), as detailed below.

- Asbestos-containing material (ACM) would undergo abatement prior to the start of deconstruction, and the residual contents would be properly disposed of as hazardous material in accordance with federal and state regulations.

- The ASTs would be vented to remove hazardous vapors. Monitoring of the interior space of the ASTs would be performed to verify that each AST has been properly vented.

- Cleaning (i.e., pressure wash) interior surfaces; containerization and characterization of the rinsate, and proper disposal of wastes.

- Each tank and pipeline would be dismantled. Pipelines and pipe supports that penetrate the walls and floor of the containment dikes that are to remain would be abandoned in place. All other steel associated with the removal would be recycled.

- Recyclable materials including approximately 956 tons of steel would be transported to the WPAFB Recycling Center. The Recycling Center would provide roll-off containers at the project location and would be picked up when recyclable materials are loaded into the provided containers. If the WPAFB Recycling Center is unable to have roll-off containers available, the construction contractor would provide the containers. Construction vehicles would transport recyclable materials to the WPAFB Recycling Center. Upon exiting the bulk fuel farm onto Skeel Avenue, construction vehicles would turn left and follow Skeel Avenue and turn left onto Hebble Creek Road. Hebble Creek Road would be followed to F Road, then vehicles would take a right onto I Road. The recycling center entrance is located on the left. From the recycling center, the path would be retraced, past the entrance to the bulk fuel farm on Skeel Avenue, then vehicles would take the right fork onto Loop Road. Loop Road would be followed to Medway Road (Gate 26A) (Figure 6).

- The concrete tank foundations, ancillary features, containment lining, and other non-recyclable components associated with the infrastructure and containment areas would be deconstructed and staged for disposal. Solid waste would include approximately 237 tons of gravel recycling, 1,651 tons of construction and demolition waste, 837 tons of dike cover material, and 11,875 tons of soil disposal.

- Stormwater infrastructure (i.e., pipes and catch basins) would be removed and disposed.

- Fire suppression piping would be removed and disposed. Any pipes/pipe supports that penetrate the berms and floors of the containment dikes scheduled to remain would be abandoned in place.

- The soil from the containment dikes and any soil encountered during excavations would be excavated and screened using a photo-ionization detector, to facilitate segregation of soil on the basis of petroleum impacts. Soil deemed to be “clean” may be used as fill if needed at the fuel farm area, or transported to a clean fill stockpile as designated by WPAFB personnel. Any excavated soil found to be impacted by petroleum would be properly disposed.

- Material that is not able to be recycled on the installation would be transported offsite from the bulk fuel farm through Gate 26A, on the north side of Area A.

- The removal of Tank No. 310 would occur within the 100-year floodplain and would cause temporary impacts to the floodplain during deconstruction of the tank. Best

management practices including sediment and erosion controls would be implemented to prevent disturbance to adjacent areas of the floodplain.

After deconstruction activities, three aviation fuel operational ASTs with a total capacity of 30,000 barrels and a 5,000-barrel diesel AST would remain. The remaining three tanks have more than enough fuel capacity to support the mission at WPAFB. One of the aviation fuel tanks to remain has obstruction lighting in place. Obstruction lighting would be installed on the other two aviation fuel tanks to remain. As part of the action, one receipt feed line header would be reconfigured to tie into feed lines associated with the three aviation fuel ASTs that would remain in service. The reconfiguration of the feed line would extend from the feed line header, aboveground to the northwestern side of Tank Nos. 252, 251, and 250, then southeast along Tank No. 249 to the connection between Tank Nos. 249 and 254. This reconfigured pipeline would be sequenced so it is complete and operational prior to most of the remaining deconstruction work. New stormwater management and conveyance infrastructure would be installed. Four catch basins would be installed within the disturbed area of the Bulk Fuel Farm. One catch basin would be replaced in the gasoline loading/unloading area. One existing manhole would be replaced adjacent to the Bulk Fuel Farm and new storm drain pipes to serve the new infrastructure would be installed as needed.

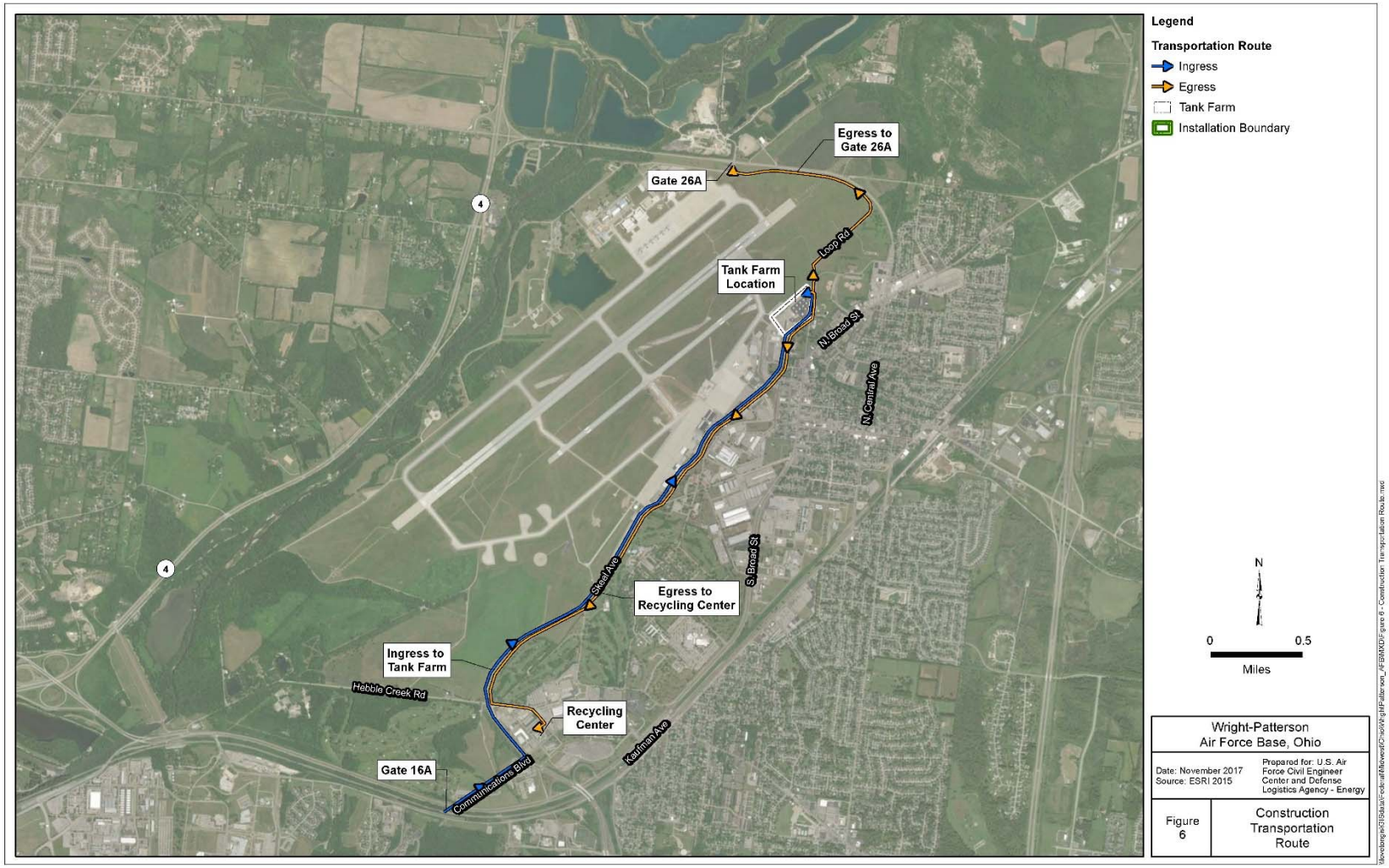
As shown in Figure 5, the area of deconstructed ASTs (Tank Nos. 250, 251, 252, 253, 256, 257, 258, 271, and 310) would be graded and reseeded with a native grass seed mix approved by WPAFB. The currently paved area of fuel lines and gasoline loading/unloading area associated with AST No. 310 would be graded and paved with asphalt. Figure 5 depicts the post-construction conceptual plan for the proposed action.


Legend
Reconfigured Receipt Feed Line
Seeded with Native Grass Seed
Paved with Asphalt
Note:
JAA = Jet A Aviation Fuel
Tank #253
Tank #252
Tank #251
Tank #257
Tank #250
Tank #256
Tank #249
Tank #255
Tank #258
Tank #254
Tank #271
Oil/Water Separator
JAA Load/Unload Station
Office Bldg. 30154
Pump House Bldg. 30159
Tank #272 (210,000-gal Diesel)
25,000-gal De-icer Tanks
Gasoline Loading/ Offloading Station
15,000-gal Gasoline (Tank #310)
Diesel Load/ Unload Station
Main Gate
N
0
200
Feet
Wright-Patterson Air Force Base, Ohio
Date: November 2017
Source: ESRI 2014
Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 5
Above Ground Storage Tank Bulk Fuel Farm Post Construction Reconfiguration and Site Restoration

Table 2-2 Bulk Fuel Storage Tanks Proposed for Deconstruction

Facility Number	Tank Number	Tank Size	Year Constructed	Contents	Current Status[(a)]
7049	250	10,000 barrel	1953	Jet A Aviation Fuel	Inspected and cleaned in September 2015. This tank is empty.
7050	251	10,000 barrel	1953	Jet A Aviation Fuel	Approximately 700 gallons of waste jet fuel AA remains in tank.
7015	252	10,000 barrel	1953	Jet A Aviation Fuel	Inspected and cleaned in September 2015. This tank is empty.
7016	253	10,000 barrel	1953	Jet A Aviation Fuel	Inspected and cleaned in August 2009. This tank is empty.
7053	256	10,000 barrel	1953	Jet A Aviation Fuel	Currently in-use until repairs to tanks numbers 249 and 254 are completed. Approximately 700 gallons of waste jet fuel AA remains in the tank.
7017	257	10,000 barrel	1953	Jet A Aviation Fuel	Inspected and cleaned in September 2009. This tank is empty.
7060	258	10,000 barrel	1953	Jet A Aviation Fuel	Inspected and cleaned in March 2000. This tank is empty.
7009	271	20,000 barrel	1960	Jet A Aviation Fuel	Inspected and cleaned in April 2000. This tank is empty.
7097	310	15,000 gallon	1968	Gasoline	Tank is empty. Approximately 300 gallons or less of waste unleaded fuel remains in the lines. This facility includes fill station and dike.

(a) Status as reported in the Statement of Requirements for the task order, dated February 2017 and as updated by Wright-Patterson Air Force Base personnel in September 2017.


Legend
Transportation Route
Ingress
Egress
Tank Farm
Installation Boundary
Egress to Gate 26A
Gate 26A
Loop Rd
Tank Farm Location
N Broad St
N Central Ave
S Broad St
Stroat Ave
Egress to Recycling Center
Ingress to Tank Farm
Hebble Creek Rd
Recycling Center
Kaufman Ave
Gate 16A
Communications Blvd
4
N
0
0.5
Miles
Wright-Patterson Air Force Base, Ohio
Date: November 2017
Source: ESRI 2015
Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 6
Construction Transportation Route

2.3 OTHER ALTERNATIVES CONSIDERED

2.3.1 No Action Alternative

Under the No Action Alternative, DLA–E would continue operation and maintenance of the bulk tanks, and there would be no deconstruction of the tanks. Current caretaker and maintenance operations would continue. Under this alternative, the tanks would, in time, corrode and deteriorate. This alternative would result in continued maintenance costs and other responsibilities of tank ownership.

CEQ regulations require consideration of the No Action Alternative for all Proposed Actions. The No Action Alternative serves as a baseline against which the impacts of the Proposed Action and other potential alternatives can be compared and consequently be carried forward for further evaluation in the Environmental Assessment.

2.4 COMPARISON OF ENVIRONMENTAL CONSEQUENCES

Table 2-3 provides a brief summary and comparison of potential impacts under each alternative.

Table 2-3 Comparison of Environmental Consequences

Resource Area	Proposed Action	No Action Alternative
Land Use	Beneficial impacts are expected as a result of the Proposed Action.	None – No change
Air Quality	Short-term, direct, moderate, temporary adverse impacts are expected from deconstruction and regrading of the site. Long-term, beneficial impacts are expected from the reduction of potential emissions following the removal of the ASTs.	None – No change
Noise	Short-term, direct, moderate, and adverse impacts are expected from implementation of the Proposed Action. The adverse effects would be short term and, following completion of the deconstruction and site restoration activity, the noise levels would return to normal conditions consistent with the current site usage as a bulk fuel farm.	None – No change
Geological Resources	Short-term, minor adverse impacts from the excavation and movement of soil at the site. Long-term moderate, beneficial impacts due to the removal of any petroleum-impacted soil encountered.	None – No change

Table 2-3 Comparison of Environmental Consequences

Resource Area	Proposed Action	No Action Alternative
Water Resources	***Surface Water*** Short-term, direct and indirect adverse impacts would result from the implementation of the Proposed Action due to potential surface water runoff. The implementation of best management practices would mitigate these impacts. No long-term impacts would result due to the implementation of the Proposed Action. An Ohio National Pollutant Discharge Elimination System construction stormwater general permit would be required. ***Groundwater*** No short-term impacts would occur to groundwater. Long-term direct, moderate and beneficial impacts would be expected to groundwater, particularly if petroleum-impacted soil is encountered during the excavation which could be adversely affecting groundwater quality. ***Floodplain*** Short-term, indirect, negligible impacts because a small portion of the site is located within the floodplain. Erosion and sedimentation controls would be implemented to prevent disturbance to adjacent areas of the floodplain. Long-term negligible, beneficial impacts would occur due to the replacement of impervious surfaces with vegetated surfaces. ***Wetlands*** No short-term or long-term impacts would be expected to wetlands because wetlands are not located within the Project Area.	No impact to surface water, floodplains, and wetlands. Long-term, minor, adverse impacts to groundwater due to the potential for petroleum-impacted soil to continue to be present.
Biological Resources	***Vegetation*** Long-term, beneficial impacts would occur from the seeding of the area with a native grass mixture. ***Wildlife*** Short-term, negligible impacts from an increase in noise during construction. Long-term, beneficial impacts due to an increase in grass/mowed habitat. To reduce Bird/Wildlife Aircraft Strike Hazard (BASH) risk, this grass habitat would be managed in accordance with Wright Patterson Air Force Base's (WPAFB's) BASH plan. ***Threatened and Endangered Species*** No short-term or long-term impacts would be expected as the Project Area does not support federal- or state-listed species.	None – No change

Table 2-3 Comparison of Environmental Consequences

Resource Area	Proposed Action	No Action Alternative
Cultural Resources	No short-term or long-term impacts would be expected to cultural resources because no known cultural resources are located in the Project Area, and the Project Area consists of previously disturbed soils.	None – No change
Socioeconomic Resources	Short-term, negligible, beneficial impacts would be expected on the local workforce and economy. No long-term impacts would be expected to socioeconomic resources as a result of implementing the Proposed Action.	None – No Change
Infrastructure	Short-term, direct, minor, adverse impacts are expected due to construction traffic. Long-term, minor, adverse impacts would occur due to the generation of solid waste and placement of waste at local landfills. Impacts would be reduced through the recycling of steel, plastic, concrete, gravel, and pavement.	None – No change
Health and Safety	Short-term negligible, temporary, adverse impacts expected on abatement workers; however, the use of personal protective equipment required of abatement workers will prevent any adverse impacts. No long-term impacts would be expected to health and safety.	None – No change
Hazardous Materials/Waste	Short- and long-term, direct, moderate, and beneficial impacts are expected to arise from the Proposed Action due to the abatement and proper disposal in a hazardous waste landfill equipped to accept these materials (asbestos-containing material and surfaces painted with lead-based paint, and hexavalent chromium).	Short-and long-term, moderate, adverse impact due to the presence and management of these materials.

3. AFFECTED ENVIRONMENT

All potentially relevant resource areas were considered for analysis in this Environmental Assessment. In compliance with NEPA and all other relevant regulations, only those resource areas considered potentially subject to impacts and with potentially significant issues are discussed below. This section includes discussions of land use, air quality, noise, geological resources, water resources, biological resources, cultural resources, socioeconomics, infrastructure, health and safety, hazardous materials and waste.

The following sections present a description of the environmental resources and baseline conditions that could potentially be affected from implementing the Proposed Action.

3.1 LAND USE

3.1.1 Definition of the Resource

Land use generally refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are coded in local zoning laws; however, there is not a nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use description definitions vary among jurisdictions. Natural conditions of property can be described or categorized as unimproved, undeveloped, conservation or preservation area, and natural or scenic area. Descriptive terms often used include residential, commercial, industrial, agricultural, institutional, and recreational.

In appropriate cases, the location and extent of a Proposed Action needs to be evaluated for its potential effects on the project area and adjacent land uses. The foremost factor affecting a Proposed Action in terms of land use is its compliance with any applicable land use or zoning regulations. Other relevant factors include matters such as existing land use at the project area, the types of land use on adjacent properties and their proximity to a Proposed Action, the duration of a proposed activity, and its "permanence."

3.1.2 Existing Conditions

WPAFB covers 8,145 acres and is divided into two areas. Area A supports administrative activities, airfield operations, maintenance, and civil engineering activities, and Area B generally focuses on research and development (WPAFB 2015). While it is divided into 12 land use categories for installation planning purposes as listed on Table 3-1, the parcel is zoned and has a land use as a military installation. The Action Area's existing and future land use is identified as industrial per the WPAFB General Plan (Woolpert 2001).

Table 3-1 Land Use Categories for Planning Purposes

Land Use Categories for Planning Purposes on Wright-Patterson Air Force Base	
Active and Inactive Airfield	Community Commercial
Aircraft Operations and Maintenance	Medical Services
Research and Development	Housing
Industrial	Outdoor Recreation
Administration	Open Space
Community Services	Water

Currently, the Action Area serves as an aboveground fuel storage tank farm. This tank farm currently supports aircraft operation and maintenance, as well as the use of gasoline and diesel by other vehicles and equipment at the base.

3.2 AIR QUALITY

3.2.1 Definition of the Resource

In accordance with the Federal Clean Air Act (CAA) (42 U.S. Code 7409) requirements, the air quality in a given region or area is measured by the ambient concentration of criteria pollutants in comparison with established standards. The air quality in a region is a result of not only the types and quantities of atmospheric pollutants and pollutant sources in an area, but also surface topography, the size of the topological "air basin," and the prevailing meteorological conditions.

***Ambient Air Quality Standards*—**Under the CAA, U.S. EPA developed National Ambient Air Quality Standards (NAAQS) for "criteria" pollutants that have been determined to affect human health and the environment. The NAAQS represent ambient concentrations that are protective of public health, including sensitive populations such as asthmatics, children and the elderly. The criteria pollutants include ozone (arising from emissions of volatile organic compounds and nitrogen oxides), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (including particulate matter equal to or less than 10 microns in diameter [PM_{10}] and particulate matter equal to or less than 2.5 microns in diameter [$PM_{2.5}$]), and lead (Pb) (40 CFR Part 50). Ohio has adopted the Federal NAAQS as its ambient air quality standards, which are presented in Table 3-2.

Table 3-2 National Ambient Air Quality Standards

Pollutant	Average Period	Federal Air Quality Standards			
		Primary Standard		Secondary Standard	
		Level	Statistic	Level	Statistic
Carbon Monoxide	8 Hour	9 ppm	Maximum	None	
Carbon Monoxide	1 Hour	35 ppm	Maximum		
Lead	Quarterly Average	0.15 µg/m^3	Maximum	Same as Primary	
Lead	Rolling 3 Month Average	0.15 µg/m^3			
Nitrogen Dioxide	Annual	0.053 ppm	Arithmetic Mean	Same as Primary	
Nitrogen Dioxide	1 Hour	0.100 ppm	3 Year Average	None	
Particulate Matter (PM_{10})	24 Hour	150 µg/m^3	Maximum	Same as Primary	
Particulate Matter ($PM_{2.5}$)	Annual	12 µg/m^3	Arithmetic Mean	15 µg/m^3	Arithmetic Mean
Particulate Matter ($PM_{2.5}$)	24 Hour	35 µg/m^3	3 Year Average	Same as Primary	
Ozone	8 Hour (2008 Standard)	75 ppb	3 Year Average	Same as Primary	
Sulfur Dioxide	3 Hour	None		0.5 ppm	Maximum
Sulfur Dioxide	1 Hour	0.075 ppm	3 Year Average	None	

NOTES: µg/m^3 = Microgram(s) per cubic meter.
$PM_{2.5}$ = Particulate matter less than 2.5 microns in diameter.
PM_{10} = Particulate matter less than 10 microns in diameter.
ppb = Parts per billion.
ppm = Parts per million.

Source: U.S. Environmental Protection Agency 2012.

***Attainment versus Non-Attainment and General Conformity*—**EPA classifies the air quality in an air quality control region (AQCR), or in subareas of an AQCR, according to whether the concentrations of criteria pollutants in ambient air exceed the NAAQS. Areas may be designated as either "attainment," "non-attainment," "maintenance," or "unclassified" for one or more of the NAAQS. Attainment means that the air quality within an AQCR is better than the NAAQS; non-attainment indicates that one or more criteria pollutant levels exceed NAAQS; maintenance indicates that an area was previously designated non-attainment but is now meeting the NAAQS; and an unclassified air quality designation by EPA means that there is not enough information to appropriately classify an AQCR. In Ohio, EPA has delegated the authority for ensuring compliance with the NAAQS to the Ohio EPA (OEPA), Division of Air Pollution Control. In accordance with the CAA, each state must develop a State Implementation Plan (SIP), which is a compilation of elements including emission inventories, regulations, policies, and infrastructure like monitoring networks, designed to enable the state to achieve compliance with the NAAQS within established timeframes.

