

Draft-Final

**ENVIRONMENTAL ASSESSMENT
ACQUISITION MANAGEMENT COMPLEX
PHASE V
WRIGHT-PATTERSON AIR FORCE BASE, OHIO**

88th CIVIL ENGINEER GROUP



December 2016



FOR PUBLIC REVIEW

**Draft Final
Environmental Assessment
Acquisition Management Complex – Phase V
Wright-Patterson Air Force Base, Ohio**

**Contract No. FA8601-11-D-0002
Delivery Order 0034**

Submitted to:

**Wright-Patterson Air Force Base
88th Civil Engineer Group
Installation Management Division**

December 2016

Draft Final
FINDING OF NO SIGNIFICANT IMPACT
ACQUISITION MANAGEMENT COMPLEX – PHASE V
WRIGHT-PATTERSON AIR FORCE BASE, OHIO
December 2016

Pursuant to the Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA), 40 Code of Federal Regulations (CFR) 1500 - 1508, Department of Defense Directive (DoDD) 6050.1 and Air Force regulation 32 CFR Part 989, the 88th Civil Engineer Group (CEG), Installation Management Division prepared an Environmental Assessment (EA) to construct Phase V of the Acquisition Management Complex (AMC), Wright-Patterson Air Force Base (WPAFB, the Base), Ohio. This EA is incorporated by reference into this finding per 40 CFR 1508.13.

Purpose and Need

The Air Force Life Cycle Management Center (AFLCMC) has several facilities, including Air Force Security Assistance Cooperation (AFSAC), that are currently non-compliant with Antiterrorism (AT) standards as required by the Unified Facilities Criteria (UFC 4-010-01). These standards include the mandatory setback from the installation's perimeter, potentially exposing an increased risk to personnel. The construction of a new building is needed to provide a secure, flexible acquisition facility to AFLCMC personnel. The new facility would integrate existing functions with other AFLCMC activities on Base and reduce the potential threat by integrating current AT requirements.

Description of Proposed Action, Alternative A

The Proposed Action involves constructing Phase V of AMC that would consist of a 214,202 square foot (sf) facility to house AFLCMC personnel. Phase V would be constructed in Area B adjacent and north of AMC Phase IV. Construction of the new facility would consolidate AFLCMC personnel, AFSAC, and Foreign Liaison Officers into a centralized location, which includes consolidation of additional manpower projected growth. The new facility would streamline and improve AFLCMC's mission performance and strengthen their overall security by alleviating current over-crowding and resolving AT security requirements.

AMC Phase V would be constructed of a reinforced concrete foundation and floor slab, structural frame, roof system, and secure space. The new facility would be constructed in two phases: basement and first floor followed by the upper floors and would include administrative space, special purpose space, infrastructure connections, storm drainage repair, and existing parking lot resurfacing.

AFLCMC personnel currently functioning in multiple facilities at WPAFB would be consolidated/relocated to address non-compliant UFC AT issues providing an increased security and safety risk to personnel. Upon completion of AMC Phase V and consolidation of personnel, the four buildings currently occupied by AFLCMC/AFSAC would be demolished. The demolition of these buildings was previously evaluated in an EA that analyzed environmental consequences of demolishing a total of 53 facilities on Base as part of a transformation goal to reduce base real property and associated operating costs 20 percent by the year 2020. Therefore, impacts associated with the demolition of these buildings have already been addressed in the *Environmental Assessment to Demolish Multiple Buildings Phase II* and are excluded from further detailed analysis in this EA. In addition to the four facilities currently occupied by AFLCMC and AFSAC, temporary modular trailers currently housing AFLCMC personnel would be removed from the Base.

Alternative B

Alternative B involves the construction of a new building in the Information Technology Center (ITC) complex located in Area B. The ITC Phase II building that would be constructed adjacent and west existing ITC Phase I would accommodate the consolidation of additional manpower projected growth. Additionally, the balance of personnel requiring relocation could be housed at ITC future phases.

1 The proposed ITC Phase II facility would consist of a basement and a maximum of three stories. The proposed
2 ITC Phase II facility would consist of a reinforced concrete foundation and floor slab, structural frame, and roof
3 systems.

4 **No-Action, Alternative C**

5 Under the No Action (Alternative C), a new 214,202 sf facility would not be constructed and AFLCMC and
6 AFSAC would not have adequate modern, flexible, or co-located space to conduct their mission. Overall
7 security would not be strengthened, overcrowding would not be alleviated, and AT security requirements would
8 not be resolved. As a result of the No Action (Alternative C), AFSAC would not have the required office space
9 needed to alleviate delays in supporting foreign military customers because the space required to staff new
10 positions would not exist. The No Action (Alternative C) would result in continued noncompliance with AT
11 standards for building setbacks.

12 **Alternatives Considered but Eliminated from Further Study**

13 As part of the NEPA process, potential alternatives to the Proposed Action must be evaluated. To be considered
14 reasonable and warrant further detailed analysis, alternatives must be affordable, implementable, and meet the
15 purpose and need for the Proposed Action. One alternative considered involved the installation and use of
16 modular facilities on-Base to house AFLCMC personnel relocating from Area A. Since a modular trailer is
17 currently in use by AFLCMC at WPAFB and is not providing a centralized location or resolving the
18 overcrowding issue, the alternative to use additional temporary modular trailers was eliminated from further
19 analysis.

20 A second alternative considered involved leasing off-Base office space to house AFLCMC personnel that would
21 be relocated from Area A. Because relocating AFLCMC personnel off-Base would not provide a centralized
22 location for personnel and would further increase delays in supporting foreign military customers, the alternative
23 to relocate AFLCMC personnel off-Base was eliminated from further analysis.

24 **Identification of Preferred Alternative**

25 The Air Force has identified the Proposed Action (Alternative A) as the preferred alternative. The Proposed
26 Action involves constructing a 214,202 sf facility in Area B at WPAFB.

27 **Environmental Consequences**

28 **Land Use (EA Section 4.1):** No short- or long-term impacts to land use would occur from the Proposed Action
29 or Alternative B because no changes to land use would occur. The No Action (Alternative C) would have no
30 impact over current conditions.

31 **Air Quality (EA Section 4.2):** Implementation of the Proposed Action or Alternative B would result in minor
32 short-term adverse impact from particulate matter and engine exhaust emissions generated during construction
33 activities. Impacts would be minor because emissions would be short in duration and are negligible with respect
34 to overall emissions expected for the region. The No Action (Alternative C) would have no impact over current
35 conditions.

36 **Noise (EA Section 4.3):** The Proposed Action or Alternative B would have minor short-term impacts on
37 ambient noise generated from construction activities. Impacts would be minor because these activities would be
38 carried out during normal working hours and would be short in duration. There would be no adverse impacts
39 from aircraft noise at the project locations for either the Proposed Action or Alternative B. The No Action
40 (Alternative C) would have no impact over current conditions.

41 **Geology and Soils (EA Section 4.4):** The Proposed Action or Alternative B would have short-term minor
42 impacts to existing soils during excavation of the new AMC Phase V or ITC Phase II facility. Impacts would be
43 minimized by implementing Best Management Practices (BMPs) for erosion and sedimentation controls. No
44 long-term adverse effects would be expected because disturbed vegetation would be re-established upon

completion of construction activities. The No Action (Alternative C) would have no impact over current conditions.

Water Resources (EA Section 4.5): The Proposed Action or Alternatives would result in no short- or long-term impacts to groundwater or floodplains because the proposed AMC Phase V and ITC Phase II project sites are not located within the City of Dayton Source Water Protection Program (SWPP) boundary nor are the project sites located in a floodplain. Short-term adverse impacts to surface waters would be expected as a result of the Proposed Action or Alternative B due to potential surface water runoff during excavation activities. Impacts would be minor because erosion and sedimentation controls would be implemented. The Miami Conservancy District (MCD) was consulted regarding the Proposed Action. The MCD responded indicating that the proposed project is located outside of the boundary of the Huffman Retarding Basin and is not subject to the MCD restrictions. The No Action (Alternative C) would have no impact on water resources.

Biological Resources (EA Section 4.6): No short-term adverse impacts to vegetation would be expected from the Proposed Action or Alternatives because the proposed project sites are located in grass-covered areas. Negligible impacts would be expected because excavation activities would take place on previously disturbed areas with no naturally-occurring vegetation. No long-term impacts to vegetation would be expected from the Proposed Action or Alternative B. Negligible short-term impacts to wildlife and threatened and endangered species would be expected from the Proposed Action or Alternative B as the project sites are not located in areas that provide suitable wildlife habitat, the current land use would not change, and proposed construction activities are not in close proximity to any threatened or endangered species to generate noise-related effects from proposed construction activities. The Proposed Action or Alternative B would have no impact on wetlands or streams because there are no wetlands or streams in the proposed project areas or in the general vicinity of the project areas. The U.S. Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) were consulted regarding the Proposed Action and Alternatives. The USFWS responded indicating that due to the project, type, size, and location, they do not anticipate adverse effects to federally endangered, threatened, proposed, or candidate species. The ODNR responded indicating that the project appears to be located outside the Special Flood Hazard Area (i.e., one-percent-annual-chance or 100-year floodplain). The No Action (Alternative C) would have no impact on biological resources.

Cultural Resources (EA Section 4.7): The Proposed Action would have minor short- and long-term adverse impacts on the Wright Field Historic District as the AMC project site is located within the historic district. Visual impacts would be mitigated by installing natural screening to the new facility to match the historic landscape. In addition, two of the Area B historic facilities are included in the Programmatic Agreement (PA) established in 2015 between WPAFB and the State Historic Preservation Office (SHPO) to address potential impacts from demolition of existing historic properties and districts on Base. As part of the PA, a project-specific Memorandum of Agreement (MOA) between WPAFB and the SHPO would be executed prior to demolition of the buildings. New construction along the Area B flight line would also be designed and constructed in accordance with the 1991 PA between WPAFB, the SHPO, and the Advisory Council on Historic Preservation (ACHP) for the ASD Tomorrow Program. Alternative B would have no short- or long-term adverse impact on cultural resources because the ITC project site is not located within a historic district or in close proximity to historic structures. The No Action alternative would have no impact over current conditions.

Socioeconomics (EA Section 4.8): Implementation of the Proposed Action or Alternative B would have a short-term negligible impact on the local workforce and a beneficial impact on the local economy from revenue generated by construction activities. No long-term impacts would result from implementation of the Proposed Action or Alternative B. The No Action (Alternative C) would have no impact on socioeconomics.

Infrastructure (EA Section 4.9): The Proposed Action and Alternative B would have no impact to base-wide utilities because no increase in personnel or facility operations would result from merging personnel currently in four buildings into a single new facility. Minor adverse impact would be expected due to increased traffic and increased usage of public services (such as security and fire protection), and utilities in Area B as a result of AMC personnel being relocated from Area A. Impacts would be minimized by adhering to mitigation identified

1 in previous traffic studies for the AMC/ITC area. No long-term impacts to infrastructure would be expected
2 from implementation of the Proposed Action or Alternative B. The No Action (Alternative C) would have no
3 impact on infrastructure over current conditions.

4 **Health and Safety (EA Section 4.10):** The Proposed Action or Alternative B could result in potential short-
5 term minor impacts to workers during excavation activities. Impacts would be minimized by adherence to
6 applicable safety standards. No long-term impacts to health and safety would be expected from the Proposed
7 Action or Alternative B. The No Action (Alternative C) would have short- and long-term impacts to the safety
8 of the personnel in facilities that infringe on the minimum AT setback requirements.

9 **Hazardous Materials/Waste and Environmental Restoration Program (ERP) (EA Section 4.11):** The
10 Proposed Action or Alternative B would minor short-term adverse impacts to hazardous materials and hazardous
11 waste because any hazardous materials used during construction would not be expected to increase over existing
12 conditions and would be used temporarily. No long-term impact would be expected to hazardous
13 materials/waste as a result of the Proposed Action or Alternative B. The Proposed Action or Alternative B
14 would have no short- or long-term adverse impact on ERP sites as there are no ERP sites located in the vicinity
15 of the proposed AMC Phase V or ITC Phase II project sites. The No Action (Alternative C) would have no
16 impact to hazardous materials/waste or ERP sites.

17 **Cumulative Impacts (EA Section 4.12):** Projects proposed for the reasonably foreseeable future that are
18 relevant to the project area include the following ancillary projects for WPAFB: F Fuel Farm, Hilltop
19 Community Services District, Radar Tomography Range and Equipment Storage Facility, Remedial Action at
20 the Former Building 20059 Site, and Primary Runway Pavement Replacement. However, these projects would
21 be temporary in nature and would not be recurring events. In addition, the timeframes and budgets for these
22 proposed projects can only be estimated or are uncertain. Although short-term adverse effects could be possible
23 if these projects were to occur in conjunction with the Proposed Action, long-term cumulative impacts are not
24 expected to result from these reasonably foreseeable future actions.

25 **Agency Consultation**

26 In accordance with NEPA, 42 U.S.C. §4321 et seq. (1969), informal consultation was solicited with applicable
27 agencies to seek input on the likelihood of environmental or other impacts resulting from the development of the
28 Proposed Action. A summary of the outcome of consultation efforts with pertinent agencies is included as
29 Appendix A of the EA.

30 **Public Notice**

31 A public notice was posted in the *Dayton Daily News* and the *Fairborn Daily Herald* on December XX, 2016.
32 The 30-day comment period was held from December XX, 2016 until January XX, 2016. Comments received
33 during the public comment period will be included in Appendix A of the EA.

34 **Finding of No Significant Impact (FONSI)**

35 The Proposed Action involves constructing a 214,202 sf facility at the existing AMC campus at WPAFB. The
36 new facility would streamline and improve AFLCMC's mission performance and strengthen their overall
37 security by alleviating current over-crowding and resolving AT security requirements. Alternative B involves
38 constructing a new facility at the existing ITC campus at WPAFB. The new ITC facility would also streamline
39 and improve AFLCMC's mission performance and resolve the over-crowding and AT security requirements.
40 Under the No Action (Alternative C), a new facility would not be constructed resulting in continued
41 noncompliance with AT standards for installation building setbacks. Based upon my review of the facts and
42 analysis contained in the EA, which is hereby incorporated by reference, I conclude that the Proposed Action
43 (Alternative A) or Alternative B would not have a significant impact on the natural or human environment. An
44 environmental impact statement is not required for this action. This analysis fulfills the requirements of NEPA,
45 the President's Council on Environmental Quality, and 32 CFR 989.

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DAVID A. PERKINS, P.E.
Director, 88th Civil Engineer Group

Date: _____

1 **COVER SHEET**

2
3 **ENVIRONMENTAL ASSESSMENT**
4 **ACQUISITION MANAGEMENT COMPLEX – PHASE V**
5 **WRIGHT-PATTERSON AIR FORCE BASE, OHIO**
6

7 **Responsible Agencies:** U.S. Air Force (AF); Wright-Patterson Air Force Base (WPAFB), Ohio

8
9 **Affected Location:** WPAFB, Ohio

10
11 **Proposed Action:** Construction of Acquisition Management Complex (AMC) Phase V

12
13 **Report Designation:** Draft Final Environmental Assessment (EA)

14
15 Written comments and inquiries regarding this document should be directed to 88 Air Base Wing (ABW)
16 / Public Affairs, 5135 Pearson Road, Building 10, Room 252, WPAFB, Ohio, 45433,
17 88abw.pa@us.af.mil.
18

19 **Abstract:** The Air Force Life Cycle Management Center (AFLCMC) proposes to construct a 214,202
20 square foot (Phase V) facility at the existing AMC campus at WPAFB. Phase V would be constructed in
21 Area B adjacent and north of existing AMC Phase IV. Construction of the new facility would consolidate
22 the AFLCMC personnel, Air Force Security Assistance Cooperation (AFSAC), and Foreign Liaison
23 Officers into a centralized location. The new facility would streamline and improve AFLCMC's mission
24 performance and strengthen their overall security by alleviating current over-crowding and resolving
25 antiterrorism security requirements.
26

27 The analysis in the EA considers the Proposed Action (Alternative A), one alternative (Alternative B),
28 and the No Action (Alternative C). Resources considered in the impact analysis are land use, air quality,
29 noise, geology and soils, water resources, biological resources, cultural resources, socioeconomics, health
30 and safety, hazardous materials/waste, and Environmental Restoration Program (ERP). Analyses in this
31 document identify minor short-term adverse impacts on air quality, noise, geology and soils, water
32 resources, cultural resources, infrastructure, health and safety, and hazardous materials/waste resulting
33 from construction activities. This EA was made available to the public on December XX, 2016, for a 30-
34 day review period.

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LIST OF ACRONYMS

3D/I	3D International	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
ABW	Air Base Wing		
ACAM	Air Conformity Applicability Model		
ACHP	Advisory Council on Historic Preservation	CFR	Code of Federal Regulations
ACM	Asbestos Containing Material	CH ₄	Methane
ADP	ASD Tomorrow Area Development Plan	CO	Carbon Monoxide
		CO ₂ e	Carbon Dioxide Equivalents
AFB	Air Force Base	CWA	Clean Water Act
AF	Air Force	CZ	Clear Zone
AFI	Air Force Instruction	dB	Decibel
AFMAN	Air Force Manual	dBA	A-weighted Sound Level Measurement
AFLCMC	Air Force Life Cycle Management Center	DLSME	Defense Land Systems and Miscellaneous Equipment
AFMC	Air Force Materiel Command	DNL	Day-night Average A-weighted Sound Level
AFPD	Air Force Policy Directive	DoD	Department of Defense
AFSAC	Air Force Security Assistance Cooperation	EA	Environmental Assessment
		EAB	Emerald Ash Borer
AGL	Above Ground Level	EIAP	Environmental Impact Analysis Process
AICUZ	Air Installation Compatible Use Zone		
AMC	Acquisition Management Complex	EIFS	Economic Impact Forecast System
APE	Area of Potential Effect	EIS	Environmental Impact Statement
APZ	Accident Potential Zone	EO	Executive Order
AQCR	Air Quality Control Region	ERP	Environmental Restoration Program
ASD	Aeronautical Systems Division	ESA	Endangered Species Act
AST	Aboveground Storage Tank	ESQD	Explosive Safety Quantity Distance
AT	Antiterrorism	ESZ	Explosive Safety Zone
ATFP	Anti-terrorism Force Protection	°F	Degrees Fahrenheit
BASH	Bird/Wildlife Aircraft Strike Hazard	FEMA	Federal Emergency Management Agency
BHE	BHE Environmental, Inc.		
BLS	U.S. Bureau of Labor Statistics	FONPA	Finding of No Practicable Alternative
BMP	Best Management Practice	FONSI	Finding of No Significant Impact
BMP/LTM	Basewide Monitoring Program/Long-Term Groundwater Monitoring	FT	Feet
CAA	Clean Air Act	GHG	Greenhouse Gas
CEG	Civil Engineer Group	gpm	Gallons Per Minute
CEIE	Installation Management Division of the Environmental Branch	GWP	Global Warming Potential
CEIEC	Compliance Section of the Environmental Branch in the Installation Management Division, Civil Engineer Group	HUD	U.S. Department of Health and Urban Development
CEIEA	Environmental Assets Section of the Environmental Branch in the Installation Management Division, Civil Engineer Group	I-675	Interstate 675
		ICRMP	Integrated Cultural Resources Management Plan
		IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
CENPL	Customer Plans and Programs Section of the Portfolio Optimization Branch, Engineering Division	INRMP	Integrated Natural Resources Management Plan
CEQ	Council on Environmental Quality	IRP	Installation Restoration Program
		ITC	Information Technology Center
		kW	Kilowatt
		LBP	Lead-based Paint
		LUC	Land Use Control
		µg/m ³	Micrograms Per Cubic Meter

MA	Metropolitan Area	RAPCA	Regional Air Pollution Control Agency
MACT	Maximum Achievable Control Technology	RICE	Reciprocating Internal Combustion Engine
MCD	Miami Conservancy District	ROD	Record of Decision
mg/m ³	Milligrams Per Cubic Meter	SARA	Superfund Amendments and Reauthorization Act
MMBtu/hr	One Million British Thermal Units per hour	sf	square feet
MOA	Memorandum of Agreement	SHPO	State Historic Preservation Office
MSL	Mean Sea Level	SIP	State Implementation Plan
MSW	Mixed Solid Waste	SO ₂	Sulfur Dioxide
NAA	Nonattainment Area	SPC	Spill Prevention Coordinator
NAAQS	National Ambient Air Quality Standards	SPCC	Spill Prevention and Control and Countermeasures
NAVD	North American Vertical Datum	SWMP	Storm Water Management Plan
NEPA	National Environmental Policy Act	SWPP	Source Water Protection Program
NESHAP	National Emission Standards for Hazardous Air Pollutants	SWPPP	Storm Water Pollution Prevention Plan
NHPA	National Historic Preservation Act	TMDL	Total Maximum Daily Load
NOA	Notice of Availability	TPY	Tons Per Year
NOAA	National Oceanic and Atmospheric Administration	UEC	Unit Environmental Coordinator
NO _x	Nitrogen Oxides	UFC	Unified Facilities Criteria
NO ₂	nitrogen dioxide	U.S.	United States
NPDES	National Pollutant Discharge Elimination System	USACE	U.S. Army Corps of Engineers
NRCS	Natural Resource Conservation Service	USAF	United States Air Force
NRHP	National Register of Historic Places	USC	U.S. Code
NSPS	New Source Performance Standards	USDA	U.S. Department of Agriculture
NSR	New Source Review	USDOT	U.S. Department of Transportation
O ₃	Ozone	USEPA	U.S. Environmental Protection Agency
OAC	Ohio Administrative Code	USFWS	U.S. Fish & Wildlife Service
ODH	Ohio Department of Health	USGS	U.S. Geological Survey
ODNR	Ohio Department of Natural Resources	UST	Underground Storage Tank
OEPA	Ohio Environmental Protection Agency	VOC	Volatile Organic Compound
ORC	Ohio Revised Code	WPAFB	Wright-Patterson Air Force Base
OSHA	Occupational Safety and Health Administration		
OU	Operable Unit		
PA	Programmatic Agreement		
Pb	Lead		
PBR	Permit by Rule		
PCB	Polychlorinated Biphenyls		
PM _{2.5}	Particulate Matter with an Aerodynamic Particle Size Less than 2.5 Micrometers		
PM ₁₀	Particulate Matter with an Aerodynamic Particle Size Less than 10 Micrometers		
POV	Privately-Owned Vehicle		
ppb	Parts Per Billion		
ppm	Parts Per Million		
PSD	Prevention of Significant Deterioration		
PTI	Permit To Install		

1.0 PURPOSE AND NEED FOR ACTION

This section provides a description of the Proposed Action, a statement of the purpose of and need for the Proposed Action, an overview of the organization of the Environmental Assessment (EA), and a summary of the key environmental compliance requirements.

