Draft

Environmental Assessment

for
Installation Development
at Scott Air Force Base, Illinois

July
2019

ABBREVIATIONS AND ACRONYMS

126 ARW	126th Air Refueling Wing
375 AMW	375th Air Mobility Wing
932 AW	932nd Airlift Wing
ACAM	Air Conformity Applicability Model
ACM	asbestos-containing material
ADP	Area Development Plan
AFB	Air Force Base
AFFF	aqueous film forming foam
AFI	Air Force Instruction
AIS	Air Intelligence Squadron
AMC	Air Mobility Command
AMSL	above mean sea level
APE	Area of Potential Effect
APZ	Accident Potential Zone
AST	aboveground storage tank
BASH	Bird/Wildlife Aircraft Strike Hazard
BGEPA	Bald and Golden Eagle Protection Act
bgs	below ground surface
BMP	best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
CPP	Comprehensive Planning Process
CWA	Clean Water Act
CZ	clear zone
dB	decibel
dBA	A-weighted decibel
DISA	Defense Information System Agency
DMP	Dormitory Master Plan
DNL	day-night sound level
DoD	Department of Defense
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EO	Executive Order
ERP	Environmental Restoration Program
ESA	Endangered Species Act
ESCP	Erosion and Sediment Control Plan
FAM Camp	Family Campgrounds
FEMA	Federal Emergency Management Agency
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
ft^2	square foot/feet
GHGs	greenhouse gases
gpd	gallons per day
HAZMAT Plan	Hazardous Material Emergency Planning and Response Plan
HHQ	Higher Headquarters
HQ	Headquarters
HWMP	Hazardous Waste Management Plan
I-	Interstate
IAC	Illinois Administrative Code
ICP	Integrated Contingency Plan
IEPA	Illinois Environmental Protection Agency

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IL-	Illinois State Route
JOMPC	Joint Operations and Mission Planning Center
LBP	lead-based paint
L_{eq}	Equivalent Sound Level
LID	Low Impact Development
MBTA	Migratory Bird Treaty Act
MFH	Military Family Housing
MMRP	Military Munitions Response Program
MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
O&M	Operations and Maintenance
O_3	ozone
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
pCi/L	picocuries per liter
percent g	percentage of the force of gravity
PM_{10}	particulate matter measured less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter measured less than or equal to 2.5 microns in diameter
PPE	personal protective equipment
ppm	parts per million
Q-D	quantity-distance
QEAF	Qatar Emiri Air Force
RCRA	Resource Conservation and Recovery Act
SDS	Safety Data Sheet
SHPO	State Historic Preservation Officer
SOP	Standard Operating Procedure
SO_x	sulfur oxides
SUs	Survey Units
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
tpy	tons per year
UFC	Unified Facilities Criteria
USACE	U.S. Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USTRANSCOM	United States Transportation Command
VOC	volatile organic compound

DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI)/ FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)

Environmental Assessment for Installation Development at Scott Air Force Base, Illinois

BACKGROUND: The 375th Air Mobility Wing (375 AMW) and Headquarters (HQ) Air Mobility Command (AMC) prepared an Environmental Assessment (EA) to analyze the potential environmental impacts of implementing 15 installation development projects for the next 3 years (i.e., 2019 to 2021) at Scott Air Force Base (AFB), Illinois. The attached EA was prepared in accordance with the National Environmental Policy Act (NEPA); the Council on Environmental Quality (CEQ) Regulations for Implementing NEPA (Title 40 Code of Federal Regulations [CFR] §§ 1500–1508); and the U.S. Air Force (USAF) regulations for implementing NEPA, *Environmental Impact Analysis Process* (32 CFR Part 989, as amended). The intent of 375 AMW and HQ AMC is to streamline NEPA compliance and facilitate the installation development process by evaluating the environmental impacts from all 15 installation development projects proposed for Scott AFB and their reasonable alternatives in one integrated EA.

PURPOSE OF AND NEED FOR INSTALLATION DEVELOPMENT: The purpose of implementing the installation development projects at Scott AFB is to provide the infrastructure and functionality improvements necessary to support the mission of 375 AMW and tenant units. The installation development projects are needed to address deficiencies of function and capability in facilities and infrastructure at Scott AFB that result from obsolescence, deterioration, and evolving mission needs. These deficiencies are remedied through an ongoing process of construction of new facilities and infrastructure, renovation of existing facilities and infrastructure, and demolition of redundant or obsolete facilities. Installation development projects are required to allow 375 AMW and its tenant units to successfully complete their missions.

DESCRIPTION OF INSTALLATION DEVELOPMENT AND ALTERNATIVES: USAF would implement 15 installation development projects for the next 3 years (i.e., 2019 to 2021) at Scott AFB. Each project is evaluated as part of the larger proposed action of installation development at Scott AFB and as a discrete proposed action. All of the installation development projects are related to space and mission optimization and consolidation, infrastructure and safety improvements, or natural resources enhancements.

Installation development at Scott AFB is done in accordance with USAF's Comprehensive Planning Process, which has divided Scott AFB into identifiable planning districts based on geographical features, land use patterns, building types, and transportation networks. Therefore, the 15 installation development projects are grouped by the following Scott AFB planning districts in which they are located:

Airfield District

- Project A1: Construct Hangar
- Project A2: Expand Fire Station 3
- Project A3: Construct Airfield Service Road
- Project A4: Replace Collapsed Culvert for South Ditch
- Project A5: Airfield Repairs

Core District

- Project C1: Construct Joint Operations and Mission Planning Center
- Project C2: Construct Dormitory
- Project C3: Demolish Unnumbered Building at Facility 9020
- Project C4: Demolish Building 533

Multi-District

- Project M1: Construct Infiltration Basins
- Project M2: Repair South Ditch Channel
- Project M3: Airfield Tree Violations

Not Districted

- Project N1: Enhance Family Campground
- Project N2: Remove Log Jams from Silver Creek
- Project N3: Enhance Aquatic Habitat at Cardinal Lake

Alternatives Evaluation. Alternatives for each installation development project were considered and evaluated against universal selection standards and project-specific selection standards to determine their reasonableness and suitability for analysis. The evaluation identified that the 15 installation development projects have a total of 21 reasonable action alternatives, which were analyzed in detail in the EA. The installation development projects with reasonable action alternatives are Project A3 (Alternatives A3-1, A3-2, and A3-3), Project A4 (Alternatives A4-1 and A4-2), and Project M1 (Alternatives M1-1, M1-2, M1-3, and M1-4).

No Action Alternative. CEQ regulations recommend consideration of the No Action Alternative for EAs. The No Action Alternative serves as a baseline against which the impacts of the Proposed Action and other potential action alternatives can be evaluated. Under the No Action Alternative, USAF would not implement any of the 15 installation development projects at Scott AFB. Deficiencies of function and capability in facilities and infrastructure at Scott AFB that result from obsolescence, deterioration, and evolving mission needs would persist. 375 AMW and its tenant units would not receive the infrastructure and functionality improvements necessary to successfully complete their missions.

Identification of the Preferred Alternatives. The Preferred Alternative for each installation development project is the alternative that best satisfies the purpose of and need for the project and would fulfill the project's statutory mission and responsibilities, giving consideration to

economic, environmental, technical, and other factors. All of the reasonable action alternatives for the installation development projects are Preferred Alternatives except for Alternatives A3-2, A3-3, and A4-2. Alternatives A3-2 and A3-3 are not preferred because they would route the proposed airfield service road across the southern overrun for Runway 14R/32L. This overrun is scheduled to be converted to runway as part of a separate project and would negate the use of the proposed airfield service road under these alternatives from the safety hazard. Alternative A4-2 is not preferred because it would not reduce the amount of surface water near the airfield. All four reasonable action alternatives for Project M1 meet the project's purpose and need and provide suitable solutions to stormwater management problems experienced at four different locations on Scott AFB. Therefore, one or more of the four alternatives could be implemented to address these four locations, and no alternative is preferred more than another. The USAF will select the most suitable alternative or combination of alternatives for implementation. This FONSI applies to all of the reasonable action alternatives analyzed in detail in the EA.

ENVIRONMENTAL IMPACTS OF INSTALLATION DEVELOPMENT: The analysis of environmental impacts focused on the following environmental resources: air quality, biological resources, cultural resources, geological resources, hazardous materials and wastes, infrastructure, land use, noise, safety, and water resources. A cumulative impacts assessment was also conducted. The USAF concluded that the Proposed Action would not affect the following resources: airspace, socioeconomics, and environmental justice. Details of the environmental consequences are provided in the EA and are incorporated by reference. The analysis in the EA for each of the environmental resource areas identified that installation development at Scott AFB would result in negligible to moderate adverse impacts; therefore, environmental impacts would not be significant.

STAKEHOLDER INVOLVEMENT: Based on the description of installation development at Scott AFB as set forth in the EA, all projects were found to comply with the criteria or standards of environmental quality and were coordinated with the appropriate federal, state, and local agencies. The attached EA and this FONSI/FONPA have been made available to the public for a 30-day comment period. Comments will be incorporated into the analysis of potential environmental impacts performed as part of the EA as appropriate.

NOTICE OF POTENTIAL FLOODPLAIN AND WETLANDS INVOLVEMENT: Approximately 583 acres of 100-year floodplain are on Scott AFB, and wetlands cover approximately 378 acres of the installation. As required by Executive Orders (EOs) 11988, *Floodplain Management*, and 11990, *Protection of Wetlands*, and Air Force Instruction (AFI) 32-7064, *Integrated Natural Resources Management*, early public notice for potential floodplain and wetlands impacts was provided in the *Belleville News-Democrat* and Scott AFB's newspaper, *Command Post*, on Friday, 11 January 2019, because six of the fifteen installation development projects could coincide with the 100-year floodplain and/or wetlands.

Projects A2 and A3 (Alternative A3-1) could and Projects A4 (Alternatives A4-1 and A4-2), M2, N2, and N3 would coincide with the 100-year floodplain. Projects A4 (Alternatives A4-1 and A4-2), M2, N2, and N3 would coincide with wetlands. Direct impacts from implementation of

these projects within the 100-year floodplain and wetlands would be unavoidable. The proposed parking lot associated with Fire Station 3 (Alternative A2) must be constructed within or adjacent to the floodplain because of a nearby quantity-distance arc and taxiway clearance requirements. Depending on final design, a small portion of the proposed airfield service road under Alternative A3-1 could need to be constructed within the 100-year floodplain because of airfield clearance requirements. Alternatives A4-1, A4-2, M2, N2, and N3 must occur within the floodplain and wetlands because the inherent nature of these projects addresses South Ditch, Ash Creek, Silver Creek, and Cardinal Lake. These projects are site-specific actions that cannot be conducted elsewhere. These projects would not situate critical infrastructure within the floodplain.

FINDING OF NO SIGNIFICANT IMPACT/FINDING OF NO PRACTICABLE ALTERNATIVE: Based on the information and analysis presented in the EA, which was prepared in accordance with the requirements of the NEPA and CEQ and USAF NEPA regulations, and review of the public and agency comments submitted during the 30-day public comment period, I conclude that the environmental effects of implementing the installation development projects at Scott AFB, Illinois—including all of the reasonable action alternatives analyzed in detail in the EA—are not significant, preparation of an Environmental Impact Statement is unnecessary, and a FONSI/FONPA is appropriate. Pursuant to EOs 11988 and 11990, AFI 32-7064, and the authority delegated by Secretary of the Air Force Order 791.1, and taking the above information into account, I find that there is no practicable alternative to the installation development projects on Scott AFB that coincide with the floodplain and wetlands. The installation development projects include all practicable measures to minimize harm within and to the floodplain and wetlands environments.