The General Conformity Rule requires that any federal action meets the requirements of a SIP or Federal Implementation Plan. More specifically, CAA Conformity is ensured when a federal action does not cause a new violation of the NAAQS; contribute to an increase in the frequency

or severity of violations of NAAQS; or delay the timely attainment of any NAAQS, interim progress milestones, or other milestones toward achieving compliance with the NAAQS. The General Conformity Rule applies only to federal actions in non-attainment or maintenance areas.

Prevention of Significant Deterioration—Federal Prevention of Significant Deterioration (PSD) regulations apply in attainment areas to construction of new major stationary sources or major modifications to existing major sources. Major sources are those with the potential to emit 100/250 tons per year or more of any criteria pollutant, depending on the source category, and a significant modification to a major stationary source is one from which the net increase in criteria pollutant or greenhouse gas (GHG) emissions exceeds established significant emission rates. PSD regulations also define ambient air increments, limiting the allowable increases to any area's baseline air contaminant concentrations, based on the area's Class designation (40 CFR 52.21[c]).

Greenhouse Gas Emissions—GHGs are gaseous emissions that trap heat in the atmosphere. These emissions occur from natural processes and human activities. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane, and nitrous oxide. GHGs are primarily produced by the burning of fossil fuels and through industrial and biological processes. On 30 October 2009, EPA issued a final rule for mandatory GHG reporting from large GHG emissions sources in the United States. The purpose of the rule is to collect comprehensive and accurate data on CO_2 and other GHG emissions that can be used to inform future policy decisions. The first emissions report was due in 2011 for 2010 emissions.

3.2.2 Existing Air Quality

3.2.2.1 Climate

The climate of this region of Ohio is continental, characterized by seasonal variability with warm humid summer and cold winters. Minimum temperatures in the region are between 21 and 36 degrees Fahrenheit (°F) in January (average 27 °F), and 45 and 85 °F in July (average 73 °F) (Midwest Regional Climate Center 2017).

3.2.2.2 Attainment Status

WPAFB is located in both Greene and Montgomery counties in Ohio. These counties are in attainment with the NAAQS for PM_{10}, NO_2, SO_2, CO, and lead. However, Greene and Montgomery counties are designated as maintenance areas for ozone (1997 Standard) and $PM_{2.5}$ (1997 Standard).

General Conformity Applicability

The General Conformity Rule at 40 CFR 93 Subpart B requires that any federal action[1] meet the requirements of a SIP or Federal Implementation Plan. More specifically, CAA conformity is

1 Defined as an activity engaged in by a department or agency of the federal government, or supported in any way by the federal government (including via financial assistance, licenses, permits, or approvals).

ensured when a federal action does not cause a new violation of the NAAQS; contribute to an increase in the frequency or severity of violations of NAAQS; or delay the timely attainment of any NAAQS, interim progress milestones, or other milestones toward achieving compliance with the NAAQS. The General Conformity Rule applies only to federal actions in nonattainment or maintenance areas.

WPAFB is located in maintenance areas for ozone (1997 Standard) and $PM_{2.5}$ (1997 Standard). However, EPA revoked the 1997 ozone standard and the 1997 $PM_{2.5}$ standard in attainment and maintenance areas on 6 April 2015 (80 FR 12264) and on 24 October 2016 (81 FR 58009), respectively. The General Conformity requirements for the NAAQS end when the NAAQS is revoked. Hence, the Proposed Action under consideration is not subject to General Conformity.

3.3 NOISE

3.3.1 Definition of the Resource

Sound is defined as a particular auditory effect produced by a given source. Noise and sound share the same physical aspects; however, noise is considered a disturbance while sound is defined as an auditory effect. Noise is typically defined as any sound that is undesirable because it interferes with communications, is intense enough to damage hearing, or is otherwise bothersome. Noise can be intermittent or continuous, steady or impulsive, and can involve any number of sources and frequencies. Human response to increased sound levels varies according to the source type, characteristics of the sound source, distance between source and receptor, receptor sensitivity, and time of day. Affected receptors can be specific, such as schools or hospitals, or broad, such as green space or wildlife reserves, in which occasional or persistent sensitivity to noise above ambient levels exists.

3.3.2 Existing Conditions

An Air Installation Compatible Use Zone (AICUZ) study was prepared for WPAFB in 1995 (WPAFB 1995). The AICUZ study uses a standard day-night average sound level (DNL) developed in the 1970s with the approval of EPA to describe noise at DoD installations. Land use compatibility guidelines are documented in the AICUZ for WPAFB, which identify four noise zones from aircraft operations ranging from DNL of 65 to 80+ A-weighted decibels. It is recommended that no residential structures be located in a noise environment greater than 65 decibels (dB) (WPAFB 1995). Land use compatibility guidelines of DNL noise zones are outlined in Table 3-3. It should be noted certain conditions do allow for variations. For example, residential structures are not compatible in a noise environment greater than 65 dB; however, the installation of sound attenuation materials may provide an acceptable environment. The Action Area is located in an Industrial Land Use Classification.

Table 3-3 Noise Level and Land Use Compatibility Guidelines

General Land Use	DNL Noise Zone			
	65–69 dB	70–74 dB	75–79 dB	80+ dB
Residential	No	No	No	No
Industrial	Yes	Yes	Yes	Yes
Commercial	Yes	Yes	Yes	No
Public/Semi-Public Services	Yes	Yes	Yes	No
Recreational	Yes	Yes	Yes	No
Open Space/Low Density	Yes	Yes	Yes	Yes

NOTES: dB = Decibels.
DNL = Day-night average sound level.
Yes = Noise level is compatible in land use area.
No = Noise level is not compatible in land use area.

Source: Wright-Patterson Air Force Base 1995.

The AST fuel farm is not located within a populated area; however, recreational ballfields at Fairborn Park are located immediately across Skeel Avenue/Loop Road to the east, outside of the installation boundary. Typical noise levels generated from the fuel farm are low and include truck movement and fuel filling activities.

3.4 GEOLOGICAL RESOURCES

3.4.1 Definition of the Resource

Geological resources refer to bedrock and soil materials. Geologic factors such as soil stability and seismic properties influence the stability of structures.

Soil, in general, refers to unconsolidated earthen materials overlying bedrock and other parent material. Soil structure, elasticity, strength, shrink-swell potential, and erodibility all determine the ability for the ground to support structures and facilities. Soils are typically described in terms of their type, slope, physical characteristics, and relative compatibility or limitations with regard to particular construction activities and types of land use.

Topography consists of the physiographic, or surface, features of an area and is usually described with respect to elevation, slope, aspect, and landforms. Long-term geological, erosional, and depositional processes typically influence topographic relief.

3.4.2 Existing Conditions

The surface soil at WPAFB was formed by unconsolidated deposits, primarily alluvium, glacial outwash, glacial till, and loess. Most of the installation is mapped by the Natural Resources Conservation Service as urban land complexes (WPAFB 2015).

The area of the AST bulk fuel farm is underlain by Warsaw-Urban land complex, nearly level (WcA). This soil type is well-drained with the parent material identified as loamy outwash over sandy and gravelly outwash. These soils are not classified as prime farmland or as hydric soils.

Environmental investigations were completed in the vicinity of the site to address two previous spill incidents at the site. A spill occurred in 1976 within the containment area of Tank #256 (prior to the installation of the high-density polyethylene (HDPE) liner which occurred in 1996). The incident involved the release of 8,300 gal of JP-4. Three recovery wells were installed adjacent to Tank #256, and approximately 4,800 gal of jet fuel was recovered. Another spill was located near Tank #272 (the current diesel tank located to the southwest of the Jet Fuel Tank Farm) and involved the release of 1,200 to 2,500 gal of No. 2 fuel oil from the tank in March 1981. A recovery trench was dug adjacent to the spill, but no fuel oil was recovered. Remedies chosen for these spills included in situ biodegradation for soils and natural attenuation for groundwater. The spill sites have achieved the site remediation criteria established in the Record of Decision for *Spill Sites 2, 3, and 10 within Operable Unit 2*f (WPAFB 1997) and the cleanup levels have been achieved as specified in the National Oil and Hazardous Substances Pollution Contingency Plan. A site closure report is being prepared for these sites.

3.5 WATER RESOURCES

3.5.1 Surface Water

3.5.1.1 Definition of the Resource

Surface water resources consist of permanently or seasonally flooded water features including lakes, ponds, rivers, streams, and oceans. Stormwater is an important component of surface water systems because of its potential to introduce sediments and other contaminants that could degrade lakes, rivers, and streams. Stormwater flows, which may be exacerbated by high proportions of impervious surfaces associated with buildings, roads, parking lots, and airfields are important to the management of surface water. Stormwater systems convey precipitation away from developed sites to appropriate receiving surface waters. Higher densities of development require greater degrees of stormwater management because of the higher proportions of impervious surfaces that occur from buildings, parking lots, and roadways.

3.5.1.2 Existing Conditions

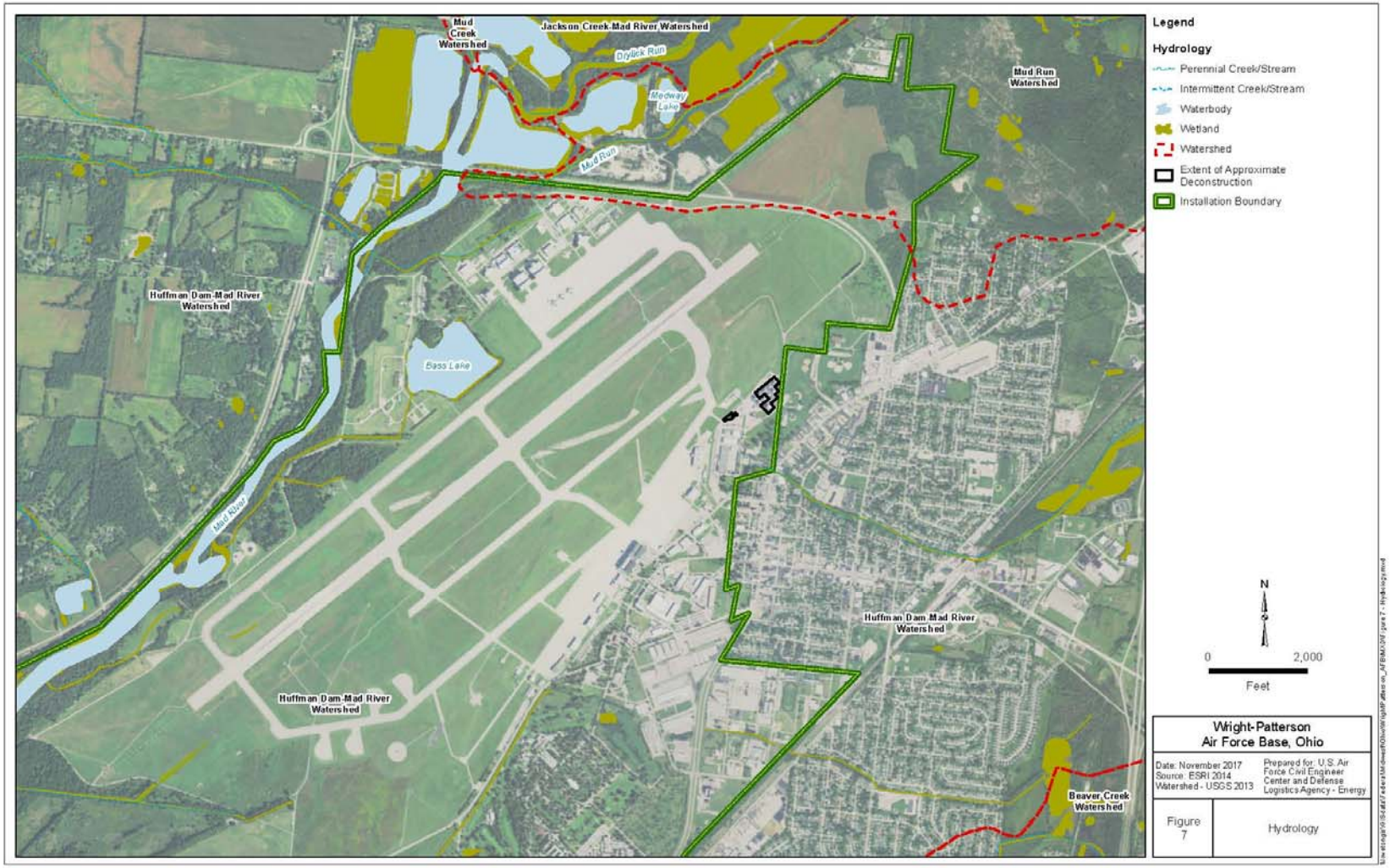
WPAFB is in the Great Miami River Basin, with most of it located within the floodplain of the Mad River. The Mad River originates approximately 40 miles north of Springfield, Ohio, flows south and southwest past WPAFB to its confluence with the Great Miami River in Dayton, Ohio, and flows into the Ohio River near Cincinnati, Ohio. Sustained flow of the Mad River originates from groundwater discharge of glacial deposits upstream of Huffman Dam, which is a flood control dam managed by the Miami Conservancy District. The Mad River has been designated as a warmwater fisheries habitat, an agricultural and industrial water supply, and suitable for primary contact recreation by OEPA (Ohio Administrative Code Chapter 3745-1-21).

The Mad River approaches WPAFB from the north and flows along the western border of Area A. Mud Creek enters the Mad River 2,000 feet (ft) north of the State Route 235 bridge, near the northwest corner of Area A. WPAFB lies adjacent to the northernmost portion of the lower Mad River segment. OEPA has identified the lower segment of the Mad River, which flows through WPAFB, as an impaired water under Section 303(d) of the Clean Water Act for not meeting aquatic life and recreational use standards (OEPA 2010). While neither the Mad River nor Mud Creek are located within the Action Area, the Proposed Action would be within the Mad River watershed. Figure 7 depicts the hydrology of Area A and the surrounding area.

EPA has established the total maximum daily load of effluent (TMDL) for the Mad River in the *Mad River Total Maximum Daily Loads for Sediment and Turbidity* (EPA 2007). A TMDL specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and allocates pollutant loadings among point and nonpoint pollutant sources. The TMDL for the Mad River watershed has been set at 120 percent of natural sediment loading. According to the report, the natural sediment loading in the basin is approximately 894 tons/square mile/year based on an annual average.

All stormwater from WPAFB flows into the Mad River. Regionally, the Mad River is located adjacent to the northwestern boundary of Area A and flows northeast to southwest. Surface water in the WPAFB area includes the Mad River, Trout Creek, Hebble Creek, Twin Lakes, Gravel Lake, and wetland areas. These surface water features are recharged by both precipitation and groundwater. None of these surface water features are located within the Action Area.

There are 20 defined drainage or “Outfall Areas” on-Base and 24 National Pollutant Discharge Elimination System (NPDES) discharge monitoring points on-Base that are addressed under the NPDES permit. None of these are located with the Action Area.


Mud Creek Watershed
Jackson Creek-Mad River Watershed
Dry Fork Run
Medway Lake
Mud Run
Mud Run Watershed
Huffman Dam-Mad River Watershed
Bass Lake
Mad River
Huffman Dam-Mad River Watershed
Huffman Dam-Mad River Watershed
Beaver Creek Watershed
Legend
Hydrology
Perennial Creek/Stream
Intermittent Creek/Stream
Waterbody
Wetland
Watershed
Extent of Approximate Deconstruction
Installation Boundary
N
0
2,000
Feet
Wright-Patterson Air Force Base, Ohio
Date: November 2017
Source: ESRI 2014
Watershed - USGS 2013
Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 7
Hydrology

3.5.2 Groundwater

3.5.2.1 Definition of the Resource

Groundwater consists of the subsurface hydrologic resources and is an essential resource often used for potable water consumption, agricultural irrigation, and industrial applications. Groundwater can be described in terms of its depth from the surface, aquifer or well capacity, water quality, surrounding geologic composition, and recharge rate.

3.5.2.2 Existing Conditions

WPAFB is located in the Great Miami River Valley, which is filled with glacial deposits of sand and gravel. The aquifer system that underlies the Base is the Great Miami/Little Miami Buried Aquifer System. EPA designated this aquifer system as a sole source aquifer under the provisions of the Safe Drinking Water Act (40 CFR 143 et seq.). This system is located 20 to 30 ft beneath ground surface at the Base and yields between 1,500 and 2,000 gal per minute. Groundwater within bedrock void spaces at the Base is situated at a lower elevation than the water table aquifer. This bedrock aquifer has low permeability and does not constitute an aquifer (Dumouchelle et al. 1993).

The upland areas in the region serve in part as recharge areas for the Mad River Buried Valley Aquifer. These upland areas, including a groundwater mound in Fairborn, form groundwater divides which control groundwater flow in and around Area A of WPAFB, much like the surface water drainage basin (International Consultants, Inc. and Science Applications International Corporation 1995).

Portions of WPAFB lie within the City of Dayton Wellhead Protection Area; however, this does not include the Action Area (City of Dayton 2017).

Petroleum Impacts to Groundwater

Environmental investigations have been completed in the vicinity of the site to address two previous spill incidents at the site. A spill occurred in 1976 within the containment area of Tank #256 (prior to the installation of the HDPE liner which occurred in 1996). The incident involved the release of 8,300 gal of JP-4. Three recovery wells were installed adjacent to Tank #256, and approximately 4,800 gal of jet fuel was recovered. Another spill was located near Tank #272 (the current diesel tank located to the southwest of the Jet Fuel Tank Farm) and involved the release of 1,200 to 2,500 gal of No. 2 fuel oil from the tank in March 1981. A recovery trench was dug adjacent to the spill, but no fuel oil was recovered. Remedies chosen for these spills included in situ biodegradation for soils and natural attenuation for groundwater. The spill sites have achieved the site remediation criteria established in the Record of Decision for *Spill Sites 2, 3, and 10 within Operable Unit 2*f (WPAFB 1997) and the cleanup levels have been achieved as specified in the National Oil and Hazardous Substances Pollution Contingency

Plan. A site closure report is being prepared for these sites. Groundwater quality has been monitored regularly and has recovered to comply with applicable state standards (CB&I 2017).

3.5.3 Floodplains

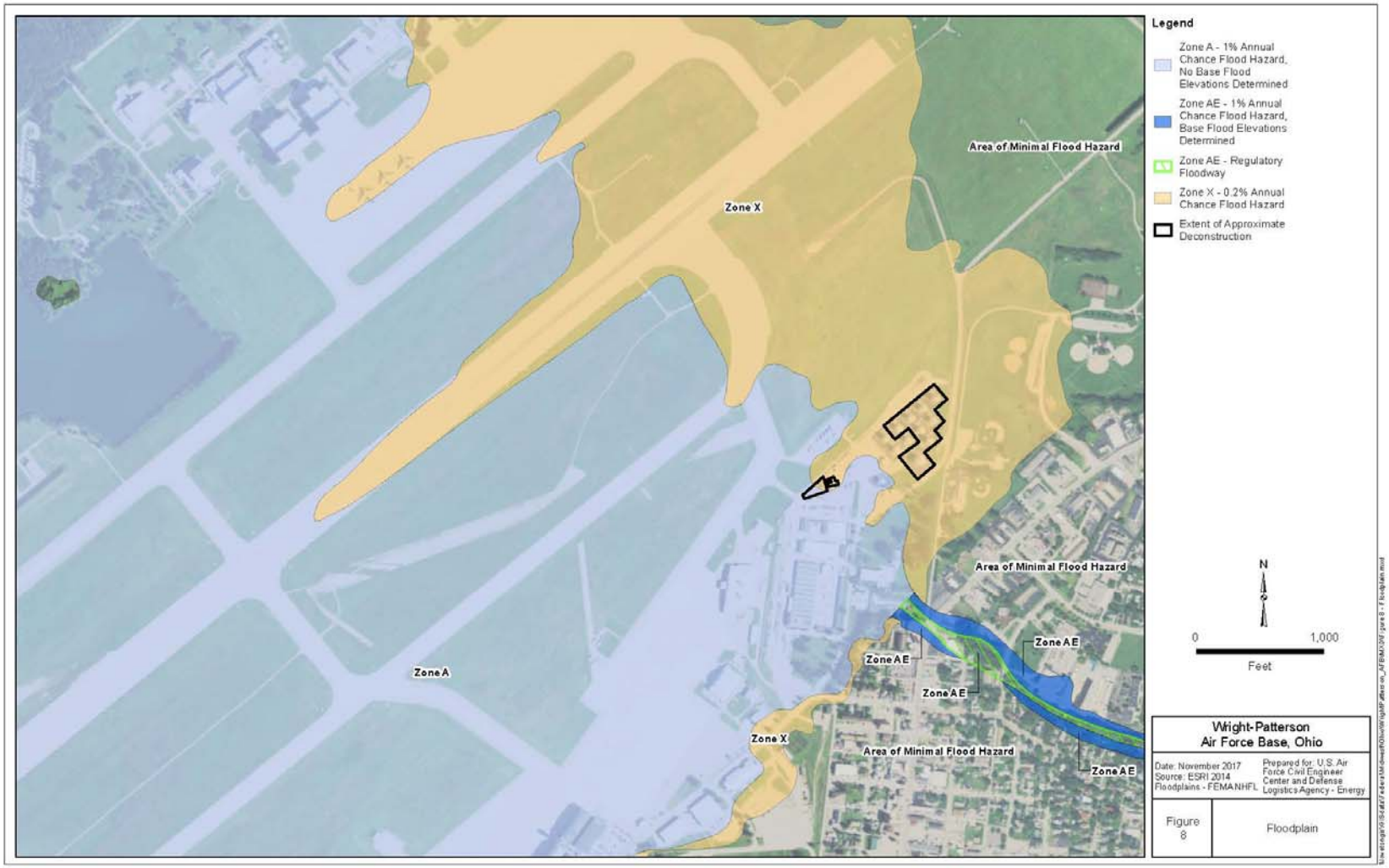
3.5.3.1 Definition of the Resource

EO 11988, *Floodplain Management* (24 May 1977) directs agencies to consider alternatives to avoid adverse effects and incompatible development in floodplains. An agency may locate a facility in a floodplain if the head of the agency finds there is no practicable alternative. If it is found there is no practicable alternative, the agency must minimize potential harm to the floodplain, and circulate a notice explaining why the action is to be located in the floodplain prior to taking action. Finally, new construction in a floodplain must apply accepted flood proofing and flood protection to include elevating structures above the base flood level rather than filling in land.