1.1 Purpose and Need

The Air Force Life Cycle Management Center (AFLCMC) at Wright-Patterson Air Force Base (WPAFB or Base) has several facilities, including Air Force Security Assistance Cooperation (AFSAC), that are currently non-compliant with Antiterrorism (AT) standards as required by the Unified Facilities Criteria (UFC 4-010-01). These standards include the mandatory setback from the installation's perimeter, potentially exposing an increased risk to personnel. The Proposed Action is needed to provide adequate space in a consolidated work space and the construction of a new building would provide a secure, flexible acquisition facility to AFLCMC personnel. The new facility would integrate existing functions with other AFLCMC activities on Base and reduce the potential threat by integrating current AT requirements.

1.2 Project Description

The AFLCMC's mission is to provide the warfighter's edge by acquire and support aircraft, engines, munitions, electronics, and systems (AFLCMC 2013). The AFLCMC's acquisition and product support portfolio consists of investments, sustainment, joint and international cases, and associated services programs for all, spread across the AFSAC Directorate.

The AFSAC currently operates in multiple facilities at WPAFB, with multiple non-compliant AT issues in addition to the non-compliant installation setback. The AFLCMC personnel are currently utilizing adjacent temporary leased modular offices used to alleviate overcrowding. Because of limited space, AFSAC is experiencing delays in supporting its foreign military customers with space required to staff new positions.

To alleviate space constraints currently being experienced by AFSAC, AFLCMC proposes to construct a 214,202 square foot (sf) facility that would be expansive enough to consolidate personnel from AFLCMC, AFSAC, and Foreign Liaison Officers into a centralized location (Air Force [AF] 2015). The new facility would be constructed as Phase V of the Acquisition Management Complex (AMC). The AMC was designed as part of the former Air Force Systems Command/Aeronautical Systems Division's (ASD) program for development in Area B (3D/International [3D/I] 1991). An EA for the *ASD Tomorrow Area Development Plan* was completed (3D/I 1990) and Phases I through IV of the AMC were subsequently constructed. Phase V would be located adjacent and north of existing AMC Phase IV.

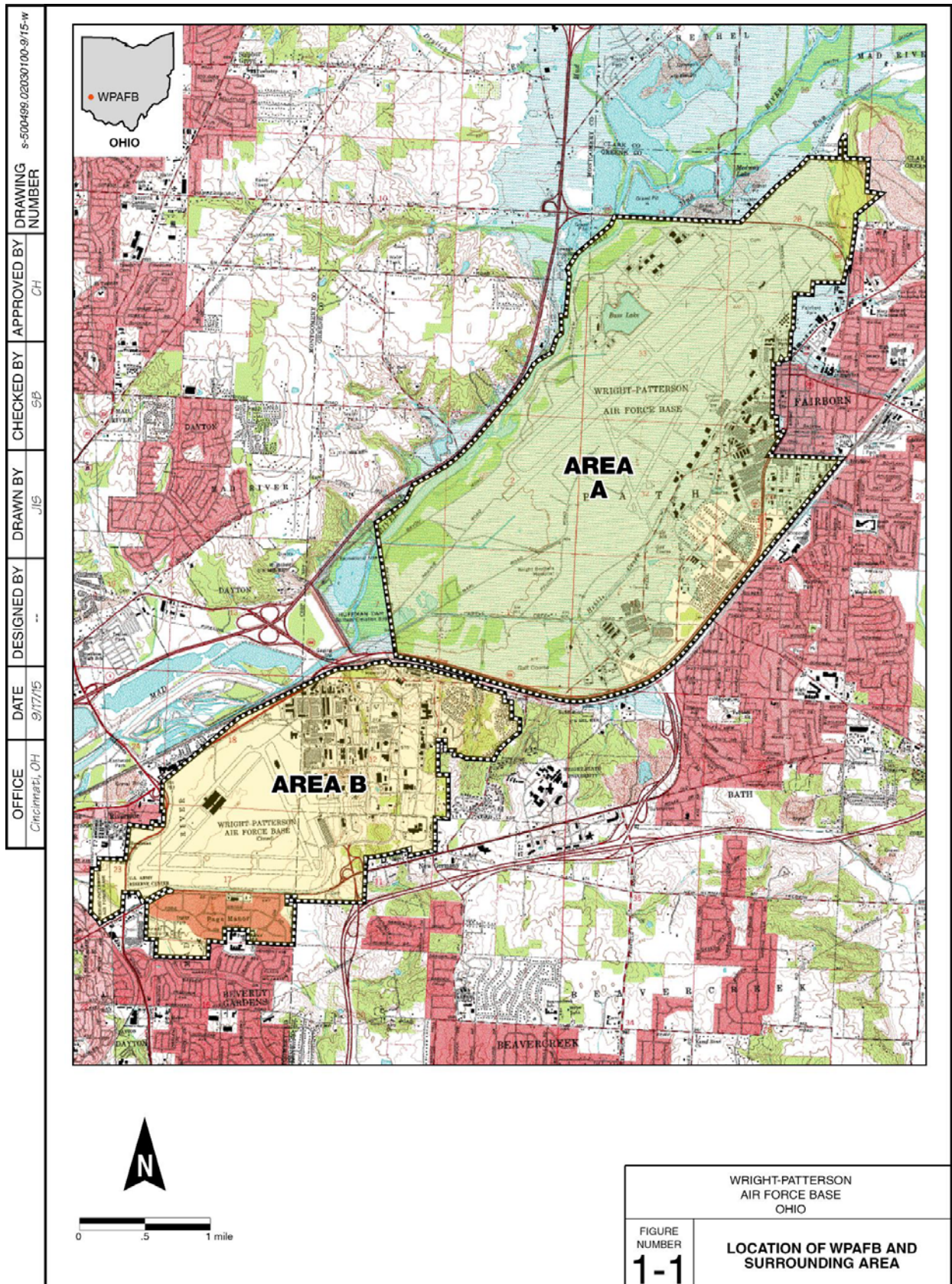
1 The DoD seeks effective ways to minimize the likelihood of mass casualties from terrorist attacks against
2 DoD personnel in the buildings in which they work and live. While all DoD buildings offer some
3 measure of protection from terrorist attacks, applying the Minimum Antiterrorism Standards for Buildings
4 described in the UFC would provide a greater degree of protection against a possible terrorist attack. The
5 intent of UFC 4-010-01 is to minimize the possibility of mass casualties in buildings or portions of
6 buildings owned, leased, privatized, or otherwise occupied, managed, or controlled by or for DoD. The
7 UFC standards provide appropriate, implementable, and enforceable measures to establish a level of
8 protection against terrorist attacks for all inhabited buildings where no known threat of terrorist activity
9 currently exists (DoD 2013).

11 The standoff distance is the distance maintained between a building or portion thereof and the potential
12 location for an explosive detonation (DoD 2013). The UFC mandates standoff distance requirements as
13 follows for inhabited DoD buildings: 148 feet (ft) for a controlled perimeter or parking and roadway
14 without a controlled perimeter; and 33 ft for parking and roadways within a controlled perimeter (DoD
15 2013). The UFC document states that where these standoff distances cannot be achieved because land is
16 unavailable, where the conventional construction standoff distances are not available, or existing
17 buildings do not meet the required distances, lesser standoff distances may be allowed where the required
18 level of protection can be shown to be achieved through analysis or can be achieved through building
19 hardening or other mitigating construction or retrofit. The UFC standard is the governing document for
20 constructing the new AMC facility.

22 The intent of the UFC standards is to minimize the possibility of mass casualties in buildings or portions
23 of buildings owned, leased, privatized, or otherwise occupied, managed, or controlled by or for DoD. The
24 UFC standards provide appropriate, implementable, and enforceable measures to establish a level of
25 protection against terrorist attacks for all inhabited DoD buildings where no known threat of terrorist
26 activity currently exists.

28 The Base is located in the southwest portion of the state of Ohio in Greene and Montgomery counties,
29 approximately 10 miles east of the city of Dayton. The Base encompasses 8,145 acres and is classified as
30 non-industrial with mixed development. The Base is subdivided into two areas: Areas A and B. Area A
31 consists primarily of administrative offices and contains an active airfield. Area B is located across State
32 Route 444 to the southwest of Area A and consists primarily of research and development as well as
33 educational functions. The AMC Phase V facility would be constructed in Area B at WPAFB. **Figure 1-**
34 **1** shows WPAFB and the surrounding area.

36 If the analyses presented in the EA indicate that implementation of the Proposed Action would not result
37 in significant environmental impacts, a Finding of No Significant Impact (FONSI) would be prepared. A
38 FONSI briefly presents reasons why a Proposed Action would not have a significant effect on the human



environment and why an environmental impact statement (EIS) is unnecessary. If significant environmental issues would result that cannot be mitigated to insignificance, an EIS would be required, or the Proposed Action would be abandoned and no action would be taken.

The AF has prepared this EA in accordance with the National Environmental Policy Act (NEPA) of 1969; 40 Code of Federal Regulations (CFR), Parts 1500-1508, the Council on Environmental Quality (CEQ) regulations implementing NEPA; the AF Environmental Impact Analysis Process (EIAP) [32 CFR Part 989].

1.3 Scope of Environmental Analysis

Consistent with the CEQ regulations, the EA will be organized into the following sections:

- Section 1, Purpose and Need for Action, includes a background description, purpose and need statement, EA organization and scope of environmental analysis, and regulatory framework;
- Section 2, Description of Proposed Action and alternatives, includes a process for alternatives development, alternatives considered but eliminated, and a comparison of impacts;
- Section 3, Affected Environment, includes a description of the natural and man-made environments within and surrounding WPAFB that may be affected by the Proposed Action and alternatives;
- Section 4, Environmental Consequences, includes definitions and discussions of direct and indirect impacts, and mitigation and monitoring. The section also includes an analysis of the potential cumulative impacts on WPAFB, unavoidable adverse impacts, the relationship between short-term use of the human environment and the maintenance and enhancement of long-term productivity, and irreversible and irretrievable commitments of resources;
- Section 5, List of Preparers;
- Section 6, Consultation and Coordination, contains a list of agencies consulted in the preparation of this document;
- Section 7, References, contains references for studies, data, and other resources used in the preparation of the EA; and
- Appendices, as required.

1.3.1 Issues and Concerns Eliminated from Detailed Study

The NEPA, which is implemented through the CEQ regulations, requires federal agencies to consider alternatives to proposed actions and to analyze impacts of those alternatives. Potential impacts of the proposed alternatives described in this document will be assessed in accordance with the AF EIAP, which requires that impacts to resources be analyzed in terms of their context, duration, and intensity. In order to help the public and decision-makers understand the implications of impacts, they will be described in the short- and long-term, cumulatively, and within context. Environmental issues analyzed in the EA include:

- Land Use;

- Air Quality;
- Noise;
- Geology and Soils;
- Water Resources;
- Biological Resources, including vegetation, wetlands, wildlife, and threatened and endangered species;
- Cultural Resources;
- Socioeconomics;
- Infrastructure;
- Health and Safety;
- Hazardous Materials and Waste; and
- Environmental Restoration Program (ERP).

The AF initially considered a broad range of potential environmental impacts associated with the implementation of the Proposed Action and alternatives. The scope of the Proposed Action and alternatives is limited, however, and does not entail demolition, land use changes, or other activities evaluated in NEPA analysis that routinely lead to environmental impacts. Because of the nature of activities being proposed, the potential for environmental impacts on many of the environmental resource areas normally evaluated in an EA 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 EA if a determination was made that there was no potential for impacts. The following issues and concerns were determined to have limited potential for environmental impacts and therefore are not being evaluated in this EA:

- *Airspace Management.* Proposed project activities would not result in any obstructions to airspace or hazards to airspace management at WPAFB. Therefore, there would be no impacts to airspace management.
- *Environmental Justice.* Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires that all federal agencies address the effects of policies on minorities and low-income populations and communities, and to ensure that there would be no disproportionately high and adverse human health or environmental effects to minority or low-income populations or communities in the area. The Proposed Action would not adversely change or impact any minority or low-income communities associated with the Base as the action would occur on Base and would have no impact to off-Base property or minority or low-income populations. Therefore, there would be no impacts to environmental justice.

1.3.2 Notice of Availability

A Notice of Availability (NOA) for the Draft Final EA and FONSI will be published in the *Dayton Daily News* and the *Fairborn Daily Herald*, initiating a 30-day public review period. A hard copy of the Draft Final EA and FONSI will be made available in the Greene County Public Library, Fairborn Branch. An electronic copy of the EA will also be provided on the WPAFB Environmental Management website at

- 1 <http://www.wpafb.af.mil/units/cev>. During this time period, public comments may be received. The
- 2 NOA and comments received will be included in **Appendix A** of the Final EA.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This section provides a detailed description and standards used in selecting the Proposed Action (Alternative A); describes an alternative to the Proposed Action (Alternative B); describes the No Action (Alternative C); identifies alternatives eliminated from further consideration; and compares environmental consequences between the alternatives.

2.1 Alternatives Selection Standards

The development of reasonable alternatives involved discussions with personnel from AFLCMC, the 88 Civil Engineer Group (CEG) Installation Management Division Environmental Branch (CEIE), and the Customer Plans and Programs Section of the Portfolio Optimization Branch in the Engineering Division (CENPL) to identify a Proposed Action. Several requirements were identified in order to fulfill the purpose of the Proposed Action. The Proposed Action and other alternatives were screened against the following standards:

- Any alternative evaluated must meet the overall objective and mission of AFLCMC;
- Due to Anti-Terrorism Force Protection (ATFP) standards, any alternative evaluated must meet the required setback in accordance with UFC -4-010-01;
- No alternative can have substantive impacts on mission operations. Factors that potentially affect the mission include inadequate secure space, fragmented organizations, and limitations to communications and interactions between personnel; and
- Due to anticipated needs for consolidated work space and future expansion, the proposed facilities must be able to accommodate approximately 1,000 personnel.

2.2 Proposed Action, Alternative A (Preferred Alternative)

The Proposed Action (Alternative A) involves constructing Phase V of AMC that would consist of a 214,202 sf facility to house AFLCMC personnel. Phase V would be constructed in Area B adjacent and north of existing AMC Phase IV (**Figure 2-1**). Construction of the new facility would consolidate AFLCMC personnel, AFSAC, and Foreign Liaison Officers into a centralized location, which would include consolidation of additional manpower projected growth. The new facility would streamline and improve AFLCMC's mission performance and strengthen their overall security by alleviating current over-crowding and resolving AT security requirements.

2.2.1 Proposed Personnel Changes

The Proposed Action (Alternative A) includes projected AFLCMC consolidation and personnel growth. The AFLCMC personnel in multiple facilities would be consolidated/relocated to address non-compliant UFC AT issues, which pose an increased security and safety risk to personnel. The construction of Phase

1 **Figure 2-1 may be available upon request, please contact:**

2
3 **88 ABW / Public Affairs**
4 **5135 Pearson Road**
5 **Building 10, Room 252**
6 **Wright-Patterson AFB, OH 45433**
7 **88abw.pa@us.af.mil**

V AMC would integrate the AFLCMC/AFSAC function with other AFLCMC activities and reduce the potential threat by integrating current AT requirements.

2.2.2 Proposed Facility Demolitions

Upon completion of AMC Phase V and consolidation of personnel, the existing four AFLCMC/AFSAC-occupied buildings would be demolished. The four AFLCMC/AFSAC facilities (two in Area A and two in Area B) that would be demolished upon completion of Phase V were previously evaluated in an EA that analyzed environmental

consequences of demolishing a total of 53 facilities on Base as part of a transformation goal to reduce base real property and associated operating costs 20 percent by the year 2020 (WPAFB 2014a). The FONSI/Finding of No Practicable Alternative (FONPA) for the demolition of the 53 buildings, including four AFLCMC/AFSAC-occupied buildings, was signed in September 2014 (WPAFB 2014b). Impacts associated with the demolition of these buildings have already been addressed in the *Environmental Assessment to Demolish Multiple Buildings Phase II* (WPAFB 2014a). Therefore, the demolitions for the AMC Phase V project are tiered from the previous EA and are incorporated by reference in this EA.

Figure 2-2 presents the locations of the four facilities that would be demolished. In addition to the four facilities currently occupied by AFLCMC and AFSAC, temporary modular trailers currently housing AFLCMC personnel would be removed from the Base as part of the Proposed Action.

2.2.3 Proposed New Construction

The proposed AMC Phase V facility would be constructed of a reinforced concrete foundation and floor slab, structural frame, roof system, and secure space. The AMC Phase V would be constructed in two phases: basement and first floor followed by the upper floors. The new facility would include administrative space, special purpose space, infrastructure connections, storm drainage repair, and existing parking lot resurfacing. This facility would be identical to the Phase IV facility.

Equipment such as bulldozers, backhoes, front-end loaders, dump trucks, tractor-trailers, concrete mixers, asphalt vehicles, and generators would be required to support the proposed site preparation and construction activities.

Prior to construction activities, plans and documents would be prepared by the contractor to provide environmental controls. These plans and documents would be submitted to the contracting officer for review and approval. Environmental measures under the Proposed Action would be designed to control erosion, sedimentation, and stormwater runoff. All construction debris would be recycled or disposed at an approved landfill in accordance with all applicable federal, state, and local laws and regulations.

1 **Figure 2-2 may be available upon request, please contact:**

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7 **88abw.pa@us.af.mil**

To reduce impacts to local and regional air quality, best management practices (BMPs), such as proper maintenance of construction vehicles to reduce combustive emissions, limiting the size of the disturbance area, and watering exposed soils at the beginning and end of daily construction activities, would be implemented to minimize or prevent fugitive dust emissions.

2.3 Alternative B

Alternative B involves the construction of a new structure in the Information Technology Center (ITC) complex in Area B (**Figure 2-3**). The construction of the ITC was addressed in a previous EA (WPAFB 2004) and included five phases. Of these, Phase I of the ITC has been completed. The proposed ITC Phase II building that would be constructed adjacent and west of the existing Phase I facility (**Figure 2-4**) could accommodate the AFLCMC/AFSAC personnel that would be relocated from two Area A facilities. Additionally, the balance of AMC personnel requiring relocation could be housed at ITC future phases. Future Phases III, IV, and V of the ITC are intended to be used as administration facilities.

The proposed ITC Phase II facility would consist of a basement and a maximum of three stories. The proposed ITC Phase II facility would consist of a reinforced concrete foundation and floor slab, structural frame, and roof systems.

2.4 No Action, Alternative C

Under the No Action (Alternative C), a new 214,202 sf facility would not be constructed at WPAFB and AFLCMC and AFSAC would not have adequate modern, flexible, or co-located space to conduct their mission. Overall security would not be strengthened, overcrowding would not be alleviated, and AT security requirements would not be resolved. As a result of the No Action (Alternative C), AFSAC would not have the required office space needed to alleviate delays in supporting foreign military customers because the space required to staff new positions would not exist.

Although the No Action Alternative does not satisfy the purpose and need of providing a secure, modern, flexible acquisition facility, it is included in the environmental analysis to provide a baseline for comparison with the Proposed Action and is analyzed in accordance with CEQ regulations for implementing NEPA. Although the No Action Alternative would eliminate unavoidable adverse, short- and long-term impacts associated with the Proposed Action, the No Action (Alternative C) would not satisfy selection standards established for this project, resulting in continued noncompliance with AT standards for building setbacks.

2.5 Alternative Eliminated from Further Analysis

As part of the NEPA process, potential alternatives to the Proposed Action must be evaluated. For alternatives to be considered reasonable and warrant further detailed analysis they must be affordable, implementable, and meet the purpose and need for the proposal based on the project requirements stated

1 **Figure 2-3 may be available upon request, please contact:**

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1 **Figure 2-4 may be available upon request, please contact:**

2
3 **88 ABW / Public Affairs**
4 **5135 Pearson Road**
5 **Building 10, Room 252**
6 **Wright-Patterson AFB, OH 45433**
7 **88abw.pa@us.af.mil**

in Section 2.1.

The first alternative considered involved the installation and use of modular trailers on-Base to house AFLCMC personnel relocating from Area A. Since a modular trailer is currently in use by AFLCMC at WPAFB and is not providing a centralized location or resolving the overcrowding issue, the alternative to use modular trailers on Base was eliminated from further analysis.

A second alternative considered involved leasing off-Base office space to house AFLCMC personnel relocating from two Area A facilities. Because relocating AFLCMC personnel off-Base would not provide a centralized location for personnel and would further increase delays in supporting foreign military customers, the alternative to relocate AFLCMC personnel off-Base was eliminated from further analysis.

2.6 Comparison of Environmental Consequences

The impacts associated with the Proposed Action (Alternative A), Alternative B, and the No Action (Alternative C) are summarized in **Table 2-1**. The information includes a concise definition of the issues addressed and the environmental impacts associated with each alternative. The analysis is based on information discussed in detail in Section 4.0, Environmental Consequences.

1

Table 2-1. Comparison of Environmental Consequences

Affected Environment	Proposed Action Alternative A	Alternative B	No Action Alternative C
Land Use	Short-Term: No impact because no changes to existing land use would occur. Long-Term: Same as short-term.	Short-Term: Same as the Proposed Action. Long-Term: Same as the Proposed Action.	Short-Term: No impact. Long-Term: No impact.
Air Quality	Short-Term: Minor adverse impact from particulate matter and engine exhaust emissions generated during construction activities. Impacts would be minor because emissions would be short in duration and negligible with respect to overall emissions expected for the region. Long-Term: No adverse impact.	Short-Term: Same as the Proposed Action. Long-Term: Same as the Proposed Action.	Short-Term: No impact. Long-Term: No impact.
Noise	Short-Term: Minor adverse impact on ambient noise generated from construction activities. Impacts would be minor because construction activities would be carried out during normal working hours. Long-Term: No impact.	Short-Term: Same as the Proposed Action. Long-Term: No impact.	Short-Term: No impact. Long-Term: No impact.
Geology and Soils	Short-Term: Minor impact to existing soils during construction activities. Impacts would be minimized by implementing Best Management Practices (BMPs) for erosion and sedimentation controls during excavation. Long-Term: No adverse impact.	Short-Term: Same as the Proposed Action. Long-Term: Same as the Proposed Action.	Short-Term: No impact. Long-Term: No impact.
Water Resources			
Groundwater	Short-Term: No impact. Long-Term: No impact as the proposed AMC project site is not located within the City of Dayton Source Water Protection Program (SWPP) boundary.	Short-Term: No impact Long-Term: No impact as the proposed ITC project site is not located within the City of Dayton SWPP boundary.	Short-Term: No impact. Long-Term: No impact.
Surface Water	Short-Term: Adverse impact from surface water runoff during excavation activities. Impacts would be minor because BMPs for erosion and sedimentation controls would be implemented. Long-Term: Negligible impact due to increase in impervious surface area at AMC Phase V. Impacts would be minimized by addressing the increase storm water flow in the design of the new facility.	Short-Term: Same as the Proposed Action. Long-Term: Negligible impact due to increase in impervious surface area at ITC in Area B. Impacts would be minimized by addressing the increase in storm water flow in the design of the new facility.	Short-Term: No impact. Long-Term: No impact.
Floodplains	Short-Term: No impact because the proposed AMC project site is not located within a floodplain. Long-Term: No impact.	Short-Term: No impact because the proposed ITC project site is not located within a floodplain. Long-Term: No impact.	Short-Term: No impact. Long-Term: No impact.