APPROVED:

<Unsigned for Draft EA> <Undated for Draft EA>

RANDY L. BOSWELL, Col, USAF DATE
Chief, Logistics Operations & Civil Engineer Division

Attachment: *Environmental Assessment for Installation Development at Scott Air Force Base, Illinois*

Cover Sheet

Draft Environmental Assessment
for Installation Development at Scott Air Force Base, Illinois

Responsible Agencies: United States Air Force (USAF); Headquarters Air Mobility Command; 375th Air Mobility Wing (AMW); Air Force Civil Engineer Center.

Affected Location: Scott Air Force Base (AFB), Illinois.

Report Designation: Draft Environmental Assessment.

Abstract: The 375 AMW and Headquarters Air Mobility Command have identified and programmed 15 installation development projects for the next 3 years (i.e., 2019 to 2021) at Scott AFB, Illinois, to provide the infrastructure and functionality improvements necessary to support the mission of 375 AMW and tenant units. This Environmental Assessment (EA) evaluates the environmental consequences from these 15 installation development projects and their reasonable alternatives, including the No Action Alternative, and aids in determining whether a Finding of No Significant Impact can be prepared or an Environmental Impact Statement is required. Evaluating all 15 projects in one integrated EA streamlines National Environmental Policy Act (NEPA) compliance and facilitates the installation development process. Each project is evaluated as part of the larger proposed action of installation development at Scott AFB and as a discrete proposed action.

Comments and inquiries regarding this document should be directed by mail to 375 AMW Public Affairs Office, 901 South Drive, Building 700, Scott AFB, Illinois 62225. Telephone calls can be directed to (618) 256-4241, and email messages should be sent to 375AMW.PA@us.af.mil.

Privacy Advisory

The Draft EA is provided for public comment in accordance with NEPA, Council on Environmental Quality Regulations for Implementing NEPA (Title 40 Code of Federal Regulations §§ 1500–1508), and 32 Code of Federal Regulations Part 989, *Environmental Impact Analysis Proces*s *(EIAP)*.

The EIAP provides an opportunity for public input on USAF decision making, allows the public to offer inputs on alternative ways for USAF to accomplish what it is proposing, and solicits comments on USAF's analysis of environmental impacts.

Public commenting allows USAF to make better-informed decisions. Letters or other written or oral comments provided may be published in this EA. As required by law, comments provided will be addressed in this EA and made available to the public. Providing personal information is voluntary. Private addresses will be compiled to develop a mailing list for those requesting copies of this EA. However, only the names of the individuals making comments and specific comments will be disclosed. Personal information, home addresses, telephone numbers, and email addresses will not be published in this EA.

Draft

ENVIRONMENTAL ASSESSMENT

FOR

INSTALLATION DEVELOPMENT

AT

SCOTT AIR FORCE BASE, ILLINOIS

Prepared for:

Department of the Air Force
Air Force Civil Engineer Center
2261 Hughes Avenue, Suite 155
Joint Base San Antonio-Lackland, Texas 78236

JULY 2019

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Appendices

Figures

Tables

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1. Purpose of and Need for the Proposed Action

1.1 Introduction

The 375th Air Mobility Wing (375 AMW) and Headquarters (HQ) Air Mobility Command (AMC) have identified and programmed 15 installation development projects for the next 3 years (i.e., 2019 to 2021) at Scott Air Force Base (AFB), Illinois. These projects are presented in **Section 1.4**. The installation development projects are intended to provide Scott AFB with the infrastructure and functionality improvements necessary to support the mission of 375 AMW and tenant units.

This Environmental Assessment (EA) has been prepared to evaluate the environmental consequences from the installation development projects and their reasonable alternatives in accordance with the National Environmental Policy Act (NEPA); the Council on Environmental Quality (CEQ) Regulations for Implementing NEPA (Title 40 Code of Federal Regulations [CFR] §§ 1500–1508); and the United States Air Force (USAF) regulations for implementing NEPA (32 CFR Part 989, as amended). The intent of 375 AMW and HQ AMC is to streamline NEPA compliance and facilitate the installation development process by evaluating the potential environmental consequences from the installation development projects proposed for Scott AFB in one integrated EA.

The information presented in this EA serves as the basis for deciding whether the installation development projects would result in a significant impact on the human environment, requiring the preparation of an Environmental Impact Statement (EIS), or whether no significant impacts would occur, in which case a Finding of No Significant Impact (FONSI) would be appropriate. If any of the installation development projects would involve action in a floodplain, as defined in Executive Order (EO) 11988, *Floodplain Management*, or new construction in a wetland, as defined in EO 11990, *Protection of Wetlands*, a Finding of No Practicable Alternative (FONPA) would accompany the FONSI.

1.2 Background

Scott AFB is in St. Clair County, Illinois, approximately 20 miles east of St. Louis, Missouri (see **Figure 1-1**). The installation occupies 3,639 acres. It was established during World War I and has hosted a variety of missions and aircraft types throughout its history. Scott AFB currently is home to 375 AMW, HQ AMC, HQ United States Transportation Command (USTRANSCOM), 18th Air Force, 126th Air Refueling Wing (126 ARW) of the Illinois Air National Guard, 932nd Airlift Wing (932 AW) of Air Force Reserve Command, Air Force Network Integration Center, Defense Information System Agency (DISA) – Continental United States Field Command, and Defense Information Technology Contracting Organization. Currently, C-40C, C-21A, and KC-135R aircraft operate from Scott AFB (Scott AFB 2015a).

Installation development at Scott AFB is done in accordance with USAF's Comprehensive Planning Process (CPP) established in Air Force Instruction (AFI) 32-7062, *Comprehensive Planning*. AFI 32-7062 provides a systematic framework for informing decision makers on the physical development of USAF installations and their environment. The objective of the CPP is to synthesize data and information to enable commanders to make effective development decisions affecting their installation and the surrounding community.

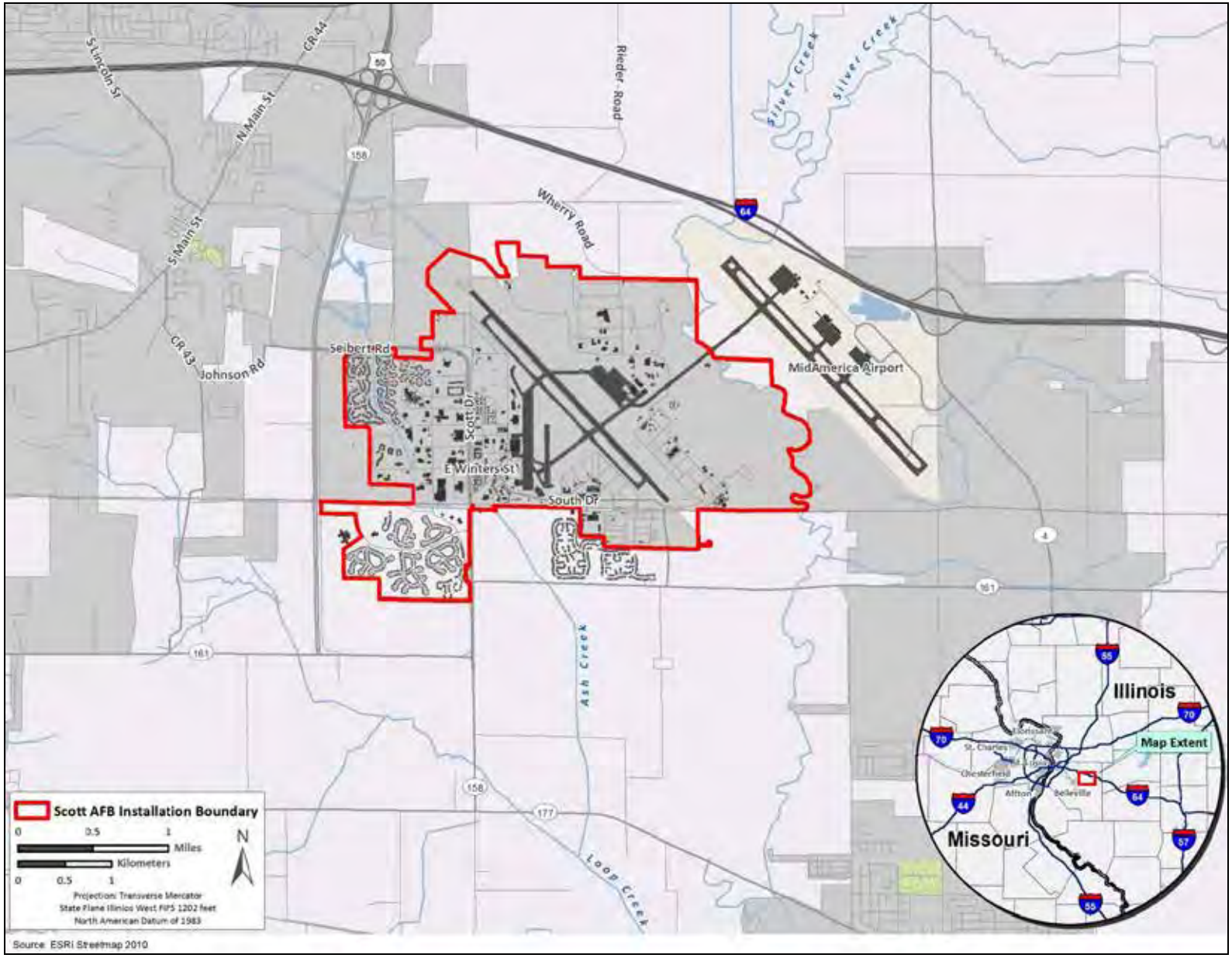


Figure 1-1. Overview of Scott AFB

As a part of the CPP, USAF installations—such as Scott AFB—are divided into identifiable planning districts based on geographical features, land use patterns, building types, and transportation networks. Scott AFB has four such planning districts: Administration, Airfield, Core, and Industrial. Additionally, the largely undeveloped and forested area along the eastern boundary of Scott AFB and some residential areas are not included in any planning district (Scott AFB 2015a). Within these planning districts, the Base Community Planner identifies shortfalls in the existing capability, capacity, or relationship of installation resources with respect to their contribution to successful accomplishment of installation missions. A thorough analysis of the existing conditions; a study of the requirements; and the consideration of the vision, goals, and objectives of the installation allow the development of conceptual installation development projects and alternatives to address the identified shortfalls within each planning district.

The installation development projects and alternatives are evaluated against measurable selection standards as part of the Environmental Impact Analysis Process (EIAP). As a result, the planning activities required by the CPP must integrate the EIAP to ensure planning decisions reflect environmental values, identify alternatives to be considered, and document the rationale for dismissed alternatives. Additionally, installation development projects must be developed to meet the following criteria:

- Support the USAF mission requirements and quality of life standards for units and personnel hosted by the installation.
- Meet all applicable Department of Defense (DoD), federal, state, and local laws and regulations, such as but not limited to the Endangered Species Act (ESA), National Historic Preservation Act (NHPA), Clean Water Act (CWA), Clean Air Act, Resource Conservation and Recovery Act, and Migratory Bird Treaty Act (MBTA). More detailed information regarding resource-specific laws and regulations is provided in the resource sections of **Sections 3** and **4**.
- Provide reliable utilities and an efficient transportation system to support Scott AFB and meet current USAF requirements for functional space consistent with Air Force Manual 32-1084, *Facility Requirements*, dated 1 April 2018.
- Meet applicable DoD antiterrorism/force protection criteria, consistent with Unified Facilities Criteria (UFC) 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*.
- Reduce the consumption of fuel, energy, water, and other resources; maximize the use of existing facilities; and reduce the footprint of unnecessary or redundant facilities and infrastructure in accordance with the Energy Policy Act of 2005.
- Support and enhance the morale and welfare of personnel assigned to the installation, their families, and civilian staff, consistent with DoD Instruction 1015.10, *Military Morale, Welfare, and Recreation (MWR) Programs*, dated 6 July 2009.