3.5.3.2 Existing Conditions

Most of Area A on the installation lies within Zone A, identified by the Federal Emergency Management Agency (FEMA) as a 1 percent annual-chance-flood hazard (areas subject to inundation by the 1 percent annual-chance-flood event). A narrow section of the project area is located in Zone A. Most of the project area, however, falls in Zone X, which is classified as outside of the 100-year floodplain by FEMA and has less than a 0.2 percent chance of an annual flood (minimal risk outside of the 0.2 percent annual-chance-flood hazard). Figure 8 depicts the floodplain zones in and surrounding the Action Area.

The majority of WPAFB Area A lies within the Mad River floodplain and within the Huffman Retarding Basin. The Huffman Dam, located approximately 3.8 miles to the southwest of the project, is a 3,340-ft-long and 65-ft-high dam that forms the Huffman Retarding Basin. The Miami Conservancy District utilizes this dam to control flood waters during high flow events, storing water in the retarding basin until it can be safely released downstream. The Base Facility Standard (2016) requires that all projects comply with Huffman Retarding Basin Requirements which limit land use and construction on the property. Specific requirements limit the placement of fill material and building construction (EA Engineering, Science, and Technology, Inc., PBC [EA] 2017).


Legend
Zone A - 1% Annual Chance Flood Hazard, No Base Flood Elevations Determined
Zone AE - 1% Annual Chance Flood Hazard, Base Flood Elevations Determined
Zone AE - Regulatory Floodway
Zone X - 0.2% Annual Chance Flood Hazard
Extent of Approximate Deconstruction
Area of Minimal Flood Hazard
Zone X
Area of Minimal Flood Hazard
Zone AE
Zone AE
Zone AE
Zone A
Zone X
Area of Minimal Flood Hazard
Zone AE
N
0
1,000
Feet
Wright-Patterson Air Force Base, Ohio
Date: November 2017
Source: ESRI 2014
Floodplains - FEMA NHFL
Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 8
Floodplain

3.5.4 Wetlands

3.5.4.1 Definition of the Resource

Wetlands and waters of the United States are defined within the Clean Water Act, as amended, and jurisdiction is addressed by EPA and the U.S. Army Corps of Engineers. These agencies assert jurisdiction over traditionally navigable waters, wetlands adjacent to navigable waters, non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally, and wetlands that directly abut such tributaries. Section 404 of the Clean Water Act regulates the discharge of dredge or fills into waters of the United States, including wetlands.

EO 11990, *Protection of Wetlands,* dated 24 May 1977, directs agencies to consider alternatives to avoid adverse effects and incompatible development in wetlands. Federal agencies are to avoid new construction in wetlands, unless the agency finds there is no practicable alternative to construction in the wetland and the proposed construction incorporates all possible measures to limit harm to the wetland. Agencies should use economic and environmental data, agency mission statements, and any other pertinent information when deciding whether or not to build in wetlands. EO 11990 directs each agency to provide for early public review of plans for construction in wetlands.

3.5.4.2 Existing Conditions

There are no wetland resources within the project area or adjacent to the project area.

3.6 BIOLOGICAL RESOURCES

3.6.1 Definition of the Resource

Biological resources include native or naturalized plants and animals, and the habitats, such as wetlands, forests, and grasslands, in which they exist. Sensitive and protected biological resources include plant and animal species listed as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) or the state.

Under the Endangered Species Act (ESA) (16 U.S.C. 1536), an “endangered species” is defined as any species in danger of extinction throughout all or a large portion of its range. A “threatened species” is defined as any species likely to become an endangered species in the foreseeable future. USFWS also maintains a list of species considered to be candidates for possible listing under the ESA.

Although candidate species receive no statutory protection under the ESA, USFWS has attempted to advise government agencies, industry, and the public that these species are at risk and might warrant protection under the Act.

The Ohio Department of Natural Resources (ODNR), Division of Wildlife may restrict the taking or possession of native wildlife threatened with statewide extirpation and maintains a list of endangered species (Ohio Revised Code 1531.25). Additionally, ODNR maintains a list of plant species native to the state and in danger of extirpation or are threatened with becoming endangered. These plants are protected pursuant to Ohio Revised Code Chapter 1518.

3.6.2 Existing Condition

3.6.2.1 Vegetation

Vegetation surveys of Areas A and B of WPAFB were conducted in 1998 and 1999; this includes the area within or around the Aboveground Fuel Storage Tank Farm to be removed. There are four primary vegetation communities located on the Base: forest (740 acres), wetlands (20.5 acres), prairie (109 acres), and old fields (306 acres) (WPAFB 2015).

Most of the footprint of the Action Area has been developed and cleared of vegetation. The existing tank farm has been covered by gravel and other hard substrate and manmade surfaces. Some of the adjacent and periphery of the Action Area has been maintained as grass or old field areas. None of the areas is providing unique or diverse vegetation.

3.6.2.2 Wildlife

WPAFB is home to a variety of wildlife. Previously conducted surveys documented the presence of 23 mammals, 118 birds, 8 reptiles, and 6 amphibians all of different species on the Base (WPAFB 2015). The Action Area is located within disturbed areas on the Base and no species are resident within those areas. However, birds and other small animals may move through the area en route to other areas of preferred habitat.

Common mammals on base include white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), beaver (*Castor canadensis*), groundhog (*Marmota monax*), eastern fox squirrel (*Sciurus niger*), eastern gray squirrel (*Sciurus carolinensis*), eastern chipmunk (*Tamias striatus*), and deer mouse (*Peromyscus maniculata*).

Common birds on base include European starling (*Sturnus vulgarus*), eastern meadowlark (*Sturnella magna*), barn swallow (*Hirundo rustica*), savannah sparrow (*Passerculus sandwichensis*), red-winged blackbird (*Agelaius phoeniceus*), Canada goose (*Branta canadensis*), red-tailed hawk (*Buteo jamaicensis*), horned lark (*Eremophila alpestris*), American robin (*Turdus migratorius*), turkey vulture (*Cathartes aura*), mourning dove (*Zenaida macroura*), killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), rock dove (*Columba livia*), and mallard (*Anas platyrhynchos*). Because birds as well as mammals pose a hazard to airfield and aircraft operations, the USAF has established bird air strike hazard and wildlife management plans. The base implements a comprehensive Bird/Wildlife Aircraft Strike Hazard (BASH) plan that involves prevention, monitoring, and reduction of bird/wildlife hazards.

Bat mist net surveys have been conducted in 2000, 2007, and 2012 (Bat Conservation and Management, Inc. 2012, AMEC 2007, BHE Environmental [BHE] 2001). During these surveys the following species were detected: Indiana bat (*Myotis sodalis*), big brown bat (*Eptesicus fuscus*), red bat (*Lasiurus borealis*), tri-colored bat (*Perimyotis subflavus*), little brown bat (*Myotis lucifugus*), and hoary bat (*Lasiurus cinereus*) (Bat Conservation and Management, Inc. 2012, AMEC 2007, BHE 2001).

Between 2010 and 2014 a multi-year, systematic base-wide herpetological survey was conducted by herpetologist Jeff Davis in cooperation with ODNR and USFWS. The survey involved placement of coverboards in spring, and monitoring cover boards between April and October (Davis 2015). During this survey the following species were detected: brownsnakes (*Storeria dekayii*), eastern gartersnakes (*Thamnophis sirtalis*), smooth greensnakes (*Opheodrys vernalis*, State endangered), eastern milksnakes (*Lampropeltus triangulum*),northern watersnake (*Nerodia sipedon*), Blanchard's cricket frogs (*Acris blanchardi*), American bullfrogs (*Lithobates catesbeiana*), green frogs (*Lithobates clamitans*), five-lined skink (*Plestiodon fasciatus*), eastern box turtle (*Terrapene carolina carolina*, State species of concern), midland painted turtles (*Chrysemys picta marginata*) and eastern spiny softshells (*Apalone spinifera*).

Lepidopteran surveys of Huffman Prairie have identified 23 species of butterflies, and more than 100 moth species, 28 of which were recorded in Ohio for the first time (Metzler and Zebold 1995). One moth, a new species to science, was discovered and named *Glyphidocera wrightorum* in honor of the Wright Brothers (Adamski and Metzler 2000).

No habitat for aquatic species exists in the Action Area.

3.6.2.3 Threatened and Endangered Species

Endangered and threatened species on WPAFB are protected under the ESA. In addition, AFPD 32-70 and AFI 32-7064 require all Air Force installations to protect species classified as federally or state endangered or threatened. The Endangered Species Management Plan (BHE 2001), which has been incorporated into the Integrated Natural Resources Management Plan (INRMP), provides species-specific protection and conservation measures to protect known special status species occurring on the Base (WPAFB 2015). Table 3-4 lists threatened and endangered species known to occur or that have occurred on the Base. ODNR identified the proposed project as being within the range of several state-listed species. Table 3-5 includes these species, their preferred habitat, and status. Given the developed infrastructure and manmade substrate located within the Action Area, there is no habitat for any of the federal- or state-listed species identified.

Table 3-4 Federally and State-Listed Species of Animals, Insects, and Plants Recorded at Wright-Patterson Air Force Base

Common Name	Scientific Name	Status	
		Federal	State of Ohio
Indiana bat	*Myotis sodalis*	Endangered	Endangered
Northern long-eared bat	*Myotis septentrionalis*	Threatened	Species of Concern
King rail	*Rallus elegans*	-	Endangered
Common tern	*Sterna hirundo*	Bird of Conservation Concern	Endangered
Upland sandpiper	*Bartramia longicauda*	Bird of Conservation Concern	Endangered
Eastern massasauga rattlesnake	*Sistrurus catenatus*	Proposed Threatened	Endangered
Smooth green snake	*Opheodrys vernalis*	-	Endangered
Clubshell	*Pleurobema clava*	Endangered	Endangered
Fringe-tree	*Chionanthus virginicus*	-	Threatened
Ear-leaf foxglove	*Tomanthera auriculata*	-	Endangered
Whorled water-milfoil	*Myriophyllum verticillatum*	-	Endangered

Table 3-5 State-Listed Species Identified in the Vicinity of Wright-Patterson Air Force Base

Common Name	Scientific Name	Preferred Habitat	Federal Status	State Status
Indiana bat	*Myotis sodalist*	Trees with exfoliating bark, crevices, or cavaties in upland areas or riparian corridors	Endangered	Endangered
Clubshell	*Pleurobema clava*	Perennial streams	Endangered	Endangered
Rayed bean	*Villosa fabalis*	Perennial streams	Endangered	Endangered
Snuffbox	*Epioblasma triquetra*	Perennial streams	Endangered	Endangered
Black sandshell	*Ligumia recta*	Perennial stream	----	Threatened
Fawnsfoot	*Truncilla donaciformis*	Perennial streams	----	Threatened
Tonguetied minnow	*Exoglossum laurae*	Perennial streams	----	Threatened
Spotted turtle	*Clemmys guttata*	Fens, bogs, and marshes	----	Threatened
Kirtland's snake	*Clonophis kirtlandii*	Wet fields and meadows	----	Threatened
Eastern massasauga	*Sistrurus catenatus*	Wet prairies, fens, wetlands	Proposed Threatened	Endangered
Upland sandpiper	*Bartramia longicauda*	Dry native grasslands, seeded grasslands, grazed and ungrazed pastures, hayfields, and grasslands	Bird of Conservation Concern	Endangered
Northern harrier	*Circus cyaneus*	Migrant/winter species. Breed in in large marshes and wetlands. Hunt over grasslands.	----	Endangered
Midland sedge	*Carex mesochorea*	Dry grasslands		Threatened

3.7 CULTURAL RESOURCES

3.7.1 Definition of the Resource

***Visual Resources*—**Visual resources are generally defined as the natural and man-made features of a landscape or other area that comprise its aesthetic qualities. Those features define the landscape character of an area and form the overall impression that an observer receives of that area. Evaluating the aesthetic qualities of an area is a subjective process because the value that an observer places on a specific feature varies depending on his/her perspective. In general, a feature observed within a landscape can be considered as characteristic if it is inherent to the composition and function of the landscape. This is particularly true if the landscape or area in question is part of a scenic byway, a state or national scenic river, or other similar area. Landscapes can change over time; therefore, the assessment of the environmental impacts of a Proposed Action on a given landscape or area must be made relative to the characteristic features currently composing the landscape or area.

***Cultural Resources*—**As part of the process for compliance with NEPA, federal agencies are required to assess potential impacts on the human environment (40 CFR Part 1508.14). That analysis is generally conducted in terms of cultural resources, which includes a variety of resources that are defined by specific federal laws, regulations, EOs, and other requirements. Those include the National Historic Preservation Act, Native American Graves Protection and Repatriation Act, Archaeological Resources Protection Act, American Indian Religious Freedom Act, and EO 13007 among other regulations. Typically, cultural resources are divided into archaeological resources, historic buildings, and traditional cultural properties.

Under Section 106 of the National Historic Preservation Act, the federal agency official is charged with providing the State Historic Preservation Office (SHPO) an opportunity to comment on the effect of federal undertakings on historic properties. Federal agencies identify and evaluate historic properties listed or eligible for inclusion in the National Register of Historic Places within the Area of Potential Effect (APE); determine effects of an undertaking on historic properties; and consult to avoid, minimize, or mitigate adverse effects on the historic properties in consultation with the SHPO and other parties including Native Tribes. For this project the APE includes the entire bulk fuel farm, gasoline tank, and loading/offloading area.

3.7.2 Existing Conditions

A literature search was completed for the APE; no historic structures, archaeological resources, or traditional cultural properties are located within the APE. Consultation with the SHPO and six tribal governments occurred. Consultation letters and responses are provided in Appendix A.

3.8 SOCIOECONOMIC RESOURCES

3.8.1 Definition of the Resource

Socioeconomics—Socioeconomics is typically defined as the relationship between economies and social elements, such as population and economic activity. Factors that describe the socioeconomic resources represent a composite of several attributes. There are several factors that can be used as indicators of economic conditions for a geographic area, such as demographics, income, unemployment, poverty level, and employment.

Stewart B. McKinney Homeless Assistance Act—All government-owned real property (land and buildings) that is underutilized, unutilized, or deemed to be excess or surplus must be reported to the Department of Housing and Urban Development for screening for potential use as facilities to assist the homeless in accordance with the Stewart B. McKinney Homeless Assistance Act (10 U.S.C. 2546).

3.8.2 Existing Conditions

WPAFB lies on 8,145 acres. It is predominantly located in two counties, Greene and Montgomery. It is adjacent to the cities of Fairborn and Dayton. The base contains more than 600 buildings including: offices, a laboratory, support buildings, as well as 127 family housing buildings (History Office 2015).

Greene County, Ohio, is approximately 416 square miles, with an estimated population of 164,765 according to the 2010 census. Montgomery County, Ohio is approximately 464 square miles, with an estimated population of 531,239 according to the 2010 census.

Fairborn, Ohio, is approximately 13 square miles, with an estimated population of 33,780 according to the 2010 census. Dayton, Ohio, is approximately 56 square miles, with an estimated population of 140,489 according to the 2010 census.

The Ohio Department of Transportation has prepared an Environmental Justice study for the state. However, the study was only performed outside the areas of the Ohio Metropolitan Planning districts (CDM Smith 2013). WPAFB falls within an Ohio Metropolitan Planning area that has not performed their own study yet. EPA maintains an Environmental Justice Screening and Mapping Tool that was used to assess environmental and demographic information and was used to identify these factors. The screening tool depicted that WPAFB is not located within an area of increased poverty and does not have an increased demographic indicator; however, the nearest possible area with increased demographics is along the east boundary of Area A of the installation and adjacent to the bulk fuel farm, and it is approximately 2.5 square miles in size in the city of Fairborn. Table 3-6 summarizes the socioeconomics of the area (EPA 2017).

Table 3-6 Socioeconomic Resources

	Wright-Patterson Air Force Base		Greene County		Montgomery County		Ohio		United States	
Population and Race	2,621		161,573		535,153		11,536,504		311,516,332	
White	2,242	85.5%	139,670	86.4%	395,272	73.9%	9,539,437	82.7%	223,553,265	72.4%
Black/African American	234	8.9%	11,681	7.2%	111,870	20.9%	1,407,681	12.2%	38,929,319	12.6%
Asian	61	2.3%	4,703	2.9%	9,273	1.7%	192,233	1.7%	14,674,252	4.8%
Other	29	1.1%	860	0.5%	4,472	0.8%	130,030	1.1%	19,107,368	6.2%
Native American	0	0	428	0.3%	1,242	0.2%	25,292	0.2%	2,932,248	0.9%
Native Hawaiian or other Pacific Islander	0	0	89	0.1%	177	0%	4,066	0.0%	540,013	0.2%
Two or More Races	55	2.1%	5,056	3.1%	14,665	2.7%	287,212	2.5%	9,009,073	2.9%
Hispanic or Latino of any race	260	9.9%	3,439	2.1%	12,177	2.3%	354,674	3.1%	50,477,594	16.3%
Age										
Median age	23.3		37.2		39.2		38.8		37.2	
Over 18 years of age	2,040	77.8%	126,440	78.3%	411,874	77.0%	8,805,753	76.3%	234,564,071	76.0%
Over 65 years of age	104	4.0%	21,998	13.6%	81,041	15.1%	1,622,015	14.1%	40,267,984	13.0%
Under 18 years of age	219	8.0%	33,284	20.6%	118,803	22.2%	2,595,713	22.5%	71,025,723	22.8%
Language Spoken at Home										
English only	2,281	93.6%	145,215	93.6%	471,868	94.2%	10,150,246	93.3%	234,171,556	79.0%
"Less than very well"	9	0.4%	3,278	2.1%	10,725	2.1%	259,859	2.4%	25,410,756	8.6%
Spanish	102	4.2%	2,615	1.7%	9,357	1.9%	242,988	2.2%	38,694,150	13.0%
Indo-European	17	0.7%	2,767	1.8%	7,595	1.5%	272,500	2.5%	10,884,070	3.7%
Asian-Pacific	38	1.6%	3,059	2.0%	8,045	1.6%	124,314	1.1%	10,027,065	3.4%
Other languages	0	0	1,451	0.9%	3997	0.8%	89,933	0.8%	2,826,162	1.0%
Disability Status										
Population 5 years of age and older	209	12.9%	19,583	12.2%	80,706	15.4%	1,550,962	13.5%	38,601,898	12.4%
Education										
High school graduate or higher	91.9%		92.2%		89.2%		89.1%		86.7%	
High school including General Education Diploma	245	9.3%	32,104	24.7%	118,021	28.6%	3,012,042	33.8%	68,044,371	28.0%
Associate's degree	861	32.9%	22,397	17.3%	59,776	14.5%	1,141,657	12.8%	58,988,636	7.6%
Bachelor's degree	237	9.0%	23,620	18.2%	59,542	14.4%	1,382,305	15.5%	36,244,474	17.7%
Graduate or professional degree	315	12.0%	19,128	14.7%	37,712	9.1%	761,265	9.7%	21,333,568	10.4%

Table 3-6 Socioeconomic Resources

	Wright-Patterson Air Force Base		Greene County		Montgomery County		Ohio		United States	
Employment, Class of Worker and Commuter Status										
Labor force pool (population >age 16)	2,040		133,798		426,467		9,229,397		251,221,309	
Employed (Armed Forces)	985	48.3%	2,601	1.9%	1,754	0.4%	8,300	0.1%	1,015,464	0.4%
Employed (Civilian)	625	30.6%	76109	56.9%	236,657	55.5%	5,366,673	58.1%	145,747,779	58.0%
Unemployed	116	5.7%	6,248	4.7%	24,687	5.8%	477,251	5.2%	13,150,045	5.2%
Private wage and salary workers	308	15.1%	56,704	73.7%	191,249	80.8%	4,418,768	82.3%	115,882,947	79.5%
Self-employed workers – includes agriculture, forestry, fishing, hunting	2	< 0.1%	3,776	5.0%	11,882	5.0%	267,424	5.0%	8,792,726	6.0%
Government	315	15.4%	16,114	21.2%	33,297	14.1%	673,074	12.5%	20,839,885	14.3%
Occupation										
Management, professional and related occupations	350	56.0%	33,767	44.4%	84,314	35.6%	1,881,496	35.1%	53,433,469	36.7%
Service occupations	52	8.3%	11,939	15.7%	45,327	19.2%	943,596	17.6%	26,446,906	18.1%
Sales and office occupations	153	24.5%	17,898	23.5%	58,131	24.6%	1,282,772	23.9%	35,098,693	24.1%
Production, transportation, and material moving occupations	63	10.1%	7,886	10.4%	33,467	14.1%	846,296	15.8%	17,730,132	12.2%
Natural resources, construction, and maintenance occupations	7	1.1%	4,619	6.1%	15,418	6.5%	412,513	7.7%	13,038,579	8.9%
Commuting to Work										
Worked in county of residence	N/A	84.2%	N/A	57.9%	N/A	77.3%	N/A	69.7%	N/A	72.4%
Worked outside county of residence	N/A	14.3%	N/A	41.2%	N/A	21.7%	N/A	27.5%	N/A	23.8%
Worked outside the state of residence	N/A	1.5%	N/A	0.9%	N/A	1.0%	N/A	2.8%	N/A	3.8%
Housing										
Number of households	437		62,770		223,943		4,603,435		116,716,292	
Number of housing units	613		68,241		254,775		5,127,508		131,704,730	
Occupied	597	97.4%	62,770	92.0%	223,943	87.9%	4,603,435	89.8%	116,716,292	88.6%
Owner occupied	29	4.9%	42,520	67.7%	141,022	63.0%	3,111,054	67.6%	75,986,074	65.1%

Table 3-6 Socioeconomic Resources

	Wright-Patterson Air Force Base		Greene County		Montgomery County		Ohio		United States	
Income										
Median annual household income	$89,821		$60,113		$43,829		$49,429		$53,889	
Median family income	$98,000		$78,588		$56,990		$62,817		$66,011	
Per capita income	$28,739		$31,075		$25,734		$26,953		$28,930	
Fulltime, year-round male median income	$27,318		$60,028		$46,761		$48,676		$49,450	
Fulltime, year-round female median income	$27,574		$41,914		$36,447		$37,219		$39,209	
Poverty										
Number of families	N/A	1.3%	N/A	9.0%	N/A	14.5%	N/A	11.5%	N/A	11.3%

Sources:
U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates.