Affected Environment	Proposed Action Alternative A	Alternative B	No Action Alternative C
Biological Resources			
Vegetation	Short-Term: No adverse impact because the AMC project site is located in a grass-covered area. Impacts would be negligible because construction activities would take place on previously disturbed areas with no naturally-occurring vegetation.	Short-Term: No adverse impact because the ITC project site is located in a grass-covered area. Impacts would be negligible because construction activities would take place on previously disturbed areas with no naturally-occurring vegetation.	Short-Term: No impact.
Wildlife	Long-Term: No impact. Short-Term: Negligible impact on wildlife as the project site is not located in an area that provides suitable habitat; the current land use would not change, and proposed construction activities are not in close proximity to any threatened or endangered species to generate noise-related effects from proposed construction activities.	Long-Term: No impact. Short-Term: Same as the Proposed Action.	Long-Term: No impact. Short-Term: No impact.
Threatened and Endangered Species	Long-Term: No impact. Short-Term: Negligible impact on threatened and endangered species as the construction site does not provide suitable habitat.	Long-Term: No impact. Short-Term: Same as the Proposed Action.	Long-Term: No impact. Short-Term: No impact.
Wetlands	Long-Term: No impact. Short-Term: No impact because no wetlands exist within the project area.	Long-Term: No impact. Short-Term: Same as the Proposed Action.	Long-Term: No impact. Short-Term: No impact.
	Long-Term: No impact.	Long-Term: No impact.	Long-Term: No impact.
Cultural Resources	Short-Term: Minor adverse impact to the Wright Field Historic District as the AMC project site is located within the historic district; visual impacts would be mitigated by installing natural screening to the new facility to match the historic landscape. In addition, two historic Area B facilities are included in the PA established in 2015 between WPAFB and the SHPO to address potential impacts from demolition of existing historic properties and districts on the Base. As part of the PA, a project-specific MOA between WPAFB and the SHPO would be executed prior to demolition of the buildings. New construction along the Area B flight line would also be designed and constructed in accordance with the 1991 PA between WPAFB, the SHPO, and the Advisory Council on Historic Preservation (ACHP) for the ASD Tomorrow Program. Long-Term: Same as short-term.	Short-Term: No adverse impact because the ITC project site is not located within a historic district or in close proximity to historic structures. Long-Term: No impact.	Short-Term: No impact. Long-Term: No impact
Socioeconomics	Short-Term: Negligible impact on the local workforce and a beneficial impact on the local economy from revenue generated by construction activities. Long-Term: No impact.	Short-Term: Same as the Proposed Action. Long-Term: No impact.	Short-Term: No impact. Long-Term: No impact.

Affected Environment	Proposed Action Alternative A	Alternative B	No Action Alternative C
Infrastructure	<p>Short-Term: No impact to base-wide utilities because no increase in personnel or facility operations would result from merging personnel currently in four buildings into a single new facility. Minor adverse impact due to increased traffic and increased usage of public services (such as security and fire protection), and utilities in Area B as a result of AMC personnel being relocated from Area A. Impacts would be minimized by adhering to mitigation identified in previous traffic studies for the AMC area.</p> <p>Long-Term: No impact.</p>	<p>Short-Term: Same as the Proposed Action.</p> <p>Long-Term: Same as long-term.</p>	<p>Short-Term: No impact.</p> <p>Long-Term: No impact.</p>
Health and Safety	<p>Short-Term: Potential minor impact to workers during construction activities. Impacts would be minimized by adherence to health and safety regulations and standards.</p> <p>Long-Term: No impact.</p>	<p>Short-Term: Same as the Proposed Action.</p> <p>Long-Term: No impact.</p>	<p>Short-Term: Adverse impact to the safety of personnel in facilities that infringe on the minimum AT setback requirements.</p> <p>Long-Term: Same as short-term.</p>
Hazardous Materials/Waste	<p>Short-Term: Minor adverse impact because any hazardous materials used during construction would not be expected to increase over existing conditions and would be used temporarily.</p> <p>Long-Term: No impact.</p>	<p>Short-Term: Same as the Proposed Action.</p> <p>Long-Term: No impact.</p>	<p>Short-Term: No impact.</p> <p>Long-Term: No impact.</p>
Asbestos-Containing Material (ACM) and Lead-Based Paint (LBP)	<p>Short-Term: No impact.</p> <p>Long-Term: No impact.</p>	<p>Short-Term: No impact.</p> <p>Long-Term: No impact.</p>	<p>Short-Term: No impact.</p> <p>Long-Term: No impact.</p>
Environmental Restoration Program (ERP)	<p>Short-term: No impact as proposed construction would occur within an existing developed area with no known ERP sites in proximity to the project site.</p> <p>Long-term: No impact.</p>	<p>Short-Term: Same as the Proposed Action.</p> <p>Long-Term: No impact.</p>	<p>Short-Term: No impact.</p> <p>Long-term: No impact.</p>

3.0 AFFECTED ENVIRONMENT

This section describes the current environmental and socioeconomic conditions most likely to be affected by the Proposed Action and provides a baseline from which to identify and evaluate environmental and socioeconomic changes likely to result from implementation of the Proposed Action.

In compliance with NEPA, CEQ regulations, and 32 CFR 989, the description of the affected environment focuses on those resources and conditions potentially subject to impacts. These resources and conditions include land use, air quality, noise, geology and soils, water resources, biological resources, cultural resources, socioeconomics, environmental justice, infrastructure, and health and safety. Analysis of potential environmental effects focuses on those resource areas that are appropriate for consideration in light of a proposed action. All resource areas are initially considered, but some may be eliminated from detailed examination because they do not directly apply to a particular proposal. The Region of Influence for each resource is first presented from the base-wide perspective and is then followed by a discussion of the resource with respect to the more specific area of the Proposed Action or the alternative. The potentially affected environment is described below.

3.1 Land Use

3.1.1 Definition of the Resource

Land use refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. Natural conditions of property can be described or categorized as unimproved, undeveloped, conservation or preservation area, and natural or scenic area. There is a wide variety of descriptive terms used to categorize land use resulting from human activity including residential, commercial, industrial, agricultural, institutional, and recreational.

Land use planning objectives are two-fold: to ensure orderly growth and ensure compatible uses among adjacent property parcels. Tools supporting land use planning include written master plans/management plans and zoning regulations. In appropriate cases, the locations and extent of proposed actions need to be evaluated for their potential effects on project sites 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.

To address land use with respect to noise and safety associated with aircraft operations, DoD required military departments to establish an Air Installation Compatible Use Zone (AICUZ) program. The goal of AICUZ is to promote compatible land use around air bases by providing information concerning aircraft operations, noise exposure, and accident potential to local governments (WPAFB 1995a, 2001).

One component of the AICUZ study was the development of noise contours. These contours are produced by the computerized Day-Night Average A-Weighted Sound Level (DNL) metric and the

1 NOISEMAP methodology. In the context of aircraft operations, land use compatibility is also described
2 in the context of noise levels. The AICUZ study included both the conditions that existed at the time the
3 study was prepared as well as a Maximum Mission Scenario that was based on the noise effects of various
4 potentially feasible mission changes.

5
6 The Maximum Mission (also known as Mission Capacity) Scenario was established for WPAFB to
7 provide consistency when zoning and land use policies in the community are established. Local zoning
8 does not need to be adjusted with changes in missions because the noise contours were based on
9 conservative assumptions regarding future missions. Therefore, the noise contours for the Maximum
10 Mission Scenario remain in effect for local community planning purposes. Noise contour analysis is
11 addressed in Section 3.3 of this EA.

12
13 The AICUZ program is also intended to reduce the potential for aircraft mishaps in populated areas. As a
14 result of this program, WPAFB has altered basic flight patterns to avoid heavily populated areas. In
15 addition, airfield safety zones were established under AICUZ to minimize the number of people who
16 would be injured or killed if an aircraft crashed. Three safety zones are designated at the end of all active
17 runways: Clear Zone (CZ), Accident Potential Zone (APZ) I, and APZ II.

18
19 The CZ represents the most hazardous area. The APZs are outside of the CZs. The APZ I is located
20 immediately beyond the CZ and has a high potential for accidents. The APZ II is immediately beyond
21 APZ I and has measurable potential for accidents. While aircraft accident potential in APZs I and II does
22 not necessarily warrant acquisition by AF, land use planning and controls are strongly encouraged for the
23 protection of the public. Compatible land uses are specified for these zones. According to Air Force
24 Instruction (AFI) 32-7063, all new construction is required to comply with the AICUZ.

25 26 **3.1.2 Existing Conditions**

27 The Base comprises 8,145 acres near Dayton, Ohio, and is divided into Areas A and B. Area A contains
28 administrative activities, airfield operation, maintenance, and civil engineering activities. Area B focuses
29 on acquisition, education, research, and development. Over 2,500 acres of WPAFB remain undeveloped
30 due to various development constraints.

31
32 There is a wide variety of land use classifications on WPAFB. Open Space and Outdoor Recreation
33 represent some of the land constrained from development. Over 2,000 acres of this undeveloped land lies
34 within the natural constraints area, which is composed of areas such as floodplains, lakes, wetlands, or
35 areas with unsuitable soil for building. Also located within the natural constraint area is the 109-acre
36 Huffman Prairie Flying Field containing remnant prairie habitat, which includes several rare plant and
37 animal species.

Human-made constraints also restrict development within the WPAFB boundaries. Included in these types of constraints are archaeological sites and historic buildings, which can be identified sites or those that remain undiscovered. Operational restrictions can also impede development. Noise contours from aircraft operations and explosive safety zones must be considered when looking at developing areas on the Base. Airfield and airspace control surfaces, such as runway approach CZs, are to remain clear of building obstructions. The presence of past waste disposal sites and fire training areas must be considered when siting facilities (WPAFB 1995a).

Land uses around WPAFB vary from heavily urbanized to rural agricultural (**Figure 3-1**). Most of the urbanized areas are west of the Base, with the low-density or agricultural area located east of the Base.

Most of the land surrounding WPAFB that is impacted from Base activities is compatible with Base operations. Progressive land use controls have been the most important factor concerning compatible development within noise and APZs at WPAFB (WPAFB 1995a). There are also natural areas located on or near WPAFB including Mad River, Huffman Prairie, the Licensed Shooting Preserve, and several regional and local parks. Areas of riparian woodland also exist along the Mad River as well as upland prairie that has been restored at Eastman Park.

Land use on Base is classified as the following types: residential, commercial, industrial, institutional, open space, vacant/agricultural, and airports (**Figure 3-1**). Land use in the proposed AMC and ITC project areas is classified as institutional.

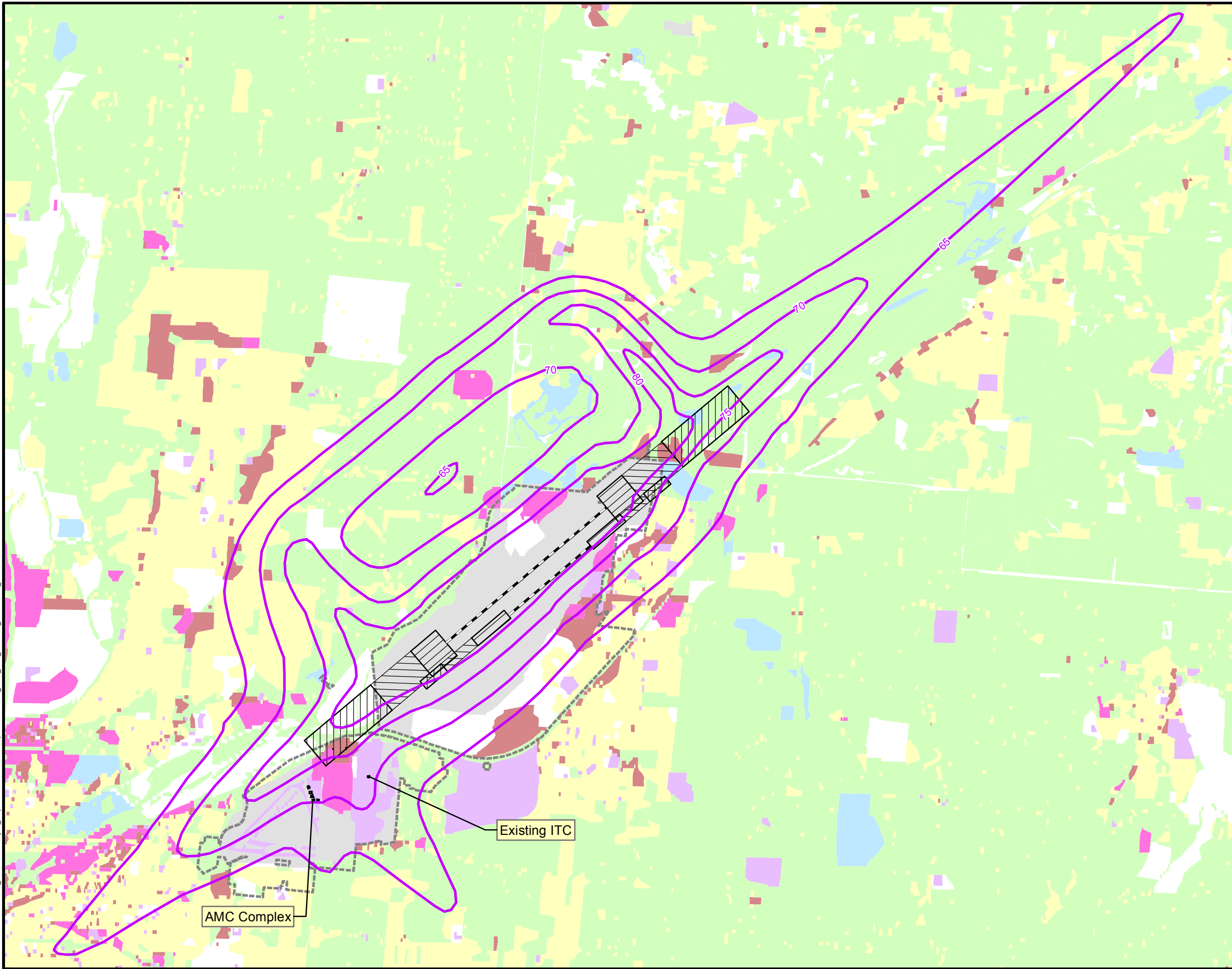
3.2 Air Quality

3.2.1 Definition of the Resource















In accordance with federal Clean Air Act (CAA) requirements, the air quality in a given region or area is measured by the concentration of various pollutants in the atmosphere. The measurements of these “criteria pollutants” in ambient air are expressed in units of parts per million (ppm) or in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The air quality in a region is a result not only of the types and quantities of atmospheric pollutants and pollutant sources in an area, but also surface topography, the size of the “air basin,” and the prevailing meteorological conditions.

The CAA directed the USEPA to develop, implement, and enforce strong environmental regulations that would ensure clean and healthy ambient air quality. To protect public health and welfare, the USEPA developed numerical concentration-based standards, or National Ambient Air Quality Standards (NAAQS), for pollutants that have been determined to impact human health and the environment. The USEPA established both primary and secondary NAAQS under the provisions of the CAA. The NAAQS are currently established for six criteria air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (including coarse particulates equal to or less than

MSN - Path: G:\WPAFB\GIS Documents\Project Maps\500499.02040100\Sep2016\WPAFB_AMC_03-1_LandUse_MaxMission_NoiseCtrs.mxd - Date: 9/28/2016 Time: 11:35:33 AM



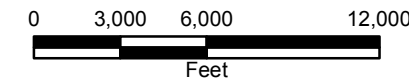
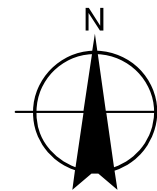
Legend:

-  Clear Zone
-  APZ I
-  APZ II
-  Installation Area
-  Runways
-  Maximum Mission DNL Noise Contours
-  Residential
-  Commercial
-  Industrial
-  Institutional
-  Open Space
-  Vacant and Agricultural
-  Extractive (Mining/Quarry)
-  Airports

AMC = Acquisition Management Complex
ITC = Information Technology Center

Source: 1995 AICUZ Study Maximum Mission

Source: Land Use - Ohio Department of Natural Resources
Montgomery County Land Use data; Miami County Land Use Data;
Clark County Land Use data; Greene County Land Use data.



**WRIGHT-PATTERSON
AIR FORCE BASE,
OHIO**

**Figure 3-1
Existing Land Use and
Maximum Mission Noise Contours
at WPAFB**

10 micrometers in aerodynamic diameter [PM_{10}] and fine particulates equal to or less than 2.5 micrometers in aerodynamic diameter [$PM_{2.5}$]), and lead (Pb).

The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represent the maximum pollutant concentration necessary to protect vegetation, crops, and other public resources along with maintaining visibility standards. **Table 3-1** presents the primary and secondary NAAQS.

Table 3-1. National Ambient Air Quality Standards

Pollutant	Standard Value ⁶		Standard Type
Carbon Monoxide (CO)			
8-hour average	9 ppm	(10 mg/m ³)	Primary
1-hour average	35 ppm	(40 mg/m ³)	Primary
Nitrogen Dioxide (NO ₂)			
Annual arithmetic mean	0.053 ppm	(100 µg/m ³)	Primary and Secondary
1-hour average ¹	0.100 ppm	(188 µg/m ³)	Primary
Ozone (O ₃)			
8-hour average ²	0.070 ppm	(137 µg/m ³)	Primary and Secondary
Lead (Pb)			
3-month average ³		0.15 µg/m ³	Primary and Secondary
Particulate < 10 micrometers (PM ₁₀)			
24-hour average ⁴		150 µg/m ³	Primary and Secondary
Particulate < 2.5 micrometers (PM _{2.5})			
Annual arithmetic mean ⁴		12 µg/m ³	Primary
Annual arithmetic mean ⁴		15 µg/m ³	Secondary
24-hour average ⁴		35 µg/m ³	Primary and Secondary
Sulfur Dioxide (SO ₂)			
1-hour average ⁵	0.075 ppm	(196 µg/m ³)	Primary
3-hour average ⁵	0.50 ppm	(1,307 µg/m ³)	Secondary

Notes:

- 1 In February 2010, USEPA established a new 1-hr standard at a level of 0.100 ppm, based on the 3-year average of the 98th percentile of the yearly distribution concentration, to supplement the existing annual standard.
- 2 Final rule signed in October 1, 2015, and effective December 28, 2015. The previous (2008) O₃ standards additionally remain in effect in some areas. Revocation of the previous (2008) O₃ standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.
- 3 In November 2008, USEPA revised the primary lead standard to 0.15 µg/m³. USEPA revised the averaging time to a rolling 3-month average, not to be exceeded.
- 4 In December 2012, USEPA revised the level of the annual PM_{2.5} primary standards to 12 µg/m³ and retaining the secondary level of the annual PM_{2.5} standard at 15 µg/m³ and retaining the level of the 24-hour PM_{2.5}. With regard to primary standards for particle generally less than or equal to 10 µm in diameter (PM₁₀), USEPA is retaining the 24-hour standard and revoking the annual PM₁₀ standard.
- 5 In June 2010, USEPA established a new 1-hr SO₂ standard at a level of 75 parts per billion (ppb), based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The USEPA is also revoking both the existing 24-hour and annual primary SO₂ standards.
- 6 Parenthetical value is an approximately equivalent concentration for CO, NO₂, O₃ and SO₂.

ppb = parts per billion ; µg/m³ (micrograms per cubic meter)

ppm = parts per million; mg/m³ (milligrams per cubic meter)

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

The criteria pollutant O₃ is not usually emitted directly into the air, but is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants or “O₃ precursors.” These

O₃ precursors consist primarily of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) that are directly emitted from a wide range of emissions sources. For this reason, regulatory agencies attempt to limit atmospheric O₃ concentrations by controlling NO_x and VOC emissions.

The USEPA has recognized that particulate matter emissions can result in inhalable particulate matter, which can have different health affects depending on particle size. Therefore, developed separate NAAQS for coarse particulate matter PM₁₀ and fine particulate matter PM_{2.5}. The pollutant PM_{2.5} can be emitted from emission sources directly as very fine dust and/or liquid mist or formed secondarily in the atmosphere as condensable particulate matter typically forming nitrate and sulfate compounds. Precursors of condensable PM_{2.5} can include SO₂, NO_x, VOC, and ammonia. Secondary (indirect) emissions vary by region depending upon the predominant emission sources located within the area. The state air agency considers these sources when determining which precursors are considered significant for PM_{2.5} formation and identified for ultimate control.

The CAA and USEPA delegated responsibility for ensuring compliance with NAAQS to the states and local agencies. As such, each state must develop air pollutant control programs and promulgate regulations and rules that focus on meeting NAAQS and maintaining healthy ambient air quality levels. These programs are detailed in State Implementation Plans (SIPs) that must be developed by each state or local regulatory agency and approved by the USEPA. A SIP is a compilation of regulations, strategies, schedules, and enforcement actions designed to move the state into compliance with all NAAQS. Any changes to the compliance schedule or plan (e.g., new regulations, emissions budgets, controls) must be incorporated into the SIP and approved by the USEPA.

The CAA required that the USEPA draft general conformity regulations. These regulations are designed to ensure that federal actions do not impede local efforts to achieve or maintain attainment with the NAAQS. The General Conformity Rule regulations found in 40 CFR 93 exempt certain federal actions from conformity determinations (e.g., contaminated site cleanup and natural disaster response activities). Other federal actions are assumed to conform if total indirect and direct project emissions are below *de minimis* levels presented in 40 CFR 93.153. The threshold levels (in tons of pollutant per year) depend upon the nonattainment status that USEPA has assigned to a region. Once the net change in nonattainment pollutants is calculated, the federal agency must compare them to the *de minimis* thresholds if a conformity determination is required.

Title V of the CAA Amendments of 1990 requires states and local agencies to implement permitting programs for major stationary sources. A major stationary source is a facility (e.g., plant, base, or activity) that has the potential to emit more than 100 tons annually of any one criteria air pollutant, 10 tons per year (tpy) of a hazardous air pollutant, or 25 tpy of any combination of hazardous air pollutants. However, lower pollutant-specific “major source” permitting thresholds apply in

1 nonattainment areas. For example, the Title V permitting threshold for an “extreme” O₃ nonattainment
2 area is 10 tpy of potential VOC or NO_x emissions. The overall purpose of the Title V permitting rule is to
3 establish regulatory control over large, industrial-type activities and monitor their impact on air quality.

4
5 Federal New Source Review (NSR), including Prevention of Significant Deterioration (PSD), is a
6 preconstruction permitting program that requires stringent pollution controls when air emissions increases
7 are “significant” from proposed new major stationary sources or major modifications at existing sources.
8 To be “significant”, a proposed project’s net emission increase must meet or exceed the rate of emissions
9 listed in 40 CFR 52.21(b)(23)(i) for criteria pollutants; or (1) a proposed project is located within 10
10 kilometers of any Class I area, and (2) regulated pollutant emissions would cause an increase in the 24-
11 hour average concentration of any regulated pollutant in the Class I area of 1 µg/m³ or more [40 CFR
12 52.21(b)(23)(iii)]. The PSD regulations also define ambient air increments, limiting the allowable
13 increases to any area’s baseline air contaminant concentrations, based on the area’s designation as Class I,
14 II, or III [40 CFR 52.21(c)].