Section 2.2.1 provides further detail on the specific selection standards used to screen the project alternatives for reasonableness and suitability.

1.3 Purpose of and Need for Installation Development

The purpose of implementing the installation development projects at Scott AFB is to provide the infrastructure and functionality improvements necessary to support the mission of 375 AMW and tenant units.

The installation development projects are needed to address deficiencies of function and capability in facilities and infrastructure at Scott AFB that result from obsolescence, deterioration, and evolving mission needs. These deficiencies are remedied through an ongoing process of construction of new facilities and infrastructure, renovation of existing facilities, and demolition of redundant or obsolete facilities. Installation development projects are required to allow 375 AMW and its tenant units to successfully complete their missions.

1.4 Projects Proposed for Installation Development

Fifteen projects are proposed for installation development at Scott AFB within the next 3 years. **Table 1-1** lists these projects, and **Section 2.3** describes each project in detail. **Figure 1-2** shows the locations of the installation development projects and key environmental constraints. All of the installation development projects are related to space and mission optimization and consolidation, infrastructure and safety improvements, or natural resources enhancements. Projects are grouped by the planning district in which they are located with five projects exclusively within the Airfield planning district, four projects exclusively within the Core planning district, three projects coinciding with multiple planning districts, and three projects on the portion of the installation not in a planning district. No projects are exclusively within the Administrative or Industrial planning districts of Scott AFB.

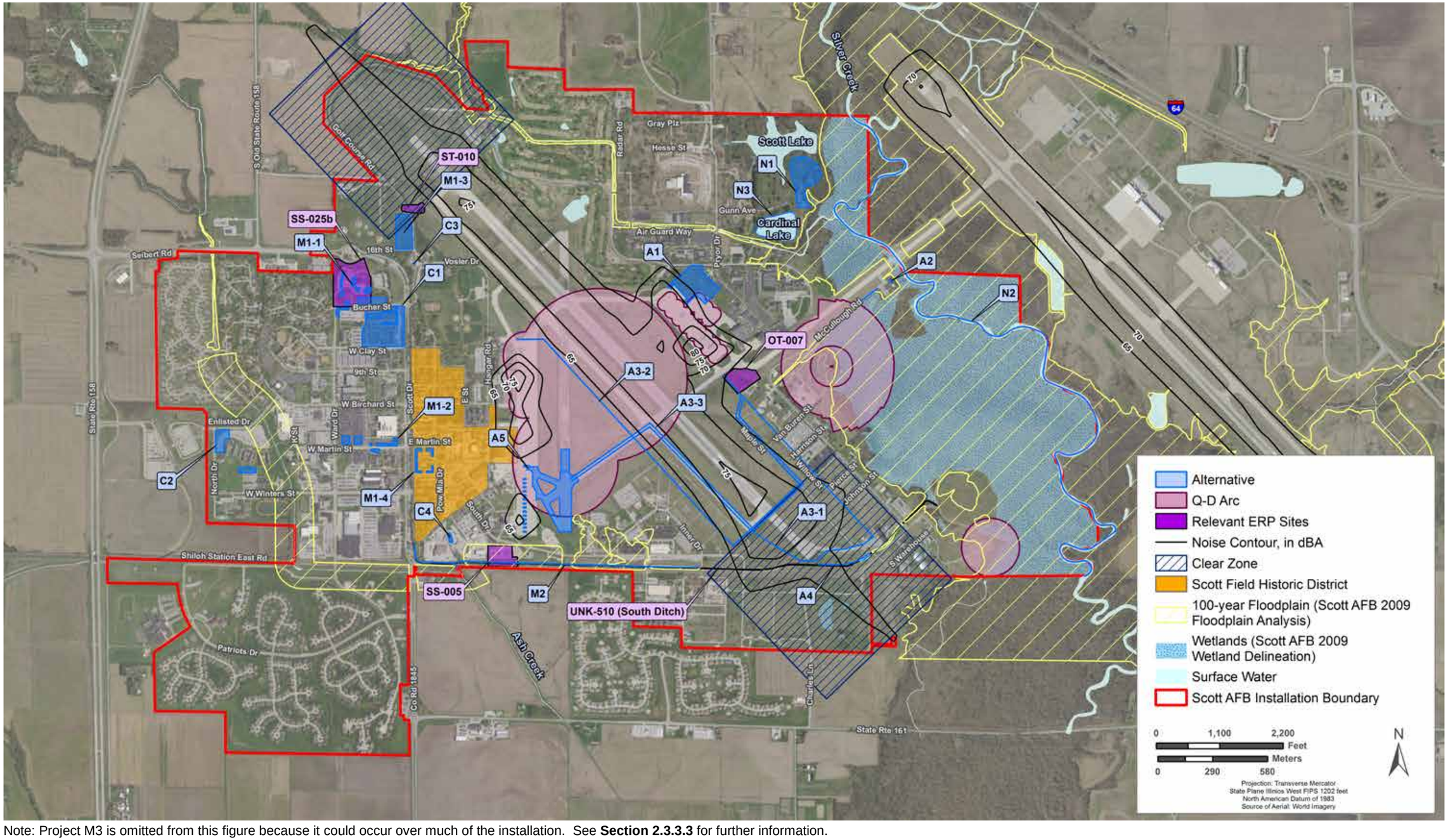
1.5 Purpose of and Need for Individual Projects

Each installation development project has a specific purpose of and need for statement. These statements are presented in **Table 1-2**.

1.6 Intergovernmental and Native American Tribal Coordination and Consultation

1.6.1 INTERAGENCY AND INTERGOVERNMENTAL COORDINATION AND CONSULTATION

EO 12372, *Intergovernmental Review of Federal Programs*, as amended by EO 12416 with the same title, requires federal agencies to provide opportunities for consultation with officials of state and local governments that could be affected by a federal proposal. Through the interagency and intergovernmental coordination process, USAF notifies relevant federal, state, and local agencies of a proposed action and alternatives and provides them with sufficient time to make known their environmental concerns specific to the action. The process also provides USAF with the opportunity to cooperate with and consider state and local views in implementing the federal proposal.



Note: Project M3 is omitted from this figure because it could occur over much of the installation. See **Section 2.3.3.3** for further information.

Figure 1-2. Installation Development Projects and Environmental Constraints on Scott AFB

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Table 1-1. Installation Development Projects Addressed in this EA

Project ID	Project Name	Description of Project	Approximate Implementation Year
Airfield District			
A1	Construct Hangar	Construct and operate a new aircraft hangar for 126 ARW.	2021
A2	Expand Fire Station 3	Expand Fire Station 3 (Building 3901) and add eight firefighters. Construct 22 parallel parking spaces along McCullough Road.	2019
A3	Construct Airfield Service Road	Construct an airfield service road. New road construction and modification to existing roads and taxiways would be necessary.	2021
A4	Replace Collapsed Culvert for South Ditch	Replace a section of culvert for South Ditch that has collapsed. The open channel downstream of the collapse would be enclosed in a culvert or graded and lined.	2020
A5	Airfield Repairs	Replace pavement and upgrade stormwater drainage infrastructure for portions of Taxiways G and R and Ramp F. Rebuild 14 aircraft parking spots on the South Ramp.	2021
Core District			
C1	Construct JOMPC	Construct and operate a Joint Operations and Mission Planning Center (JOMPC).	2020
C2	Construct Dormitory	Construct and operate an approximately 48-bed dormitory for unaccompanied personnel.	2021
C3	Demolish Unnumbered Building at Facility 9020	Demolish the unnumbered building at Facility 9020 (electric substation).	2019
C4	Demolish Building 533	Demolish Building 533.	2019
Multi-District			
M1	Construct Infiltration Basins	Construct stormwater infiltration basins to improve stormwater management.	2020 and 2021
M2	Repair South Ditch Channel	Repair the channel of South Ditch by removing debris, stabilizing the walls, eliminating unnecessary culverts, and filling the interconnection channel with Ash Creek.	2021
M3	Airfield Tree Violations	Trim or remove approximately 230 trees to avoid conflicts with the airfield.	2019 to 2021
Not Districted			
N1	Enhance FAM Camp	Enhance the Family Campground (FAM Camp) by constructing additional recreational vehicle campsites, providing additional utilities to existing campsites, and rebuilding the bathhouse.	2020
N2	Remove Log Jams from Silver Creek	Remove log jams from Silver Creek. Vegetation clearing may be necessary to access the creek.	2019 to 2021
N3	Enhance Aquatic Habitat at Cardinal Lake	Remove aquatic vegetation, dredge sediment, replace the aeration system, install brush piles, and stock Cardinal Lake with appropriate fish.	2019 to 2021

Table 1-2. Purpose of and Need for Each Installation Development Project

Project ID	Project Name	Purpose	Need
Airfield District			
A1	Construct Hangar	Provide 126 ARW with modern hangar space capable of supporting current and potential refueler-type aircraft.	126 ARW's existing hangar (i.e., Building 5026) lacks proper fire protection systems, has failing electrical and heating systems, and has space limitations. These deficiencies degrade the ability to perform maintenance on current and potential aircraft, which affects operational capabilities and hampers mission effectiveness.
A2	Expand Fire Station 3	Ensure the eastern side of Scott AFB and MidAmerica Airport have sufficient fire protection.	Fire Station 3 is operating with a facility space, parking, and staff deficit. These deficiencies represent safety hazards to the eastern side of the installation and to MidAmerica Airport.
A3	Construct Airfield Service Road	Enhance airfield safety by eliminating vehicle crossings of Runway 14R/32L.	Airfield vehicles transiting between the eastern and western sides of the airfield must cross Runway 14R/32L because of the lack of an airfield service road. Crossing the runway introduces the possibility of unauthorized runway incursions and increasing chances for foreign object debris. Nine unauthorized runway incursions have occurred on Scott AFB between 2012 and 2017.
A4	Replace Collapsed Culvert for South Ditch	Improve the flow of water in South Ditch and reduce downstream erosion.	A section of culvert for South Ditch has collapsed impeding the flow of water and causing a sinkhole above the collapse. Erosion is occurring in an open channel immediately downstream and threatening to damage two exposed sanitary sewer pipes.
A5	Airfield Repairs	Eliminate safety hazards on and ensure the continued use of Taxiways G and R, Ramp F, and the 14 aircraft parking spots on the South Ramp.	Pavement on Taxiways G and R, Ramp F, and at the 14 aircraft parking spots is deteriorating and requires continual repair. Stormwater management issues have been identified on these areas and these aircraft parking spots lack proper aircraft grounding capability.