3.9 INFRASTRUCTURE

3.9.1 Definition of the Resource

Infrastructure consists of the systems and physical structures that enable a population in a specified area to function, to include utility lines. Infrastructure is wholly human-made, with a high correlation between the type and extent of infrastructure, and the degree to which an area is characterized as "urban" or developed. The availability of infrastructure and its capacity to support growth are generally regarded as essential to the economic growth of an area. Utilities and infrastructure generally include water supply, storm drainage systems, sanitary sewer and wastewater systems, power supply, internet/data, telecommunications, and solid waste management.

The transportation resource is defined as the system of roadways, highways, and other transportation facilities and systems that are in the vicinity of a project site and could be potentially affected by a Proposed Action. The resource also includes parking, access to the installation, and vehicular movement within the installation. Transportation represents the movement of humans and commodities from one place to another. It is directly related to areas of production and habitation, and to the system of vehicle access roads and alternative forms of travel, including rail and air. Primary roadways (e.g., major interstates) are principal routes designed to move traffic efficiently to adjacent areas. Secondary roadways, or arterials (e.g., major surface streets), are designed to provide access to residential, commercial, and parking areas and access points for the installation.

3.9.2 Existing Conditions

Electric/telecommunications, sanitary sewer, water, stormwater conveyance system, oil/water separator, and aboveground fuel receiving and issuing lines, and underground fuel lines exist within the project area. Skeel Avenue makes up the eastern boundary of the airfield on most of the east side of Area A; however, once it intersects the entrance to the bulk fuel farm, it becomes Pierce Drive before it bends at the intersection with Storage Drive, where it becomes Loop Road.

Fuel Storage Tanks

The bulk tanks listed in Table 3-7 are located within the bulk fuel farm:

Table 3-7 Fuel Tank Farm Tank Inventory and Status

Tank Number	Facility Number	Capacity (Barrels)	Contents	Year Constructed	Status[a]	Proposed Project Outcome
249	7048	10,000	JAA	1953	Active	Remain-in-place
250	7049	10,000	JAA	1953	Inspected and cleaned September 2015, empty	Removed
251	7050	10,000	JAA	1953	Contains approximately 700 gal of JAA	Removed
252	7015	10,000	JAA	1953	Inspected and cleaned September 2015, empty	Removed
253	7016	10,000	JAA	1953	Inspected and cleaned August 2009, empty	Removed
254	7051	10,000	JAA	1953	Active	Remain-in-place
255	7052	10,000	JAA	1953	Active	Remain-in-place
256	7053	10,000	JAA	1953	Inactive; contains approximately 700 gal of JAA	Removed
257	7017	10,000	JAA	1953	Inspected and cleaned September 2009, empty	Removed
258	7060	10,000	JAA	1953	Inspected and cleaned March 2000, empty	Removed
271	7009	20,000	JAA	1960	Inspected and cleaned April 2000, empty	Removed
310	7097	357 (15,000-gallon)	Gasoline	1968	Tank empty, approximately 300 gal of fuel in lines	Removed

(a) Status as reported in the Statement of Requirements for the task order, dated February 2017 and as updated by Wright-Patterson Air Force Base personnel in September 2017.

Notes: gal = Gallon(s).
JAA = Jet A aviation fuel.

3.10 HEALTH AND SAFETY

3.10.1 Definition of the Resource

A safe environment is one in which there is no, or there is an optimally reduced, potential for death, serious bodily injury or illness, or property damage. Human health and safety addresses both workers' health and public safety during deconstruction activities. Deconstruction site safety is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and implementation of operational practices that reduce risks of illness, injury, death, and property damage. The health and safety of onsite military and civilian workers are safeguarded by numerous DoD and USAF regulations designed to comply with standards issued by the Occupational Safety and Health Administration (OSHA) and EPA. These standards specify the amount and type of training required for industrial workers, the use of protective

equipment and clothing, engineering controls, and maximum exposure limits for workplace stressors.

Safety and accident hazards can often be identified, and reduced or eliminated. Necessary elements for an accident-prone situation or environment include the presence of the hazard itself together with the exposed (and possibly susceptible) population. The degree of exposure depends primarily on the proximity of the hazard to the population. Activities that can be hazardous include transportation, maintenance and repair activities, and the creation of extremely noisy environments. The proper operation, maintenance, and repair of vehicles and equipment carry important safety implications. Any facility or human use area with potential explosive or other rapid oxidation process creates unsafe environments for nearby populations. Extremely noisy environments can also mask verbal or mechanical warning signals such as sirens, bells, or horns.

The Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program (USAF 1996) implements the Occupational Safety and Health Air Force Policy Directive (USAF 1993) by outlining the AFOSH Program. The purpose of the AFOSH Program is to minimize loss of USAF resources and to protect USAF personnel from occupational deaths, injuries, or illnesses by managing risks. In conjunction with the USAF Mishap Prevention Program, these standards ensure all USAF workplaces meet federal safety and health requirements. This instruction applies to all USAF activities.

Asbestos

OSHA has been involved with controlling work exposure to asbestos since 1971. The 29 CFR 1926.1101 Construction Industry Standard for Asbestos was introduced in 1994. Provisions covered in this standard include asbestos worker protection for those involved with disturbing asbestos, protection of those employees working around asbestos, exposure assessments, periodic monitoring, medical surveillance, work procedures, respiratory protection, personal protective equipment (PPE), hazard communication, housekeeping, recordkeeping, and competent person responsibilities. (Auxano 2017).

Lead-Based Paint

The OSHA Permissible Exposure Limit for airborne lead exposure concentrations has been established to be 50 micrograms per cubic meter ($\mu g/m^3$) and the OSHA Action Level has been established to be 30 $\mu g/m^3$ (Auxano 2017).

Hexavalent Chromium

OSHA measures hexavalent chromium exposure in concentrations at or above 0.5 $\mu g/m^3$ as an 8-hour time-weighted average under any expected conditions of use (OSHA 2017). All contractors impacting existing structures with hexavalent chromium need to comply with the OSHA Toxic and Hazardous Substances hexavalent chromium Standard (29 CFR 1929.1126). This standard has been developed to protect workers from potential exposures to hexavalent chromium (Auxano 2017).

3.10.2 Existing Conditions

ACM, lead-based paint (LBP), and hexavalent chromium have been identified in gaskets and on painted surfaces in all of the bulk fuel tanks and associated piping (Auxano 2017). Compliance with applicable OSHA standards to protect workers from exposure to these materials will be required.

3.11 HAZARDOUS MATERIALS AND WASTE

3.11.1 Definition of the Resource

Asbestos-Containing Materials

In the 1970s the EPA Clean Air Act implemented regulations which banned and phased out various asbestos products; including, but not limited to, spray-applied fireproofing and thermal systems insulation products. Pursuant to the Clean Air Act of 1970, EPA established the asbestos National Emissions Standard for Hazardous Air Pollutants (NESHAP), which has since been revised and updated in 1990. The intent of NESHAP is to minimize the release of asbestos fibers during activities involving handling of asbestos and specifies work practices to be followed during renovation, deconstruction, or other abatement activities when friable asbestos is involved.

The following EPA terminology is applicable to ACM:

Regulated Asbestos-Containing Material—any friable ACM containing more than 1 percent asbestos as determined using polarized light microscopy (PLM) according to the method specified in Appendix A, Subpart F, 40 CFR Part 763 (Sec. 61.141).

Category I Non-Friable ACM—any asbestos-containing gasket, resilient floor covering, or asphalt roofing product that contains more than 1 percent asbestos as determined using PLM according to the method specified in Appendix A, Subpart F, 40 CFR Part 763 (Sec. 61.141). These materials must be removed by a licensed asbestos abatement contractor prior to impact via renovation or deconstruction work practices.

Category II Non-Friable ACM—Any material, excluding Category I Non-Friable ACM, containing more than 1 percent asbestos as determined by the methods specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, PLM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. These materials must be removed by a licensed asbestos abatement contractor prior to impact via renovation or deconstruction work practices.

Lead-Based Paint

OSHA's definition of an LBP includes all paints, varnishes, stains, lacquers, or coatings containing any concentration of lead greater than 0 percent. All contractors impacting existing

LBP-coated surfaces must comply with the OSHA Lead in Construction Standard (29 CFR 1926.62). This standard has been developed to protect workers from potential exposures to lead.

Hexavalent Chromium

OSHA's regulation of hexavalent chromium encompasses material containing chromium or a specific process, operation, or activity involving chromium. These materials or processes/operations/ activities cannot release dusts, fumes, or mists of hexavalent chromium in concentrations at or above 0.5 $\mu g/m^3$ as an 8-hour time-weighted average under any expected conditions of use (OSHA 2017).

Hazardous Waste

EPA defines a hazardous waste as a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment, which may come in many forms, including liquids, solids gases, and sludges.

Environmental Restoration Program (ERP)

Through the ERP, the DoD evaluates and cleans up sites where hazardous wastes have been spilled or released to the environment. The ERP provides a uniform, thorough methodology to evaluate past disposal sites, to control the migration of contaminants, to minimize potential hazards to human health and the environment, and to clean up contamination. Knowledge of past ERP activities provides a useful gauge of the condition of soils, water resources, and other resources that might be affected by contaminants. It also aids in identification of properties and their usefulness for given purposes (e.g. activities dependent on groundwater usage might be foreclosed where a groundwater contaminant plume remains to complete remediation). The ERP requires each DoD installation to identify, investigate, and clean up hazardous waste disposal or release sites.

3.11.2 Existing Conditions

ACM, LBP, and hexavalent chromium have been identified in gaskets and on painted surfaces. Pipe insulation on abandoned underground fuel lines is assumed to contain asbestos. The WPAFB Hazardous Waste Management Plan (September 2009) prescribes roles and responsibilities with respect to the waste stream inventory, management procedures, and emergency response. Handling and disposal of hazardous materials would be in accordance with the Hazardous Waste Management Plan and with state and federal regulations.

The ERP is a subcomponent of the Defense Environmental Restoration Program that became law under the Superfund Amendments and Reauthorization Act (formerly the Installation Restoration Program [IRP]). The ERP requires each DoD installation to identify, investigate, and clean up hazardous waste disposal or release sites. The Base began its IRP in 1981 with the investigation of possible locations of hazardous waste contamination. In 1988, WPAFB entered into an Ohio Consent Order with the OEPA. In October 1989, WPAFB was placed on the EPA's National

Priorities List, a list of sites that are considered to be of special interest and require immediate attention (WPAFB 2001).

The Base currently has identified 67 ERP sites, two regional groundwater sites, and several areas of concern per the Air Force Restoration Information Management System. The Base has grouped the majority of confirmed or suspected sites requiring investigation and characterization in geographically based Operational Units (OUs), designated as OUs 1 through 11 (IT 1999). In addition to the 11 OUs, WPAFB addressed basewide issues of groundwater and surface water contamination under the Basewide Monitoring Program and Long-Term Groundwater Monitoring Program. Principal groundwater contaminants beneath WPAFB include benzene, toluene, ethylbenzene, xylene, trichloroethene, and tetrachloroethene (WPAFB 2007).

Remedies for the ERP sites are documented in six Record of Decision documents:

1. *Record of Decision, Source Control Operable Unit, Landfills 8 and 10, (WPAFB 1993)*
2. *Record of Decision, Off-Source Operable Unit and Final Remedial Action, Landfills 8 and 10, (WPAFB 1994)*
3. *Record of Decision for 21 No Action Sites, (WPAFB 1996)*
4. *Record of Decision for Spill Sites 2, 3, and 10 (Operable Unit 2), (WPAFB 1997)*
5. *Record of Decision for 41 No Action Sites at Wright-Patterson Air Force Base, (WPAFB 1998)*
6. *Record of Decision for the Groundwater Operable Unit 2, (WPAFB 1999)*

The current and future land uses as agreed upon in these Record of Decisions between the federal and state EPA and WPAFB identify the land use controls (LUCs) necessary to support the remedial action or No Further Action (NFA) decisions for industrial/recreational sites (WPAFB 2012d). The LUCs are commonly used when contamination is present and not yet addressed, when remediation is in progress, or when residual contamination is present in amounts that do not allow for unrestricted use of the site. Controls include any type of physical, legal, or administrative mechanism that restricts the use of, or limits access to real property to prevent or reduce risks to human health and the environment (WPAFB 2012d).

The bulk fuel farm is located in OU2. The sites contain three ERP sites including Spill Site 2, Spill Site 3, and Spill Site 10. LUCs for these sites includes contact with the Environmental Management Division prior to drilling or otherwise accessing groundwater. The spill sites have achieved the site remediation criteria established in the *Record of Decision for Spill Sites 2, 3, and 10 Within OU2* and the cleanup levels have been achieved as specified in the National Oil and Hazardous Substances Pollution Contingency Plan.

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4. ENVIRONMENTAL CONSEQUENCES AND CUMULATIVE EFFECTS

An analysis of the potential environmental consequences of implementing the Proposed Action, as well as the No Action Alternative, on each resource discussed in Chapter 3 is presented in Chapter 4. In accordance with CEQ guidelines (40 CFR Part 1508.8), each alternative considered was evaluated for its potential effect on physical, biological, and socioeconomic resources.

The impact analyses consider each alternative discussed in Chapter 2 that have been identified as reasonable for meeting the purpose and need for action. Those alternatives include the Proposed Action and the No Action Alternative. The conceptualized execution of the Proposed Action is described in Section 2.3. This conceptualized execution was used to determine the potential impacts associated with the Proposed Action.

The criteria below were used to analyze impacts on the resources. For the purposes of this report, the existing conditions are used as a baseline comparison for the Proposed Action or No Action Alternative impacts. Environmental consequences will be described using one of the following eight categories:

- No effects would be expected
- Minor adverse effects would be expected
- Minor beneficial effects would be expected
- Moderate adverse effects would be expected
- Moderate beneficial effects would be expected
- Major adverse effects would be expected
- Major beneficial effects would be expected
- Combination of the above (minor beneficial and minor adverse effects would be expected).

To further clarify the nature of the various impacts upon each resource in the Environmental Consequences section of this Environmental Assessment, the following terms were used and are defined.

Short-Term or Long-Term—These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term impacts are those that would occur only with respect to a particular activity or for a finite period or only during the time required for construction or installation activities. Long-term impacts are those that are more likely to be persistent and chronic.

Direct or Indirect—A direct impact is caused by and occurs contemporaneously at or near the location of the action. An indirect impact is caused by a Proposed Action and might occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome of the action. For example, a direct impact of erosion on a water body might include sediment-laden waters in the vicinity of the action, whereas an indirect impact of the same erosion might lead to lack of spawning and result in lowered reproduction rates of indigenous fish in nearby waters.

Negligible, Minor, Moderate, or Major—These relative terms are used to characterize the magnitude or intensity of an impact. Negligible impacts are generally those that might be perceptible but are at the lower level of detection. A minor effect is slight, but detectable. A moderate impact is readily apparent. A major impact is one that is severely adverse or exceptionally beneficial.

Adverse or Beneficial—An adverse impact is one having unfavorable or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment. A single act might result in adverse impacts on one resource and beneficial impacts on another resource.

4.1 LAND USE

4.1.1 Evaluation Criteria

Potential impacts on land use are based on the level of land use sensitivity in areas affected by a proposed action and compatibility of proposed actions with existing conditions. A land use impact would be adverse if it met one or more of the following criteria:

- Inconsistency or noncompliance with existing land use plans or policies;
- Precluded the viability of existing land use;
- Precluded continued use or occupation of an area;
- Incompatibility with adjacent land use to the extent that public health or safety is threatened; and
- Conflict with planning criteria established to ensure the safety and protection of human life and property.

4.1.2 Proposed Action

The proposed action would convert some of the existing tank farm into open space that is maintained as a grassy area. This would not preclude any future land use or inconsistency with the existing or future industrial land use designation. No planning conflicts would arise.

Although the land use designation would remain industrial, beneficial impacts are expected as grounds currently used for the bulk fuel farm would now be considered improved grounds.

4.1.3 No Action Alternative

There would be no changes to land use as a result of the No Action Alternative; therefore, no impacts are expected.

4.2 AIR QUALITY

4.2.1 Evaluation Criteria

To evaluate the potential impacts to air quality resulting from the Proposed Action, an Air Conformity Applicability Model (ACAM) was used. From a regulatory standpoint, the emissions and associated air quality impacts are addressed in two contexts, Air Quality Permitting and General Conformity. Air quality permitting is not required since no emission units are being installed as part of the Proposed Action. General Conformity addresses the sources of emissions not covered by air quality permitting and ensures that they conform to the applicable SIP(s). As indicated in Chapter 3, the Proposed Action is not subject to General Conformity.

4.2.2 Proposed Action

The Proposed Action is expected to result in short-term, direct, moderate temporary adverse air quality impacts followed by long-term beneficial impacts to air quality (i.e., a reduction of potential emissions). During the construction phase of the deconstruction and regrading of the site, the air quality is expected to be temporarily adversely impacted by dust and diesel exhaust from the operation of heavy equipment.

For the Proposed Action, it was assumed that the project would occur during a 1-year period in 2019. Table 4-1 summarizes the expected emission estimates for the Proposed Action. Backup calculations including inputs are provided in Appendix B.

Table 4-1 Emission Estimates

Pollutant	Emissions (annual tons/year)
Volatile Organic Compounds (VOC)	0.656
Nitrogen Oxides (NOx)	4.296
Carbon Monoxide (CO)	3.850
Sulfur Oxide (SOx)	0.008
PM_{10}	14.126
$PM_{2.5}$	0.209
CO2e	812.7

NOTES: $PM_{2.5}$ = Particulate matter less than 2.5 microns in diameter.
PM_{10} = Particulate matter less than 10 microns in diameter.
CO2e = Carbon dioxide equivalent; a unit for greenhouse gases emissions

A review of Table 4-1 indicates that the projected total emissions from construction are minimal for all criterial pollutants. There would be no significant impact from emissions of greenhouse gases as well. Best management practices (BMPs) would be observed during all deconstruction activities to minimize dust generation. BMPs would include use of and periodic application of water or other suitable dust suppression chemicals. In addition, all open-bodied vehicles would be covered at all times when transporting materials likely to become airborne.

4.2.3 No Action Alternative

The No Action Alternative is not expected to affect air quality.

4.3 NOISE

4.3.1 Evaluation Criteria

Typical noise levels of representative construction equipment that would be used for the Proposed Action are provided in Table 4-2.

Table 4-2 Noise Levels of Representative Construction Equipment

Equipment	Noise Level (decibels)
Backhoe	78
Concrete Saw	90
Crane	81
Dozer	82
Dump Truck	76
Excavator	81
Front-End Loader	79
Grader	85
Pumps	81
1. Noise levels are given at a distance of 50 feet from the source. Source: Construction Noise Handbook (Federal Highway Administration 2006).	

4.3.2 Proposed Action

Short-term, direct, moderate, and adverse impacts to noise resources would be expected with the Proposed Action due to deconstruction activities. The adverse effects would be short term and, following completion of the deconstruction and site restoration activity, the noise levels would return to normal conditions consistent with the site usage as a bulk fuel farm. Noise sensitive receptors include homes, hospitals, and schools. The closest homes to the project area are located 1,700 ft southeast. Fairborn City Schools are located 0.6 mile southeast of the project area and Central Junior High School is located 0.4 mile southeast of the project area. The closest hospital is the Wright-Patterson Medical Center, located 1.7 miles south of the project area. Noise that is typically associated with construction equipment generally includes the movement of trucks, deconstruction activities, and other similar sounds. In general, the sound of a dump truck at 50 ft is approximately 76 dB. In comparison, a rating of 76 dB is louder than an average vacuum cleaner (approximately 70 dB at 3 ft), but quieter than a garbage disposal

(approximately 80 dB at 3 ft). As such, construction noises are typically classified as "moderate" levels of noise.