15 16 **Greenhouse Gases**

17 The greenhouse gases (GHGs) are gases that retain heat in the atmosphere. These emissions are
18 generated by both natural processes and human activities. The accumulation of GHGs in the atmosphere
19 helps regulate the earth’s temperature and is believed by USEPA to contribute to global climate change.
20 The GHGs include water vapor, CO₂, methane (CH₄), nitrous oxide, O₃, and several hydrocarbons and
21 chlorofluorocarbons. Each GHG has an estimated global warming potential (GWP), which is a function
22 of its atmospheric lifetime and its ability to absorb and radiate infrared energy emitted from the earth’s
23 surface. The GWP of a particular gas provides a relative basis for calculating its CO₂ equivalents (CO₂e)
24 or the amount of CO₂e to the emissions of that gas. The CO₂ has a GWP of 1, and is, therefore, the
25 standard by which all other GHGs are measured.

26
27 Executive Order (EO) 13693, *Planning for Federal Sustainability in the Next Decade*, provides leadership
28 in sustainability and GHG emission reductions. Executive Order 13693 revoked EO 13514 in March
29 2015, which provided strategic guidance to federal agencies in the management of GHG emissions. The
30 EO 13693 states that federal agencies shall, where life-cycle cost-effective, promote building energy
31 conservation, efficiency, and management by reducing agency building energy intensity measured in
32 British thermal units per gross square foot by 2.5 percent annually through the end of fiscal year 2025,
33 relative to the baseline of the agency's building energy use in fiscal year 2015 and taking into account
34 agency progress to date.

35
36 On February 18, 2010, the CEQ released *Draft NEPA Guidance on Consideration of the Effects of*
37 *Climate Change and Greenhouse Gas Emissions*. This guidance advises federal agencies to consider, in

scoping their NEPA analysis, whether analysis of the direct and indirect GHG emissions from their proposed actions may provide meaningful information to decision makers and the public.

If a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO₂e GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. The CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emission that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHGs. The CEQ also notes this indicator serves as a minimum standard for reporting emissions under the CAA. Calculated GHG emissions as a result of the Proposed Action are discussed further in Section 4.2.2.

3.2.2 Existing Conditions

Regional Climate

The climate of this region of Ohio is humid and temperate with warm summers and cold winters. Average minimum and maximum temperatures are between 21 and 36 degrees Fahrenheit (°F) in January and 45 and 85 °F in July. The average annual precipitation is 38.43 inches, with June typically being the wettest month and October the driest month. The prevailing winds are from the southwest, with average monthly wind speeds between 3 and 7 knots.

Regional Air Quality

Under the authority of the CAA and subsequent regulations, the USEPA has divided the country into geographical regions known as Air Quality Control Regions (AQCRs) to evaluate compliance with the NAAQS. Through the CAA, Congress has stated that the prevention and control of air pollution belongs at the state and local level, thus the USEPA has delegated enforcement of the NSR/PSD and Title V programs to the OEPA. The OEPA has adopted the NAAQS by reference in the Ohio SIP, thereby requiring the use of the standards within the State of Ohio.

Wright-Patterson AFB

The Base is located in Greene and Montgomery counties, which are located in the Metropolitan Dayton Intrastate AQCR (40 CFR 81.34). Each AQCR is classified as an attainment area or nonattainment area for each of the criteria pollutants depending on whether it meets or fails to meet the NAAQS for the pollutant. Ambient air quality for the Metropolitan Dayton Intrastate AQCR was formerly classified as an attainment/maintenance area for the 8-hour O₃ (USEPA 2012); attainment for the SO₂ 3-hour standard and unclassifiable/attainment for the new 1-hour standard SO₂ established in 2013 (USEPA 2013); and attainment for the Pb and CO standards. Area designations for the 2015 revised 8-hour O₃ NAAQS (USEPA 2015a) are anticipated to be finalized by the end of 2017.

1 The ambient air quality for PM_{2.5} is classified as attainment for the 24-hour standard and re-designated to
2 attainment/maintenance for the annual standard. For the new annual PM_{2.5} NAAQS, the OEPA submitted
3 a report in December 2013 recommending that Montgomery and Greene Counties be designated as
4 “unclassified/attainment” (OEPA 2013). This designation was approved by USEPA effective April 15,
5 2015 (USEPA 2015a). The USEPA also approved Ohio SIP revisions implementing the PM_{2.5} NAAQS
6 including OAC Rule 3745-31-01 (WWWW) defining PM_{2.5} precursors to include sulfur dioxide and
7 nitrogen oxides (USEPA 2015b).

8
9 Air quality is typically good in the vicinity of WPAFB, and is generally affected only locally by military
10 and civilian vehicle emissions, particulate pollution from vehicle traffic, emissions from wastewater
11 treatment plants, industrial sources, and construction activities. Mobile sources, such as vehicle and
12 aircraft emissions, are generally not regulated and are not covered under existing stationary source
13 permitting requirements. Stationary emissions sources at WPAFB include natural gas and coal-fired
14 boilers; research and development sources, such as laboratory fume hoods and test cells; paint spray
15 booths; refueling operations; and emergency power generators.

16
17 The Base is under the jurisdiction of USEPA Region 5 and the OEPA. The Regional Air Pollution
18 Control Agency (RAPCA), under the jurisdiction of the OEPA, conducts annual compliance inspections
19 at WPAFB. The Base has long had an aggressive program of internal audits and inspections to ensure
20 continual compliance with all applicable air permit terms and conditions. Detailed records are maintained
21 to demonstrate compliance with emission limits, and reports are submitted in a timely manner to the local
22 regulatory agency.

23
24 The WPAFB air emissions inventory includes over 1,400 emissions sources. Of these, approximately
25 1,050 are included in the Base’s Title V permit application, which was originally submitted to the OEPA
26 in February 1996 in accordance with CAA requirements. Many of the Title V sources are insignificant,
27 including emergency generators, small boilers, and laboratory fume hoods. There were 29 permitted non-
28 insignificant emissions units identified in the original application, most of which were boilers and paint
29 spray booths. The OEPA finalized the Title V Operating Permit for WPAFB in January 2004 with an
30 effective date of February 17, 2004 (OEPA 2004). A Title V renewal permit application was submitted to
31 the OEPA in May 2008 and is currently under review. The Title V renewal application notified OEPA
32 that the number of permitted non-insignificant emission units was reduced from 29 to 26. A revision to
33 the Title V renewal application was submitted to OEPA on September 11, 2013 to include the coal-gas
34 fuel conversion project at the Base central heating plants.

35
36 The locations of the Proposed Action (adjacent to the existing AMC campus) and Alternative B (the ITC
37 campus) are within the Montgomery County portion of Area B at WPAFB. The proposed new building
38 may include new heating, ventilation, and air-conditioning (HVAC) equipment, heating boilers, and

emergency generators. Emergency generators are required to maintain valid Permit-by-Rule (PBR) and are additionally subject to Reciprocating Internal Combustion Engines (RICE) Maximum Achievable Control Technology (MACT) standards (40 CFR 63 Subpart IIII). New boilers would be exempt from any air permit requirements provided the assets are natural gas fired and are rated less than 10 million British Thermal Units per hour (MMBtu/hr) heat input. These boilers would be subject to Boiler MACT standards (40 CFR 63 Subpart DDDDD) if rated 1.6 MMBtu/hr heat input or larger.

Insignificant sources required to be listed in the Title V permit may or may not have permit conditions or reporting requirements depending on the regulatory qualifications that categorizes a source as insignificant. Insignificant sources that are required to have a permit to install (PTI) must be evaluated prior to commencing work to assure that the terms and conditions of the issued PTI are met. Insignificant sources that are required to have a PBR must be installed to ensure the terms and conditions of the PBR are maintained. Insignificant sources that are *de minimis* or to which only general applicable requirements apply may undergo installation, removals, and relocations and do not require a modification of the Title V permit provided the changes to not exceed insignificant emission levels.

Insignificant emission levels are defined in OAC rule 3745-77-01(V)(3) to be less than or equal to 5 tpy of any regulated air pollutant other than a Hazardous Air Pollutant and not more than 20 percent of an applicable major source threshold. Changes to insignificant sources are handled as routine administrative changes through air profile updates submitted through Air Services to the OEPA, Division of Air Pollution Control. All air sources are identified by a four digit number on a yellow sticker affixed to the source. The Air Program Manager at WPAFB requires notification prior to removal or relocation of any air source.

An Air Conformity Applicability Analysis was prepared for the Proposed Action and Alternatives. The analysis is discussed in Section 4 and provided in **Appendix B**.

3.3 Noise

3.3.1 Definition of the Resource

Noise is defined as an undesirable sound that interferes with communication, is intense enough to damage hearing, or is annoying. Human response to noise varies according to the source type, characteristics of the source, distance between source and receptor, receptor sensitivity, and time of day. Sound is measured with instruments that record instantaneous sound levels in decibels (dB); decibels characterize sound levels sensed by the human ear. “A-weighted” decibels (dBA) incorporate an adjustment of the frequency content of a noise event to represent the way in which the average human ear responds to a noise event. Sound levels analyzed in this EA are A-weighted.

1 Noise Criteria and Regulations

2 Federal and local governments have established noise guidelines and regulations for the purpose of
3 protecting citizens from potential hearing damage and from various other adverse physiological,
4 psychological, and social effects associated with noise. Guidelines and regulations that are relevant to the
5 project are described below.

6
7 According to AF, Federal Aviation Administration (FAA), and HUD criteria, residential units and other
8 noise-sensitive land uses are “clearly unacceptable” in areas where the noise exposure exceeds DNL of 75
9 dBA, “normally unacceptable” in regions exposed to noise between the DNL of 65 to 75 dBA, and
10 “normally acceptable” in areas exposed to noise where the DNL is 65 dBA or less. The Federal
11 Interagency Committee on Noise developed land-use compatibility guidelines for noise in terms of DNL
12 (U.S. Department of Transportation [USDOT] 1980). The DNL is the metric used by the AF in
13 determining noise impacts of military airfield operations for land use planning.

14
15 The AF land use compatibility guidelines (relative to DNL values) are documented in the *AICUZ*
16 *Program Handbook* (U.S. Air Force [USAF] 1999). Four noise zones are used in AICUZ studies to
17 identify noise impacts from aircraft operations. These noise zones range from DNL of 65 to 80 dBA and
18 above. For example, it is recommended that no residential uses, such as homes, multifamily dwellings,
19 dormitories, hotels, and mobile home parks, be located where the noise is expected to exceed a DNL of
20 65 dBA.

21
22 If sensitive structures are located in areas within a DNL of 65 to 75 dBA, noise-sensitive structures should
23 be designed to achieve a DNL of 25 to 30 dBA interior noise reduction. Noise-sensitive structures might
24 include schools, concert halls, hospitals, and nursing homes. Elevated noise levels in these structures can
25 interfere with speech, causing annoyance or communication difficulties. Some commercial and industrial
26 uses are considered acceptable where the noise level exceeds DNL of 65 dBA. For outdoor activities,
27 USEPA recommends DNL of 55 dBA as the sound level below which there is no reason to suspect that
28 the general population will be at risk from any of the effects of noise (USEPA 1974).

30 3.3.2 Existing Conditions

31 Existing noise contours were analyzed using results from DoD-approved noise models in the vicinity of
32 WPAFB. The noise contour analysis for WPAFB is presented in the *1995 AICUZ Study for Wright-*
33 *Patterson AFB, Ohio* (WPAFB 1995a). Based on reasonable assumptions at the time of the 1995 AICUZ
34 Study, a Maximum Mission/Maximum Capacity Scenario was analyzed and incorporated a potential
35 increase in aircraft operations. Although other aircraft have been utilized at WPAFB, the Maximum
36 Mission Model was intended to capture the maximum feasible operational capacity of the airfield and
37 support activities. Within the limits of accuracy of the model itself, it was meant to provide a good-faith
38 “worst-case” baseline for the surrounding communities’ zoning and land-use decisions, thus limiting
39 encroachment and preserving the capacity of the Base to host additional flying missions.

Because the Maximum Mission Scenario noise contours have been, and are currently, used for noise compatibility planning around the Base, these contours are used as the baseline for the noise analysis in this EA. **Figure 3-1** depicts the baseline noise contours presented in the 1995 AICUZ Study (WPAFB 1995a).

No noise-sensitive receptors were identified in the AICUZ and there have been no recent complaints regarding aircraft noise. The AMC and ITC project areas are located within the 70 to 75 dBA noise contours.

Under the Proposed Action, construction activities would also present a source of temporary noise. The existing AMC is not located in a densely populated or congested area of Area B. Nonetheless, there are several buildings in proximity to the proposed location for construction. The proposed location for Alternative B is also located in an area with several facilities close by. The construction aspects of ITC Phase II were addressed in a previous EA (WPAFB 2004).

3.4 Geology and Soils

3.4.1 Definition of the Resource

Geological resources consist of the earth's surface and subsurface materials. Topography pertains to the general shape and arrangement of a land surface, including its height and the position of its natural and human-made features.

Geology is the study of the earth's composition and provides information on the structure and configuration of surface and subsurface features. Hydrogeology extends the study of the subsurface to water-bearing structures. Hydrogeological information helps in the assessment of groundwater quality and quantity and its movement.

The majority of the Base is on the broad alluvial plain of the Mad River Valley, which overlies Ordovician-age Richmond shale and limestone bedrock (WPAFB 2001). The land surface elevation on Base ranges from approximately 760 to 980 ft above MSL (WPAFB 2001).

Soils are the unconsolidated materials overlying bedrock or other parent material. Soils typically are described in terms of their complex type, slope, and physical characteristics. Differences among soil types in terms of their structure, elasticity, strength, shrink-swell potential, and erosion potential affect their abilities to support certain applications or uses.

Surface soil at WPAFB formed on unconsolidated deposits, primarily alluvium, glacial outwash, glacial till, and loess (WPAFB 2001). Development and substantial earthmoving activities have altered the natural soil characteristics at WPAFB, making precise classifications difficult. The U.S. Department of

Agriculture (USDA) Natural Resource Conservation Service (NRCS) mapped most of WPAFB as urban land complexes. Major soil complexes represented at WPAFB include Warsaw-Fill, Sloan-Fill, Miamian-Urban, Fox-Urban, Linwood Muck, Westland-Urban, and Warsaw-Urban. Forty soil mapping units occur on WPAFB. Sixteen of the soil units on WPAFB are designated as prime farmland soils. Most of these soils are loams located in the northeastern and southwestern portions of the Base, and in areas near SR 444.

Approximately one-half of the soils on Base have a moderate to high potential for erosions. The potential for erosion varies with topographic conditions and includes both disturbed urban land complex soils and natural loams. Bare soil leads to erosion, creation of gullies and rills, and increased sediment load in streams.

The state of Ohio is characterized by a low level of seismic activity (U.S. Geological Survey [USGS] 2015). The Dayton, Ohio, area does not typically experience earthquakes because of its location in relation to fault zones (Hansen 2002). Auglaize and Shelby counties located in northwest Ohio (approximately 45 miles from Greene County) had a series of historic earthquakes in the late 1800s to mid-1900s (Hansen 2002), with the greatest instrumented magnitude recorded between 5.0 and 5.4 (USGS 2015). On July 23, 2010, a 5.0 magnitude earthquake originating along the Quebec-Ontario border was felt in Dayton and surrounding areas.

3.4.2 Existing Conditions

The highest elevations on Base are in Area B and occur along a bedrock ridge that extends from the southeast corner of Area B to the Wright Memorial. The ridge was formed by Silurian Age Brassfield limestone stratigraphically overlying Ordovician Richmond shale at elevations above 906 ft above mean sea level (MSL).

The AMC project area is located in Montgomery County (Mad River Township) and soil consists of the Fox-Urban land complex soil series. Fox soils are well-drained soils that formed in loamy glacial outwash material. Fox soils are nearly level to very steep and occupy areas on terraces along the major streams in the county (USDA 1976).

The ITC project area is located in Greene County (Mad River Township) and soil consists of the Miamian-Urban land complex soil series. Miamian soils are described as well drained, nearly level to steeply sloped (6 to 12 percent) soils originally formed in glacial till that have been disturbed by earthmoving and grading operations. The Miami-Urban land complex soils are suitable for buildings that require high bearing strength (USDA 1978).

3.5 Water Resources

3.5.1 Definition of the Resource

Water resources include groundwater, surface water, and floodplains. Evaluation of water resources examines the quantity and quality of the resource and its demand for various purposes.

Groundwater

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.

Surface Water

Surface water resources consist of lakes, rivers, and streams. Storm water 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. Storm water 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. Storm water systems convey precipitation away from developed sites to appropriate receiving surface waters. Higher densities of development, such as those found in Area B, require greater degrees of storm water management because of the higher proportions of impervious surfaces that occur from buildings, parking lots, and roadways.

Floodplains

Floodplains are areas of low-level ground present along rivers, stream channels, or coastal waters and might be subject to periodic or infrequent inundation due to rain or melting snow. Flood potential is evaluated by the Federal Emergency Management Agency (FEMA), which defines the Area A 100-year floodplain for the Mad River as 813.4 ft above MSL. The 100-year floodplain is the area that has a 1 percent chance of inundation by a flood event in a given year. Portions of Area A are located within the 100-year floodplain of the Mad River; however, Area B is not within the 100-year floodplain.

Executive Order 11988, *Floodplain Management*, requires federal agencies to determine whether a proposed action would occur within a floodplain and typically involves consultation of appropriate FEMA Flood Insurance Rate Maps. Executive Order 11988 directs federal agencies to avoid floodplains unless the agency determines that there is no practicable alternative. Where the only practicable alternative is to site in a floodplain, a specific step-by-step process must be followed to comply with EO 11988 outlined in the FEMA document *Further Advice on EO 11988 Floodplain Management*.

Executive Order 13690 (January 2015), *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, amends EO 11988 and provides three

approaches that federal agencies can use to establish flood elevation and hazard area for consideration in their decision-making: climate-informed science approach, adding 2-3 ft of elevation to the 100-year floodplain, and using the 500-year floodplain. The intent of EO 13690 is to reduce the risk and cost of future flood disasters by ensuring that federal investments in and affecting floodplains are constructed to better withstand the impacts of flooding (FEMA 2015).

3.5.2 Existing Conditions

Groundwater

The Base is located in the Great Miami River Valley, which is filled with glacial deposits of sand and gravel. The glacial outwash deposits are very permeable and exhibit high transmissivity and hydraulic conductivity. The resulting aquifer system, called the Miami Valley Buried Aquifer, is a highly productive source of water for the millions of people in southwest Ohio. The USEPA designated the Miami Valley Buried Aquifer system as a sole-source aquifer in 1988, requiring USEPA Region 5 approval on all new projects to ensure continued use as a drinking water supply (53 Federal Register 15876).

Groundwater can also be found in large volumes in the Silurian-age (415 to 465 million years ago) limestone and dolomite bedrock underneath the buried valley aquifer system. Private wells and smaller public systems typically use this bedrock aquifer because, though not as productive as the buried aquifer, it is adequate for such uses (Miami Conservancy District [MCD] 2002). Underneath the limestone and dolomite bedrock is Ordovician-age (465 to 510 million year ago) bedrock shales and limestones of the Richmond Group. The lower bedrock aquifer system generally produces less than 5 gallons per minute (gpm) and is only productive enough for livestock use.

The buried valley aquifers coincide with the present Great Miami River and its tributaries. Groundwater generally follows the same flows as surface waters with upland areas serving as recharge areas and groundwater divides (MCD 2002). At WPAFB, the Mad River follows the course of the Mad River Buried Aquifer, part of the Miami Valley Buried Aquifer system. South of Huffman Dam (a flood control dam that is managed by the MCD), a till zone divides the Mad River Buried Aquifer into an upper water table unit and a lower confined unit. However, north of the dam and in other parts of the buried valley aquifer, till zones occur less frequently as discontinuous, less-permeable zones within the more permeable outwash deposits (WPAFB 1995b).

Most of the water production wells in the outwash deposits yield between 750 and 1,500 gpm, but can vary from less than 200 to more than 4,000 gpm (WPAFB 1995b). The City of Dayton groundwater production wells at Huffman Dam are screened at depths of over 100 ft below ground surface. Portions of the Base lie within the City of Dayton Wellhead Protection Area. The City of Dayton recently approved changes to the ordinances that govern the program including the boundaries of the zoning

district that limit storage and use of chemicals in order to protect the City of Dayton Wellhead Protection Area. The existing AMC complex and the proposed AMC Phase V project area is located within the City of Dayton water protection district (Dayton 2016). Groundwater in Area B is monitored under the Groundwater Operable Unit (WPAFB 1999) and the Long-term Groundwater Monitoring (LTM) Program (WPAFB 2015a). The environmental setting of Area B is presented on **Figure 3-2**.

Groundwater is recharged through infiltration of precipitation, groundwater flow into the area, and to a limited extent the infiltration of surface water. Seasonal high water table elevations generally occur in the spring with the lows occurring in late autumn and winter.

Surface Water

The Base is in the Mad River Valley. 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. The Mad River approaches WPAFB from the north and flows along the western border of Area A. The OEPA has divided the Mad River watershed into five areas:

1. Headwaters
2. Mad River between Kings Creek and Chapman Creek
3. Buck Creek
4. Mad River from Chapman Creek to Mud Creek
5. Lower Mad River (Mud Creek to Great Miami River)

Mud Creek enters the Mad River 2,000 ft north of the SR 235 bridge, near the northwest corner of Area A. The Base lies adjacent to the northernmost portion of the lower Mad River segment. The 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 (CWA) for not meeting aquatic life and recreational use standards (OEPA 2010).

The USEPA 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* (USEPA 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.

The WPAFB Storm Water Management Plan (SWMP) and the Storm Water Pollution Prevention Plan

1 **Figure 3-2 may be available upon request, please contact:**

2
3 **88 ABW / Public Affairs**
4 **5135 Pearson Road**
5 **Building 10, Room 252**
6 **Wright-Patterson AFB, OH 45433**
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(SWPPP) (prepared to comply with the CWA and the Ohio Water Pollution Control Act) provide descriptions of storm drainage areas and their associated outfalls, potential storm water pollution sources, and material management approaches to reduce potential storm water contamination (WPAFB 2011a, WPAFB 2011b). The SWPPP was last updated in September 2011 while the SWMP was last updated in April 2011. An OEPA industrial permit (NPDES 11O00001) and a municipal NPDES General permit (OHQ000002) cover the WPAFB storm water program (WPAFB 2011a).

The SWPPP and SWMP provide specific BMPs to prevent surface water contamination from activities such as construction, storing and transferring of fuels, storage of coal, use of deicing fluids, storage and use of lubrication oils and maintenance fluids, solid and hazardous waste management, and use of deicing chemicals.