Project ID	Project Name	Purpose	Need
Core District			
C1	Construct JOMPC	Provide modern mission support space under one roof for USTRANSCOM's TCJ5/4 Force Flow Planning function; the 618th Air Operations Center; HQ AMC Directorate of Operations, Strategic Deterrence, and Nuclear Integration (HQ AMC/A3/10); and the Air Intelligence Squadron (AIS) within HQ AMC Directorate of Intelligence (HQ AMC/A2).	The aforementioned missions are currently conducted from outdated or temporary buildings on Scott AFB. These buildings have structural and design deficiencies that are not compliant with mission requirements and impair the efficiency of operations. Synergy would be gained by having these missions consolidated under one roof.
C2	Construct Dormitory	Provide sufficient on-installation housing for E1 to E4 unaccompanied airmen or equivalent rank so that off-installation housing is no longer needed.	Scott AFB has a 48-bed deficit for housing E1 to E4 unaccompanied airmen or equivalent rank. Mission efficiency is lost when these personnel cannot reside on the installation.
C3	Demolish Unnumbered Building at Facility 9020	Remove obsolete building space from Scott AFB	USAF must spend resources on maintenance and upkeep of this obsolete building.
C4	Demolish Building 533	Remove obsolete building space from Scott AFB.	USAF must spend resources on maintenance and upkeep of this obsolete building.
Multi-District			
M1	Construct Infiltration Basins	Provide Scott AFB with better stormwater management infrastructure so that stormwater management issues identified on the installation no longer threaten to damage property or impact mission readiness.	Many stormwater drainage pipes on Scott AFB are too small to handle the volume of stormwater runoff during major precipitation events. This leads to stormwater ponding on the parking lots of Buildings 1560 and 1600 and on Golf Course Road near Scott Field Heritage Air Park. It also leads to stormwater entering the lower levels of Building P-40. These stormwater management issues can potentially damage vehicles on the affected parking lots, stop traffic on Golf Course Road that would potentially require vehicles to cross the airfield during an evacuation, and negatively impact missions conducted from Building P-40.

Project ID	Project Name	Purpose	Need
Multi-District (continued)			
M2	Repair South Ditch Channel	Establish better flow of water through South Ditch to provide better stormwater management for the installation.	Lack of proper maintenance to its channel has reduced the volume of water South Ditch can transport. This decreased capacity has increased the potential for stormwater to overtop South Ditch's banks and for upstream stormwater sewer outfall pipes to back up during heavy precipitation events resulting in flooding.
M3	Airfield Tree Violations	Eliminate safety hazards to aircraft using Runway 14R/32L by trimming or removing trees that obstruct airfield visibility or violate airspace requirements.	Some trees on Scott AFB have grown to a height where they conflict with the airfield. Scott AFB's airfield must comply with UFC 3-260-01, *Airfield and Heliport Planning and Design*, and 14 CFR § 77, *Safe, Efficient Use, and Preservation of Navigable Airspace*, to ensure safe operations. These trees are preventing such compliance and introducing safety hazards to aircraft using the runway.
Not Districted			
N1	Enhance FAM Camp	Provide the Scott AFB outdoor community with a FAM Camp that meets demand and offers the infrastructure needed for modern camping.	The FAM Camp currently operates at near capacity during peak seasons and lacks sewer connections at each campsite, which requires recreational vehicles to be moved to the dump station each time their holding tanks need to be emptied. Many campsites are too small for modern recreation vehicles. The bathhouse is outdated and too small to meet mission requirements.
N2	Remove Log Jams from Silver Creek	Ensure sufficient flow of water and sediment is maintained in Silver Creek.	Log jams disrupt the flow of water and sediment in Silver Creek, which impairs water quality and increases the potential for upstream flooding.
N3	Enhance Aquatic Habitat at Cardinal Lake	Provide self-sustaining, long-term recreational fishing opportunities at Cardinal Lake.	The fishery at Cardinal Lake is unbalanced and not self-sustaining. Further management actions to enhance aquatic habitat are necessary so that long-term recreational fishing opportunities at Cardinal Lake can continue.

The Draft EA and Draft FONSI/FONPA have been made available to relevant federal, state, and local government agencies for a 30-day comment period. The list of federal, state, and local government agencies is included in **Appendix A**. Signed copies of distribution letters and government agency comments will be added to **Appendix A**. Government agency comments will be considered in the development of this EA and the decision of whether or not to sign the FONSI/FONPA.

1.6.2 GOVERNMENT TO GOVERNMENT COORDINATION AND CONSULTATION

The NHPA, 54 United States Code (USC) § 300101 et seq., requires federal agencies to consult with Native American tribal governments to identify cultural resources that may be adversely affected by the agency's proposed action. Consistent with the NHPA, DoD Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*, and AFI 90-2002, *Air Force Interaction with Federally-Recognized Tribes*, federally recognized tribes that are historically affiliated with the Scott AFB geographic region are invited to consult on all proposed undertakings that potentially affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation or the interagency coordination process. The timelines for tribal consultation are also distinct from those of other consultations. The Native American tribal governments that were consulted for this undertaking are listed in **Appendix A** along with an example of the USAF's correspondence. Responses that are received from the tribes will be added to **Appendix A**.

1.6.3 OTHER AGENCY CONSULTATIONS

Per the requirements of Section 106 of the NHPA and implementing regulations (36 CFR Part 800) and Section 7 of the ESA and implementing regulations, findings of effect and requests for concurrence, where appropriate, have been transmitted to the Illinois State Historic Preservation Officer (SHPO) and the U.S. Fish and Wildlife Service (USFWS). The SHPO's concurrence of the USAF's determination of no adverse effect is pending. The USFWS concurred with the USAF's determination of effect on 6 June 2019. The results of the consultations and records of correspondence with these agencies are included in **Appendix A**.

1.7 Public Involvement

NEPA requirements help ensure that environmental information is made available to the public during the decision-making process and prior to actions being taken. The premise of NEPA is that the quality of federal decisions will be enhanced if proponents provide information to the public and involve the public in the planning process.

Because Projects A2, A3, A4, M2, N2, and N3 coincide with the 100-year floodplain and/or wetlands, the proposed action of installation development is subject to the requirements and objectives of EOs 11988 and 11990, respectively. As such, a Notice for Early Public Review was published in the *Belleville News-Democrat* and Scott AFB's newspaper, *Command Post*, on Friday, 11 January 2019, to notify the public that these installation development projects would occur in the 100-year floodplain and/or a wetland. The notice identified federal and state regulatory agencies with special expertise that will be contacted and solicited public comment. A copy of the Notice for Early Public Review is included in **Appendix A**. No comments were received from the Notice for Early Public Review.

A notice of availability announcing that the Draft EA and Draft FONSI/FONPA are available for a 30-day comment period has been published in the *Belleville News-Democrat* and *Command Post*. A copy of the newspaper notice is included in **Appendix A**. Comments received will be included in **Appendix A**. The Draft EA and Draft FONSI/FONPA have been made available in electronic format on the Scott AFB website and in hardcopy format at the following local libraries:

Belleville Public Library
121 East Washington Street
Belleville, Illinois 62220

Scott AFB Library
510 Ward Drive
Building 1940
Scott AFB, Illinois 62225

1.8 Decision to be Made

This EA evaluates whether the installation development projects and reasonable alternatives would result in significant impacts on the human environment. If significant impacts are identified, Scott AFB would undertake mitigation to reduce impacts to below the level of significance, undertake the preparation of an EIS, or abandon the installation development projects with significant impacts. This EA is a planning and decision-making tool that will be used to guide Scott AFB in implementing installation development in a manner consistent with USAF standards for environmental stewardship.

2. Description of the Proposed Action and Alternatives

2.1 Proposed Action

The Proposed Action is to implement the 15 installation development projects described in **Section 1.4**. Each project is evaluated in this EA as part of a larger proposed action of installation development at Scott AFB and as a discrete proposed action. Detailed descriptions of each installation development project are provided in **Section 2.3**.

2.2 Alternatives

Guidance for complying with NEPA requires an assessment of reasonably feasible alternatives for implementing a proposed action. Consideration of alternatives helps to avoid unnecessary impacts and allows for an analysis of reasonable ways to achieve a purpose. The alternatives considered for each installation development project are described in detail in **Section 2.3**.

2.2.1 SELECTION STANDARDS FOR PROJECT ALTERNATIVES

Not every considered alternative is analyzed in this EA. To warrant analysis, an alternative must be reasonable. Reasonable alternatives are those that are practical or feasible from a technical standpoint and use common sense rather than simply being desirable from the standpoint of the applicant. To be reasonable, an alternative must meet the purpose of and need for the project (see **Section 1.5**), be feasible and able to be implemented, and be suitable for consideration by decision makers. Considered alternatives are evaluated against the following three universal selection standards and project-specific selection standards, where applicable, to determine their reasonableness and suitability for analysis. Alternatives that meet all selection standards are deemed reasonable and are analyzed in this EA. Alternatives that do not meet one or more selection standards are deemed unreasonable and are eliminated from analysis in this EA.

Selection Standard 1: Planning Constraints – Planning constraints are man-made or natural elements that can create limitations to the construction or operation of buildings, roadways, utility systems, airfields, training ranges, and other facilities. These constraints, when considered collectively with the installation's capacity opportunities, inform the identification of potential areas for development as well as those areas that can be redeveloped to support growth. This selection standard addresses compatibility with installation operational aspects, natural and built resources, and land use compatibility, and largely dictates the location and placement of a proposed facility. These planning constraints are defined as follows:

- *Operational* – Operational constraints are generally related to flying and maintaining aircraft; storing fuel, munitions, and other potentially hazardous cargo; and operating training ranges or fulfilling similar operational requirements that can limit future development. At Scott AFB, operational constraints include airfield clearance and safety zones, noise contours, explosive safety quantity-distance (Q-D) arcs, and antiterrorism/force protection standards.

- *Natural* – Natural constraints include environmental and cultural resources at Scott AFB. These constraints provide positive aesthetic, social, cultural, and recreational attributes that substantially contribute to the overall quality of life on Scott AFB.
- *Built* – Built constraints are related to the condition, functionality, or effectiveness of infrastructure systems, facilities, and other man-made improvements.
- *Land Use Compatibility* – Land use compatibility constraints are associated with land use designations (e.g., airfield, administrative, recreation) on the installation and ensure that planning considerations account for compatibility between proposed and existing uses (e.g., recreational use may not be compatible with the airfield).

Selection Standard 2: Installation Capacity Opportunities – This selection standard refers to the capabilities of the installation's existing facilities and infrastructure to meet existing and future mission needs. This standard largely drives the scope of facility and infrastructure development and improvement and requires that proposed facility and infrastructure development and improvements support mission operations, mission support, built infrastructure, and quality of life.

Selection Standard 3: Sustainability Development Indicators – This selection standard refers to the ability to operate into the future without a decline in either the mission or the natural and man-made systems that support it, which enables a sustainable installation. Sustainability is a holistic approach to asset management that seeks to minimize negative impacts of USAF's mission and operations on the environment. This standard also drives the scope of facility and infrastructure development and improvement and supports sustainability of the installation through consideration of energy, water, wastewater, air quality, facilities space optimization, encroachment, airfields, and natural and cultural resources.

Project-Specific Selection Standards – Project-specific selection standards apply to some installation development projects. Project-specific selection standards address particular project requirements and are narrower than universal selection standards. Project-specific selection standards are described in **Section 2.3** for each installation development project, where applicable.