All construction activities would be conducted during normal business hours (from approximately 7 a.m. to 5 p.m.), and all equipment would be outfitted with mufflers that would be in good working condition. The closest homes, schools, and hospitals are far enough from the project area that interference from the construction during these hours would not occur.

4.3.3 No Action Alternative

Under the No Action Alternative, the deconstruction would not occur. As a result, no effects to noise resources would be expected.

4.4 GEOLOGICAL RESOURCES

4.4.1 Evaluation Criteria

Considerations for geological resources include the following:

- the protection of any unique geological features;
- the protection of soils classified as prime and unique farmland;
- the consideration of project siting and the potential occurrence of natural hazards such as earthquakes; and
- the avoidance or minimization of soil erosion through the use of erosion control measures.

Generally, the criteria for geological resources can be met with proper planning, engineering design, and BMPs.

4.4.2 Proposed Action

The Proposed Action would include the excavation of some soil during the deconstruction of the bulk fuel farm and removal of pipeline. Short-term, minor, adverse impacts would occur to geologic resources due to the removal of the soils; however, excavated soil would also be used as fill as needed within the bulk fuel farm. Impacts to soil would be minimized through the implementation of sediment and erosion BMPs.

Long-term, moderate, beneficial impacts to geologic resources would also occur. Soil from the containment dikes and soils removed during excavation would be screened using a photo-ionization detector. Any soil that is encountered during the project that is found to be impacted by petroleum would be properly disposed. The removal of petroleum-impacted soils would create a beneficial impact.

4.4.3 No Action Alternative

Under the No Action Alternative, the deconstruction would not occur. As a result, no effects to geological resources would be expected.

4.5 WATER RESOURCES

4.5.1 Evaluation Criteria

Evaluation criteria for all water resources consists of the protection of the resource from an adverse activity. An NPDES Construction General Permit (CGP) is required for all construction where more than 1 acre is disturbed, as is the case with the Proposed Action. The NPDES CGP requires a Stormwater Pollution Prevention Plan. This plan would be developed in accordance with the *Rainwater and Land Development Manual* (ODNR 2006).

Generally, temporary stormwater controls consist of perimeter silt fence, storm drain inlet protection, construction entrances, dust control plans, temporary and/or permanent seeding, and temporary erosion control matting as required. These BMPs will be designed in accordance with the *Rainwater and Land Development Manual* (ODNR 2006).

4.5.2 Proposed Action

Surface Water

Short-term, direct and indirect adverse impacts would result from the implementation of the Proposed Action due to potential surface water runoff. The implementation of BMPs would avoid these impacts. An Ohio National Pollutant Discharge Elimination System construction stormwater general permit would be required.

No long-term adverse impacts are expected. Through consultation, the Miami Conservancy District stated on 14 November 2017 that the proposed action would not adversely affect the Huffman Retarding Basin (Appendix A). Following deconstruction, portions of the project area would be graded and reseeded with a native grass seed. The reduction of impervious surfaces would be beneficial to surrounding surface waters, specifically the Mad River, an impaired water under Section 303(d) of the Clean Water Act. The amount of receiving stormwater and erosion would be reduced creating long-term beneficial impacts.

Groundwater

No short-term effects would occur to groundwater.

Long-term direct, moderate and beneficial effects would be expected to groundwater, particularly if petroleum-impacted soil, which could be adversely affecting groundwater quality, is encountered and removed during the excavation.

Floodplain

Deconstruction of Tank 310 occurs within the 100-year floodplain (Figure 8). Short-term, indirect, negligible effects would be expected to floodplains during the deconstruction activities and equipment impeding the functionality of the floodplain. Staging areas would be located outside of the 100-year floodplain. BMPs including sediment and erosion controls would be implemented to prevent disturbance to adjacent areas of the floodplain.

Long-term negligible beneficial effects would occur as a result of the replacement of impervious surfaces with an unpaved, vegetated surface.

Wetlands

No short-term or long-term effects would be expected to wetlands because wetlands are not located within the Project Area.

4.5.3 No Action Alternative

Under the No Action Alternative, the deconstruction would not occur. As a result, no effects to water resources, including surface water, floodplain, and wetlands would be expected. Each AST in the bulk fuel farm is bermed or located in a secondary containment and the use of BMPs ensures impacts to water resources are avoided. Long-term, minor, adverse impacts to groundwater would occur. There is potential for petroleum-impacted soil to be left in place if the deconstruction does not occur.

4.6 BIOLOGICAL RESOURCES

4.6.1 Evaluation Criteria

Evaluation criteria for impacts on biological resources are based on:

- Importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource;
- Proportion of the resource that would be affected relative to its occurrence in the region;
- Sensitivity of the resource to the proposed activities; and
- Duration of ecological ramifications.

The impacts on biological resources would be adverse if species or habitats of high concern are negatively affected over relatively large areas. Impacts are also considered adverse if disturbances cause reductions in population size or distribution of a species of high concern.

As a requirement under the ESA, federal agencies must provide documentation that ensures that agency actions do not adversely affect the existence of any threatened or endangered species. The ESA requires that all federal agencies avoid "taking" threatened or endangered species (which includes jeopardizing threatened or endangered species habitat). Section 7 of the ESA establishes a consultation process with USFWS that ends with USFWS concurrence or a determination of the risk of jeopardy from a federal agency project.

4.6.2 Proposed Action

Vegetation

The Proposed Action would result in the removal of multiple ASTs and modifications or removal of other infrastructure in areas that are not currently vegetated. No short-term impacts to vegetation are expected. As a result of the removal of infrastructure, the footprint of eight 10,000-barrel deconstructed bulk fuel tanks would be converted from unvegetated areas to a graded and maintained grass-covered area. This area would be reseeded with a native grass seed, which is a long-term beneficial impact to vegetation. Other areas to be affected by the Proposed Action would be graded and paved with asphalt. As these areas are not currently vegetated, no impacts to vegetation would occur as a result of the paving.

Wildlife

The Action Area also does not currently provide habitat for wildlife and no wildlife habitat is expected to be lost. However, there may be negligible short-term impacts to wildlife as a result of noise-related effects from proposed construction activities. The Action Area does not provide suitable habitat and construction activities are located in a developed area not in close proximity to special or unique habitat.

Following deconstruction, portions of the project area would be seeded with a native grass mixture. Beneficial impacts to wildlife would occur to those opportunistic species that forage or use grass/mowed areas. There would be an increase in grass habitat available to these species. To reduce BASH risk, this grass habitat would be managed in accordance with WPAFB's BASH plan.

Threatened and Endangered Species

During consultation, ODNR identified federal- and state-listed species within the range of the project area. Because no trees are present within the project area and no trees would be removed, the project is not likely to impact the Indiana bat. The proposed project does not include in-water work within perennial streams; therefore, the project would not likely impact the clubshell, rayed bean, snuffbox, black sandshell, fawnsfoot, and tonguetied minnow. Habitat for the spotted turtle, Kirtland's snake, eastern massasauga, upland sandpiper, northern harrier, and midland sedge does not occur within the project area; therefore, the project is not likely to impact these species (Appendix A). WPAFB consulted with USFWS regarding federally listed species. Due to the project, type, size, and location, USFWS concurred with the USAF

determination that no effects are anticipated to federally endangered, threatened, proposed, or candidate species (Appendix A).

4.6.3 No Action Alternative

The No Action Alternative is not expected to affect vegetation, wildlife, or threatened or endangered species.

The No Action Alternative is also not expected to have any impacts to federally or state-listed threatened or endangered species, since there are no known threatened or endangered species known to occur within the limits of the project area.

4.7 CULTURAL RESOURCES

4.7.1 Evaluation Criteria

Adverse impacts on cultural resources might include physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or alter its setting; neglecting the resource to the extent that it deteriorates or is destroyed; or the selling, transfer, or leasing of the property out of agency ownership (or control) without adequate legally enforceable restrictions or conditions to ensure preservation of the property's historic significance.

4.7.2 Proposed Action

The proposed undertaking is located outside of any known eligible historic districts at WPAFB and there are no known historic properties located within the undertaking's APE. Therefore, no impact to cultural resources is expected. In a letter dated 6 November 2017, the SHPO confirmed that there would be no effect on historic properties. A copy of the coordination letter sent to the SHPO and their response is provided in Appendix A.

Government to government consultation with six Native American tribes was conducted and is documented in Appendix A. No issues were identified; therefore, no impacts would be expected.

4.7.3 No Action Alternative

The No Action Alternative is not expected to affect cultural resources.

4.8 SOCIOECONOMIC RESOURCES

4.8.1 Evaluation Criteria

This section identifies potential economic impacts that might result from the proposed project. Impacts to the socioeconomic conditions are evaluated for their potential to affect local

population, employment opportunities, salaries, educational opportunities and success, emergency response, poverty levels, and racial/ethnic diversity. These resources were evaluated relative to baseline data from the U.S. Census. The proposed project at WPAFB would have an adverse impact with respect to the socioeconomic conditions in the surrounding region if it would:

- Change the local business volume, employment, personal income, or population that exceeds the region's historical annual change; and/or

- Negatively affect social services or social conditions, including property values, school enrollment, county or municipal expenditures, or crime rates.

4.8.2 Proposed Action

Short-term, negligible, beneficial effects would be expected on the local workforce and economy due to a few short-term construction jobs. No long-term effects would be expected as a result of the Proposed Action.

4.8.3 No Action Alternative

The No Action Alternative is not expected to affect any socioeconomic resources.

4.9 INFRASTRUCTURE

4.9.1 Evaluation Criteria

Impacts on infrastructure are evaluated for their potential to disrupt or improve existing levels of service and additional needs for energy and water consumption, sanitary sewer systems, and transportation patterns and circulation. Impacts might arise from physical changes to circulation, construction activities, introduction of construction-related traffic on local roads or changes in daily or peak-hour traffic volumes, and energy needs created by either direct or indirect workforce and population changes related to Base activities.

4.9.2 Proposed Action

Short-term, direct, minor, adverse effects are expected, due to construction-related traffic. However, a construction traffic route has been established to lessen the impact of traffic delays due to construction vehicles. The route depicts traffic entering the installation through Gate 16A, and exiting through Gate 26A. Other traffic delays may occur along the haul route shown in Figure 6.

Solid waste would be generated during the deconstruction of the bulk fuel farm. Approximately 1,651 tons of construction and demolition waste are expected. Other waste includes 956 tons of steel and 837 tons of dike cover material. The generation of solid waste would create long-term, minor, adverse impacts due to the placement of materials within the local landfill.

Approximately 956 tons of steel and other plastic, concrete, gravel, and pavement would be recycled at the WPAFB Recycling Center. Recycling solid waste would reduce the overall long-term impacts.

4.9.3 No Action Alternative

Under the No Action Alternative, infrastructure would remain in place. No disruptive changes to traffic patterns would occur.

4.10 HEALTH AND SAFETY

4.10.1 Evaluation Criteria

Impacts on health and safety are evaluated for their potential to jeopardize the health and safety of workers, Base personnel, and the surrounding public. The USAF regulations and procedures promote a safe work environment and guard against hazards to the public. The WPAFB programs and day-to-day operations are accomplished according to applicable USAF federal and state health and safety standards. During construction activities, construction industry standards for PPE and exposure limits are followed closely.

4.10.2 Proposed Action

Short-term, negligible, temporary, adverse effects are expected on abatement workers; however, the development of a Health and Safety Plan for the Proposed Action, the implementation of a lockout/tagout safety procedure when working around utilities, the use of PPE required of abatement workers, and the use of proper construction technique would mitigate the potential for exposure.

4.10.3 No Action Alternative

The No Action Alternative is not expected to affect Health and Safety. Operations at the bulk fuel farm would continue and current health and safety measures would continue to be implemented.

4.11 HAZARDOUS MATERIALS AND WASTE

4.11.1 Evaluation Criteria

Adverse effects would occur if the action resulted in noncompliance of applicable laws or regulations, if the generation of hazardous waste quantities increased and these materials were unable to be properly contained thereby resulting in an unauthorized release to the environment, or if increased exposure levels for workers or the general public result in a negative effect on human health or the environment. Impacts on the ERP would be considered adverse if the federal action disturbed (or created) contaminated sites resulting in negative effects on human health or the environment.

4.11.2 Proposed Action

Short- and long-term, direct, moderate, and beneficial impacts are expected to arise from the Proposed Action due to the abatement and disposal in a hazardous waste landfill.

The following hazardous or contaminated material waste streams have been identified:

- ACM (valve, piping, and hatch gaskets)
- LBP (all painted surfaces)
- Surfaces coated with paint containing hexavalent chromium
- Petroleum-impacted soil (due to historic releases in the tank farm area) (EA 2017).

Known hazardous wastes identified and encountered during deconstruction would be managed through the Environmental Branch of Civil Engineering in accordance with the Hazardous Waste Management Plan. All petroleum-impacted soils and hazardous waste would be properly disposed of as hazardous materials in accordance with federal and state regulations.

There would be no impact to ERP sites within the bulk fuel farm area as there would be no disturbance or creation of contaminated sites.

4.11.3 No Action Alternative

There will be no change to the management of hazardous materials. Surfaces painted with lead and hexavalent chromium, as well as ACM, would not undergo abatement and would therefore remain in place. Therefore, short- and long-term, direct, moderate, adverse impacts are expected due to the presence and management of these materials.

There would be no impact to ERP sites within the bulk fuel farm area as there would be no disturbance or creation of contaminated sites.

4.12 CUMULATIVE EFFECTS

CEQ regulations stipulate that the cumulative effects analysis of an Environmental Assessment should consider the potential environmental effects resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future action regardless of what agency or person undertakes such other actions" (40 CFR Part 1508.7). CEQ guidance in considering cumulative effects affirms this requirement, stating that the first steps in assessing cumulative effects involve defining the scope for the other actions and their interrelationship with a Proposed Action. The scope must consider other projects that coincide with the location and timetable of a proposed action and other actions. Cumulative effects analyses must also evaluate the nature of interactions among these actions (CEQ 1997).

To identify cumulative effects, the analysis needs to address two questions:

1. Does a relationship exist such that affected resource areas of the Proposed Action or alternatives might interact with the affected resource areas of past, present, or reasonably foreseeable actions?

2. If such a relationship exists, does an Environmental Assessment or an Environmental Impact Statement reveal any potential significant impacts not identified when the Proposed Action is considered alone?

4.12.1 Projects Identified for Potential Cumulative Effects

The USAF has identified actions at WPAFB that are under consideration and in the planning stage. These actions are included in the cumulative effects analysis to the extent that details regarding such actions exist and the actions have a potential to interact with the Proposed Action. Additionally, there are no applicable non-USAF projects currently identified. Table 4-3 includes past, present, and reasonably foreseeable actions that are considered in the cumulative impact analysis.

Table 4-3 DoD Past, Present, and Reasonably Foreseeable Projects

Project Name	Description	Planned Year	Resources Potentially Impacted	Magnitude of Impact
Hilltop Community Services District	Implement the long-range Hilltop Community Development Plan and construct community services facilities. Includes the deconstruction of Building F/20167.	2016	Air quality, noise, geologic, water, biological, and infrastructure	Not significant
Radar Tomography Range and Equipment Storage Facility	Construction of a radar tomography range in the southwest corner of Area B. The project includes construction of a range including tower foundations, utilities, access roads, and parking spaces.		Air quality, noise, geologic, water, biological, and infrastructure	Not significant
Remedial Action at the Former Building 20059 Site (SS071)	Building 20059 was a former military clothing dry-cleaning facility that ceased operations in January 2000. Volatile compounds contamination was found in the soil in July 2000 and the building was deconstructed in October 2009. The project includes excavation removal actions.	2015	Air quality, noise, geologic, water, biological, health and safety, hazardous waste and materials, and infrastructure	Not significant
Primary Runway Pavement Replacement	The following actions would be conducted as part of the primary runway pavement replacement project in Area A: deconstruct and replace pavement on the primary runway; replace/repair/align/ reconstruct pavement on taxiways; install a portable batch plant and haul road; construct a temporary vehicle inspection lot; and purchase land	2017	Air quality, noise, geologic, water, biological, health and safety, hazardous waste and materials, and infrastructure	Not significant

	access rights in the approach-departure clearance surface area for both runways.			
National Reconnaissance Office Facility	Includes the relocation and construction of National Reconnaissance Office Facility at Wright-Patterson Air Force Base.	2018	Air quality, noise, geologic, water, biological, socioeconomics, and infrastructure	Not significant

4.12.2 Cumulative Effects on Resources

The following section examines cumulative effects on the environment that would result from incremental impacts of implementation of the Proposed Action, in addition to other past, present, and reasonably foreseeable future actions.

Under the No Action alternative, there would be no change to baseline conditions for any resource areas and existing conditions would continue as described in Sections 3.2 through 3.11 for resources analyzed. No new cumulative impacts would be expected as a result of the No Action alternative.

Land Use: When the beneficial impacts associated with the Proposed Action are combined with impacts associated with other cumulative projects, cumulative impacts are expected to be negligible. The overall land use classification of Area A and Area B of WPAFB would not change.

Air Quality: When the temporary, moderate, adverse impacts to air quality as a result of the Proposed Action are combined with impacts associated with other cumulative projects, cumulative impacts are expected to be short term and adverse. The use of construction equipment for other cumulative impacts would have similar dust and particulate matter emissions. However, emission rates would be minimal for criteria pollutants.

Noise: When the short-term, moderate, adverse impacts to noise associated with the Proposed Action are combined with impacts associated with other cumulative projects, cumulative impacts are expected to be short term, minor, and adverse. Noise would be generated during all construction projects; however, projects would occur within different areas and during different time periods.

Geologic Resources: When both the short-term, minor, adverse impacts and long-term beneficial impacts to geologic resources associated with the Proposed Action are combined with impacts associated with other cumulative projects, cumulative impacts would be long term and negligible. Cumulative projects involving construction would include the movement of soil which would impact soil properties. Remedial action projects would benefit soil through the removal of contaminated soils.

Water Resources: When both the short-term, minor, adverse impacts and long-term beneficial impacts to water resources (surface water, groundwater, and floodplains) associated with the Proposed Action are combined with impacts associated with other cumulative projects,

cumulative impacts would be long term and negligible. During cumulative projects involving construction, there is potential for short-term adverse impacts; however, the use of BMPs would mitigate impacts. If cumulative projects include construction within the floodplain, adverse impacts may occur.

Biological Resources: When long-term beneficial impacts to biological resources (vegetation and wildlife) associated with the Proposed Action are combined with impacts associated with other cumulative projects, cumulative impacts would be long term and negligible. Cumulative projects involving construction may require the removal of vegetation and wildlife habitat. No cumulative impacts to threatened and endangered species is expected, as no listed species occur within the project area.

***Cultural Resources*:** The Proposed Action would have no impact to cultural resources. When combined with other cumulative projects, cumulative impacts would be long term and negligible. It is unknown if cultural resources occur within the cumulative project areas. Consultation with SHPO would occur to minimize any potential impacts.

Socioeconomics: When short-term beneficial impacts to socioeconomics associated with the Proposed Action are combined with impacts associated with other cumulative projects, cumulative impacts would be beneficial. Cumulative projects involving construction and the addition of the National Reconnaissance Office Facility would create local job opportunities.

Infrastructure: When the short- and long-term, adverse impacts to infrastructure associated with the Proposed Action are combined with impacts associated with other cumulative projects, cumulative impacts would be short term and adverse. The construction of cumulative projects would be expected to have temporary impacts to local traffic and generate waste.

Health and Safety: When the short-term negligible impacts to health and safety associated with the Proposed Action are combined with impacts associated with other cumulative projects, cumulative impacts would be negligible. Cumulative projects involving construction would have short-term health and safety risks; however, implementation of Health and Safety Plans would minimize impacts.

Hazardous Materials and Waste: When short-term beneficial impacts to hazardous waste and materials associated with the Proposed Action are combined with impacts associated with other cumulative projects, cumulative impacts would be beneficial. Cumulative projects would include remedial actions removing hazardous waste and materials from WPAFB.

4.13 UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse effects would result from implementation of the Proposed Action. These effects are not anticipated to be significant.

Geological Resources—Under the Proposed Action, deconstruction activities, such as grading and excavating, would result in minor soil disturbance. Implementation of BMPs during

deconstruction would minimize environmental consequences resulting from ground-disturbing activities. Standard erosion control measures would also reduce environmental consequences related to these characteristics. Although unavoidable, effects on soil are not considered significant. The proposed action would result in vegetated or paved stabilized soils installed in all project areas.

Noise—The Proposed Action would result in temporary adverse impacts to noise resulting from the deconstruction activities. Deconstruction activities would be conducted using well maintained and job-suitable machinery to minimize noise generation. Site workers would be instructed to wear ear protection when working around loud equipment. Site work would be conducted during normal working hours.

Air Quality—During the deconstruction and grading/paving phases of the Proposed Action, the air quality at the area is expected to be temporarily adversely impacted by dust and exhaust from the heavy equipment. BMPs would be implemented during all construction activities to minimize dust generation and monitor for airborne hazardous materials. Air monitoring would be conducted as required to monitor dust levels and other potential air quality impacts. Following completion of the deconstruction and grading/paving activities, the air quality would return to ambient levels.

Human Health and Safety—During the deconstruction phases of the Proposed Action, area workers would likely be exposed to materials that may result in injury or ill health. As such, a Health and Safety Plan would be developed in accordance to regulations under OSHA; Engineer Manual 385-1-1; and AFOSH. The potential for adverse impacts to human health and safety would be minimized by implementing engineering controls, administrative measures, and the use of PPE.