In accordance with Ohio Administrative Code (OAC) Chapter 3745-33, the Ohio Environmental Protection Agency (OEPA) manages the U.S. Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES). Ohio requires that all construction sites greater than one acre must submit and implement a Sediment and Stormwater Management Plan. This plan requires a design report, all pertinent information from the Sediment and Stormwater Management Plan Checklist, completed Plan Checklist, project specifications, pre-application meeting, and weekly reviews by a Certified Construction reviewer. The Erosion and Sediment Control portion of the plan must include BMPs to reduce or eliminate the potential for erosion and sediment deposition from the construction activities. Prior to the start of construction activities, a notice of intent must be filed with OEPA prior to the start of activities. Additionally, in accordance with the Sediment and Stormwater Management guideline, post-construction BMPs may be required.

There are 20 defined drainage or “Outfall Areas” on Base and 24 NPDES discharge monitoring points on Base that are addressed under the NPDES permit (**Figure 3-3**). All storm water 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 (**Figure 3-3**). 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. Trout Creek and Hebble Creek provide drainage of surface water runoff at WPAFB.

Trout Creek is located in the western portion of Area A and discharges to the Mad River north of Huffman Dam. Hebble Creek passes through the southwestern portion of Area A and discharges to the Mad River several hundred ft north of Huffman Dam. Gravel Lake, Twin Lake East, and Twin Lake West are located in the southwest portion of Area A. These lakes were created as a result of gravel



quarrying activities at WPAFB. Currently, the lakes are maintained as recreational areas for Base personnel and their families.

The surface water features within Area B consist of man-made ditches and ponds, and concrete-lined channels. Storm drainage exits Area B by several paths through a combination of surface drainage and storm drains that ultimately drain to the Mad River.

Floodplains

A large portion of WPAFB and most of Area A lies within the Mad River floodplain. The 10-year floodplain is at 804.7 ft above MSL, and the 100-year floodplain is at 813.4 ft above MSL (North American Vertical Datum [NAVD] 1988). Area B is classified as Zone X by FEMA, which is an area outside the 100-year floodplain with less than a 0.2 percent chance of an annual flood. The project site for AMC Phase V and ITC Phase II are located in Area B and are not located within the 100-year floodplain.

The MCD was consulted regarding the Proposed Action and Alternatives. The MCD responded indicating that the proposed project is located outside of the boundary of the Huffman Retarding Basin and is not subject to the MCD restrictions. Copies of correspondence with this agency are included in **Appendix A**.

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 & Wildlife Service (USFWS) or the state.

Wetlands are an important natural system and habitat because of the diverse biologic and hydrologic functions they perform. These functions include water quality improvement, groundwater recharge and discharge, pollution mitigation, nutrient cycling, wildlife habitat detention, and erosion protection. Wetlands are protected as a subset of the “the waters of the United States” under Section 404 of the CWA.

The term “waters of the United States” has a broad meaning under the CWA and besides navigable water, incorporates deep-water aquatic habitats and wetlands.

The U.S. Army Corps of Engineers defines wetlands as “those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal

circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33 CFR Part 328).

Under the Endangered Species Act (ESA) (16 U.S. Code [USC] 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. The 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, the 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 [ORC] 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 ORC Chapter 1518.

3.6.2 Existing Conditions

Vegetation

The Base contains four general types of natural vegetative communities including forest, old fields, prairie, and wetlands. Areas that may be impacted by the Proposed Action are primarily disturbed areas. These include maintained areas that are frequently mowed such as right-of-ways, lawns, and recreational areas, and have been designated by the Base as turf and landscaped areas. Areas that may also be impacted by the Proposed Action include sensitive habitats such as Huffman Prairie, wetlands, and natural areas inhabited by threatened and endangered species.

The Base has been awarded the Arbor Day Foundation’s Tree City USA designation for 14 years (WPAFB 2012a). The Tree City USA award originates from the National Arbor Day Foundation, an organization founded in 1976 dedicated to tree plantings, conservation, and promotion of community forestry. Benefits of being a Tree City designee include creating a framework for action, education, a positive public image, and citizen pride.

The Asia-native invasive insect, Emerald Ash Borer, was first discovered at WPAFB in July 2010. The Emerald Ash Borer (EAB) Plan implements mitigation disruption of WPAFB urban trees caused by the infestation of the EAB and estimates 5 percent of all trees on Base are ash trees and susceptible to EAB infestation (WPAFB 2010). Currently, chemicals are used to delay the impacts of the EAB with the assumption that the life of ash trees can be extended through the use of chemical treatment (e.g., soil drench/injection, basal bark injection, foliar application).

Wildlife

The Base is home to a variety of wildlife. Previously conducted surveys documented the presence of 23 mammals, 118 birds, 8 reptiles, and 6 amphibians on the Base (WPAFB 2015b). The majority of the project areas are located within disturbed areas on the Base and those species occurring in such areas are common species to the Base and surrounding area.

Because birds as well as mammals pose a hazard to airfield and aircraft operations, the Air Force 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 (WPAFB 2015b).

Threatened and Endangered Species

Endangered and threatened species on Base are protected under the ESA. In addition, Air Force Policy Directive (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 Environmental [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 2015b). Threatened and endangered species known to occur or have occurred on WPAFB are presented in **Table 3-2**.

Table 3-2. Federally and State-Listed Species of Animals, Insects, and Plants Recorded at WPAFB

Common Name		Status	
		Federal	State of Ohio
Mammals	Indiana bat	Endangered	Endangered
	Northern long-eared bat	Threatened	Species of Concern
Birds	King rail	-	Endangered
	Common tern	Bird of Conservation Concern	Endangered
	Upland sandpiper	Bird of Conservation Concern	Endangered
Reptiles	Eastern massasauga rattlesnake	Proposed Threatened	Endangered
	Smooth green snake	-	Endangered
Mussel	Clubshell	Endangered	Endangered
Plants	Fringe-tree	-	Threatened
	Ear-leaf foglove	-	Endangered
	Whorled water-milfoil	-	Endangered

Locations of threatened and/or endangered species known to occur at WPAFB in Area B are presented on **Figure 3-4**.

Figure 3-4 may be available upon request, please contact:

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The WPAFB actively manages for two federally listed species (Indiana bat and clubshell mussel), one proposed threatened species (eastern massasauga rattlesnake), and four species listed as endangered by the state of Ohio (blazing star stem borer, upland sandpiper, king rail, and smooth green snake) (WPAFB 2015b). The goal of the WPAFB Integrated Natural Resources Management Plan (INRMP) is to avoid or minimize adverse effects to federally listed species and minimize conflicts between listed species and the military mission. The INRMP emphasizes species-specific management strategies for those species actively managed on Base. Since the proposed AMC Phase V and ITC Phase II project sites are located in areas previously disturbed with no naturally-occurring vegetation and/or endangered species potential habitat, discussion of species specifically managed at WPAFB is omitted. However, detailed summaries for managed species are presented in the WPAFB 2015 INRMP (WPAFB 2015b).

As part of this EA, consultation with the ODNR was conducted to request Ohio Natural Heritage Program information for state- and federally-listed threatened and endangered plants and animals in the vicinity of the project area. The ODNR provided comments in a letter dated May 12, 2016. The ODNR reported that the Natural Heritage Database has the following data at or within a one-mile radius of the project area (correspondence with the ODNR is presented in **Appendix A**):

- Indiana bat, state endangered, federal endangered
- Eastern massasauga, state endangered federal candidate species
- Huffman MetroPark (Five Rivers MetroParks)

The USFWS was also contacted as part of this EA to request known presence or absence of federal- and state-listed species that may be located within the project vicinity. The USFWS responded indicating that due to the project, type, size, and location, they do not anticipate adverse effects to federally endangered, threatened, proposed, or candidate species. Correspondence with the USFWS is presented in **Appendix A**.

Wetlands/Jurisdictional Waters

Executive Order 11990, *Protection of Wetlands*, May 24, 1977, directs federal agencies to consider alternatives to avoid adverse effects on and incompatible development in wetlands. Federal agencies are directed 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.

The CWA sets the basic structure for regulating discharges of pollutants to U.S. waters. Section 404 of the CWA establishes a federal program to regulate the discharge of dredge and fill material into waters of the United States, including wetlands. The National Wetlands Inventory (a department within USFWS), USEPA, and the NRCS help in identifying wetlands.

Forty wetlands covering approximately 19.8 acres were identified within the limits of WPAFB in 2015 (WPAFB 2015b). Twenty-three wetlands were identified in Area A and 17 wetlands in Area B. The total jurisdictional stream length reported on Base in 2010 was 61,358 linear feet and included 13 jurisdictional streams in Area A (6 perennial, 6 intermittent, 1 intermittent/perennial) and 13 jurisdictional streams in Area B (1 perennial, 2 intermittent/perennial, 5 intermittent, 1 ephemeral/intermittent, 4 ephemeral) (WPAFB 2015b).

The proposed AMC Phase V project site is not located near any wetland or streams. The ITC Phase II project site is located adjacent and east of one wetland and two streams. However, construction under Alternative B would not impact any jurisdictional streams; therefore, 401/404 permits from the U.S. Army Corps of Engineers (USACE) and the OEPA would not be required. **Table 3-3** provides a description of the wetland and streams in the vicinity of the ITC project area.

Table 3-3. Project Area Vicinity Wetland and Streams

Wetland / Stream	Description	Location and Proximity to Project Area
Wetland B18	Wetland B18 is a 0.13-acre palustrine emergent wetland located within a low point that receives surface water runoff from adjacent upland areas; this wetland provides low ecological function.	Wetland B18 is located approximately 500 ft northwest of the ITC project area.
Stream SB3	Stream SB3 is an unnamed intermittent small headwater stream that originates from a concrete culvert below Skyline Road; SB3 flows in a northerly directions and discharges into a catch basin.	Stream SB3 is located approximately 500 ft northwest of the ITC project area.
Stream SB3A	Stream SB3A is an unnamed ephemeral stream that originates from a concrete culvert below Skyline Road; SB3A flows in a westerly direction into stream SB3.	Stream SB3A is located approximately 500 ft northwest of the ITC project area.

Source: INRMP (WPAFB 2015b)

3.7 Cultural Resources

3.7.1 Definition of the Resource

Attention to cultural resources is important to WPAFB for its required efforts to comply with a host of federal laws, regulations, and executive orders. The DoD Instruction 4715.3, *Environmental Conservation Program*, and AFI 32-7065, *Cultural Resources Management*, outline and specify procedures for Air Force cultural resource management programs. The WPAFB *Integrated Cultural Resources Management Plan* (ICRMP) specifies WPAFB-specific policies and procedures regarding the treatment of cultural resources (WPAFB 2011c). Under the National Historic Preservation Act (NHPA), the AF is required to consider the effects of its undertakings on historic properties listed or eligible for

1 listing in the NRHP and consult with interested parties regarding potential impacts. The NRHP is the
2 nation's formal listing of cultural resources considered worthy of preservation.

3
4 As defined by 36 CFR 800.16, historic property means any prehistoric or historic district, site, building,
5 structure, or object included on, or eligible for inclusion on the NRHP maintained by the Secretary of the
6 Interior. This term includes artifacts, records, and remains that are related to and located within such
7 properties. The term includes properties of traditional religious and cultural importance to a Native
8 American tribe or Native Hawaiian organization and that meet the NRHP criteria. Several federal laws
9 and regulations govern protection of cultural resources, including the NHPA (1966), the Archaeological
10 and Historic Preservation Act (1974), the American Indian Religious Freedom Act (1978), the
11 Archaeological Resources Protection Act (1979), and the Native American Graves Protection and
12 Repatriation Act (1990).

13
14 Native American tribes define cultural resources very broadly as the resources necessary for the survival
15 and maintenance of their way of life. Ethnographic resources include plants and animals, ceremonial
16 sites, tribal historic sites, and areas of sacred geography possessing mythic/spiritual significance.

17
18 Typically, cultural resources are subdivided into archeological resources (prehistoric or historic sites
19 where human activity has left physical evidence of that activity but no structures remain standing) or
20 architectural resources (buildings or other structures or groups of structures, or designed landscapes that
21 are of historic or aesthetic significance). Archeological resources comprise areas where human activity
22 has measurably altered the earth or deposits of physical remains are found (e.g., arrowheads and bottles).

23
24 Architectural resources include standing buildings, bridges, dams, and other structures of historic or
25 aesthetic significance. Generally, architectural resources must be more than 50 years old to be considered
26 for the NRHP. More recent structures might warrant protection if they have potential as Cold War-era
27 resources. Structures less than 50 years in age, and particularly DoD structures in the category of Cold
28 War-era, are evaluated under explicit guidance of the National Park Service Bulletin 22.

29
30 The Base is obliged to consider the effects of construction for the proposed addition on any historic
31 properties. In doing so, WPAFB must first define the Area of Potential Effect (APE). According to 36
32 CFR 800.16(d), the APE is defined as:

33
34 *The geographic area or areas within which an undertaking may directly or indirectly cause*
35 *alterations in the character or use of historic properties, if any such properties exist. The area of*
36 *potential effects is influenced by the scale and nature of the undertaking and may be different for*
37 *different kinds of effects caused by the undertaking.*

In accordance with Section 106 of the NHPA, determinations regarding the potential effects of an undertaking on historic properties are presented to the SHPO.

3.7.2 Existing Conditions

The Base owns over 250 historic buildings, several that are individually eligible for inclusion on the NRHP and most of which are located in one of three NRHP-eligible historic districts. The ICRMP for WPAFB, prepared in consultation with the SHPO, indicates the proposed AMC Phase V project site is located within the Wright Field Historic District (a NRHP-eligible district in Area B at WPAFB), but the surrounding AMC complex facilities are not considered contributing buildings to the district. In addition, the proposed ITC Phase II project site is not located within a historic district or in close proximity to any historic structures (WPAFB 2011c).

Two facilities in Area B are potentially eligible for listing on the NRHP. Due to the difficulty in anticipating the future mission requirements and available funding for specific building demolitions each fiscal year, WPAFB established a Programmatic Agreement (PA) to create a process for addressing potential impacts to existing historic properties and districts on the Base in conjunction with the Demolition EA (WPAFB 2014a). The above-listed buildings are part of the 53 buildings included in the PA established between WPAFB and the State Historic Preservation Office (SHPO) in August 2015 (WPAFB 2015c). The PA also requires WPAFB to file a Memorandum of Agreement (MOA), developed in consultation with the SHPO and any other consulting parties, and provide documentation to the Advisory Council on Historic Preservation (ACHP) at the conclusion of the consultation process. In accordance with the stipulation in the 2015 PA, an MOA would be executed prior to demolition of the two Area B facilities.

A PA was executed in 1991 between the ACHP and WPAFB for implementation of the ASD Tomorrow Program (WPAFB 1991). The ASD Tomorrow Program included the development of all phases of AMC in Area B. Three stipulations of the PA that would be required to be completed by the AF prior to development of Phase V are described below.

1. New construction along the Area B flight line associated with the undertaking shall be designed and constructed in accordance with the ASD Tomorrow Area Development Plan (ADP), January 1991, as developed and officially approved by the AF. Changes and modification to the ADP proposed by the AF will be forwarded to the SHPO for review and approval. The AF shall ensure the designs for new construction adhere to the following two sections of the ADP: Urban Design Guidelines and ADP Master Plan. The AF will include the SHPO in the official AF review of preliminary design submissions for new construction related to this undertaking. The final design and specifications for each phase of the program will be submitted by the AF to the SHPO for review and approval within a 30-day period. The AF shall be responsible for construction of each phase per the approved plans and specifications, and shall decide when re-submissions to the SHPO are required due to field construction changes.

2. The AF shall ensure that an archaeological survey is conducted of all areas of new construction-related ground disturbing activities associated with this undertaking, unless the SHPO and AF agree that such a survey is not necessary. If required, such survey shall be consistent with the Secretary of the Interior's *Standards and Guidelines for Identification* and take into account the National Park Service publication, *The Archaeological Survey: Methods and Uses*, and pertinent SHPO guidelines. The survey shall be conducted in consultation with the SHPO, and a report of the survey, meeting the standards of the SHPO, shall be submitted to the SHPO for review and approval. The AF shall evaluate archaeological properties identified through the survey in accordance with 36 CFR Part 800.4(c). If the survey results in the identification of properties that are eligible for the National Register, the AF shall consult with the SHPO to develop plans for data recovery or preservation in place.
3. The ACHP and the SHPO may monitor activities carried out pursuant to the PA, and the ACHP will review such activities if so requested. The AF will submit an annual report in January of each year to the SHPO and the ACHP which summarizes the status of the ASD Tomorrow Program, presents an updated program schedule, and describes activities carried out under this agreement the preceding year. If so requested, the SHPO and/or ACHP will be permitted to tour the installation to verify the activities outlined in the annual reports.

Correspondence with the SHPO will be initiated when building design drawings are complete for AMC Phase V. At that time, WPAFB would submit design drawings to the SHPO for their review.

According to the WPAFB Cultural Resources Manager, the Native American Tribes typically notified/consulted for EAs (Cherokee Nation, Keweenaw Bay Indian Community, Sac and Fox of the Mississippi in Iowa, The Saginaw Chippewa Indian Tribe, Seneca Cayuga Nation [Tribe of Oklahoma], Seneca Nation of Indians) only request notification/consultation when an action involves ground disturbance in areas not previously disturbed. Since both the AMC Phase V and ITC Phase II project locations exist in areas of previous ground disturbance, no consultation with Native American Tribes was determined to be warranted.

3.8 Socioeconomics

3.8.1 Definition of the Resource

Socioeconomics is the relationship between economics and social elements such as population levels and economic activity. Factors that describe the socioeconomic environment represent a composite of several interrelated and nonrelated attributes. There are several factors that can be used as indicators of economic conditions for a geographic area, such as demographics, median household income, unemployment rates, percentage of families living below the poverty level, employment, and housing data. Data on employment identify gross numbers of employees, employment by industry or trade, and unemployment trends. Data on industrial, commercial, and other sectors of the economy provide baseline information about the economic health of a region.

Metropolitan statistical areas are geographic entities defined by the Office of Management and Budget for use by federal statistical agencies in collecting, tabulating, and publishing federal statistics. A metro area

contains a core urban area of 50,000 or more population. Each metro area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core (Census 2015).

The Base is located 10 miles outside of Dayton, Ohio. According to the 2010 Census data, the city of Fairborn had a population of 32,352; the city of Dayton had a population of 141,527; and the Dayton Metropolitan Area (MA) (consisting of Clarke, Greene, Miami, Montgomery, and Preble counties) had a population of 979,835 residents. Based on the 2010 Census data, the Dayton MA was the fourth largest metropolitan area in Ohio.

The 2010 unemployment rate for the Dayton MA was 10.7 percent, almost double than the statewide average of 5.6 percent (Bureau of Labor Statistics [BLS] 2011, Census 2010). The 2010 unemployment rate in the city of Riverside, the city of Fairborn, around WPAFB and within Greene County was 8.0, 8.8, and 6.2 percent, respectively, which was slightly higher than the state average of 5.6 percent. Recent unemployment rates indicate the unemployment rate for the Dayton MA was 5.0 percent in March 2016, which was reported to be the same as the U.S. average in March and April 2016 (BLS 2016a, BLS 2016b).

3.8.2 Existing Conditions

The Base provides a major source of employment in the five-county area. In addition, WPAFB awards numerous contracts every year to local businesses. For fiscal year 2014 (October 1, 2013 through September 30, 2014), the total number of jobs provided by WPAFB was over 27,500. This number includes military active duty, trainees and reservists, DoD civilians, and other civilians, such as contractors. The number of indirect jobs supported by the Base, such as restaurants, dry cleaners, and others is estimated at 34,560. The total economic impact to the Dayton MA was \$4.3 billion (WPAFB 2014c). A large portion of residents in the Dayton MA are employed in education, health and social services; a lower percentage of residents are employed in retail trade, finance, insurance, real estate, and rental and leasing.

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. 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 economic growth of an area.

The infrastructure components to be discussed in this section include transportation systems, utilities (electrical power, natural gas, liquid fuel, and water supply), pollution prevention, solid waste, sanitary and wastewater systems, heating and cooling, communications, and airfield pavement.

Solid waste management primarily concerns itself with the availability of landfills to support a population's residential, commercial, and industrial needs. Alternative means of waste disposal might involve waste-to-energy programs or incineration. In some localities, landfills are designed specifically for, and are limited to, disposal of construction and demolition debris. Recycling programs for various waste categories (e.g., glass, metals, and papers) reduce reliance on landfills for disposal.

3.9.2 Existing Conditions

The infrastructure information contained in this section was obtained from the WPAFB General Plan (WPAFB 2001), and the *AMC System Analysis and Development Impact Report* (WPAFB 2002) and provides a brief overview of each infrastructure component and comments on its existing general condition.

Transportation System. State highways provide direct access to WPAFB. State Route 844 provides a route from the Base to Interstate 675 (I-675), which is located east of the Base. Interstate 675 provides direct access to I-70, which is approximately 9 miles to the north; U.S. 35, which is approximately 5 miles to the south; and I-75, which is approximately 15 miles to the southwest (WPAFB 2001). State Route 235 provides access from the Base to SR-4 and I-70 (WPAFB 2001). Traffic enters Area B from Springfield Street, National Road, and I-675.

Electrical Power. Dayton Power & Light provides WPAFB with electrical power (WPAFB 2001). The Base receives power via two substations that includes aboveground and underground transmission lines that are owned by WPAFB (WPAFB 2001).

The electrical distribution system on Base is designed to meet the needs of a much larger base population so the demands of service are within the system's capacity (WPAFB 2001). The overall condition of the system is adequate in providing the power to the current Base population.

Natural Gas. The natural gas at WPAFB is supplied by Vectren. The on-Base natural gas system contains underground piping and distribution subsystems. Vectren owns a distribution line that goes past the Wright Memorial area. The natural gas system is the principal heating option for housing areas and outlying areas of the Base that feeds some individual buildings and satellite heating plants.

The *AMC System Analysis and Development Impact Report* indicates there is adequate natural gas service for all phases of the AMC and additional gas regulators should be added with any new boilers.

1 **Liquid Fuel.** The liquid fuel system at WPAFB is delivered primarily by tank trucks with an alternate
2 capability for pipeline delivery. Defense Logistics Agency-Energy is responsible for determining mode
3 of delivery. The Base operates underground storage tanks (USTs) and ASTs, which store a variety of
4 fuels.

5
6 **Water Supply.** The water supply and distribution system at WPAFB consists of two Base-owned and
7 operated water collection, treatment, storage, and distribution systems (WPAFB 2001). The systems
8 service Areas A and B. A portion of the Base does not use the WPAFB water distribution system but
9 rather receives water from the Montgomery County Sanitary Sewer District (WPAFB 2001).