2.2.2 NO ACTION ALTERNATIVE

The EIAP requires consideration of the No Action Alternative, which provides a baseline against which a proposed action and action alternatives can be compared. In addition, CEQ NEPA guidance recommends inclusion of the No Action Alternative in an EA to assess any environmental consequences that may occur if a proposed action is not implemented. Therefore, the No Action Alternative is analyzed in this EA although it does not meet the purpose of and need for installation development, as described in **Section 1.3**.

The No Action Alternative would not implement any of the 15 installation development projects described in **Section 1.4**. Deficiencies of function and capability in facilities and infrastructure at Scott AFB that result from obsolescence, deterioration, and evolving mission needs would persist. The infrastructure and functionality improvements necessary to successfully complete missions would not be received by 375 AMW and its tenant units. A detailed description of the No Action Alternative for each installation development project is provided in **Section 2.3**.

2.3 Detailed Description of the Installation Development Projects and Considered Alternatives

The scope, location, and objective of each installation development project are described in this subsection. This subsection also presents project-specific selection standards, alternatives that were considered but eliminated from analysis in this EA, and alternatives that are analyzed in this EA, where applicable. Disturbance area, change in impervious surface, and key environmental constraints are provided for each analyzed alternative.

2.3.1 AIRFIELD DISTRICT

2.3.1.1 Project A1: Construct Hangar

This project is to construct and operate a new aircraft hangar for 126 ARW. The proposed hangar would measure approximately 50,000 square feet (ft^2) and include maintenance areas, shops, and administration space. It would be used to support current and potential refueler-type aircraft assigned to 126 ARW. All operational functions at 126 ARW's existing hangar (Building 5026) would be transferred to the proposed hangar following construction, and the existing hangar would be retained and made available for future needs. This project is anticipated to be implemented in 2021.

Project-Specific Selection Standards: The proposed hangar must be constructed within the 126 ARW's cantonment area.

Alternatives Considered but Eliminated from Analysis in this EA: USAF considered renovating and upgrading the 126 ARW's existing hangar to meet mission requirements. However, the existing hangar has structural limitations that preclude the installation of proper fire protection systems and the reconfiguration of space. Therefore, the alternative to renovate and upgrade the existing hangar fails to meet Selection Standard 2 and was eliminated from analysis in this EA.

Constructing the proposed hangar on Scott AFB's West Ramp also was considered. The West Ramp is outside of the 126 ARW's cantonment area, so a new real estate agreement would be required to construct the proposed hangar on the West Ramp. Additionally, constructing the proposed hangar on that ramp would require personnel to travel across the airfield to reach the 126 ARW's cantonment area. This geographic separation would not satisfy current or future mission needs. As a result, this alternative was eliminated from analysis in this EA because it fails to meet the project-specific selection standard.

Alternatives Analyzed in this EA for Project A1:

- **Alternative A1 (Preferred Alternative):** This alternative would construct the proposed hangar on the East Ramp within 126 ARW's campus on a grass field. It would be situated approximately 500 feet northwest of 126 ARW's existing hangar. Approximately 72,000 ft^2 of apron access would be constructed adjacent to the proposed hangar. Alternative A1 would disturb approximately 122,000 ft^2 and increase impervious surface by the same amount. **Figure 2-1** illustrates the proposed location for the hangar along with nearby environmental constraints.

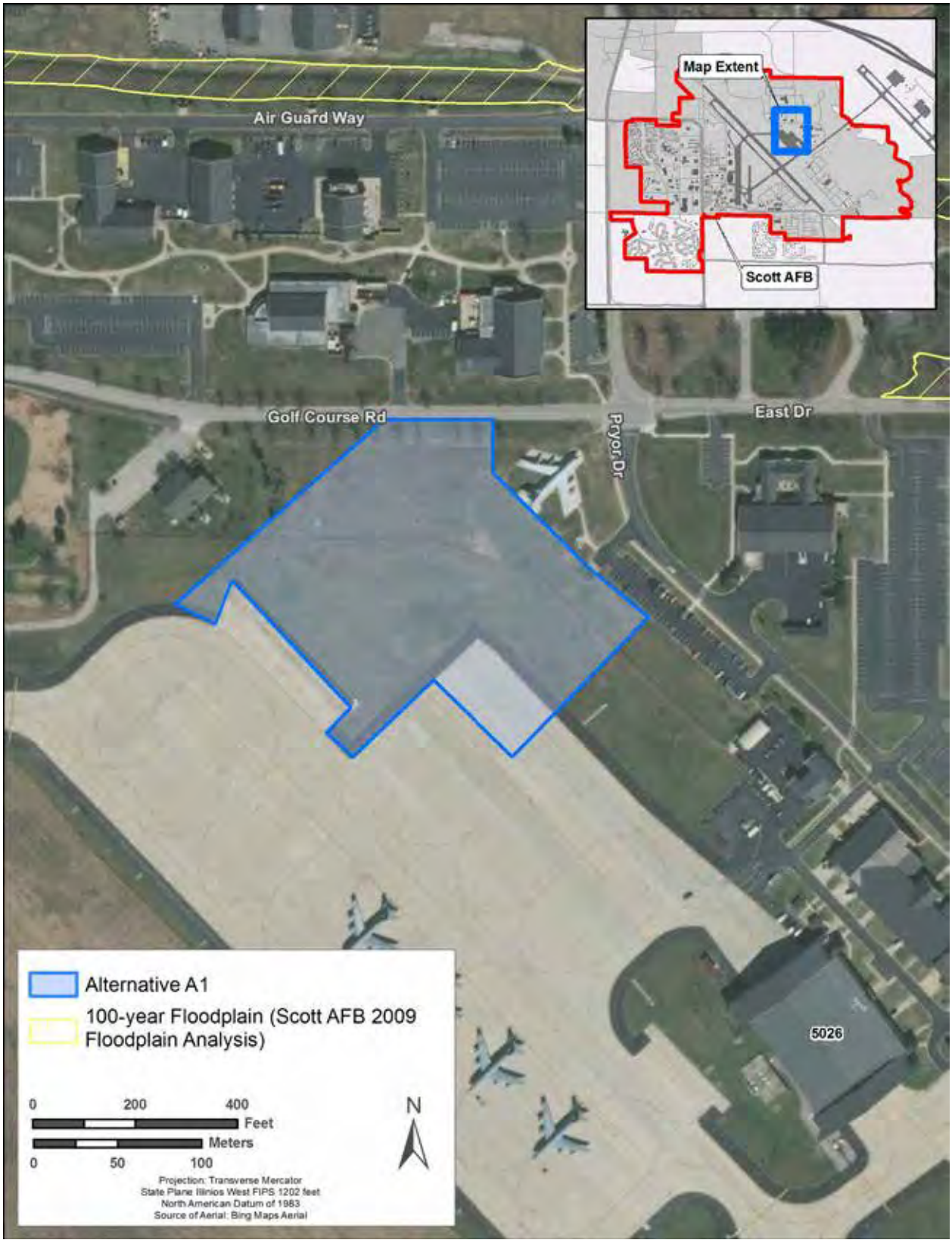

Figure 2-1. Location for the Hangar under Alternative A1

- **No Action Alternative for Project A1.** The No Action Alternative for Project A1 would not construct a new hangar for 126 ARW. No construction would occur, and 126 ARW would continue to use Building 5026 for their hangar. Building 5026 has many deficiencies including lack of proper fire protection systems, failing electrical and heating systems, and space limitations. These deficiencies would continue to degrade the ability to perform maintenance on aircraft, which would continue to impact operational capabilities and hamper mission effectiveness.

2.3.1.2 Project A2: Expand Fire Station 3

This project is to expand Fire Station 3 (Building 3901) by approximately 3,000 ft^2, construct 22 parallel parking spaces along McCullough Road, and assign 8 additional firefighters to 932 AW at Fire Station 3. The additional building space would support office and storage functions for the new firefighters. The additional parking spaces would accommodate the eight additional firefighters and provide supplemental parking for reserve training weekends. The number of firefighters assigned to the station and 932 AW would increase from 24 to 32. This project is anticipated to be implemented in 2019.

Project-Specific Selection Standards: There are no project-specific selection standards for Project A2.

Alternatives Considered but Eliminated from Analysis in this EA: USAF considered expanding and assigning the eight additional 932 AW firefighters to Fire Stations 1 and/or 2 (i.e., Buildings 460/462 and 4560, respectively) rather than expanding and assigning the additional firefighters to Fire Station 3. However, assigning reserve firefighters to Fire Stations 1 or 2 would displace active duty firefighters who currently use these spaces. A real estate agreement would be required to allow 932 AW to occupy space in these facilities. Furthermore, 932 AW's facilities are on the eastern side of Scott AFB while Fire Stations 1 and 2 are on the western side of the installation. Relocating 932 AW staff to the western side of the installation would be inefficient and impractical to the operational and training needs, particularly during reserve weekends, because personal would constantly be traveling back-and-forth across the installation. For these reasons, the alternative to expand Fire Stations 1 and/or 2 was determined not to meet Selection Standards 2 and 3 and was eliminated from analysis in this EA.

USAF also considered constructing a new fire station on the east side of Scott AFB to replace Fire Station 3. However, a new fire station was determined to be unnecessary because Fire Station 3 is less than 20 years old and in excellent condition. Additionally, Fire Station 3 is ideally located, so construction at another location on the east side of Scott AFB would reduce the ability of firefighters to respond to emergencies as compared to current conditions. For these reasons, the alternative to construct a replacement Fire Station 3 elsewhere on Scott AFB was determined not to meet Selection Standard 3 and was eliminated from analysis in this EA.

Alternatives Analyzed in this EA for Project A2:

- **Alternative A2 (Preferred Alternative):** This alternative would expand Fire Station 3. The approximately 3,000 ft^2 building addition would be constructed onto the northeastern corner of the fire station. The building's climate control systems and a patio would be

relocated for this siting. The 22 parallel parking spaces would be constructed along the southern edge of McCullough Road extending for approximately 440 feet from the existing parking lot for Fire Station 3 and the airfield control tower. Each parking space would measure approximately 20 feet long × 10 feet wide, and the total area for the parking spaces would measure approximately 4,400 ft^2. The parking spaces would avoid a Q-D arc from a nearby munitions storage area and the clearance requirements for Taxiway G. Alternative A2 would disturb approximately 7,400 ft^2 and increase impervious surface by the same amount. No tree removal would be necessary. **Figure 2-2** shows the proposed location for the addition onto Fire Station 3, additional parking spaces, and nearby environmental constraints.

While the footprint of disturbance for the building addition does not coincide with the 100-year floodplain (as designated by the Federal Emergency Management Agency [FEMA] in 2003 or the Scott AFB 2009 Floodplain Analysis) and wetlands (as delineated by the Scott AFB 2009 Wetland Delineation), the 100-year floodplain and wetlands associated with Silver Creek are adjacent to the east (FEMA 2003, Scott AFB 2009, Scott AFB 2010a) (see **Figure 2-2**). Depending on final design, the 22 parking spaces would coincide with or be immediately adjacent to the FEMA- and Scott AFB-designated 100-year floodplain (FEMA 2003, Scott AFB 2009); therefore, Alternative A2 is assumed to constitute action in a floodplain. Because of the proximity of the nearby Q-D arc and taxiway clearance requirements, there are no practicable alternatives for siting the parking spaces to avoid the floodplain. The 22 parking spaces do not coincide with the wetlands associated with Silver Creek that are adjacent to the south (Scott AFB 2010a); therefore, Alternative A2 does not constitute new construction in a wetland (see **Figure 2-2**).