4.14 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

An irreversible or irretrievable commitment of resources refers to impacts on or losses to resources that cannot be reversed or recovered, even after an activity has ended and facilities have been decommissioned. A commitment of resources is related to use or destruction of non-renewable resources, and effects that such a loss will have on future generations. The Proposed Action would involve the irreversible and irretrievable commitment of material resources and energy and land resources. The impacts on these resources would be permanent.

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This Environmental Assessment was prepared under the direction of the 88 CEG/CEIEA with input from AFCEC and DLA-E. Others who contributed to the preparation of this document are listed below:

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Appendix A

Coordination for Environmental Planning and Public Involvement

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Example
Interagency and Intergovernmental Coordination for Environmental Planning Coordination Letter

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 88TH AIR BASE WING (AFMC)
WRIGHT-PATTERSON AIR FORCE BASE OHIO

19 October 2017

88 CEG/CEIEA
1450 Littrell Road, Building 22
Wright-Patterson AFB, Ohio 45433-5209

Mr. Dan Everson
Field Office Supervisor
U.S. Fish and Wildlife Service
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230

Dear Mr. Everson:

Wright-Patterson Air Force Base (WPAFB) is preparing an Environmental Assessment (EA) to evaluate impacts for the aboveground storage tank (AST) demolition and fuel tank farm reconfiguration/modification. The existing fuel farm is located at 5785 Skeel Avenue, in Area A on the northeastern portion of WPAFB (Figures 1 and 2). The removal of the ASTs would eliminate aging infrastructure no longer required to meet the Department of Defense mission, through the demolition and disposal of nine ASTs and associated pipelines. A pipeline would be reconfigured/modified to connect to the three existing ASTs that would remain in use in the bulk fuel farm. The location of the bulk fuel farm on the installation is depicted in Figure 3.

The project is proposed because the fuel capacity provided by these ASTs is no longer necessary to support the mission of WPAFB. In addition, removing the tanks reduces the costs and responsibility associated with Defense Logistics Agency-Energy (DLA-E) operation and maintenance of the tanks. Most of the ASTs have been out of service for several years, and there are no future plans for their return to service.

Proposed Action

The proposed project involves the demolition of eight inactive ASTs and one currently/temporarily active AST (seven of the 10,000-barrel ASTs, the 20,000-barrel AST, and the 15,000-gallon gasoline AST), along with associated pipelines, fill station, and dikes. One receipt feed line header would be reconfigured to tie into the existing header in an alternate location and service the ASTs that would remain. The demolition process would involve the following for each tank and pipeline that is designated for removal:

- Abatement of hazardous materials identified on each AST and at some fittings (asbestos, lead-based paint, and hexavalent chromium have been identified). The material would be characterized and removed, and the residual contents would be properly disposed of as hazardous material in accordance with federal and state regulations.
- The ASTs would be vented to remove hazardous vapors. Monitoring of the interior space of the ASTs would be performed to verify that each AST has been properly vented.

- Cleaning (i.e. pressure wash) interior surfaces; containerization and characterization of the rinsate, and proper disposal.

- Each tank and pipelines would be dismantled and the steel would be recycled.

- The concrete, lining, and other non-recyclable components associated with the system and diked areas would be demolished and staged for recycling and/or disposal.

- The soil utilized for each dike would be excavated and screened using a photo-ionization detector (PID) or similar, to segregate soil for characterization and disposal purposes. Soil deemed to be "clean" may be used as fill if needed at the fuel farm area, or transported to a clean fill stockpile as designated by WPAFB personnel.

- Lastly, any excavated soil would be characterized and if found to be petroleum-impacted soil, would be properly disposed.

Stormwater management infrastructure, including catch basins and piping, within the footprint of the demolition action would be removed and an alternate stormwater management feature would be designed and installed. The features of the bulk fuel farm are depicted on Figure 4. The inventory of assets in Table 1 have been identified by WPAFB and DLA-E as those that are included in the scope of this project.

Table 1: Bulk Fuel Storage Tanks for Demolition

Facility Number	Tank Number	Tank Size	(Former) Contents	Current Status[1]
7049	250	10,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in September 2015. This tank is empty.
7050	251	10,000 barrel	Jet A Aviation Fuel	Approximately 1,200 gallons of jet fuel AA remains in tank.
7015	252	10,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in September 2015. This tank is empty.
7016	253	10,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in August 2009. This tank is empty.
7053	256	10,000 barrel	Jet A Aviation Fuel	Currently in-use until repairs to tanks numbers 249 and 254 are completed.
7017	257	10,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in September 2009. This tank is empty.
7060	258	10,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in March 2000. This tank is empty.
7009	271	20,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in April 2000. This tank is empty.

Facility Number	Tank Number	Tank Size	(Former) Contents	Current Status[1]
7097	310	15,000 gallon	Gasoline	Tank is empty, fuel remains in lines. This facility includes fill station and dike.

1. Status as of 2 December 2016, provided by WPAFB via email correspondence.

Environmental investigations have been completed in the vicinity of the site to address two previous spill incidents at the site. The contamination was related to leaks (i.e., from plumbing connections) at the former manifold area. Groundwater quality has been monitored regularly and has recovered to comply with applicable state standards. There is the potential for fuel-impacted soil to be encountered during the removal of any of the tank systems. Procedures would be in-place to properly handle, manage, and dispose of any petroleum-impacted material that may be encountered during the demolition, in accordance with local, state, and federal regulations.

Following demolition, the area of the demolished bulk fuel tanks would be graded and reseeded with a native grass seed mix approved by WPAFB. The area of AST No. 310 used for gasoline storage, and associated fuel lines and fill station would be graded and paved with asphalt. The reconfiguration of the feed line would extend from the feed line header, aboveground to the northwestern side of Tank Nos. 252, 251, and 250, then southeast along Tank No. 249 to the connection between Tank Nos. 249 and 254. Figure 5 depicts the post-construction conceptual plan.

The WPAFB actively manages for three federally-listed species (Indiana bat, Northen Long-eared bat and clubshell mussel), one proposed threatened species (eastern massasauga rattlesnake), and four species listed as endangered by the state of Ohio (smooth green snake, upland sandpiper, king rail, and blazing star stem borer). However, none of the species actively managed for on Base have been recorded in the proposed project area. No critical habitat has been designated or proposed for WPAFB. Based on our review of the USFWS *Ohio Federally-Listed Threatened, Endangered, Proposed, and Candidate Species' County Distribution* list (November 9, 2015) (http://www.fws.gov/midwest/Endangered/lists/ohio-spp.html), no other threatened, endangered, proposed, or candidate species are known to or may occur in the project area.

Because the project area is not within suitable habitat nor will any potential suitable habitat be disturbed, no listed species would be directly or indirectly impacted. Furthermore, there are no impacts to trees and/or wetlands or other native habitat that supports the above listed species. WPAFB has therefore determined the proposed project will have no effect on listed species and further consultation with your office is not necessary. Your written concurrence with this determination of no effect is, however, requested.

Thank you in advance for your consideration and comments. Please return your comments to me at the mailing address above. If you have questions, please contact me at 937-257-4857 or by email at darryn.warner@us.af.mil.

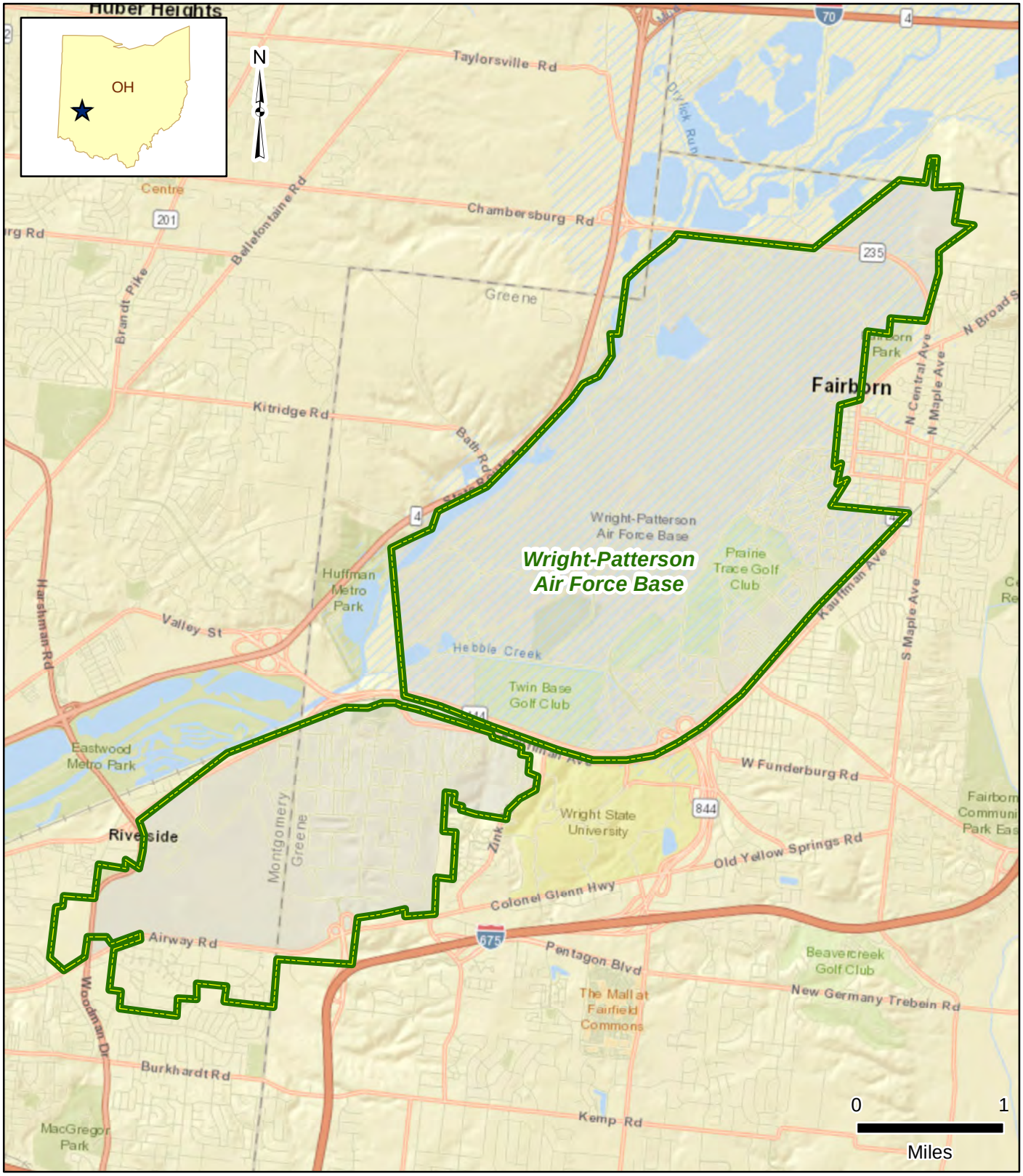
Sincerely,

DARRYN M. WARNER
Natural Resources Program Manager
Environmental Assets Section
Environmental Branch

cc:
John Banford (88 CEG/CEIEA, WPAFB)
Karen Stackpole (EA Engineering)

Attachments:

Figure 1 – Site Location
Figure 2 – USGS Topographic Map
Figure 3 – Site Plan
Figure 4 – Bulk Fuel Farm Aerial View
Figure 5 – Bulk Fuel Farm Post Construction Reconfiguration and Site Restoration



Installation Data

- Installation Boundary

Hydrology

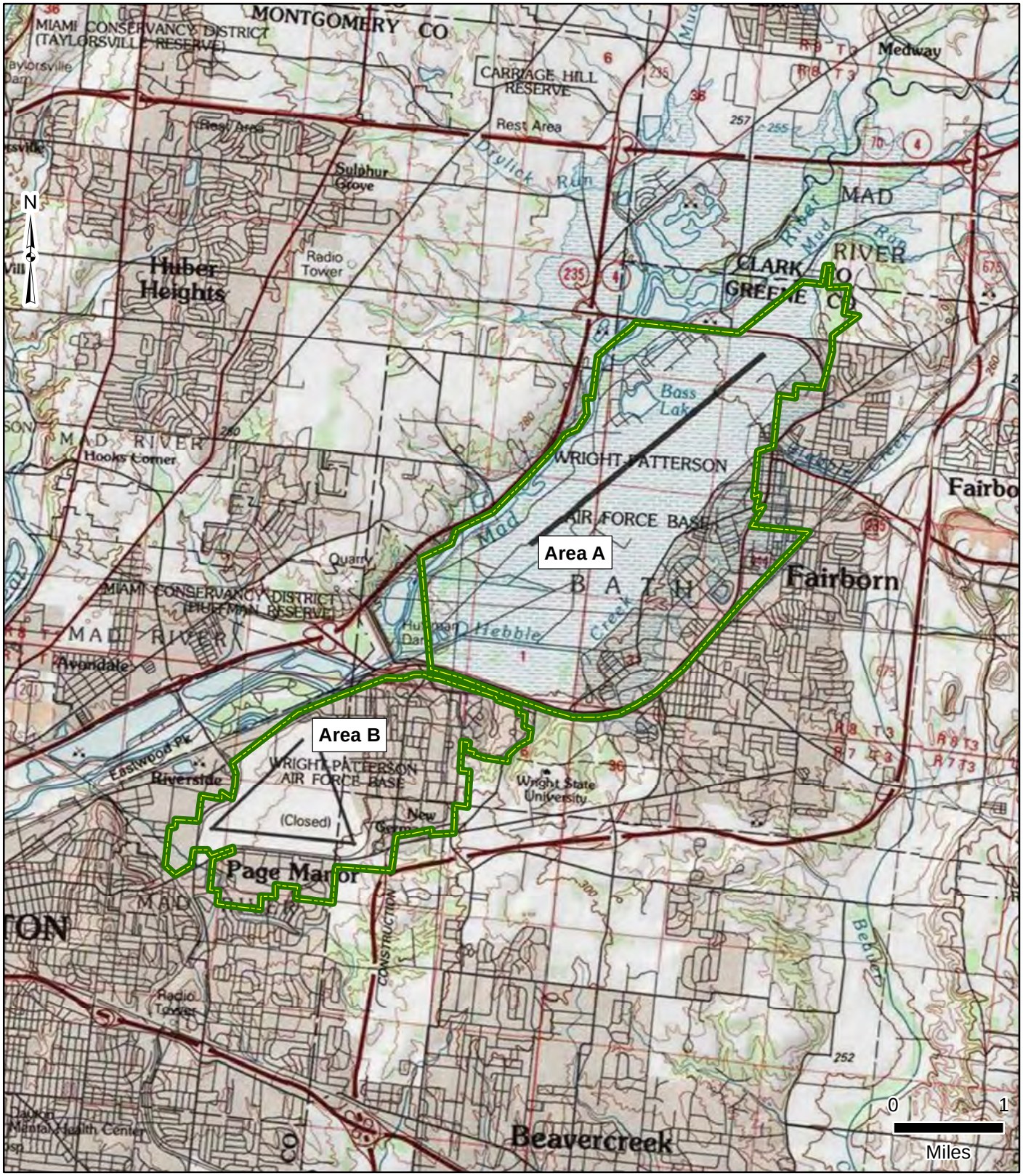
- Perennial Creek/Stream
- Intermittent Creek/Stream
- Waterbody

Transportation

- Highway
- Major Road
- Secondary Road

Wright-Patterson Air Force Base, Ohio	
Date: October 2017 Source: ESRI 2014	Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 1	Location Map

\\lovetongis\GIS\data\Federal\Midwest\Ohio\WrightPatterson_AFB\MXD\Figure 1 - Location Map.mxd



Installation Data

Installation Boundary

Wright-Patterson Air Force Base, Ohio	
Date: October 2017 Source: ESRI 2014	Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 2	USGS Topographic Map

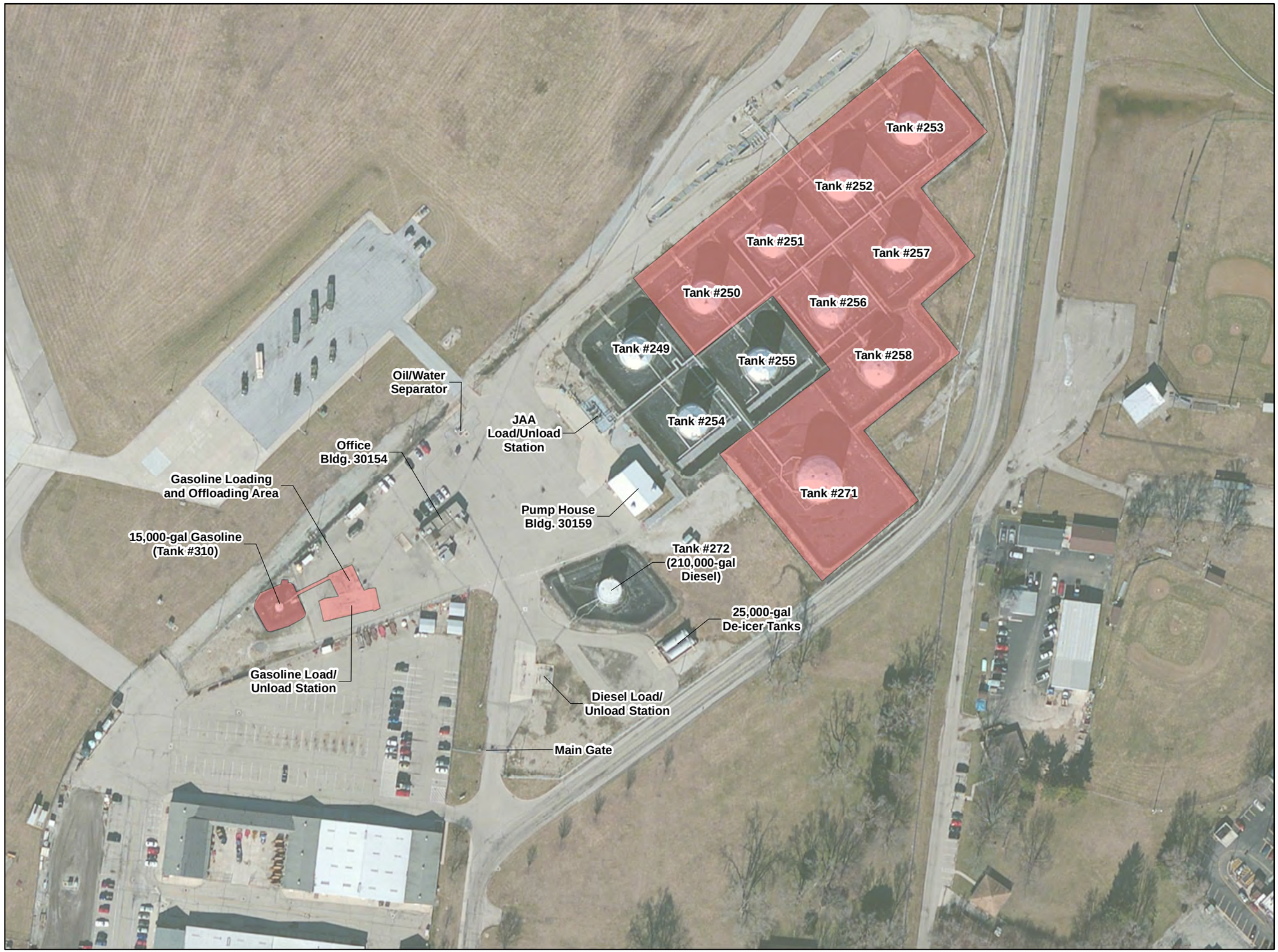
\\lovetongis\GIS\data\Federal\Midwest\Ohio\WrightPatterson_AFB\MXD\Figure 2 - USGS Topographic Map.mxd

Installation Data

Installation Boundary

Wright-Patterson Air Force Base, Ohio	
Date: October 2017 Source: ESRI 2014	Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 3	Site Plan

\\lovetongis\GIS\data\Federal\Midwest\Ohio\WrightPatterson_AFB\MXD\Figure 3 - Site Plan.mxd



Legend

ASTs and associated structures to be demolished

Note:
JAA = Jet A Aviation Fuel

N

0 200

Feet

Wright Patterson Air Force Base, Ohio	
Date: Oct. 2017 Source: ESRI 2014	Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 4	Above Ground Storage Tank Bulk Fuel Farm Demolition Aerial View

\\tovetongis\GIS\data\Federal\Midwest\Ohio\WrightPatterson_AFB\MXD\Figure 4 - Abovegound Storage Tank Site Plan.mxd

Legend

- Reconfigured Receipt Feed Line
- Repaved with Asphalt
- Reseeded with Native Grass Seed

Note:
JAA = Jet A Aviation Fuel

N

0 200

Feet

Wright-Patterson Air Force Base, Ohio	
Date: October 2017 Source: ESRI 2014	Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 5	Above Ground Storage Tank Bulk Fuel Farm Post Construction Reconfiguration and Site Restoration

\\lovetongis\GIS\data\Federal\MidwestOhio\WrightPatterson_AFB\MXD\Figure 5 - Aboveground Storage Tank Bulk Fuel Farm R and R.mxd

Environmental Assessment

Interagency and Intergovernmental Coordination for Environmental Planning List

Federal Agency Contacts

U.S. Fish and Wildlife Service
6950-H Americana Parkway
Reynoldsburg, Ohio 43068-4127

U.S. Environmental Protection Agency
Region 5
25063 Center Ridge Road
Westlake, Ohio 44145-4114

U.S. Army Corps of Engineers
Great Lakes & Ohio River Division
550 Main Street, Room 10524
Cincinnati, Ohio 45202-3222

U.S. Department of Housing and Urban Development
Bricker Federal Building
200 North High Street
7th Floor
Columbus, Ohio 43215-2463

State Agency Contacts

Mr. Kurt Rinehart
Miami Conservancy District
38 E. Monument Avenue
Dayton, Ohio 45402

Ohio Department of Natural Resources
Division of Natural Areas and Preserves
1889 Fountain Square, Bldg. F-1
Columbus, Ohio 43224-1388

State Historic Preservation Office
800 E. 17th Avenue
Columbus Ohio, 43211

Ohio Department of Transportation
Central Branch
1980 West Broad Street
Columbus, Ohio 43223

Local Agency and Tribal Contacts

Mr. Johnathan L. Buffalo
Historical Preservation
Director/NAGPRA Rep
Sac and Fox of the Mississippi in Iowa
349 Meskwaki Road
Tama, Iowa 52339-9634
Email: director.historic@meskwaki-nsn.gov
Tel: 641-484-3185

Mr. Gary Loonsfoot, Jr. THPO
Tribal Historic Preservation Office
Keweenaw Bay Indian Community
16429 Beartown Road
Baraga, Michigan 49908
906 353-6623 x4178
Email: gloonsfoot@kbic-nsn.gov

Mr. William Johnson
The Saginaw Chippewa Indian Tribe
6650 East Broadway
Mt Pleasant, Michigan 48858
Email: WJohnson@sagchip.org
(989) 775-4000 x 5

Ms. Sheila Bird
THPO
Special Projects
Cherokee Nation
P.O. Box 948
Tahlequah, Oklahoma 74465-0948
Tel: (918) 453-5389
sheila-bird@cherokee.org

Environmental Assessment
Interagency and Intergovernmental Coordination for Environmental Planning List

Mr. Jay Toth, Tribal Archaeologist
Seneca Nation of Indians
90 Ohi:yo' Way
Salamanca, New York 14779
Tel: 716.945.1790 x 3580
Fax: 716.945.8133
Email: Jay.Toth@sni.org

Mr. William Tarrant, THPO
Seneca Cayuga Tribe of Oklahoma
23701 S. 655 Road
Grove, Oklahoma 74344
Tel: 918.787.5452 x 344
Fax: 918.787.7979
Email: wtarrant@sctribe.com

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Agency Responses

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OHIO HISTORY CONNECTION

November 6, 2017

In reply, please refer to:
2017-MOT-40190

Paul F. Woodruff, CRM
88 CEG/CEIEA
1450 Littrell Road
Wright-Patterson Air Force Base, Ohio 45433-5209

RE: Aboveground Storage Tank (AST) Demo and Fuel Tank Farm Modifications
Wright-Patterson Air Force Base Area A, Montgomery County, Ohio

Dear Mr. Woodruff:

This letter is in response to correspondence received on October 12, 2017. Our comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated regulations at 36 CFR Part 800.