10
11 **Pollution Prevention.** Air Force Instruction 32-7080, *Pollution Prevention Program*, implements the
12 regulatory mandates in the Emergency Planning and Community Right-to-Know Act, Pollution
13 Prevention Act of 1990; EO 12856, *Federal Compliance with Right-to-Know Laws and Pollution*
14 *Prevention Requirements*; EO 12873, *Federal Acquisition, Recycling, and Waste Prevention*; and EO
15 12902, *Energy Efficiency and Water Conservation at Federal Facilities*. Air Force Instruction 32-7080
16 prescribes the establishment of Pollution Prevention Management Plans. The 88 Air Base Wing (ABW)
17 fulfills this requirement with the following plans (WPAFB 2001):

- 18 • Integrated Solid Waste Management Plan
- 19 • Storm Water Pollution Prevention Plan
- 20 • Hazardous Waste Management Plan
- 21 • Hazardous Material Emergency Planning and Response Plan
- 22 • The Spill Prevention Control and Countermeasure Plan

23
24 These plans ensure that WPAFB maintains a waste reduction program and meets the requirements of the
25 CWA; NPDES permit program; and Federal, state, and local requirements for spill prevention control and
26 countermeasures.

27
28 **Solid Waste.** Municipal solid waste at WPAFB is managed in accordance with the guidelines specified in
29 AFI 32-7042, *Solid and Hazardous Waste Compliance*. This AFI incorporates by reference the
30 requirements of Subtitle D, 40 CFR 240 through 244, 257, and 258, and other applicable Federal
31 regulations, AFIs, and DoD Directives. In general, AFI 32-7042 establishes the requirement for
32 installations to have a solid waste management program that incorporates the following: a solid waste
33 management plan; procedures for handling, storage, collection, and disposal of solid waste; recordkeeping
34 and reporting; and pollution prevention.

35
36 The Base operates a Qualified Recycling Program that is run by 88 ABW/Compliance Section of the
37 Environmental Branch in the Installation Management Division (CEIEC). The recycling center is located
38 in Facility 10293 on Patterson Field. The recycling program includes aluminum, glass, paper, plastics,
39 oil, and ferrous and nonferrous materials (WPAFB 2001).

The Base has a contract for solid waste pick-up and disposal of all refuse on the base (WPAFB 2001). The contractor removes refuse from military family housing and industrial areas on the Base.

Sanitary Sewer and Wastewater Systems. The sanitary sewer collection system at WPAFB is owned by the Base. The wastewater produced on the north side of Patterson Field is discharged to the Fairborn treatment plant, northwest of the Base. The wastewater produced on the remainder of Patterson Field, Wright Field, and Page Manor is served by the City of Dayton treatment system.

The Base produces an average of 3.5 million gallons per day of sewage. The overall condition of the system is adequate in the collection of wastewater. The current system is designed to accommodate a Base population that is approximately 50 percent larger (WPAFB 2001).

Sanitary service was upgraded during construction of AMC Phase IV by adding a lift station north of AMC IV with a connection and discharge into the existing 10-inch gravity main. The lift station is sized to accommodate AMC buildings IV and V. The *AMC System Analysis and Development Impact Report* indicates the development of AMC will not likely increase site impermeability or impose additional demands on the existing storm water outfall system.

Heating and Cooling. Coal operations have been discontinued at the Base and former coal plants have been converted to natural gas. The Base is heated with several natural gas-fired central heating plants. The two largest central heating plants provide approximately 80 percent of the annual heating requirements for WPAFB; one of these plants serves Area A and the other serves Area B. Several satellite heating plants serve smaller areas on the Base. These plants operate on natural gas and provide approximately four percent of the Base's overall heating needs. The remaining 16 percent of the Base's overall heating is met by natural gas furnaces in individual buildings (WPAFB 2001).

The boiler room located in the AMC serves the complex with two gas-fired boilers. This existing boiler capacity would be exceeded when AMC V is constructed; therefore, a new boiler with an associated heating water pump would be required (WPAFB 2002). Adequate space was included in the design of AMC II to accommodate the addition of a new boiler.

There are two chillers located in the AMC (WPAFB 2002). During construction of AMC IV, a new chiller was added. The *AMC System Analysis and Development Impact Report* indicates a new chiller, cooling tower, and associated pumps would be required to accommodate AMC Phase V and that adequate space exists in the AMC to accommodate a total of six chillers.

Communications. The communications system at WPAFB consists of telephone, local computer systems, long-haul communications, and land mobile radio systems. The Base's communications and

information utility infrastructure is in good condition. There are improvements planned for the Base that would enable it to meet any known future communication requirements (WPAFB 2001).

3.10 Health and Safety

3.10.1 Definition of the Resource

A safe environment is one in which there is no, or an optimally reduced, potential for death, serious bodily injury or illness, or property damage. 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 highly noisy environs. 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 processes creates unsafe environments for nearby populations. Extremely noisy environments can also mask verbal or mechanical warning signals such as sirens, bells, or horns.

Fire Hazards and Public Safety

The proper maintenance and recordkeeping of Safety Data Sheets would allow for responders to quickly identify and assess potential fire hazards associated with any chemicals or hazardous materials (i.e., fuels) utilized during construction activities.

Munitions and Explosive Safety

Explosives are classified based on their reactions to specific influences. The explosives hazard class is further subdivided into “division”, based on the character and predominance of the associated hazards and their potential for causing personnel casualties or property damage. Explosives Hazard Class/Division 1.4 designates a moderate fire with no significant blast or fragment hazard (Sandia 2010).

Explosive safety zones (ESZs) are required for areas where ordnance are stored or handled. The ESZs are typically determined based upon the net explosive weight of the ordnance to be stored or handled and the blast resistance properties of the magazine. Explosive Safety Quantity Distance (ESQD) arcs that delineate the extents of each ESZ are constructed. The ESZ and ESQD requirements are specified in Air Force Manual (AFMAN) 91-201, *Explosive Safety Standards*.

Contractor Safety

Safety is largely 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 DoD and AF regulations designed to comply with standards issued by Occupational Safety and Health Administration (OSHA) and

USEPA. 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.

3.10.2 Existing Conditions

Fire Hazards and Public Safety

The fire department at WPAFB provides fire, crash, rescue, and structural fire protection at the Base. The fire department abides by a general safety policy relating to the performance of all activities at the Base. Individuals, supervisors, managers, and commanders are expected to give full support to safety efforts and safety awareness and strict compliance with established safety standards are expected.

Munitions and Explosives Safety

Although there are munitions storage and ESZs in the vicinity of the AMC complex, the proposed location of AMC Phase V is outside any ESZs.

Contractor Safety

All contractors performing construction activities are responsible for following ground safety regulations and for worker compensation programs, and are required to conduct construction activities in a manner that does not pose any risk to workers or personnel. Industrial hygiene programs address exposure to hazardous materials, use of personal protective equipment, and availability of Safety Data Sheets. Industrial hygiene is the responsibility of contractors, as applicable. Contractor responsibilities are to review potentially hazardous workplace operations; to monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous materials), physical (e.g., noise propagation), and biological (e.g., infectious waste) agents; to recommend and evaluate controls (e.g., ventilation, respirators) to ensure personnel are properly protected or unexposed; and to ensure a medical surveillance program is in place to perform occupational health physicals for those workers subject to any accidental chemical exposures.

Anti-Terrorism/Force Protection

The DoD seeks effective ways to minimize the likelihood of mass casualties from terrorist attacks against DoD personnel in the buildings in which they work and live. The intent of the UFC4-010-01 standard is to minimize the possibility of mass casualties in buildings or portions of buildings owned, leased, privatized, or otherwise occupied, managed, or controlled by or for DoD. The UFC standards provide appropriate, implementable, and enforceable measures to establish a level of protection against terrorist attacks for all inhabited DoD buildings where no known threat of terrorist activity currently exists.

The UFC mandates minimum standoff distances for new and existing buildings and for those buildings to exist within or outside of a controlled perimeter. Standoff distances are distances maintained between a building or portion thereof and the potential location for an explosive detonation, primarily an adjacent

roadway, parking area, and/or trash cans. A controlled perimeter is a physical boundary at which vehicle access is controlled with sufficient means to channel vehicles to the access control points. At a minimum, access control at a controlled perimeter requires the demonstrated capability to search for and detect explosives.

3.11 Hazardous Materials/Wastes and Environmental Restoration Program (ERP)

3.11.1 Definition of the Resource

The AFPD 32-70, *Environmental Quality*, establishes the policy that the USAF is committed to:

- Cleaning up environmental damage resulting from its past activities
- Meeting all environmental standards applicable to its present operations
- Planning its future activities to minimize environmental impacts
- Managing responsibly the irreplaceable natural and cultural resources it holds in public trust
- Eliminating pollution from its activities wherever possible

Hazardous material is defined as any substance with physical properties of ignitability, corrosivity, reactivity, or toxicity that might cause an increase in mortality, serious irreversible illness, and incapacitating reversible illness, or that might pose a substantial threat to human health or the environment. Hazardous waste is defined as any solid, liquid, contained gaseous, or semi-solid waste; or any combination of wastes that pose a substantial present or potential hazard to human health or the environment.

Evaluation of hazardous materials and wastes focuses on USTs and ASTs and the storage, transport, and use of fuels, petroleum, oils, and lubricants. Evaluation might also extend to generation, storage, transportation, and disposal of hazardous wastes when such activity occurs at or near the project site of a proposed action. In addition to being a threat to humans, the improper release of hazardous materials and wastes can threaten the health and well-being of wildlife species, botanical habitats, soil systems, and water resources. In the event of release of hazardous materials or wastes, the extent of contamination varies based on type of soil, topography, and water resources.

Special hazards are those substances that might pose a risk to human health, but are not regulated as contaminants under the hazardous waste statutes. Included in this category are asbestos-containing material (ACM), radon, lead-based paint (LBP), polychlorinated biphenyls (PCBs), and unexploded ordnance. The presence of special hazards or controls over them might affect, or be affected by, a proposed action. Information on special hazards describing their locations, quantities, and condition assists in determining the significance of a proposed action.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and the Toxic Substances Control Act (TSCA), defines hazardous materials. The Solid Waste Disposal Act as amended by the Resource

1 Conservation and Recovery Act, which was further amended by the Hazardous and Solid Waste
2 Amendments, defines hazardous wastes. In general, both hazardous materials and wastes include
3 substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics,
4 might present substantial danger to public health and welfare or the environment when released or
5 otherwise improperly managed.

6
7 Through its ERP, the DoD evaluates and cleans up sites where hazardous wastes have been spilled or
8 released to the environment. The ERP provides a uniform, thorough methodology to evaluate past
9 disposal sites, to control the migration of contaminants, to minimize potential hazards to human health
10 and the environment, and to clean up contamination. Knowledge of past ERP activities provides a useful
11 gauge of the condition of soils, water resources, and other resources that might be affected by
12 contaminants. It also aids in identification of properties and their usefulness for given purposes (e.g.,
13 activities dependent on groundwater usage might be foreclosed where a groundwater contaminant plume
14 remains to complete remediation).

16 **3.11.2 Existing Conditions**

17 **Hazardous Materials**

18 Air Force Instruction 32-7086, *Hazardous Materials Management*, establishes procedures and standards
19 that govern management of hazardous materials throughout the USAF. It applies to all USAF personnel
20 who authorize, procure, issue, use, or dispose of hazardous materials, and to those who manage, monitor,
21 or track any of those activities. The Base utilizes a hazardous material management program through
22 which hazardous materials are controlled from procurement through storage and issue to disposal.

23 Hazardous and toxic material procurements at WPAFB are approved and tracked by the Bio-
24 environmental Engineering Office. The Installation Management Division supports and monitors
25 environmental permits, hazardous material and hazardous waste storage, spill prevention and response,
26 and participation on the Base Environmental Protection Committee. The Hazardous Substance Steering
27 Committee is a network of safety, environmental, and logistics experts who work with hazardous material
28 Issue Point Managers, Unit Environmental Coordinators (UECs), and other hazardous material users to
29 ensure safe and compliant hazardous material management throughout the Base (WPAFB 2006).

31 **Hazardous Waste**

32 The 88 CEG maintains a Hazardous Waste Management Plan (WPAFB 2009) as directed by AFI 32-
33 7042, *Solid and Hazardous Waste Compliance*. This plan prescribes the roles and responsibilities of all
34 members of WPAFB with respect to the waste stream inventory, waste analysis plan, hazardous waste
35 management procedures, training, emergency response, and pollution prevention. The plan establishes
36 the procedures to comply with applicable federal, state, and local standards for solid waste and hazardous
37 waste management.

Wastes generated at WPAFB include waste flammable solvents, contaminated fuels and lubricants, paint/coating, stripping chemicals, waste oils, waste paint-related materials, mixed-solid waste (MSW), and other miscellaneous wastes. Management of hazardous waste is the responsibility of each waste-generating organization and the Compliance Division (88 CEG/CEIEC). The Base produces more than 1,000 kilograms of hazardous waste per month and is considered a large quantity hazardous waste generator.

Stored Fuels

Stored fuels present a potential threat to the environment, which is mitigated at WPAFB through spill prevention and control and countermeasures (SPCC). The WPAFB SPCC Plan (WPAFB 2008) describes practices used to minimize the potential for stored fuel spills, prevent spilled materials from migrating off the base, and ensure that the cause of any spill is corrected. The WPAFB Oil and Hazardous Substance Integrated Contingency Plan (WPAFB 2005) describes emergency planning, notification and spill response practices. Collectively, the SPCC Plan, with a focus on spill prevention, and the Integrated Contingency Plan, with a focus on spill response, provides a comprehensive strategy for preventing stored fuel releases to the environment.

The Spill Prevention Coordinator (SPC) is the primary point of contact for the SPCC Program. The SPC works closely with Tank Managers, UECs, and WPAFB emergency response personnel to implement the SPCC Plan. Required SPCC training, standard operating procedures, inspections, and recordkeeping are coordinated by the SPC.

Asbestos-Containing Materials

Air Force Instruction (AFI) 32-1052, *Facilities Asbestos Management*, provides the direction for asbestos management at USAF installations. This instruction incorporates by reference applicable requirements of 29 CFR 669 et seq., 29 CFR 1910.1025, 29 CFR 1926.58, 40 CFR 61.3.80, Section 112 of the CAA, and other applicable AFIs and DoD Directives. Air Force Instruction 32-1052 requires bases to develop an Asbestos Management Plan to maintain a permanent record of the status and condition of ACM in installation facilities, as well as documenting asbestos-management efforts. In addition, the instruction requires installations to develop an asbestos operating plan detailing how the installation accomplishes asbestos-related projects. Asbestos is regulated by the USEPA with the authority promulgated under OSHA, 29 U.S.C. 669, et seq. Section 112 of the CAA regulates emissions of asbestos fibers to ambient air. The USEPA policy is to leave asbestos in place if disturbance or removal could pose a health threat.

The 88 CEG/CEIEC has developed standard contract specifications for the removal and disposal of ACM. These specifications incorporate all applicable USEPA, OSHA, and USDOT requirements. The Ohio Department of Health (ODH) must license contractors, and all asbestos-abatement work must be done under the onsite supervision of an ODH-designated “competent person.” Work area monitoring for

1 airborne asbestos fibers is accomplished by an industrial hygienist certified by the American Board of
2 Industrial Hygiene. Industrial hygienists must also be certified by the ODH. Laboratory analyses of air
3 samples and of bulk samples must be accomplished in a certified and accredited laboratory.
4

5 Non-friable Category I ACM can be disposed of in a sanitary landfill. All Category II or any friable
6 Category I asbestos must be disposed of in a USEPA-approved landfill. The ACM-abatement contractors
7 are responsible for obtaining all required permits from regulatory agencies and for OEPA and ODH
8 notification requirements (WPAFB 2001). The Base has implemented an Asbestos Management Plan to
9 minimize risk from friable ACM in buildings where the material remains. Additional sampling is usually
10 required in buildings scheduled for renovation or demolition (WPAFB 2001). No buildings are proposed
11 for demolition as part of the Proposed Action or Alternatives. The four buildings that would be
12 demolished separately from this EA have previously been addressed in a Building Demolition EA
13 (WPAFB 2014a).
14

15 **Lead-Based Paint**

16 The Residential Lead-Based Paint Hazard Reduction Act of 1992, Subtitle B, Section 408 (commonly
17 called Title X), passed by Congress on October 28, 1992, regulates the use and disposal of LBP on federal
18 facilities. Federal agencies are required to comply with applicable federal, state, and local laws relating to
19 LBP activities and hazards.
20

21 The USAF policy and guidance establishes LBP management at USAF facilities. The policy
22 incorporates, by reference, the requirements of 29 CFR 1910.120, 29 CFR 1926, 40 CFR 50.12, 40 CFR
23 240 through 280, the CAA, and other applicable federal regulations. Additionally, the policy requires
24 each installation to develop and implement a facility management plan for identifying, evaluating,
25 managing, and abating LBP hazards.
26

27 More than 95 percent of WPAFB facilities were constructed prior to 1980 and contain LBP. Lead
28 concentrations are generally low with the exception of paints used on outdoor structures such as water
29 towers. The HUD action level is 5,000 ppm. However, even when concentrations are below this, OSHA
30 Lead Construction Standard (29 CFR 1926.62) must be followed. All workers performing lead abatement
31 or removal or any other lead disturbance are required to have a lead workers license issued by the ODH.
32 Licensing is not required if the contract involves mechanical demolition. Contractors containerize LBP
33 wastes, which are disposed of under contract. No buildings are proposed for demolition as part of the
34 Proposed Action or Alternatives. The four buildings that would be demolished separately from this EA
35 have previously been addressed in a Building Demolition EA (WPAFB 2014a).
36

37 The ERP is a subcomponent of the Defense Environmental Restoration Program that became law under
38 the SARA (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 USEPA's National Priorities List, a list of sites that are considered to be of special interest and require immediate attention (WPAFB 2001).

Environmental Restoration Program

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 11 geographically-based operable 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 (BMP/LTM). 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 (ROD) 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 RODs between the federal and State EPA and WPAFB identify the land use controls (LUCs) necessary to support the remedial action or No Further Action decisions for industrial/recreational sites (WPAFB 2012b). 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. The AMC project area and ITC project area are not located within an OU and are not in close proximity to any ERP sites.

4.0 ENVIRONMENTAL CONSEQUENCES

This section describes the potential consequences associated with implementing the Proposed Action (Alternative A), Alternatives B and C, or the No Action Alternative (Alternative D). In **Sections 4.1 to 4.11**, each alternative is evaluated for its potential to affect physical, biological, and socioeconomic resources in accordance with 40 CFR §1508.8. Potential impacts for each resource area are described in terms of their significance. Significant impacts are those that would result in substantial changes to the environment or socioeconomic resources (as defined by 40 CFR §1508.27) and should receive the greatest attention in the decision-making process.

The thresholds of change for the intensity of impacts are defined as follows:

- *Negligible*, the impact is localized and not measureable or at the lowest level of detection;
- *Minor*, the impact is localized and slight but detectable;
- *Moderate*, the impact is readily apparent and appreciable;
- *Major*, the impact is severely adverse or highly noticeable and considered to be significant; or
- *Beneficial*, the impact is considered positive for the resource area.

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 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
- Conflict with planning criteria established to ensure the safety and protection of human life and property

4.1.2 Proposed Action, Alternative A

No short- or long-term impact to land use are expected because no changes to land use would occur at or surrounding WPAFB as a result of implementing the Proposed Action. Therefore, there would be no significant impacts to land use resources.

4.1.3 Alternative B

Similar to the Proposed Action, there would be no short- or long-term impact on land use because no changes to land use would occur at or surrounding WPAFB as a result of implementing Alternative B. Therefore, there would be no significant impacts to land use resources.

4.1.4 No Action, Alternative C

The No Action alternative would have no impact on land use over current conditions.

4.2 Air Quality

4.2.1 Evaluation Criteria

The environmental consequences to local and regional air quality conditions near a proposed federal action are determined based upon the increases in regulated pollutant emissions relative to existing conditions and ambient air quality. For the purposes of this EA, the impact in NAAQS “attainment” areas would be considered significant if the net increases in pollutant emissions from the federal action would result in any one of the following scenarios:

- Cause or contribute to a violation of any national or state ambient air quality standard
- Expose sensitive receptors to substantially increased pollutant concentrations
- Exceed any Evaluation Criteria established by a SIP

As mentioned in Section 3.2, the area including WPAFB is classified as a moderate maintenance area for O₃ and PM_{2.5}, and is designated as an unclassified/attainment area for all other criteria pollutants.

Impacts on air quality in NAAQS “nonattainment” areas (NAAs) are considered significant if the net changes in project-related pollutant emissions result in any of the following scenarios:

- Cause or contribute to a violation of any national or state ambient air quality standard
- Increase the frequency or severity of a violation of any ambient air quality standard
- Delay the attainment of any standard or other milestone contained in the SIP

Because WPAFB is located in areas designated as attainment/maintenance for O₃ and PM_{2.5}, a conformity applicability analysis is required to determine whether the Proposed Action or Alternatives are subject to the Conformity Rule. With respect to the General Conformity Rule, effects on air quality would be considered significant and, therefore, subject to an evaluation to determine compliance with the General Conformity Rule, if:

- The proposed federal action does not relate to transportation plans, programs, and projects developed, funded, or approved under Title 23 U.S.C. or the Federal Transit Act, and
- The Proposed Action-related direct and indirect emissions exceed *de minimis* threshold levels established in 40 CFR 93.153(b) for individual nonattainment pollutants or for pollutants for which the area has been re-designated as a maintenance area.

The *de minimis* threshold emission rates were established by the USEPA in the General Conformity Rule to focus analysis requirements on those federal actions with the potential to have “significant” air quality impacts. **Table 4-1** presents the *de minimis* thresholds for each regulated pollutant. The *de minimis* thresholds shown in **Table 4-1** vary depending on the severity of the nonattainment area classification.

Table 4-1. Conformity *de minimis* Emission Thresholds

Pollutant	Status	Classification	<i>de minimis</i> Limit (tpy)
Ozone (measured as NO _x or VOCs)	Nonattainment	Extreme Severe Serious Moderate/marginal (inside ozone transport region) All others	10 25 50 50 (VOCs)/100 (NO _x) 100
	Maintenance	Inside ozone transport region Outside ozone transport region	50 (VOCs)/100 (NO _x) 100
Carbon Monoxide (CO)	Nonattainment/ maintenance	All NAA's and Maintenance Areas	100
Particulate Matter (PM ₁₀)	Nonattainment	Serious Moderate	70 100
	Maintenance	All Areas	100
Particulate Matter (PM _{2.5})	Nonattainment/ maintenance	Direct Emissions	100
		SO ₂ precursors	100
		NO _x precursors	100
		VOC or Ammonia precursors (if significant)	100
Sulfur Dioxide (SO ₂)	Nonattainment/ maintenance	All NAA's and Maintenance Areas	100
Nitrogen Oxides (NO _x)	Nonattainment/ maintenance	All NAA's and Maintenance Areas	100
Lead (Pb)	Nonattainment/ maintenance	All NAA's and Maintenance Areas	25

Source: 40 CFR 93.153 (b)

tpy: tons per year

In addition to the *de minimis* emission thresholds, federal PSD regulations define air pollutant emissions to be significant if the source is within 10 kilometers of any federal Class I area (e.g., wilderness area greater than 5,000 acres or national park greater than 6,000 acres) and emissions would cause an increase in the concentration of any regulated pollutant in the Class I area of 1 µg/m³ or more (40 CFR 52.21(b)(23)(iii)). Although PSD rules apply only to stationary sources of emissions, for the purpose of this EA, such an impact to a Class I area would be considered adverse.