- **No Action Alternative for Project A2.** The No Action Alternative for Project A2 would not expand Fire Station 3 or add parking, and no additional firefighters would be assigned to the station. No construction would occur. The 932 AW fire department would continue to not meet facility space, parking, and staff requirements. These deficiencies would continue to represent safety hazards to the eastern side of Scott AFB and to MidAmerica Airport.

2.3.1.3 Project A3: Construct Airfield Service Road

This project is to construct an airfield service road so that airfield vehicles can move between the eastern and western sides of the Scott AFB airfield without crossing Runway 14R/32L. The proposed airfield service road would be two lanes wide, measuring 24 feet in width, and would be a mixture of new road construction and modification to existing roads and taxiways. The proposed road would be constructed to meet the weight-bearing and turning radius requirements of large fire apparatuses. Fencing and gates would be added where necessary to limit access to airfield vehicles only. Construction would require the partial or complete shutdown of Runway 14R/32L and affected taxiways for short periods. This project is anticipated to be implemented in 2021.

USAF identified three location alternatives for the proposed airfield service road that meet all of the selection standards. Therefore, these three location alternatives are analyzed in this EA, although only one alternative will be selected for implementation. Alternative A3-1 is the

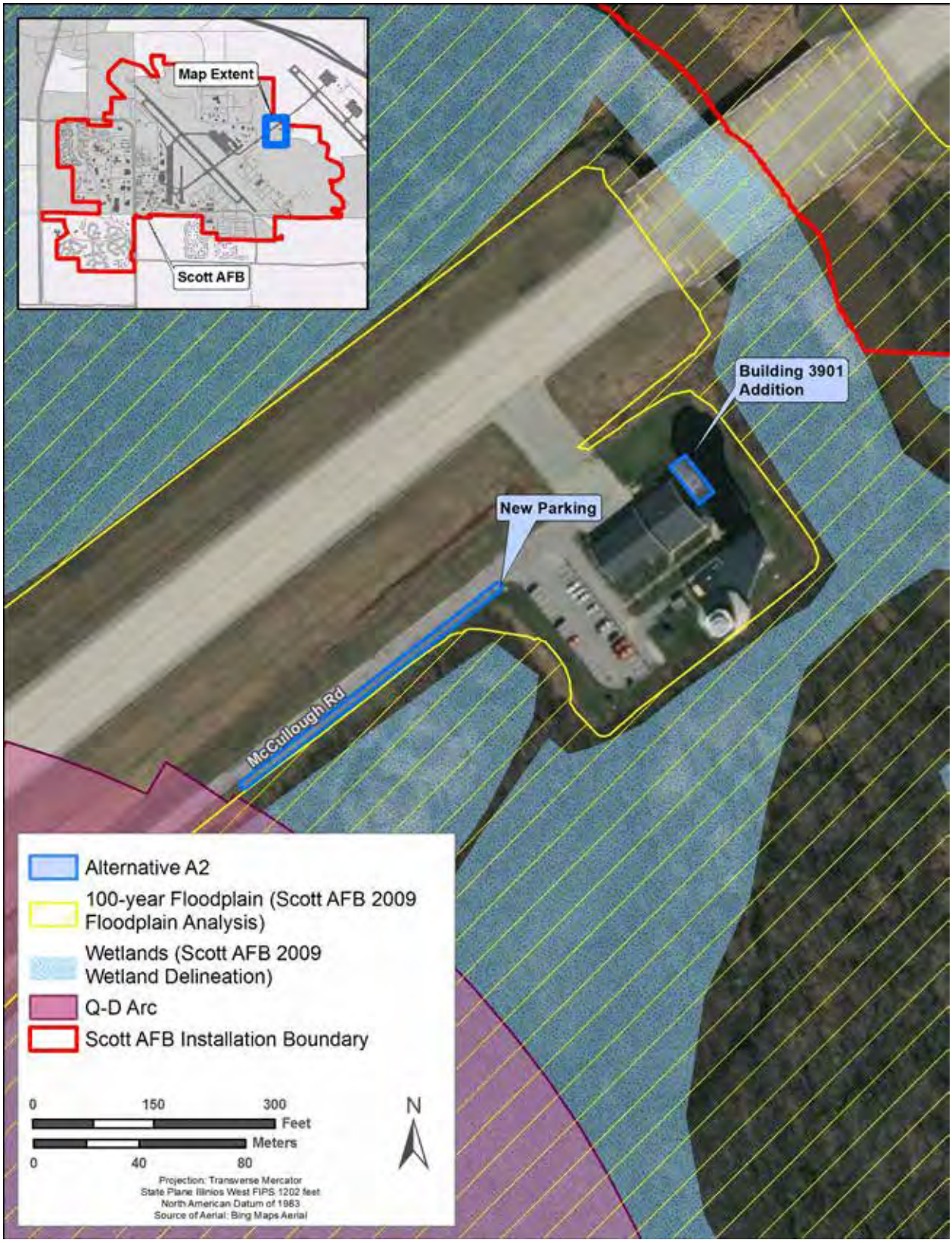

Figure 2-2. Location for the Addition onto Fire Station 3 and New Parking under Alternative A2

Preferred Alternative. Alternatives A3-2 and A3-3 are not preferred alternatives because they cross the southern overrun for Runway 14R/32L. This overrun is scheduled to be converted to runway in 2019 as part of a separate runway lighting project, which would negate the use of the proposed airfield service road under these two alternatives.

Project-Specific Selection Standards: Alternatives to Project A3 must comply with AFI 13-213, *Airfield Driving*, and Federal Aviation Administration and Scott AFB guidance and instruction on airfield driving.

Alternatives Considered but Eliminated from Analysis in this EA: No alternatives to Project A3 were eliminated from analysis in this EA.

Alternatives Analyzed in this EA for Project A3:

- **Alternative A3-1 (Preferred Alternative):** This alternative would construct an approximately 10,500-linear-foot-long airfield service road between the East Ramp and the southern portion of the West Ramp. The proposed road would begin at Taxiway G and follow existing roads southeast along the eastern edge of the airfield to Building 3200 where it would turn west and follow the existing road toward the southern overrun for Runway 14R/32L. Before reaching the southern overrun, the proposed road would turn southwest to go between the railroad tracks and the southern runway overrun. This portion of the road would be adjacent to or on top of an existing culvert for South Ditch. The proposed road would then turn northwest toward Taxiway A where it would follow Taxiway A to Taxiway G and then follow Taxiway G to the southern portion of the West Ramp. Only the approximately 1,800-linear-foot-long section of the proposed road from before the southern overrun to Taxiway A would be new construction, which would result in an increase in impervious surface of approximately 43,200 ft^2. The remainder of the proposed road would follow existing roads and taxiways and would result in no increase in impervious surface. The pavement on some portions of the existing roads has deteriorated to the degree that complete replacement would be necessary (see photograph on cover). Additional striping and signage would be added to existing taxiways to direct vehicle movements. In total, Alternative A3-1 would disturb a maximum of approximately 252,000 ft^2 through new construction, pavement replacement, and striping and signage upgrades. **Figure 2-3** shows the proposed route of the airfield service road under Alternative A3-1 in red along with nearby environmental constraints.

  Depending on final design, the proposed airfield service road would coincide with or be immediately adjacent to the 100-year floodplain as designated by the Scott AFB 2009 Floodplain Analysis but not by FEMA (Scott AFB 2009, FEMA 2003); therefore, Alternative A3-1 is assumed to constitute action in a floodplain. The potential for overlap with the floodplain occurs between Building 3200 and Taxiway A where the proposed road is adjacent to or on top of an existing culvert for South Ditch depending on final design. While South Ditch is a waters of the United States (Scott AFB 2010a), Alternative A3-1 would not constitute new construction in a wetland because all construction would stay adjacent to or on top of the existing culvert and would not disturb the waterway. South Ditch is an Environmental Restoration Program (ERP) site–ERP Site UNK-510–and a portion of the proposed road also would be immediately adjacent to ERP Site OT-007. Alternative A3-1 is the Preferred Alternative because it does not cross the southern overrun for Runway 14R/32L.