Wright-Patterson Air Force Base (WPAFB) is preparing an Environmental Assessment (EA) to evaluate impacts for the aboveground storage tank (AST) demolition and fuel tank farm reconfiguration/modification. The existing fuel tank farm is located at 5785 Skeel Avenue. The proposed undertaking is located outside of any known eligible historic districts at WPAFB.

We have reviewed the project submission. Based on the information provided, we agree that there are no known historic properties located within the undertaking's Area of Potential Effects. Therefore, we concur that the proposed undertaking will have no effect on historic properties. No further coordination with this office is necessary, unless there is a change in the proposed project or archaeological remains are discovered during project implementation. In such a situation, our office should be contacted as per 36 CFR 800.13.

If you have any questions, please contact me at jwilliams@ohiohistory.org or (614) 298-2000. Thank you for your cooperation.

Sincerely,

Joy Williams

Joy Williams, Project Reviews Manager
Resource Protection and Review

"Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs."

RPR Serial No: 1070843

MCD
MIAMI CONSERVANCY DISTRICT

38 E. Monument Ave.
Dayton, OH 45402
(937) 223-1271

November 14, 2017

Mr. Darryn Warner
88 ABW/CEIEA
1450 Littrell Road, Building 22
Wright-Patterson AFB, OH 45433-5209

Re: Huffman Retarding Basin, WPAFB, EA for Demolition of tanks

Dear Mr. Warner:

We have reviewed the Environmental Assessment (EA) to evaluate impacts associated with the proposed demolition of serveral aboveground storage tanks (AST's) at the bulk fuel farm at WPAFB.

As the proposed project is located within the Huffman Retarding Basin, it is subject to those restrictions as set forth by the Miami Conservancy District (MCD) in Greene County Deed Book 129, Page 146 on December 16, 1922.

Based on our review it appears the proposed actions would not adversely affect the retarding basin.

Thank you for the opportunity to review and provide comments. If you have any further questions please contact me at (937) 223-1278, ext. 3230 or by email at rfarrier@mcdwater.org.

Sincerely,

Roxanne H. Farrier
Property Administrator

cc: Kurt Rinehart

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

NOV 15 2017

REPLY TO THE ATTENTION OF:

Melanie Pershing
88 CEG/CEIEA
U.S. Air Force
1450 Littrell Road
Wright-Patterson AFB, Ohio 45433-5209

Re: Agency Scoping for the Wright-Patterson Air Force Base Above Ground Storage Tank Demolition, Disposal, and Fuel Tank Farm Reconfiguration/Modification Project, Greene County, Ohio

Dear Ms. Pershing:

EPA has reviewed the referenced project scoping document, dated October 19, 2017, which was prepared by EA Engineering, Science, and Technology, Inc., consultant to the U.S. Air Force (USAF). Our comments are provided pursuant to our authorities under the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

The proposed project involves demolition and disposal of 8 above-ground storage tasks (ASTs), including associated pipelines, fill stations, fittings, and dikes. Also included will be chemical testing and disposal of associated contaminated soils, and reconfiguration and modification of the 3 ASTs that will remain.

We have some general recommendations that we believe will assist the development of the draft environmental assessment (EA), including comments on water quality, stormwater management and resiliency, air quality strategies, recycling, erosion control, pollinators, native plant species, and right-of-way maintenance designed to reduce maintenance costs, and consultation records, as stated below.

Water Quality

The EA should describe how the proposed action may affect Clean Water Act (CWA) Section 303(d) listed water bodies and their listing status as impaired. We recommend that this section of the document discuss current impairments, and how the proposed action may affect, either positively or detrimentally, the impairment.[1]

[1] A list of Ohio impaired waterbodies can be found at: http://www.epa.ohio.gov/dsw/tmdl/OhioIntegratedReport.aspx

Stormwater Management and Resiliency

One-hundred-year storm events are occurring with increasing frequency. The number of storm events occurring with greater intensity is also increasing. We are glad to see USAF propose installation of green infrastructure as part of the proposed action. We request the EA provide more detail about the proposed green infrastructure.

The proposed project is located within a 100-year floodplain. We recommend any new or repaired fuel containment systems be capable of withstanding the volume of stormwater associated with a 500-year flood event without being overtopped.

Air Quality Strategies

We recommend USAF consider implementing air quality best management practices (BMPs) during the construction phase of this project. Several recommendations are included in an enclosure entitled, *U.S. Environmental Protection Agency Diesel Emission Reduction Checklist.*

Recycling

We are glad to see recycling being proposed for the 8 fuel tanks that are being proposed for demolition. We encourage USAF to elaborate on the recycling effort, and explain how doing so is beneficial to both the environment and the project cost (if applicable).

Erosion Control

Reseeding of exposed soils with native grasses and/or plants should be performed as soon as possible in accordance with erosion control BMPs.

Pollinators, Native Plant Species, and Right-of-Way Maintenance Designed to Reduce Maintenance Costs

The 2014 Presidential Memorandum entitled, "Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators[2]" responds to evidence of steep declines in certain pollinator populations. Pollinators are critical contributors to our nation's economy, food system, and environmental health. Vegetation within the project area can provide much needed habitat for pollinators, providing food, shelter, and connections to other patches of habitat. Maintenance staff and landscape designers can all take steps to improve the quality of vegetation to benefit pollinators, steps that can also reduce maintenance costs, maintain public safety, and improve public good will.

Consultation Records

EPA recommends attaching consultation documents with future NEPA documents regarding wetlands (U.S. Army Corps of Engineers), historic resources (Ohio Historic Preservation Agency), and Federal and state threatened and endangered species (U.S. Fish and Wildlife Service and the Ohio Department of Natural Resources).

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[2] www.whitehouse.gov/briefing-room/presidentialactions/presidential-memoranda

Please send future NEPA documents to the address listed on the first page of this letter. We are available to discuss these scoping comments at your convenience. Please feel free to contact Mike Sedlacek of my staff at 312-886-1765, or by email at sedlacek.michael@epa.gov.

Sincerely,

Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Encl: U.S. Environmental Protection Agency - Diesel Emission Reduction Checklist

cc: Karen Stackpole, EA Engineering, Science and Technology, Inc.

U.S. Environmental Protection Agency - Diesel Emission Reduction Checklist

- Use low-sulfur diesel fuel (15 ppm sulfur maximum) in construction vehicles and equipment.
- Retrofit engines with an exhaust filtration device to capture diesel particulate matter before it enters the construction site.
- Position the exhaust pipe so that diesel fumes are directed away from the operator and nearby workers, reducing the fume concentration to which personnel are exposed.
- Use catalytic converters to reduce carbon monoxide, aldehydes, and hydrocarbons in diesel fumes. These devices must be used with low sulfur fuels.
- Use enclosed, climate-controlled cabs pressurized and equipped with high efficiency particulate air (HEPA) filters to reduce the operators' exposure to diesel fumes. Pressurization ensures that air moves from inside to outside. HEPA filters ensure that any incoming air is filtered first.
- Regularly maintain diesel engines, which is essential to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance. For example, blue/black smoke indicates that an engine requires servicing or tuning.
- Reduce exposure through work practices and training, such as turning off engines when vehicles are stopped for more than a few minutes, training diesel-equipment operators to perform routine inspection, and maintaining filtration devices.
- Repower older vehicles and/or equipment with diesel- or alternatively-fueled engines certified to meet newer, more stringent emissions standards. Purchase new vehicles that are equipped with the most advanced emission control systems available.
- Use electric starting aids such as block heaters with older vehicles to warm the engine reduces diesel emissions.
- Use respirators, which are only an interim measure to control exposure to diesel emissions. In most cases, an N95 respirator is adequate. Workers must be trained and fit-tested before they wear respirators. Depending on work being conducted, and if oil is present, concentrations of particulates present will determine the efficiency and type of mask and respirator. Personnel familiar with the selection, care, and use of respirators must perform the fit testing. Respirators must bear a NIOSH approval number.
- Per Executive Order 13045 on Children's Health[3], EPA recommends operators and workers pay particular attention to worksite proximity to places where children live, learn, and play, such as homes, schools, daycare centers, and playgrounds. Diesel emission reduction measures should be strictly implemented near these locations in order to be protective of children's health

[3] Children may be more highly exposed to contaminants because they generally eat more food, drink more water, and have higher inhalation rates relative to their size. Also, children's normal activities, such as putting their hands in their mouths or playing on the ground, can result in higher exposures to contaminants as compared with adults. Children may be more vulnerable to the toxic effects of contaminants because their bodies and systems are not fully developed and their growing organs are more easily harmed. EPA views childhood as a sequence of life stages, from conception through fetal development, infancy, and adolescence.

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994

TAILS# 03E15000-2018-TA-0192

Dear Mr. Warner,

We have received your recent correspondence requesting information about the subject proposal. There are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area.

FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES COMMENTS: Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

Dan Everson

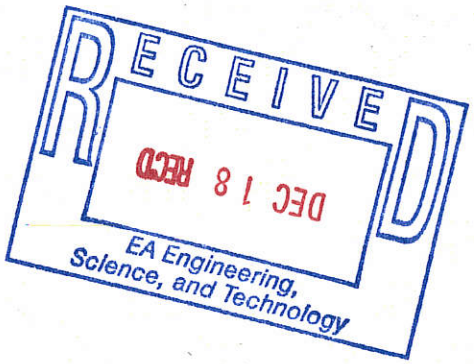
Field Supervisor

DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHTH STREET
HUNTINGTON, WEST VIRGINIA 25701-2070

REPLY TO
ATTENTION OF

December 11, 2017

Regulatory Division
North Branch
LRH-2017-954-GMR



Ms. Karen Stackpole
EA Engineering, Science and Technology, Inc.
301 Metro Center Boulevard, Suite 102
Warwick, Rhode Island 02886

Dear Ms. Stackpole:

I refer to a letter you submitted on behalf of the Wright-Patterson Air Force Base, received in this office on October 19, 2017, concerning the Environmental Assessment for the proposed demolition of several above-ground storage tanks (ASTs) and the reconfiguration/modification of the existing fuel tank farm. The project site is located within the Wright-Patterson Air Force Base at approximately 39.831158 latitude,-84.027873 longitude in Greene County, Ohio. On-site waters flow to the Mad River, a direct tributary of the Great Miami River, a traditional navigable water of the United States. We have assigned the following file number to your proposal: LRH-2017-954-GMR. Please reference this file number on all future correspondence related to the subject proposal.

The United States Army Corps of Engineers' (Corps) authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act requires a Department of the Army (DA) permit be obtained prior to discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 requires a DA permit be obtained in advance of any work in, on, over or under a navigable water of the United States.

The information submitted on October 19, 2017 indicates that the proposed project will involve the demolition of eight inactive ASTs, the demolition of one active AST, and associated pipelines, a fill station, and dikes. If the Wright-Patterson Air Force Base AST Demolition Project requires any work in waters of the United States, including wetlands, authorization under our Section 404 of the Clean Water Act and/or our Section 10 of the Rivers and Harbors Act of 1899 authorities may be required.

The Corps requires additional information, including a delineation of waters of the United States, on the Wright-Patterson Air Force Base AST Demolition Project to determine the scope of our review for this project. Once we receive more specific information regarding the location of and any impact to waters of the United States associated with the proposed project, we will determine the limits of the Corps' jurisdiction and we will notify you accordingly.

We appreciate your concern for our nation's aquatic resources. If you have any questions concerning the above, please contact Kayla Adkins of the North Branch at 304-399-5850, by mail at the above address, or by email at kayla.n.adkins@usace.army.mil.

Sincerely,

SPAGNA.TERESA.D.1229740519

Digitally signed by SPAGNA.TERESA.D.1229740519
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=SPAGNA.TERESA.D.1229740519
Date: 2017.12.11 14:27:01 -05'00'

Teresa D. Spagna
Chief, North Branch

Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

Office of Real Estate
Paul R. Baldridge, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6649
Fax: (614) 267-4764

February 12, 2018

Darryn M. Warner
Department of the Air Force
88 CEG/CEIEA
1450 Littrell Rd. Bldg. 22
WPAFB, OH 45433

Re: 18-076; Bulk Fuel Farm Demo - EA

Project: The proposed project involves the demolition of eight inactive ASTs and one currently/temporarily active AST (seven of the 10,000-barrel ASTs, the 20,000-barrel AST, and the 15,000-gallon gasoline AST), along with associated pipelines, fill station, and dikes.

Location: The proposed project is located at the Wright-Patterson Air Force Base in Greene County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Natural Heritage Database: The Natural Heritage Database has the following records at or within a one-mile radius of the project area:

Midland sedge (*Carex mesochorea*), T
Upland sandpiper (*Bartramia longicauda*), E

The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity. Additional comments on some of the features may be found in pertinent sections below.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; A = species recently added to state inventory, status not yet determined; X = presumed extirpated in Ohio; FE = federal endangered, FT = federal threatened, FSC = federal species of concern, FC = federal candidate species.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation.

The project is within the vicinity of records for the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the clubshell (*Pleurobema clava*), a state endangered and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel, and the snuffbox (*Epioblasma triquetra*), a state endangered and federally endangered mussel, the black sandshell (*Ligumia recta*), a state threatened mussel, and the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the tonguetied minnow (*Exoglossum laurae*), a state threatened fish. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this species.

The project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet fields and meadows. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the eastern massasauga (*Sistrurus catenatus*), a state endangered and a federally threatened snake species. The eastern massasauga uses a range of habitats including wet prairies, fens, and other wetlands, as well as adjacent drier upland habitat. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). Due to the location, the type of habitat at the project site, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus cyaneus*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. Due to the location, the type of habitat at the project site, and the type of work proposed, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the U.S. Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

John Kessler
ODNR Office of Real Estate
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693
John.Kessler@dnr.state.oh.us

Government to Government Consultation

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Interagency and Intergovernmental Coordination for Environmental Planning

Coordination Letter Previously Distributed for Review for the Following Tribes:

Cherokee Nation, Sheila Bird, THPO

Keweenaw Bay Indian Community, Gary Loonsfoot Jr., THPO

Sac and Fox of the Mississippi in Iowa, Johnathan Buffalo, Director/NAGPRA Rep

Seneca Cayuga Tribe of Oklahoma, William Tarrant, THPO

Seneca Nation of Indians, Jay Toth, Tribal Archaeologist

The Saginaw Chippewa Indian Tribe, William Johnson, THPO

19 October 2017

Mr. Paul F. Woodruff
Cultural Resources Manager
88 CEG/CEIEA
1450 Littrell Road, Building 22
Wright-Patterson AFB, Ohio 45433-5209

Distribution

Dear Tribal Representative:

Wright-Patterson Air Force Base (WPAFB) is preparing an Environmental Assessment (EA) to evaluate impacts for the aboveground storage tank (AST) demolition and fuel tank farm reconfiguration/modification. The existing fuel farm is located at 5785 Skeel Avenue, in Area A on the northeastern portion of WPAFB (Project Area) (Figure 1 and 2). The location of the bulk fuel farm on the installation is depicted on Figure 3. There are no identified properties eligible for listing on the National Register of Historic Places located within the Project Area. It is our opinion that this proposed action would have no adverse effects on historic properties. In accordance with 36 CFR 800.11(e), we are submitting the following documentation:

Description of the Undertaking. The proposed project involves the demolition of eight inactive ASTs and one currently/temporarily active AST (seven of the 10,000-barrel ASTs, the 20,000-barrel AST, and the 15,000-gallon gasoline AST), along with associated pipelines, fill station, and dikes. One receipt feed line header would be reconfigured to tie into the existing header in an alternate location and service the ASTs that would remain. The demolition process would involve the following:

- Abatement of hazardous materials identified on each AST and at some fittings (asbestos, lead-based paint, and hexavalent chromium have been detected). The material would be characterized and removed, and the residual contents would be properly disposed of as hazardous material in accordance with federal and state regulations.
- The ASTs would be vented to remove hazardous vapors. Monitoring of the interior space of the ASTs would be performed to verify that each AST has been properly vented.
- Cleaning (i.e. pressure wash) interior surfaces; containerization and characterization of the rinsate, and proper disposal of wastes.
- Each tank and pipeline would be dismantled and the steel would be recycled.
- The concrete tank foundations, ancillary features, containment lining, and other non-recyclable components associated with the infrastructure and containment areas would be demolished and staged for disposal.
- Stormwater infrastructure (i.e. pipes and catch basins) would be removed and disposed.
- The soil from the containment dikes and any soil encountered during excavations would be excavated and screened using a photo-ionization detector (PID), to facilitate

segregation of soil on the basis of petroleum impacts. Soil deemed to be "clean" may be used as fill if needed at the fuel farm area, or transported to a clean fill stockpile as designated by WPAFB personnel. Any excavated soil found to be impacted by petroleum would be properly disposed.

Stormwater management infrastructure, including catch basins and piping, within the footprint of the demolition action would be removed and an alternate stormwater management feature would be designed and installed. The features of the bulk fuel farm , including the preferred alternative are depicted on Figure 4. The inventory of assets in Table 1 have been identified by WPAFB and DLA-E as those that are included in the scope of this project.

Table 1: Bulk Fuel Storage Tanks for Demolition

Facility Number	Tank Number	Tank Size	(Former) Contents	Current Status[1]
7049	250	10,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in September 2015. This tank is empty.
7050	251	10,000 barrel	Jet A Aviation Fuel	Approximately 1,200 gallons of jet fuel AA remains in tank.
7015	252	10,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in September 2015. This tank is empty.
7016	253	10,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in August 2009. This tank is empty.
7053	256	10,000 barrel	Jet A Aviation Fuel	Currently in-use until repairs to tanks numbers 249 and 254 are completed.
7017	257	10,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in September 2009. This tank is empty.
7060	258	10,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in March 2000. This tank is empty.
7009	271	20,000 barrel	Jet A Aviation Fuel	Inspected and cleaned in April 2000. This tank is empty.
7097	310	15,000 gallon	Gasoline	Tank is empty, fuel remains in lines. This facility includes fill station and dike.

1. Status as of 2 December 2016, provided by WPAFB via email correspondence.

Description of Steps Taken to Identify Historic Properties. In accordance with 36 CFR 800.4(c), WPAFB has evaluated the historic significance of base facilities applying the National Register criteria. WPAFB has assessed structures on the installation that are 50 years old or older, and has also assessed structures for exceptional significance related to the Cold War. There are no known historic properties within the Area of Potential Effects (APE) as depicted in Figure 4.