Air Quality Regulations Applicable to the Proposed Action

Stationary Sources and New Source Review. Local and regional pollutant impacts resulting from direct and indirect emissions from stationary emission sources under the Proposed Action are addressed through federal and state permitting program requirements under NSR regulations (40 CFR 51 and 52). Local stationary source permits are issued by OEPA and enforced by RAPCA. As noted previously, WPAFB has appropriate permits in place and has met all applicable permitting requirements and conditions for existing stationary devices. The Proposed Action or Alternative B might be subject to minor source

1 permitting requirements. Small boilers are stationary sources that may be categorically exempt from
 2 requiring an air permit due to size, content, or a combination of the two qualifying criteria. Emergency
 3 generators are required to at least maintain a valid PBR. Collectively, the project is unlikely to be subject
 4 to NSR/PSD unless the aggregate emissions exceed certain thresholds. The WPAFB should evaluate the
 5 project for any permitting requirements prior to commencing construction.
 6

7 ***National Emissions Standards for Hazardous Air Pollutants.*** Because WPAFB has the potential to emit
 8 more than 25 tpy of hazardous air pollutants, certain hazardous air pollutant-emitting activities on Base
 9 are subject to regulation under federal National Emissions Standards for Hazardous Air Pollutants
 10 (NESHAP) rules promulgated in 40 CFR Parts 61 and 63. These NESHAP require implementation of
 11 emissions control measures and detailed recordkeeping and reporting requirements to show compliance
 12 with applicable rules for select operations. Specific NESHAP that apply to activities at WPAFB include:
 13

- 14 • 40 CFR 63 Subpart GG, Aerospace NESHAP
- 15 • 40 CFR 63 Subpart ZZZZ, RICE MACT
- 16 • 40 CFR 63 Subpart DDDDD, Industrial, Commercial, and Institutional Boilers (Boiler MACT)
- 17 • 40 CFR 61 Subpart M, Asbestos Remediation
- 18

19 In addition, WPAFB would also be subject to the Defense Land Systems and Miscellaneous Equipment
 20 (DLSME) NESHAP when that rule is promulgated. This rule would cover military surface coating
 21 operations other than those subject to the Aerospace and Shipbuilding NESHAP. The intent is to simplify
 22 compliance for DoD facilities that are currently forced to comply with multiple overlapping, and
 23 sometimes conflicting, NESHAP including the Miscellaneous Metal Parts and Products Coating
 24 NESHAP, Plastic Parts and Products Coating NESHAP, Metal Furniture Coating NESHAP, Large
 25 Appliance Coating NESHAP, and Fabric and Other Textiles Coating NESHAP. The USEPA currently
 26 has no date set for publication of a draft DLSME NESHAP. If the Proposed Action or Alternative B
 27 includes the installation of emergency generators or heating boilers, then these assets may be subject to
 28 NESHAP requirements.
 29

30 ***New Source Performance Standards.*** The USEPA promulgated New Source Performance Standards
 31 (NSPS) rules under 40 CFR Part 60 to require minimum levels of controls for specific categories of newly
 32 installed or modified stationary sources. The NSPS applies to any new or modified stationary source
 33 within a specific category regardless if installed location. States that have been granted primary over
 34 these rules have adopted those rules into the SIP. The NSPS for diesel emergency generators are found in
 35 40 CFR 60 Subpart IIII. If a new emergency generator is to be installed by the Proposed Action or
 36 Alternative B, then compliance with Subpart IIII can be assured by requiring the purchase of an engine
 37 certified by the manufacturer to meet the NSPS standards. The NSPS under 40 CFR 60 Subpart Dc
 38 applies to boilers rated 10 MMBtu/hr heat input or larger.

Fugitive Dust Regulations. The OAC rule 3745-15-07 declares dust escaped from any source that causes damage to property to be a public nuisance. Pursuant to OAC rule 3745-17-08(A)(2), the OEPA Director may require any source that causes or contributes to such a nuisance to submit and implement a control plan that employs reasonably available control measures to prevent fugitive dust from becoming airborne. The fugitive emissions from the construction activities associated with building construction, demolition, renovation, and site preparation activities have the potential to become a nuisance per OEPA regulations. The WPAFB should include mitigation steps in the project to preempt any emissions from the construction and demolition phases of the Proposed Action or Alternative B from becoming a nuisance.

Greenhouse Gases. The GHG emissions from the Proposed Action or any Alternatives have been quantified to the extent feasible for information and comparison purposes. As previously indicated, the CEQ guidance indicates the reference point of 25,000 metric tons of direct or indirect CO₂e GHG emissions provides agencies with a useful indicator. The GHG emissions from construction, demolition, renovation, and construction activities primarily include CO₂, and CH₄ components. The primary sources of the GHG emissions are from fuel combustion used in construction equipment, material deliveries, refuse removal, and worker commuting.

The GHG emissions in terms of CO₂e emission level were estimated and reported in **Appendix B** at approximately 1,473 metric tons (1,624 long tons) for the Proposed Action. This emission total includes emissions from both components CO₂ and CH₄. These GHG emission levels fall below the CEQ guidance reference point for warranting further consideration.

Conformity. Because NAAQS maintenance areas for two criteria pollutants are affected by the Proposed Action or Alternative B, the AF must comply with the federal General Conformity Rule. An analysis has been completed to ensure that, given the changes in direct and indirect emissions of the O₃ precursors (NO_x and VOCs), direct PM_{2.5}, and PM_{2.5} precursors (SO₂ and NO_x), the Proposed Action or Alternative B would be in conformity with CAA requirements. The Conformity Determination requirements specified in the General Conformity Rule can be avoided if the project pollutant rate increase resulting from any Alternative is below *de minimis* threshold levels for each pollutant of interest. For purposes of determining conformity in these attainment/maintenance areas, AFI 32-7404 paragraph 3.4.2 states that the proponent shall perform a General Conformity Applicability Analysis using the Air Conformity Applicability Model (ACAM) or other AF-approved (A4C) automated air quality impact tool. Projected regulated pollutant emissions associated with the Proposed Action and Alternative B were estimated using ACAM version 5.0.2. The ACAM summary is provided in **Appendix B**.

The emission calculations are based on information on the Proposed Action and Alternative B identified in Chapter 2. These calculations assume that the existing operations relocating to a new AMC building would maintain the same functional utilization from before and after the proposed changes. It is further

assumed that no changes would occur with WPAFB existing personnel and equipment. The emissions calculated for the annual emissions from the proposed construction activities are compared to the *de minimis* level thresholds.

4.2.2 Proposed Action, Alternative A

Direct and Indirect Emissions

Construction Activities. The Proposed Action (Alternative A) involves constructing Phase V of the AMC to consist of a four-story 214,202 sf structure with a basement, breezeway, underground utilities, new sidewalks, paths and resurfacing/expansion of adjacent parking lots. Specific construction activities include building erection, miscellaneous trenching as needed, concrete pours, grading, paving, and surface coating. Construction activities would result in direct emissions of criteria pollutants from the equipment engine exhaust, off-gassing of surface coatings, and particulate matter emitted as fugitive dust from excavating activities and the movement of material and equipment. These emissions would be of a temporary nature. Indirect emissions would result from privately-owned vehicles (POVs) used by construction workers from commuting and heavy duty delivery trucks for material and equipment movements. Emission estimates were calculated using default emission factors, construction equipment estimates, and personnel estimates available in the AF ACAM. **Table 4-2** lists the total emissions for the construction activities analyzed by major construction areas.

**Table 4-2. Criteria Pollutant Emissions at WPAFB
Associated with the Proposed Action (Alternative A)**

Construction Activity	VOC Emissions (tpy)	NO _x Emissions (tpy)	PM _{2.5} Emissions (tpy)	SO ₂ Emissions (tpy)
Construction of Phase V Building	9.93	5.85	0.28	0.01
Parking Area Resurfacing/Reconstruction	0.59	3.30	0.15	0.005
Sidewalk and Path Construction	0.03	0.22	0.01	0.0004
Temporary Worker Commuting	0.14	0.14	0.003	0.0008
Total Annual Emissions	10.69	9.51	0.44	0.02

Note: Tpy = tons per year

For the purpose of this analysis, all phased construction activities were assumed to be completed within one calendar year to provide conservative results. Also, there is not anticipated to be any recurring emissions as a result of the Proposed Action because it is assumed the existing personnel activity levels would not change from before and after the project.

Analysis. The information presented in **Table 4-2** shows that NO_x, VOC, SO₂, and PM_{2.5} emissions are projected to increase temporarily during construction of the Proposed Action at WPAFB. The Proposed Action would not result in a net emission increase above conformity *de minimis* limits listed in 40 CFR

93.153(b) and shown in ACAM reports when evaluated on a conservative basis. This result is contingent upon the accuracy of the assumptions used as input to the ACAM and the accuracy of the ACAM default settings. Any substantial changes to the scope of the project may require a reanalysis of the conformity applicability determination. Because the annual emissions expected from the Proposed Action would not exceed *de minimis* levels, the General Conformity Rule does not apply and can be deemed to be in conformity with the Ohio SIP. **Appendix B** provides a summary of the ACAM for the Proposed Action.

According to 40 CFR 81 Subpart D, no Class I visibility areas are located within 10 kilometers of WPAFB. The closest federal Class I area is Mammoth Cave National Park in Kentucky, 320 kilometers to the south. Therefore, air emissions from the Proposed Action would not affect any Class I area.

The Proposed Action is not projected to result in net emissions increases for any pollutants on a recurring basis and would be below the General Conformity *de minimis* thresholds. As a result, air quality impacts would not be impacted in a substantial manner when compared with current conditions. This result is contingent upon the accuracy of assumptions made in deriving the emission calculations. The short-term impacts from construction activities have the potential to cause a nuisance as defined by OEPA. These short-term impacts would be reduced by observing reasonably available control measures to minimize impacts to neighboring communities and nearby employee vehicles during project execution. Such mitigation measures may include:

- Maintain a written Dust Control Plan onsite.
- Apply water or other dust control chemicals to roads and surfaces as applicable.
- Cover open bodied trucks during the transport of material.
- Promptly remove debris from paved surfaces to minimize and prevent re-suspension.
- Plan material and equipment delivery routes to minimize contact of dust with aerospace assets and with WPAFB personnel vehicles parked in nearby parking lots.

4.2.3 Alternative B

Direct and Indirect Emissions

Construction Activities. Alternative B involves constructing a structure in the ITC complex located in Area B that would also include an expansion of the area parking lots. Specific construction activities include building erection, miscellaneous trenching as needed, concrete pours, grading, paving, and surface coating. Construction activities would result in direct emissions of criteria pollutants from the equipment engine exhaust, off-gassing of surface coatings, and particulate matter emitted as fugitive dust from excavating activities and the movement of material and equipment. These emissions would be of a temporary nature. Indirect emissions would result from POVs used by construction workers from commuting and heavy duty delivery trucks for material and equipment movements. Emission estimates were calculated using default emission factors, construction equipment estimates, and personnel estimates available in the AF ACAM. **Table 4-3** lists the total emissions for the construction activities.

**Table 4-3. Criteria Pollutant Emissions at WPAFB
Associated with Alternative B**

Construction Activity	VOC Emissions (tpy)	NO _x Emissions (tpy)	PM _{2.5} Emissions (tpy)	SO ₂ Emissions (tpy)
Construction of Phase II Building	5.79	4.27	0.20	0.007
Expanding Parking Area	0.29	1.26	0.06	0.002
Sidewalk and Path Construction	0.06	0.43	0.02	0.0008
Temporary Worker Commuting	0.14	0.14	0.003	0.0008
Total Annual Emissions	6.28	6.10	0.28	0.01

Note: Tpy = tons per year

Analysis. Similar to the Proposed Action (Alternative A), implementation of Alternative B would result in NO_x, VOC, SO₂, and PM_{2.5} emissions that are projected to increase temporarily during construction (Table 4-3). Implementation of Alternative B would not result in a net emission increase above conformity *de minimis* limits listed in 40 CFR 93.153(b) and shown in ACAM reports when evaluated on a conservative basis. This result is contingent upon the accuracy of the assumptions used as input to the ACAM and the accuracy of the ACAM default settings. Any substantial changes to the scope of the project may require a reanalysis of the conformity applicability determination. Because the annual emissions expected from Alternative B would not exceed *de minimis* levels, the General Conformity Rule does not apply and can be deemed to be in conformity with the Ohio SIP. Therefore, there would be no significant impacts to air quality resources. **Appendix B** provides a summary of the ACAM for Alternative B.

4.2.4 No Action, Alternative C

The No Action alternative would have no impact to existing air quality over current conditions.

4.3 Noise

4.3.1 Evaluation Criteria

Noise impact analyses typically evaluate potential changes to existing noise environments that would result from implementation of a proposed action. Potential changes in the noise environment can be beneficial (i.e., if they reduce the number of sensitive receptors exposed to unacceptable noise levels), negligible (i.e., if the total area exposed to unacceptable noise levels is essentially unchanged), or adverse (i.e., if they result in increased noise exposure to unacceptable noise levels).

4.3.2 Proposed Action, Alternative A

The Proposed Action would result in minor short-term adverse impacts on ambient noise from construction activities. Impacts would be minor because these activities would be carried out during normal working hours (between 7:00 a.m. and 5:00 p.m.) and would be short in duration. The AMC Phase V project location would be located within the 70-75 dBA noise contours. No long-term impacts

would be expected as a result of the Proposed Action because the DNL would not change significantly as a result of construction activities. Therefore, there would be no significant impacts to noise resources.

4.3.3 Alternative B

Implementation of Alternative B would result in the same minor short-term impacts on ambient noise as compared to the Proposed Action. The ITC project location would be located within the 70-75 dBA noise contours. No long-term impacts would be expected as a result of Alternative B because the DNL would not change significantly as a result of construction activities. Therefore, there would be no significant impacts to noise resources.

4.3.4 No Action, Alternative C

The No Action alternative would have no impact to noise resources over existing conditions.

4.4 Geology and Soils

4.4.1 Evaluation Criteria

Protection of unique geological features, minimization of soil erosion, and the siting of facilities in relation to potential geologic hazards are considered when evaluating potential impacts of a proposed action on geological resources. Generally, impacts can be avoided or minimized if proper construction techniques, erosion control measures, and structural engineering design are incorporated into project development.

Effects on geology and soils would be adverse if they would alter the lithology, stratigraphy, and geological structure that control groundwater quality, distribution of aquifers and confining beds, and groundwater availability; or change the soil composition, structure or function within the environment.

4.4.2 Proposed Action, Alternative A

Minor short-term impacts to existing soils at the AMC Phase V project site would be expected during excavation activities. However, impacts would be minimized by implementing BMPs for erosion and sedimentation controls during excavation. No long-term adverse impacts to soils would be expected as a result of implementing the Proposed Action. Therefore, there would be no significant impacts to geology and soil resources.

4.4.3 Alternative B

Similar to the Proposed Action, implementation of Alternative B would result in minor short-term impacts to surface soils that would be minimized by adhering to BMPs. No long-term adverse impacts to soils would be expected as a result of implementing Alternative B. Therefore, there would be no significant impacts to geology and soil resources.

4.4.4 No Action, Alternative C

The No Action alternative would have no impact to geology and soil resources.

4.5 Water Resources

4.5.1 Evaluation Criteria

Evaluation criteria for impacts on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. Impacts would be adverse if proposed activities result in one or more of the following:

- Reduces water availability or supply to existing users
- Overdrafts groundwater basins
- Exceeds safe annual yield of water supply sources
- Affects water quality adversely
- Endangers public health by creating or worsening health hazard conditions
- Threatens or damages unique hydrologic characteristics
- Violates established laws or regulations adopted to protect water resources

4.5.2 Proposed Action, Alternative A

No short- or long-term impacts to groundwater or floodplains would be expected as a result of implementing the Proposed Action because the proposed AMC project site is not located within the City of Dayton SWPP boundary nor is the project site located within a floodplain. However, short-term adverse impacts to surface water would be expected from runoff during excavation activities. Impacts would be minor because BMPs for erosion and sedimentation controls would be implemented. Long-term negligible impacts to surface water would also be expected from implementing the Proposed Action due to an increase in impervious surface area at the proposed AMC Phase V project site. Impacts would be minimized by addressing the increased storm water flow in the design of the new facility. Therefore, there would be no significant impacts to water resources.

4.5.3 Alternative B

Similar to the Proposed Action, there would be no impacts to groundwater or floodplains as the proposed ITC project site is not located within the City of Dayton SWPP boundary nor is the project site located within a floodplain. Short-term adverse impacts to surface water would be expected from runoff during excavation activities; however, impacts would be minor because BMPs for erosion and sedimentation controls would be implemented. Long-term negligible impacts to surface water would also be expected from implementing Alternative B due to an increase in impervious surface area at the proposed ITC project site. Impacts would be minimized by addressing the increased storm water flow in the design of the new facility. Therefore, there would be no significant impacts to water resources.

4.5.4 No Action, Alternative C

The No Action alternative would have no impact on water resources.

4.6 Biological Resources

Biological resources that could be impacted by the proposed project include vegetation, wildlife, threatened and endangered species, and wetlands; water availability, quality and use; existence of floodplains; and associated regulations.

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, Alternative A

As part of this EA, consultation with the ODNR was conducted by requesting Ohio Natural Heritage Program information for state- and federal-listed threatened and endangered plants and animals on Base (see Section 3.6.2). In addition to the Natural Heritage Database results, the ODNR, Division of Wildlife (DOW) had the following comments regarding fish and wildlife, as presented in **Table 4-4 (Appendix A)**.

In addition to the DOW comments noted above, the Division of Water Resources indicated that the project appears to be located outside the Special Flood Hazard Area (SFHA) (i.e., one-percent-annual-chance or 100-year floodplain).

Vegetation

No short-term adverse impacts to vegetation would be expected from implementing the Proposed Action because the AMC project site is located in a partial grass and asphalt-covered area and construction activities would take place on previously disturbed areas with no naturally-occurring vegetation. In

1

Table 4-4. ODNR, Division of Wildlife Species Comments

Fish / Wildlife Species	Status*	Comment	Recommendation
Streams, Wetlands and other Water Resources	N/A		Avoided and minimized to fullest extent possible, and utilize BMPs to minimize erosion and sedimentation.
Indiana bat	E, FE	If suitable tree habitat occurs within the project area, trees should be conserved. If no tree removal is proposed, this project is not likely to impact this species.	If suitable trees must be cut, cutting should occur between October 1 and March 31. If suitable trees must be cut in summer months, net survey should be conducted between June 1 and August 15, prior to cutting.
Clubshell Rayed Bean Snuffbox Pocketbook	E, FE E, FE E, FE E	Due to the location, and that there is no in-water work proposed, this project is not likely to impact these species.	None
Channel Darter	T	Due to the location, and that there is no in-water work proposed, this project is not likely to impact this or other aquatic species.	No in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat.
Eastern Massasauga	E, FC	Due to the location, the type of habitat present 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.	None
Kirtland's Snake	T	Due to the location, the type of habitat present 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.	None
Upland Sandpiper	E	Due to the location, the type of habitat present 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.	None
Northern Harrier	E	Due to the location, the type of habitat present 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.	None
Black-crowned Night Heron	T	Due to the location, the type of habitat present 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	None

Fish / Wildlife Species	Status*	Comment	Recommendation
		species.	
Sloan's Crayfish	T	Due to the location, and that there is no in-water work proposed, this project is not likely to impact this species.	None

*E = State Endangered; T = State Threatened; P = State Potentially Threatened; SC = State Species of Concern; SI = State Special Interest; FE = Federal Endangered; FT = Federal Threatened; FCS = Federal Species of Concern; FC = Federal Candidate Species.

addition, the project site would be re-vegetated as necessary upon completion of construction of the AMC Phase V building. No long-term impacts to vegetation would be expected from implementation of the Proposed Action.

Wetlands

No short- or long-term impacts to wetlands would be expected as a result of implementing the Proposed Action because no wetlands exist within the AMC Phase V project area.

Wildlife and Threatened and Endangered Species

Negligible short-term impacts to wildlife and threatened and endangered species would be expected from implementing the Proposed Action. The proposed AMC Phase V project site is not located in an area that provides suitable habitat, the current land use would not change, and proposed construction activities are not in close proximity to any threatened or endangered species to generate noise-related effects from proposed construction activities. No long-term impacts to wildlife or threatened and endangered species would be expected as a result of implementing the Proposed Action.

The USFWS was consulted regarding the Proposed Action and responded indicating that adverse effects are not anticipated to federally endangered, threatened, proposed, or candidate species as a result of the implementing the Proposed Action. Additionally, the ODNR DOW comments provided in **Table 4-4** indicate the project is not likely to impact any state endangered, state threatened, federal endangered, or federal candidate species.

4.6.3 Alternative B

Vegetation

Similar to the Proposed Action, there would be no short-term adverse impacts to vegetation because the ITC project site is located in a grass-covered area and construction activities would take place on previously disturbed areas with no naturally-occurring vegetation. In addition, the project site would be re-vegetated as necessary upon completion of construction of the ITC building. No long-term impacts to vegetation would be expected from implementation of Alternative B.

Wetlands

Similar to the Proposed Action, no short- or long-term impacts to wetlands would be expected as a result from implementing Alternative B because there are no wetlands within the ITC project area.

Wildlife and Threatened and Endangered Species

Similar to the Proposed Action, negligible short-term impacts to wildlife and threatened and endangered species would be expected from implementing Alternative B because the ITC project site is not located in an area that provides suitable habitat, the current land use would not change, and proposed construction activities are not in close proximity to any threatened or endangered species to generate noise-related effects from proposed construction activities. No long-term impacts to wildlife or threatened and endangered species would be expected as a result of implementing Alternative B.

4.6.4 No Action, Alternative C

The No Action alternative would have no impact on biological resources.

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 sell, transfer, or lease 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, Alternative A

Implementation of the Proposed Action would result in minor short- and long-term adverse impact to the Wright Field Historic District as the AMC project site is located within the historic district. Visual impacts to the historic district would be mitigated by installing natural screening to the new facility to match the historic landscape. The two historic Area B facilities proposed for demolition are included in the PA established in 2015 between WPAFB and the SHPO to address potential impacts from demolition of existing historic properties and districts on the Base. As part of the PA, a project-specific MOA between WPAFB and the SHPO would be executed prior to demolition of the buildings. New construction along the Area B flight line would also be designed and constructed in accordance with the 1991 PA between WPAFB, the SHPO, and the ACHP for the ASD Tomorrow Program.

4.7.3 Alternative B

No adverse impact to cultural resources would be expected from implementing Alternative B because the ITC project site is not located within a historic district or in close proximity to historic structures.

Therefore, there would be no significant impacts to cultural resources.

4.7.4 No Action, Alternative C

The No Action alternative would have no impact on cultural resources.