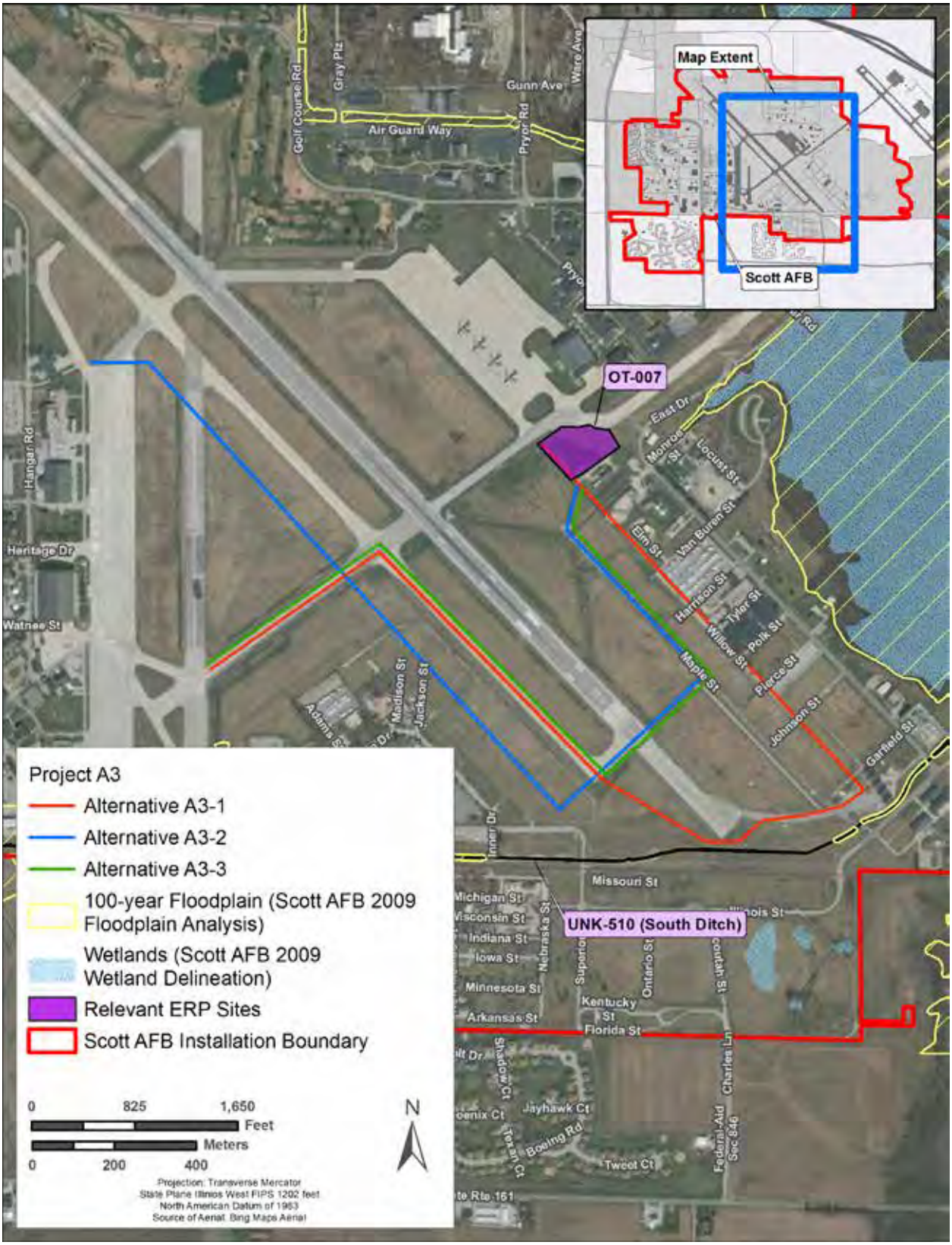

Figure 2-3. Alternative Routes for the Airfield Service Road under Project A3

- **Alternative A3-2:** This alternative would construct an approximately 9,200-linear-foot-long airfield service road between Building 5032 and the northern portion of the West Ramp. The proposed road would begin west of Building 5032 and follow existing roads southeast to the southern end of Runway 14R/32L. The proposed road would then turn southwest crossing the southern overrun for the runway and extending beyond Taxiway A to the southwestern edge of the airfield. It would then turn northwest and follow the southwestern edge of the airfield, cross Taxiway G, and end at the northern portion of the West Ramp. Approximately 5,300-linear feet of the proposed road, mainly west of Taxiway A, would be new construction, which would result in an increase in impervious surface of approximately 127,200 ft^2. Another approximately 2,000 linear feet of existing roads have deteriorated to the degree that complete replacement would be necessary. Additional striping and signage would be added to existing taxiways to direct vehicle movements. In total, Alternative A3-2 would disturb a maximum of approximately 220,800 ft^2 through new construction, pavement replacement, and striping and signage upgrades. **Figure 2-3** shows the proposed route of the airfield service road under Alternative A3-2 in blue along with nearby environmental constraints. This alternative does not entail action in a floodplain or new construction in a wetland and would affect no ERP sites. Alternative A3-2 is not the Preferred Alternative because it crosses the southern overrun for Runway 14R/32L and requires a lengthy amount of new road construction.
- **Alternative A3-3:** This alternative would construct an approximately 7,800-linear-foot-long airfield service road between Building 5032 and the southern portion of the West Ramp. Like Alternative A3-2, the proposed road would begin west of Building 5032 and follow existing roads southeast to the southern end of Runway 14R/32L. The proposed road would then turn southwest crossing the southern overrun for the runway before turning northwest along Taxiway A. It would then follow the route of Alternative A3-1, following Taxiway A to Taxiway G to the southern portion of the West Ramp. None of the proposed road would be new construction; therefore, Alternative A3-3 would result in no change in impervious surface. However, approximately 2,000 linear feet of existing roads have deteriorated to the degree that complete replacement would be necessary. Additional striping and signage would be added to existing taxiways to direct vehicle movements. In total, Alternative A3-3 would disturb a maximum of approximately 187,200 ft^2 through pavement replacement and striping and signage upgrades. **Figure 2-3** shows the proposed route of the airfield service road under Alternative A3-2 in green along with nearby environmental constraints. This alternative does not entail action in a floodplain or new construction in a wetland and would affect no ERP sites. Alternative A3-3 is not the Preferred Alternative because it crosses the southern overrun for Runway 14R/32L.
- **No Action Alternative for Project A3.** The No Action Alternative for Project A3 would not construct the airfield service road. No construction would occur, and airfield vehicles would continue to cross Runway 14R/32L when transiting between the eastern and western sides of the airfield. The inherent safety hazard of crossing the runway would not be eliminated, and unauthorized runway incursions and foreign object debris would remain a possibility.

2.3.1.4 Project A4: Replace Collapsed Culvert for South Ditch

This project is to replace 700 feet of culvert for South Ditch that has collapsed. The collapsed culvert is southeast of the southern overrun for Runway 14R/32L and approximately 500 feet west of Building 3200. The collapse is impeding the flow of water in South Ditch, and a sinkhole has formed above the culvert. Erosion is occurring in an open channel immediately downstream of the collapsed culvert and is threatening to damage two exposed sanitary sewer pipes. This project is anticipated to be implemented in 2020.

Project-Specific Selection Standards: There are no project-specific selection standards for Project A4.

Alternatives Considered but Eliminated from Analysis in this EA: No alternatives to Project A4 were eliminated from analysis in this EA.

Alternatives Analyzed in this EA for Project A4:

- **Alternative A4-1 (Preferred Alternative):** USAF would replace approximately 700 feet of 96-inch-diameter corrugated metal pipe with a concrete box culvert measuring approximately 90 inches tall × 84 inches wide. This type and dimension of culvert would match that of the existing culvert immediately upstream. An approximately 200-foot-long section of open channel immediately downstream of the collapsed culvert also would be converted to box culvert of similar type and dimension as that upstream to reduce ponding, prevent erosion, and protect the two exposed sanitary sewer pipes. Fill would be placed above the box culvert to create a level surface. Additional stormwater inlets would be constructed to improve stormwater management by allowing stormwater to drain into the repaired culvert. **Figure 2-4** shows the location of the proposed repairs to the collapsed culvert and open channel along with nearby environmental constraints. Alternative A4-1 is the Preferred Alternative because the conversion of open channel to box culvert would reduce the amount of surface water near the airfield, which could potentially reduce Bird/Wildlife Aircraft Strike Hazard (BASH) incidents and improve aircraft safety.

  Alternative A4-1 would disturb approximately 16,500 ft^2 and result in no net change in the amount of impervious surface. The open channel/box culvert conversion portion of the project area is within the 100-year floodplain as designated by the Scott AFB 2009 Floodplain Analysis but not by FEMA (Scott AFB 2009, FEMA 2003), and the entire South Ditch is a waters of the United States (Scott AFB 2010a). Therefore, Alternative A4-1 would constitute action in a floodplain and new construction in a wetland. Based on the inherent nature of this alternative, there are no practicable action alternatives for avoiding the floodplain and wetlands. This alternative would coincide with ERP Site UNK-510.

- **Alternative A4-2:** Alternative A4-2 would be identical to Alternative A4-1 except the approximately 200-foot-long section of open channel immediately downstream of the collapsed culvert would be graded and lined with riprap rather than converted to a box culvert. Grading and lining would accomplish the same project objectives as converting to a box culvert (i.e., reduce ponding, prevent erosion, and protect the two exposed sanitary sewer pipes in South Ditch); however, it would not reduce the amount of surface water near the airfield. As such, it would not reduce BASH incidents and would not improve aircraft safety and, therefore, is not the Preferred Alternative.

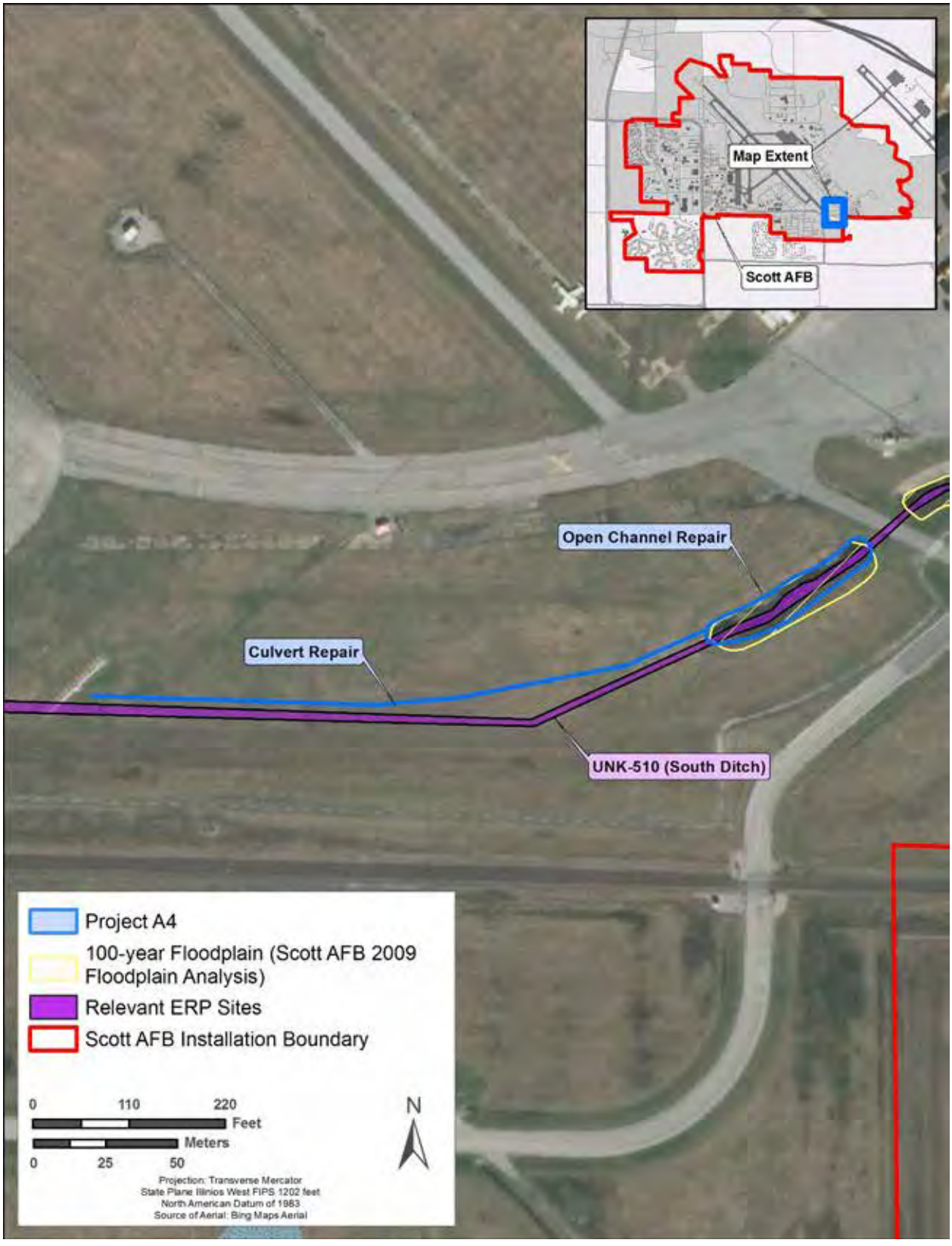

Figure 2-4. Location of the Culvert and Open Channel Repairs for Project A4

Like Alternative A4-1, Alternative A4-2 would disturb approximately 16,500 ft^2 and result in no net change in the amount of impervious surface. The open channel portion of the project area is within the 100-year floodplain as designated by the Scott AFB 2009 Floodplain Analysis but not by FEMA (Scott AFB 2009, FEMA 2003), and the entire South Ditch is a waters of the United States (Scott AFB 2010a). Therefore, Alternative A4-2 would constitute action in a floodplain and new construction in a wetland. Based on the inherent nature of this alternative, there are no practicable action alternatives for avoiding the floodplain and wetlands. This alternative would coincide with ERP Site UNK-510.

- **No Action Alternative for Project A4.** The No Action Alternative for Project A4 would not replace the collapsed section of culvert, and the flow of water in South Ditch would continue to be impeded. The sinkhole above the culvert would remain and would likely become larger with time. Erosion would continue to occur in the open channel immediately downstream of the collapsed culvert, and damage to the two exposed sanitary sewer pipes would continue to be possible.