Description of Potentially Affected Properties. There are no known historic properties located within the APE. All of the proposed undertaking is outside of any known eligible historic districts of WPAFB. There are no known archeological resources in the Project Area that could be affected by the proposed demolition activities. In the event that an unanticipated discovery of any archeological resource, including any Native American human remains or cultural artifacts are encountered, the WPAFB agency official would ensure compliance with the Native American Graves Protection and Repatriation Act of 1995 (NAGRPA) [25 U.S.C. 3001-3013, 43 CFR 10], and any applicable statutory and regulatory requirements of the American Indian Religious Freedom Act (AIRFA) [42 U.S.C. 4321-4370c], and the National Historic Preservation Act (NHPA) [16 U.S.C. 470-470w], as well as Executive Order 13007 and White House Memorandum, 29 April 1994.

Description of the Undertakings Effects on Historic Properties. It is our opinion that the undertaking, as proposed, would not affect any prehistoric or historic structures or properties within the APE. There are no known historic structures or properties within the APE; therefore, there would be no effects to any historic property. There are no known prehistoric resources within the APE. Demolition work would occur in areas previously disturbed, and no new areas are slated for disturbance as a result of this proposed project. Therefore, it is our opinion that the proposed undertaking would have no effect on historic or prehistoric resources.

Please review the information provided and inform us of your concurrence with our determination that there would be no adverse effect to historical properties or known archeological resources. Should you have any questions, I can be reached at (937) 257-1374 or by email at Paul.Woodruff@us.af.mil.

Sincerely,

Paul F. Woodruff
Cultural Resources Manager
Environmental Branch

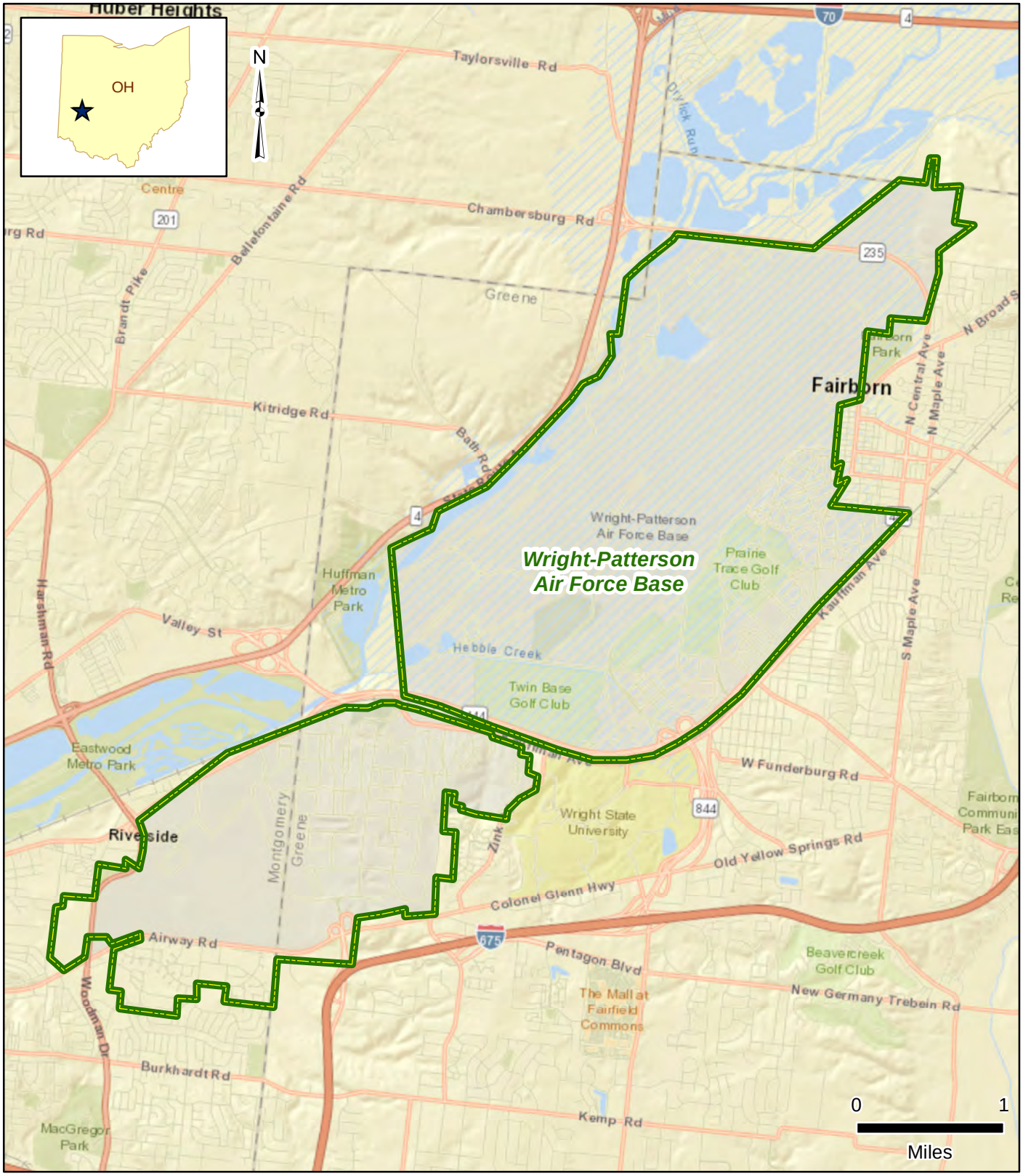
Attachments:

Figure 1 – Site Location
Figure 2 – USGS Topographic Map

Figure 3 – Site Plan
Figure 4 – Bulk Fuel Farm Aerial View

Distribution:

Cherokee Nation, Sheila Bird, THPO
Keweenaw Bay Indian Community, Gary Loonsfoot Jr., THPO
Sac and Fox of the Mississippi in Iowa, Johnathan Buffalo, Director/NAGPRA Rep
Seneca Cayuga Tribe of Oklahoma, William Tarrant, THPO
Seneca Nation of Indians, Jay Toth, Tribal Archaeologist
The Saginaw Chippewa Indian Tribe, William Johnson, THPO



Installation Data

- Installation Boundary

Hydrology

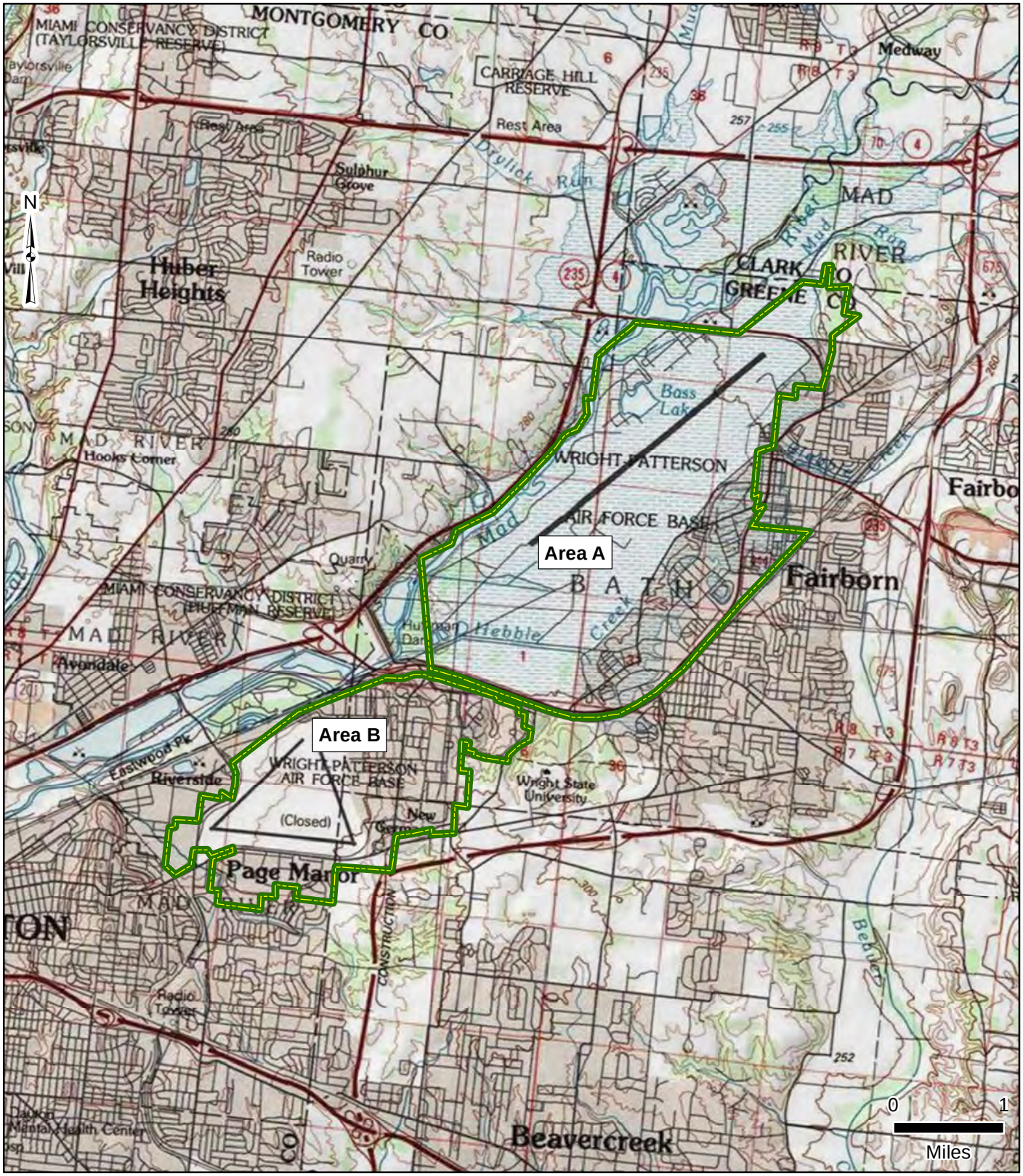
- Perennial Creek/Stream
- Intermittent Creek/Stream
- Waterbody

Transportation

- Highway
- Major Road
- Secondary Road

Wright-Patterson Air Force Base, Ohio	
Date: October 2017 Source: ESRI 2014	Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 1	Location Map

\\lovetongis\GIS\data\Federal\Midwest\Ohio\WrightPatterson_AFB\MXD\Figure 1 - Location Map.mxd



Installation Data

Installation Boundary

Wright-Patterson Air Force Base, Ohio	
Date: October 2017 Source: ESRI 2014	Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 2	USGS Topographic Map

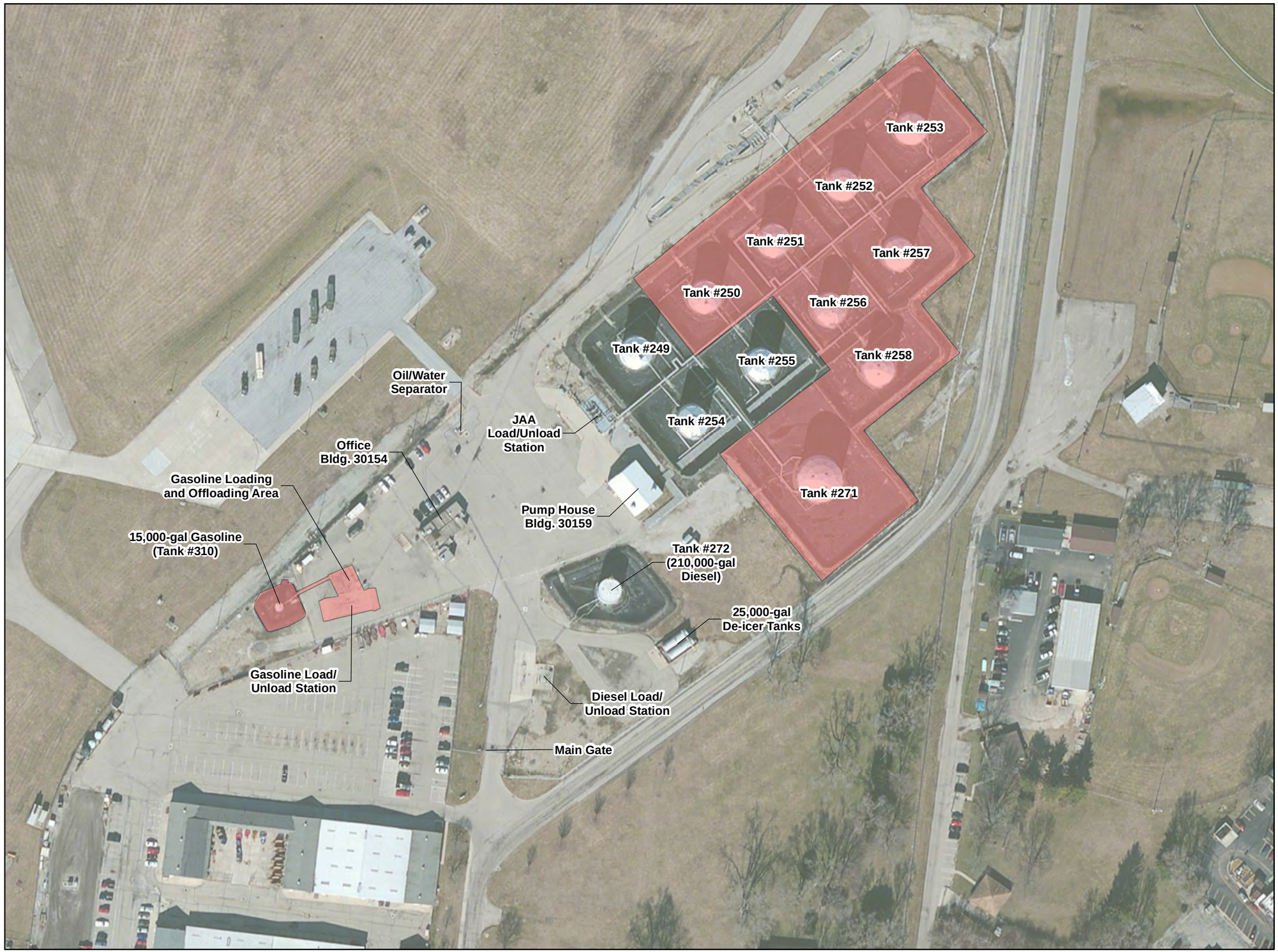
\\lovetongis\GIS\data\Federal\Midwest\Ohio\WrightPatterson_AFB\MXD\Figure 2 - USGS Topographic Map.mxd

Installation Data

Installation Boundary

Wright-Patterson Air Force Base, Ohio	
Date: October 2017 Source: ESRI 2014	Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 3	Site Plan

\\lovetongis\GIS\data\Federal\Midwest\Ohio\WrightPatterson_AFB\MXD\Figure 3 - Site Plan.mxd



Legend

ASTs and associated structures to be demolished

Note:
JAA = Jet A Aviation Fuel

N

0 200

Feet

Wright Patterson Air Force Base, Ohio	
Date: Oct. 2017 Source: ESRI 2014	Prepared for: U.S. Air Force Civil Engineer Center and Defense Logistics Agency - Energy
Figure 4	Above Ground Storage Tank Bulk Fuel Farm Demolition Aerial View

\\tovetongis\GIS\data\Federal\Midwest\Ohio\WrightPatterson_AFB\MXD\Figure 4 - Abovegound Storage Tank Site Plan.mxd

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 88TH AIR BASE WING
WRIGHT-PATTERSON AIR FORCE BASE OHIO

2 May 2018

MEMORANDUM FOR RECORD

FROM: 88 CEG/CEIEA
1450 Littrell Road
WPAFB, 45433

SUBJECT: WPAFB Section 106 consultation with the 5 Tribes that have shown interest in WPAFB undertakings

The purpose of this memo is to document the Section 106 consultation efforts with the five Tribes that have shown an interest in undertaking at WPAFB. This memo documents efforts for the following project EAs:

NRO EA
TLF EA
Fuel Tank Removal EA
Drinking Water EA
Runway EA

1. Initial responses for all these consultation letters were either no response at all or Tribal Historic Preservation Officer has no issues with the proposed project.

2. Two follow up phone calls were made obviously at various times, most recently on 2 May 2018, since several of these undertakings were sent a couple of years ago with the same responses.

3. The Tribes reiterated that they have small staffs and an enourmous amount of these letters and would prefer consultation only on matters concerning the Adena Mounds or inadvertent discoveries as noted in the 2018 Installation Tribal Relations Plan.

PAUL F. WOODRUFF
Cultural Resources Manager
Environmental Branch

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Agency Responses

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From: PERSHING, MELANIE A NH-03 USAF AFMC 88 CEG/CEIEA
To: Stackpole, Karen; Mack, Ronald
Subject: FW: WPAFB - Above Ground Storage Tank Removal Project - Std Section 106 Letter
Date: Wednesday, October 11, 2017 10:03:47 AM

FYI

Melanie A. Pershing
88 CEG/CEIEA
1450 Littrell Road
Wright-Patterson AFB, OH 45433-5209
(937)257-8194 DSN 787-8194

-----Original Message-----
From: WOODRUFF, PAUL F CIV USAF AFMC 88 CEG/CEIEA
Sent: Wednesday, October 11, 2017 10:02 AM
To: PERSHING, MELANIE A NH-03 USAF AFMC 88 CEG/CEIEA <melanie.pershing@us.af.mil>
Subject: FW: WPAFB - Above Ground Storage Tank Removal Project - Std Section 106 Letter

FYI and you can pass this on to the contractor.

v/r,
Paul

-----Original Message-----
From: Jay Toth [mailto:jay.toth@sni.org]
Sent: Wednesday, October 11, 2017 9:38 AM
To: WOODRUFF, PAUL F CIV USAF AFMC 88 CEG/CEIEA <paul.woodruff@us.af.mil>
Subject: [Non-DoD Source] RE: WPAFB - Above Ground Storage Tank Removal Project - Std Section 106 Letter

SNI-THPO has no issues with the storage tank removal.

JAY toth, MA, MS

Seneca Nation
Tribal Archeologist
90 OHI:YO WAY
Salamanca,NY 14779

(716)-945-1790
Ext. 3582

https://na01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsni.org%2F&data=01%7C01%7Ckstackpole%40eaest.com%7Cd99194a2494e4d3f674b08d510b0e1c0%7C037230a09aa24474a7fd1ffe5d8e4bfc%7C1&sdata=%2FcPioTxIidKNLWISL3ur3C3nSLasALYr6G5%2FRByOHt8%3D&reserved=0

-----Original Message-----
From: WOODRUFF, PAUL F CIV USAF AFMC 88 CEG/CEIEA [mailto:paul.woodruff@us.af.mil]
Sent: Wednesday, October 11, 2017 9:35 AM
To: Gary Loonsfoot Jr; Jay Toth; Johnathan Buffalo; William Johson; William Tarrant
Subject: WPAFB - Above Ground Storage Tank Removal Project - Std Section 106 Letter

All-

Attached is a standard Section 106 consultation letter for the subject proposed project here at Wright-Patterson Air Force Base. Please review the information and provide any comments or concurrence with our finding in the letter. Your time is very much appreciated.

Thanks,
Paul

Paul F. Woodruff, Architect
Cultural Resources Manager
88 CEG/CEIEA
1450 Littrell Road
WPAFB, Ohio 45433
937-257-1374

History is that certainty produced at the point where the imperfections of memory meet the inadequacies of documentation. — Julian Barnes

Appendix B

Air Modeling Input Data

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AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Instruction 32-7040, Air Quality Compliance And Resource Management; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: WRIGHT-PATTERSON AFB
County(s): Greene; Montgomery
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Deconstruction and Reconfiguration of the Aboveground Fuel Storage Tank Farm

c. Project Number/s (if applicable):

d. Projected Action Start Date: 3 / 2019

e. Action Description:

Air Force Civil Engineer Center (AFCEC), DLA E, and WPAFB are working together to deconstruct and remove nine storage tanks and associated dikes, pipelines, gasoline loading/unloading station (concrete pad), and other infrastructure associated with the nine deconstructed tanks.

f. Point of Contact:

Name: Sunhee Park
Title: Engineer IV
Organization: EA Engineering, Science and Technology, Inc., PBC
Email: spark@eaest.com
Phone Number: 410-584-7000

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions.

"Air Quality Indicators" were used to provide an indication of the significance of potential impacts to air quality. These air quality indicators are EPA General Conformity Rule (GCR) thresholds (de minimis levels) that are applied out of context to their intended use. Therefore, these indicators do not trigger a regulatory requirement; however, they provide a warning that the action is potentially significant. It is important to note that these indicators only provide a clue to the potential impacts to air quality.

Given the GCR de minimis threshold values are the maximum net change an action can acceptably emit in non-attainment and maintenance areas, these threshold values would also conservatively indicate an actions emissions within an attainment would also be acceptable. An air quality indicator value of 100 tons/yr is used based on the GCR de minimis threshold for the least severe non-attainment classification for all criteria pollutants (see 40 CFR 93.153). Therefore, the worst-case year emissions were compared against the GCR Indicator and are summarized below.

Analysis Summary:

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

2019

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.656	100	No
NOx	4.296	100	No
CO	3.850	100	No
SOx	0.008	100	No
PM 10	14.126	100	No
PM 2.5	0.209	100	No
Pb	0.000	100	No
NH3	0.003	100	No
CO2e	812.7		

2020 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	100	No
NOx	0.000	100	No
CO	0.000	100	No
SOx	0.000	100	No
PM 10	0.000	100	No
PM 2.5	0.000	100	No
Pb	0.000	100	No
NH3	0.000	100	No
CO2e	0.0		

None of estimated emissions associated with this action are above the GCR indicators, indicating no significant impact to air quality; therefore, no further air assessment is needed.

Sunhee Park

6/12/2018

Sunhee Park, Engineer IV — DATE