4.8 Socioeconomics

4.8.1 Evaluation Criteria

This section identifies potential economic and social impacts that might result from the proposed project. The methodology for the economic impact assessment is based on the Economic Impact Forecast System (EIFS) developed by the DoD in the 1970s to efficiently identify and address the regional economic effects of proposed military actions (EIFS 2001). The EIFS provides a standardized system to quantify the impact of military actions, and to compare various options or alternatives in a standard, non-arbitrary approach.

The EIFS assesses potential impacts on four principal indicators of regional economic impact: business volume, employment, personal income, and population. As a “first tier” approximation of effects and their significance, these four indicators have proven very effective. The methodology for social impacts is based on the Guidelines and Principles for Social Impact Assessment, developed by an inter-organizational committee of experts in their field (National Oceanic and Atmospheric Administration [NOAA] 1994).

The proposed project at WPAFB would have an adverse impact with respect to the socioeconomic conditions in the surrounding MA if it would:

- Change the local business volume, employment, personal income, or population that exceeds the MA’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, Alternative A

Short-term negligible impact would be expected on the local workforce and a beneficial impact on the local economy from revenue generated by construction activities. No long-term impact to socioeconomics would be expected from implementing the Proposed Action. Therefore, there would be no significant impacts to socioeconomics.

4.8.3 Alternative B

Similar to the Proposed Action, Alternative B would result in a short-term beneficial impact on the local workforce and the local economy from revenue generated from construction activities. No long-term

1 impact to socioeconomics would be expected from implementing Alternative B. Therefore, there would
2 be no significant impacts to socioeconomics.

4 **4.8.4 No Action, Alternative C**

5 The No Action alternative would have no impact on socioeconomics.

7 **4.9 Infrastructure**

8 **4.9.1 Evaluation Criteria**

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

16 **4.9.2 Proposed Action, Alternative A**

17 **Transportation Systems**

18 There would be a temporary increase in use of roadways in and around the construction site as a result of
19 construction traffic. Construction equipment would be driven to the project location and would be kept
20 on site during the duration of the project. All damaged transportation infrastructure from construction
21 activities would be repaired.

23 The Proposed Action would affect traffic generation in the areas of the construction site and the adjacent
24 city to WPAFB Area B (Riverside) over the short-term. Increases in traffic volumes and adverse impacts
25 to traffic flow on-site would be likely due to additional traffic entering, leaving, and cycling throughout
26 the construction area as a result of contractors performing construction activities. In particular, there
27 would be an overall increase in the volume of truck equipment traffic as a result of construction activities.
28 No long-term impacts to transportation systems are expected as a result of implementing the Proposed
29 Action.

31 **Electrical Power/Utilities**

32 No short- or long-term impacts to utilities would be expected from implementing the Proposed Action
33 because no increase in personnel or facility operations would result from merging personnel currently in
34 four buildings into a single new facility.

36 **Natural Gas**

37 No short- or long-term impacts to natural gas would be expected from implementing the Proposed Action
38 because no increase in personnel or facility operations would result in a negligible, if any, net change in

the natural gas system as a result of the addition of a new building being constructed and a building being demolished. Therefore, no adverse impact to natural gas demand would occur as a result of the Proposed Action.

Liquid Fuels

Under the Proposed Action, the liquid fuels system would be unchanged. Motorized equipment and vehicle operations are estimated to remain nearly unchanged under the Proposed Action. Therefore, there would be negligible effects on the liquid fuels system as a result of the Proposed Action.

Water Supply

Under the Proposed Action, the water supply would be relatively unchanged because the demand for water supply system usage would remain unchanged as personnel would merge from four buildings into a single building. Therefore, no net loss or gain to water demand would be expected.

Pollution Prevention

It is anticipated that the Proposed Action would not affect the Pollution Prevention Program at WPAFB. Quantities of hazardous material and chemical purchases, off-Base transport of hazardous waste, disposal of MSW, and energy consumption would continue at levels similar to current levels.

Solid Waste

Long-term changes in solid waste generation due to the proposed construction activities would be minor. Therefore, the Proposed Action would have a minor, adverse impact on the solid waste management program at WPAFB.

Sanitary Sewer and Wastewater Systems

The Proposed Action would result in no net change to the use of the sanitary sewer system as a result of adding a new building and demolishing an existing building. Therefore, no adverse impact to the sanitary sewer system would result from the Proposed Action.

Heating and Cooling

The Proposed Action would not result in a net change in the heating and cooling system as a result of the addition of a new building and the demolition of a building. Therefore, no adverse impact to the heating and cooling systems would result from the Proposed Action.

Communications

The Proposed Action would not result in a net change in communications systems as a result of the addition a new building and the demolition of a building. Therefore, no adverse impacts on the communications system would result from the Proposed Action.

4.9.3 Alternative B

Similar to the Proposed Action, Alternative B would result in no net changes to baseline infrastructure. No net changes in usage or consumption to infrastructure would be expected as a result of Alternative B. Therefore, there would be no significant impacts to infrastructure.

4.9.4 No Action, Alternative C

Under the No Action Alternative, there would be no change in baseline conditions and no adverse impacts to WPAFB's infrastructure would occur as energy and maintenance costs would continue to remain relatively unchanged to future maintenance and energy costs. Therefore, there would be no significant impacts to infrastructure.

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 Base personnel as well as the surrounding public. The AF 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 AF federal and state health and safety standards.

4.10.2 Proposed Action, Alternative A

Potential minor adverse impact to workers performing construction activities would be expected from implementation of the Proposed Action. Impacts would be minimized by adherence to health and safety regulations and standards. Therefore, there would be no significant impacts to health and safety.

4.10.3 Alternative B

Similar to the Proposed Action, there would be potential minor adverse impact to workers performing construction activities. Impacts would be minimized by adherence to health and safety regulations and standards. Therefore, there would be no significant impacts to health and safety.

4.10.4 No Action, Alternative C

The No Action alternative would result in short- and long-term adverse impact to the safety of AFLCMC/AFSAC personnel in facilities that infringe on the minimum AT setback requirements (148 ft for inhabited DoD buildings within a controlled perimeter). The No Action alternative would result in continued non-compliance with UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*.

4.11 Hazardous Materials/Waste and Environmental Restoration Program Sites

4.11.1 Evaluation Criteria

Impacts to hazardous material management would be considered adverse if the Federal action resulted in noncompliance with applicable Federal and state regulations, or increased the amounts generated or

procured beyond current WPAFB waste management procedures and capacities.

Impacts on pollution prevention would be considered adverse if the Federal action resulted in worker, resident, or visitor exposure to these materials, or if the action generated quantities of these materials beyond the capability of current management procedures. 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, Alternative A

Hazardous Materials/Hazardous Waste

Products containing hazardous materials would be procured and used during the proposed construction activities. It is anticipated that the quantity of products containing hazardous materials used during these activities would be minimal and their use would be of short duration. Contractors would be responsible for the management of hazardous materials, which would be handled in accordance with Federal and state regulations. Therefore, hazardous materials management at WPAFB would not be impacted by the proposed construction of AMC Phase V under the Proposed Action.

It is anticipated that the quantity of hazardous wastes generated from construction activities would be minor. Contractors would be responsible for turning in all hazardous waste to the 88 CEG/CEIEC for disposal. Construction would not impact the Base's hazardous waste management program. The volume, type, classifications, and sources of hazardous wastes associated with the Proposed Action are expected to be similar in nature with the baseline condition waste streams. Hazardous waste would be handled, stored, transported, disposed of, or recycled in accordance with the WPAFB Hazardous Waste Management Plan. Therefore, it is anticipated that the Proposed Action would result in minor adverse impacts to hazardous materials at WPAFB.

Asbestos-Containing Material and Lead-Based Paint

No short-or long-term impacts to ACM or LBP are expected because demolition activities would not be performed as part of the Proposed Action. The four AFLCMC/AFSAC facilities that would be demolished upon completion of AMC Phase V were previously evaluated in a separate EA; therefore, the potential impacts for ACM and LBP from demolition of these facilities have been previously evaluated.

Environmental Restoration Program

No short- or long-term impacts to ERP sites would be expected as a result of implementing the Proposed Action because the AMC Phase V project site is not located within an OU or in proximity to any ERP sites.

4.11.3 Alternative B

Similar to the Proposed Action, implementation of Alternative B would result in minor short-term adverse impact to hazardous materials/waste because materials used during construction would not be expected to increase over existing conditions and would be used temporarily. No short- or long-term impact to ACM, LBP, or ERP sites would be expected from Alternative B because demolition of the four AFLCMC/AFSAC facilities has previously been evaluated and the ITC Phase II project site is not located within an OU or in proximity to any ERP sites. Therefore, there would be no significant impacts to hazardous materials/waste or ERP sites.

4.11.4 No Action, Alternative C

The No Action alternative would have no impact on hazardous materials/waste or ERP sites.

4.12 Cumulative Impacts

Cumulative impacts on environmental resources result from incremental effects of proposed actions when combined with other past, present, and reasonably foreseeable future projects in the project area. Cumulative impacts can result from individually minor but collectively substantial actions undertaken over a period of time by various agencies (federal, state, and local) or individuals. Informed decision-making is served by consideration of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the foreseeable future.

4.12.1 Past, Present, and Reasonably Foreseeable Actions in the Project Area

This section discusses the potential for cumulative impacts caused by implementation of the Proposed Action when combined with other past, present, and reasonably foreseeable actions occurring in the project area. The project area is defined as all WPAFB properties in Area B.

4.12.2 Past and Present Actions

The AF has not identified any other past or present actions that are relevant to the current Proposed Action.

4.12.3 Reasonably Foreseeable Future Actions

Projects proposed for the reasonably foreseeable future that are relevant to the project area include the following ancillary projects for WPAFB. However, these projects would be temporary in nature and would not be recurring events. In addition, the timeframes and budgets for each proposed project listed below can only be estimated or are uncertain. Although short-term adverse effects could be possible if these projects were to occur in conjunction with the Proposed Action, long-term cumulative impacts are not expected to result from these reasonably foreseeable future actions.

F Fuel Farm – This project involves the modification of aboveground piping for USTs and modification

of an existing railcar supply area at the F Fuel Farm.

Hilltop Community Services District – The Base plans to create the Hilltop Community Services District and construct community service facilities to meet the needs of new personnel that are relocating to WPAFB to support new missions in this area. The proposed action would implement the long-range Hilltop Community Development Plan and construct community services facilities. This proposed project includes the demolition of F/20167. The programmed year for demolition of F/20167 is 2016 and if implemented as anticipated, is not expected to result in cumulative impacts associated with the Proposed Action.

Radar Tomography Range and Equipment Storage Facility – A radar tomography range is proposed for construction in the southwest corner of Area B. The purpose of this facility is to improve the efficiency of the Air Force Research Laboratory Systems Directorate research and development activities. The project includes construction of a range including tower foundations, utilities, access roads, and parking spaces. This project, should it be constructed, is not expected to result in any cumulative impacts associated with the Proposed Action.

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 organic compounds contamination was found in the soil in July 2000 and the building was demolished in October 2009. Two excavation removal actions have been conducted at the site with a third and anticipated final excavation scheduled for fall 2015. The project includes stockpiling potentially contaminated soil on-site for disposal upon receipt of analytical results. To prevent potential site runoff of contaminated soil, BMPs will be used in accordance with the project work plan.

Primary Runway Pavement Replacement – The following actions would be conducted as part of the primary runway pavement replacement project in Area A: demolish 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 access rights in the approach-departure clearance surface area for both runways (primary and secondary) to mitigate encroachment and ensure the necessary margin of safety for flight operations. Duration of the pavement replacement project and associated taxiways would be approximately two years, with existing flight operations being transferred onto the secondary runway. The runway replacement project would enable WPAFB to safely continue to support a wide range of aircraft. The construction and repair work would be short-term and, therefore, would not be considered recurring activities. This project is not expected to result in any cumulative impacts associated with the Proposed Action.

4.13 Irreversible and Irretrievable Commitment of Resources

The NEPA requires that EAs include identification of any irreversible and irretrievable commitment of resources that would be involved in the implementation of the Proposed Action. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (i.e., energy and minerals) that cannot be replaced within a reasonable timeframe. Irretrievable resource commitments involve the loss of value of an affected resource that cannot be restored as a result of the Proposed Action (i.e., extinction of a threatened or endangered species or the disturbance of a cultural site).

As the objective of constructing a new building is needed to provide a secure, flexible facility that would integrate existing functions with other AFLCMC activities and reduce the potential threat by integrating current AT requirements, the commitment of irreversible and irretrievable resources is not anticipated. The construction of a new facility is not likely to significantly decrease the availability of energy or mineral resources. Small amounts of nonrenewable resources (fuels) would be used; however, the AF does not consider these amounts to be appreciable and does not expect them to affect the availability of these resources.

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5.0 LIST OF PREPARERS

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6.0 LIST OF PERSONS CONTACTED

<u>Name</u>	<u>Role</u>	<u>Affiliation</u>
John Banford	EIAP Program Manager	88 CEG/CEIEA
Justin Cook	Resource Protection and Review	Ohio Historic Preservation Office; Columbus, Ohio
Mark Epstein	Resource Protection and Review	Ohio Historic Preservation Office; Columbus, Ohio
Dan Everson	Threatened and Endangered Species	U.S. Fish and Wildlife Service
Roxanne Farrier	Property Administrator, Floodplain Issues	Miami Conservancy District
John Kessler	Natural Resources	Ohio Department of Natural Resources; Office of Real Estate; Columbus, Ohio
Gerry Mitchell	Engineering and Design	88 CEG/CENPL
Megan Seymour	Threatened and Endangered Species	U.S. Fish and Wildlife Service; Columbus, Ohio
Jonathan Vimr	Resource Protection and Review	Ohio Historic Preservation Office; Columbus, Ohio
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Paul Woodruff	Cultural Resources Program Manager	88 CEG/CEIEA

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Appendix A

Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) Correspondence and Notice of Availability (NOA)

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Miami Conservancy District Consultation Letters:

- 1. WPAFB Request – 05Apr16**
- 2. MCD Response – 11Apr16**

The 5Apr16 agency coordination letter and figures may be available upon request, contact:

**88ABW / Public Affairs
5135 Pearson Road
Building 10, Room 252
Wright-Patterson AFB, OH 45433
88abw.pa@us.af.mil**



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April 11, 2016

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

Re: Huffman Retarding Basin, WPAFB, Phase V facility

Dear Mr. Warner:

We have reviewed the proposed action involving constructing a 214,202 square foot (Phase V) facility in Area B at the existing Acquisition Management Complex campus at WPAFB.

The proposed project is located outside of the boundary of the Huffman Retarding Basin and is not subject to the Miami Conservancy District (MCD) restrictions.

Thank you for providing us with the opportunity to review the project.

If you have any further questions please contact me at (937) 223-1278, ext. 3230 or by email at rfarrier@mcdwater.org.

Sincerely,

A handwritten signature in blue ink, which appears to read "Roxanne Farrier", is written over a horizontal line.

Roxanne H. Farrier
Property Administrator

cc: Kurt Rinehart

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U.S. Fish & Wildlife Service Consultation Letters:

- 1. WPAFB Request – 05Apr16**
- 2. USFWS Response – 14Apr16**

The 5Apr16 agency coordination letter and figures may be available upon request, contact:

**88ABW / Public Affairs
5135 Pearson Road
Building 10, Room 252
Wright-Patterson AFB, OH 45433
88abw.pa@us.af.mil**

From: [WARNER, DARRYN M GS-13 USAF AFMC 88 CEG/CEIEA](#)
To: [BANFORD, JOHN R CIV USAF AFMC 88 CEG/CEIEC](#); [Hassan, Cindy](#)
Cc: [Burns, Stephanie A](#)
Subject: FW: Acquisition Management Complex Campus, Area B Expansion, Greene Co. OH
Date: Thursday, April 14, 2016 11:00:29 AM
Attachments: [image001.jpg](#)
[image002.png](#)

FYI

From: susan_zimmermann@fws.gov [mailto:susan_zimmermann@fws.gov] **On Behalf Of** Ohio, FW3
Sent: Thursday, April 14, 2016 8:16 AM
To: WARNER, DARRYN M GS-13 USAF AFMC 88 CEG/CEIEA <darryn.warner@us.af.mil>
Cc: Megan Seymour <megan_seymour@fws.gov>
Subject: Acquisition Management Complex Campus, Area B Expansion, Greene Co. OH



TAILS# 03E15000-2016-TA-0934

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

Ohio Department of Natural Resources Consultation Letters:

- 1. WPAFB Request – 05Apr16**
- 2. ODNR Response – 12May16**

The 5Apr16 agency coordination letter and figures may be available upon request, contact:

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Ohio Department of Natural Resources

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JAMES ZEHRINGER, DIRECTOR

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May 12, 2016

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

Re: 16-237; Acquisition Management Complex (AMC) phase V - EA

Project: The proposed project involves constructing a 214,202 square foot (sf) (Phase V) facility at the existing Acquisition Management Complex (AMC) campus.

Location: The proposed project is located in Mad River and Beavercreek Townships, Montgomery and Greene Counties, 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 data at or within a one mile radius of the project area:

Indiana bat (*Myotis sodalis*), E, FE
Eastern massasauga (*Sistrurus catenatus*), E, FC
Huffman MetroPark (Five Rivers MetroParks)

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 range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. 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 suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the club shell (*Pleurobema clava*), a state endangered and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel, the snuffbox (*Epioblasma triquetra*), a state endangered and federally endangered mussel, and the pocketbook (*Lampsilis ovate*), a state endangered mussel. Due to the location, and that there is no in-water work proposed, this project is not likely to impact these species.

The project is within the range of the channel darter (*Percina copelandi*), a state threatened fish. The DOW recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. Due to the location, and that there is no in-water work proposed, this project is not likely to impact this or other aquatic species.

The project is within the range of the eastern massasauga (*Sistrurus catenatus*), a state endangered and a federal candidate snake species. The eastern massasauga uses a range of habitats including wet prairies, fens, and other wetlands, as well as drier upland habitat. Due to the location, the type of habitat present 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 meadows and other wetlands. Due to the location, the

type of habitat present 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 present 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 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 present 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 black-crowned night heron (*Nycticorax nycticorax*), a state threatened bird. Due to the location, the type of habitat present 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 Sloan's crayfish (*Orconectes sloanii*), a state threatened species. Due to the location, and that there is no in-water 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: The Division of Water Resources has the following comment.

Based upon the site map identifying the location of the proposed development, the project appears to be located outside the Special Flood Hazard Area (SFHA) (i.e., one-percent-annual-chance or 100-year floodplain). Coordination with the local Floodplain Manager may still be necessary. Please contact Greene County's designated Floodplain Manager: Al Kuzma, Green County Building Department, at (937) 562-7427 or Akuzma@co.greene.oh.us.

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

Notice of Availability (NOA)

PUBLIC NOTICE
Notice of Availability

**Draft-Final Environmental
Assessment AMC – Phase
V
Wright-Patterson Air Force
Base**

Beginning XX, 2016 through XX, 2016, the United States Air Force will accept comments on the Environmental Assessment (EA) to construct Phase V in the Acquisition Management Complex (AMC) in Area B at Wright-Patterson Air Force Base (AFB), Ohio. Phase V would consist of a 214,202 square foot facility that would house Air Force Life Cycle Management Center (AFLCMC) personnel. The results, as found in the EA, show that the Proposed Action of constructing Phase V would not have an adverse impact on the environment—indicating that a Finding of No Significant Impact (FONSI) would be appropriate. The public is invited to review the documents at the Greene County Public Library, Fairborn Branch, located at 1 East Main Street, Fairborn, OH 45324-4701, (937) 878-9383 or to access the documents on-line at <http://www.wpafb.af.mil/units/cev>. Written comments and inquiries can be mailed to: 88 ABW / Public Affairs, 5135 Pearson Road, Bldg 10, Room 252, WPAFB, Ohio 45433. 88abw.pa@us.af.mil.

Programmatic Agreements (PA):

- 1. FY16-20 Demolitions PA – Aug1991**
- 2. ASD Tomorrow Program – Aug2015**

The Programmatic Agreements may be available upon request, please contact:

**88 ABW / Public Affairs
5135 Pearson Road
Building 10, Room 252
Wright-Patterson AFB, OH 45433
88abw.pa@us.af.mil**

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Appendix B

Air Conformity Applicability Model Report

AIR CONFORMITY APPLICABILITY MODEL REPORT

RECORD OF CONFORMITY ANALYSIS (ROCA)

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

Regulatory Area(s): Dayton-Springfield, OH

b. Action Title: Acquisition Management Complex (AMC) – Phase V Environmental Assessment (EA)

c. Project Number/s (if applicable): Contract No. FA8601-11-D-0002; Task Order 0034

d. Projected Action Start Date: 1 / 2017

e. Action Description:

Proposed Action - Alternative A

The Proposed Action involves constructing Phase V of AMC that would consist of a 214,202 sf facility to house approximately AFLCMC personnel. Phase V would be constructed in Area B adjacent to the existing AMC. Construction of the new facility would consolidate AFLCMC personnel, AFSAC, and Foreign Liaison Officers into a centralized location. The new facility would streamline and improve AFLCMC's mission performance and strengthen their overall security by alleviating current over-crowding and resolving AT security requirements.

Alternative B

Alternative B involves the construction of a new facility in the Information Technology Center (ITC) complex located in Area B. The new facility would be constructed adjacent and west of an existing ITC facility and would accommodate the AFLCMC/AFSAC personnel that would be relocated from two Area A facilities.

Alternative C - No Action Alternative

f. Point of Contact:

Name: Timothy J Rust
Title: Senior Environmental Engineer I
Organization: CB&I Federal Services, LLC
Email: tim.rust@cbifederalservices.com
Phone Number: 513-782-4888

2. Analysis: 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. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

Based on the analysis, the requirements of this rule are:

_____ applicable
__X__ not applicable

Conformity Analysis Summary:

AIR CONFORMITY APPLICABILITY MODEL REPORT

RECORD OF CONFORMITY ANALYSIS (ROCA)

2017

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Dayton-Springfield, OH			
VOC	6.283	100	No
NOx	6.104	100	No
CO	5.731	N/A	N/A
SOx	0.011	100	No
PM 10	17.131	N/A	N/A
PM 2.5	0.287	100	No
Pb	0.000	N/A	N/A
NH3	0.014	N/A	N/A

2018 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Dayton-Springfield, OH			
VOC	0.000	100	No
NOx	0.000	100	No
CO	0.000	N/A	N/A
SOx	0.000	100	No
PM 10	0.000	N/A	N/A
PM 2.5	0.000	100	No
Pb	0.000	N/A	N/A
NH3	0.000	N/A	N/A

None of estimated emissions associated with this action are above the conformity threshold values established at 40 CFR 93.153 (b); Therefore, the requirements of the General Conformity Rule are not applicable.

The detailed ACAM report may be available upon request, please contact:

**88 ABW / Public Affairs
5135 Pearson Road
Building 10, Room 252
Wright-Patterson AFB, OH 45433
88abw.pa@us.af.mil**