2.3.1.5 Project A5: Airfield Repairs

This project is to replace pavement and upgrade stormwater drainage infrastructure for portions of Taxiways G and R and Ramp F and rebuild 14 aircraft parking spots on the South Ramp. Pavement on the affected portions of Taxiways G and R and Ramp F has deteriorated to the point where it is in no better than satisfactory condition and requires Scott AFB's Civil Engineering Squadron to perform continual repairs when failures are identified. Deteriorated pavement represents a safety hazard to aircraft and personnel and, if left unrepaired, could jeopardize USAF's ability to continue to use these portions of the airfield. The stormwater drainage infrastructure for these areas also has deteriorated and is undersized for the volume it must handle. Uncontrolled stormwater on these areas could require their temporary closure. By addressing the pavement condition and stormwater management issues simultaneously, USAF would save money and minimize closure time as compared to the work being done separately. Additionally, by reconstructing the entire affected areas at once time, USAF would no longer need to perform small, continual repairs to the pavement and would achieve the longest possible lifecycle. The 14 aircraft parking spots on the South Ramp would be rebuilt to address deteriorated pavement and provide aircraft grounding capability. This project is anticipated to be implemented in 2021.

Project-Specific Selection Standards: There are no project-specific selection standards for Project A5.

Alternatives Considered but Eliminated from Analysis in this EA: No practicable action alternatives to Project A5 were identified because of the inherent nature of this project.

Alternatives Analyzed in this EA for Project A5:

- **Alternative A5 (Preferred Alternative):** USAF would perform full depth replacement of approximately 435,000 ft^2 of degraded concrete on Taxiways G and R and the southern portion of Ramp F and 6-inch mill-and-overlay of approximately 57,000 ft^2 of degraded asphalt on the northern portion of Ramp F. The stormwater drainage infrastructure for

these areas would be upgraded by replacing damaged junction boxes, culverts, and pipes; installing additional inlets; and grading the adjacent surfaces so that water flows into the inlets. The 14 aircraft parking spots on Scott AFB's South Ramp would be rebuilt in kind with concrete, and aircraft grounding rings would be installed for each parking spot so that aircraft can be appropriately anchored for inclement weather. Each parking spot measures approximately 1,000 ft^2. In total, Alternative A5 would disturb approximately 510,000 ft^2 and result in no net change in the amount of impervious surface. This alternative does not entail action in a floodplain or new construction in a wetland; however, the Scott AFB-designated 100-year floodplain is to the east of Ramp F (FEMA 2003, Scott AFB 2009, Scott AFB 2010a). The affected portions of Taxiways G and R, Ramp F, and the South Ramp are on the southwestern portion of the Scott AFB airfield and are shown on **Figure 2-5** along with nearby environmental constraints.

- **No Action Alternative for Project A5.** The No Action Alternative for Project A5 would not replace the pavement and upgrade the stormwater drainage infrastructure on Taxiways G and R and Ramp F, and the 14 aircraft parking spots on the South Ramp would not be rebuilt. Pavement failures on the affected portions of Taxiways G and R and Ramp F would continue to be repaired by Scott AFB's Civil Engineering Squadron when failures are identified and stormwater management issues would not be addressed. Deteriorated pavement at the 14 aircraft parking spots would remain, and these spots would continue to lack aircraft grounding capability. Pavement failures, stormwater management issues, and lack of aircraft grounding capability represent safety hazards to aircraft and personnel and would continue to affect airfield operations.

2.3.2 CORE DISTRICT

2.3.2.1 Project C1: Construct JOMPC

This project is to construct and operate a JOMPC. The proposed JOMPC building would be two stories tall, measuring approximately 175,000 ft^2 with a footprint of 86,000 ft^2. The missions of USTRANSCOM's TCJ5/4 Force Flow Planning function; the 618th Air Operations Center; HQ AMC Directorate of Operations, Strategic Deterrence, and Nuclear Integration (HQ AMC/A3/10); and the Air Intelligence Squadron (AIS) within HQ AMC Directorate of Intelligence (HQ AMC/A2) would relocate from various buildings on Scott AFB to the JOMPC. The buildings currently housing these missions (i.e., Buildings 4, 1600, 3189, 1948, and T-1990) would be retained and made available for future needs. All necessary infrastructure, including approximately 775 parking spaces, exterior lighting, stormwater drainage, and an emergency electrical generator, would be included with the JOMPC. This project is anticipated to be implemented in 2020.

The Scott AFB Higher Headquarters (HHQ) Area Development Plan (ADP) identified two location alternatives for the JOMPC (Scott AFB 2018a). USAF considered both location alternatives; however, one alternative was eliminated from analysis in this EA for failing to meet three selection standards.

Project-Specific Selection Standards: There are no project-specific selection standards for Project C1.

Alternatives Considered but Eliminated from Analysis in this EA: USAF considered constructing the JOMPC southwest of the intersection of West Birchard Street and Ward Drive;

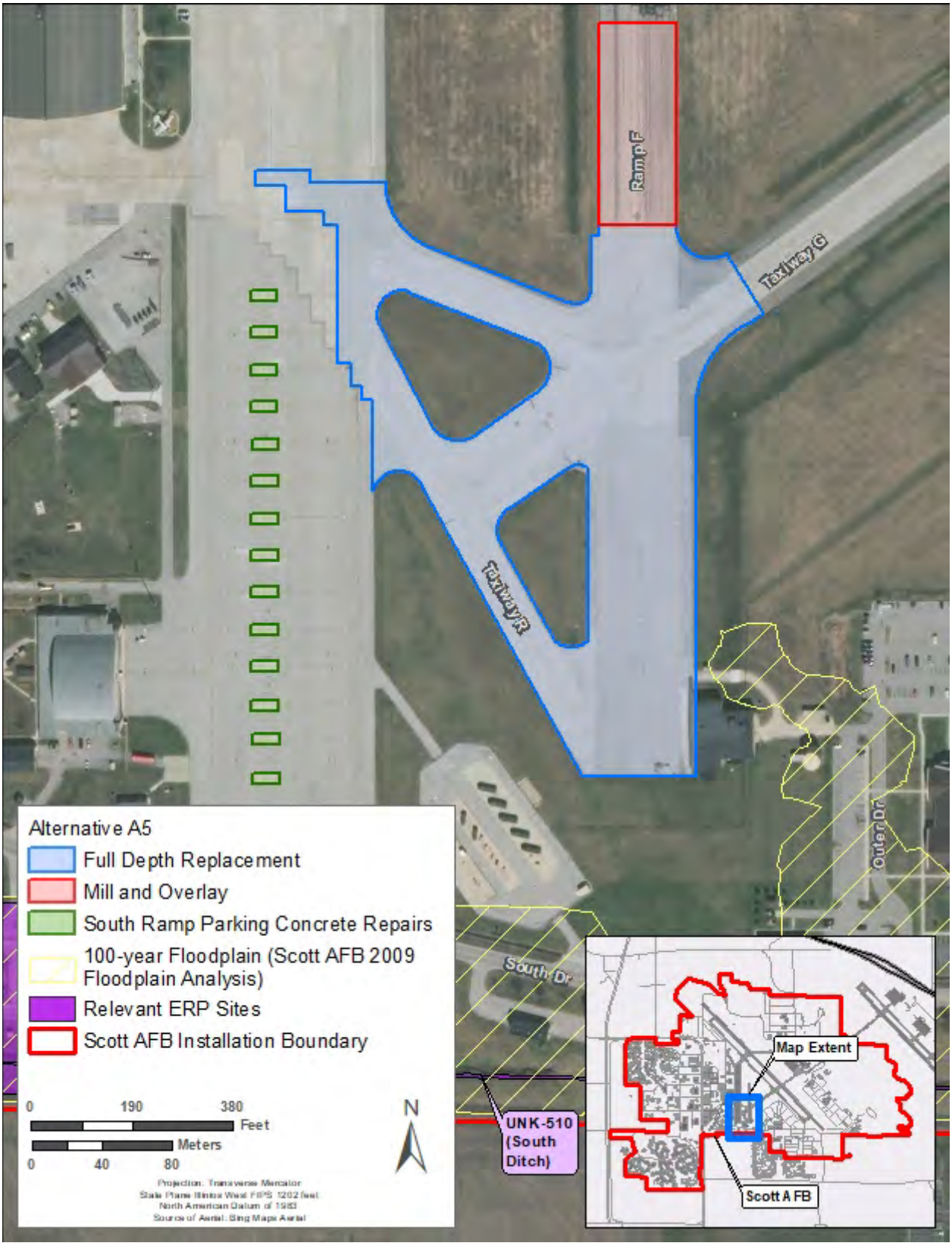

Figure 2-5. Location of the Airfield Repairs under Alternative A5

however, this siting was determined to have many disadvantages as compared to the Preferred Alternative. Construction of the JOMPC at this siting would require demolition of several Army and Air Force Exchange Services facilities (i.e., the installation's gasoline station and shoppette [Building 1640] and a bank [Building 1644]) to clear space for the JOMPC building. An alternative siting for the Army and Air Force Exchange Services facilities has been identified at the site of Building 1961, but Building 1961 cannot be demolished until its current occupants are transferred to Buildings P-40 and 1900, which cannot happen until space is made available following the construction of the JOMPC. It would take approximately 5 to 7 years to complete a series of personnel moves and associated building construction and renovation to allow Building 1961 to be vacated; therefore, Scott AFB would be without the Army and Air Force Exchange Services facilities during this period. This siting for the JOMPC also would require the demolition of existing parking spaces, and it would not be large enough to provide the 775 parking spaces needed for the JOMPC. Therefore, Rockwell Hall (Building 1930) would need to be demolished to create sufficient parking spaces for the JOMPC. For these reasons, the alternative to site the JOMPC southwest of the intersection of West Birchard Street and Ward Drive was determined not to meet Selection Standards 1, 2, and 3 and was eliminated from analysis in this EA.

Alternatives Analyzed in this EA for Project C1:

- **Alternative C1 (Preferred Alternative):** This alternative would construct the JOMPC on the former site of the Visiting Quarters Complex. By 2020, when construction begins on the JOMPC, the currently vacant buildings of the Visiting Quarters Complex (i.e., Buildings 1509, 1510, 1512, and 1513) will have been demolished, and the proposed site for the JOMPC will be unoccupied. The demolitions of the buildings of the Visiting Quarters Complex were previously analyzed and approved in Scott AFB's 2012 EA of Installation Development (Scott AFB 2012) and, therefore, are not part of Alternative C1. Approximately 293,000 ft^2 of new parking would be constructed west of the JOMPC building and north of Bucher Street. Alternative C1 would disturb approximately 380,000 ft^2 and increase impervious surface by the same amount. A portion of the proposed parking coincides with ERP Site SS-025b. **Figure 2-6** shows the proposed location for the JOMPC under Alternative C1 and nearby environmental constraints.

- **No Action Alternative for Project C1.** The No Action Alternative for Project C1 would not construct a JOMPC. No construction would occur, and the former site of the Visiting Quarters Complex would remain unoccupied after Buildings 1509, 1510, 1512, and 1513 are demolished in 2019 under a separate action. The missions of USTRANSCOM's TCJ5/4 Force Flow Planning function; the 618th Air Operations Center; HQ AMC Directorate of Operations, Strategic Deterrence, and Nuclear Integration (HQ AMC/A3/10); and the Air Intelligence Squadron (AIS) within HQ AMC Directorate of Intelligence (HQ AMC/A2) would continue in Buildings 4, 1600, 3189, 1948, and T-1990.

  Many of these buildings have structural and design deficiencies that are not compliant with mission requirements and impair the efficiency of operations, and Building T-1990 was intended for temporary use. Additionally, the synergy of having these missions consolidated under one roof would not be gained.

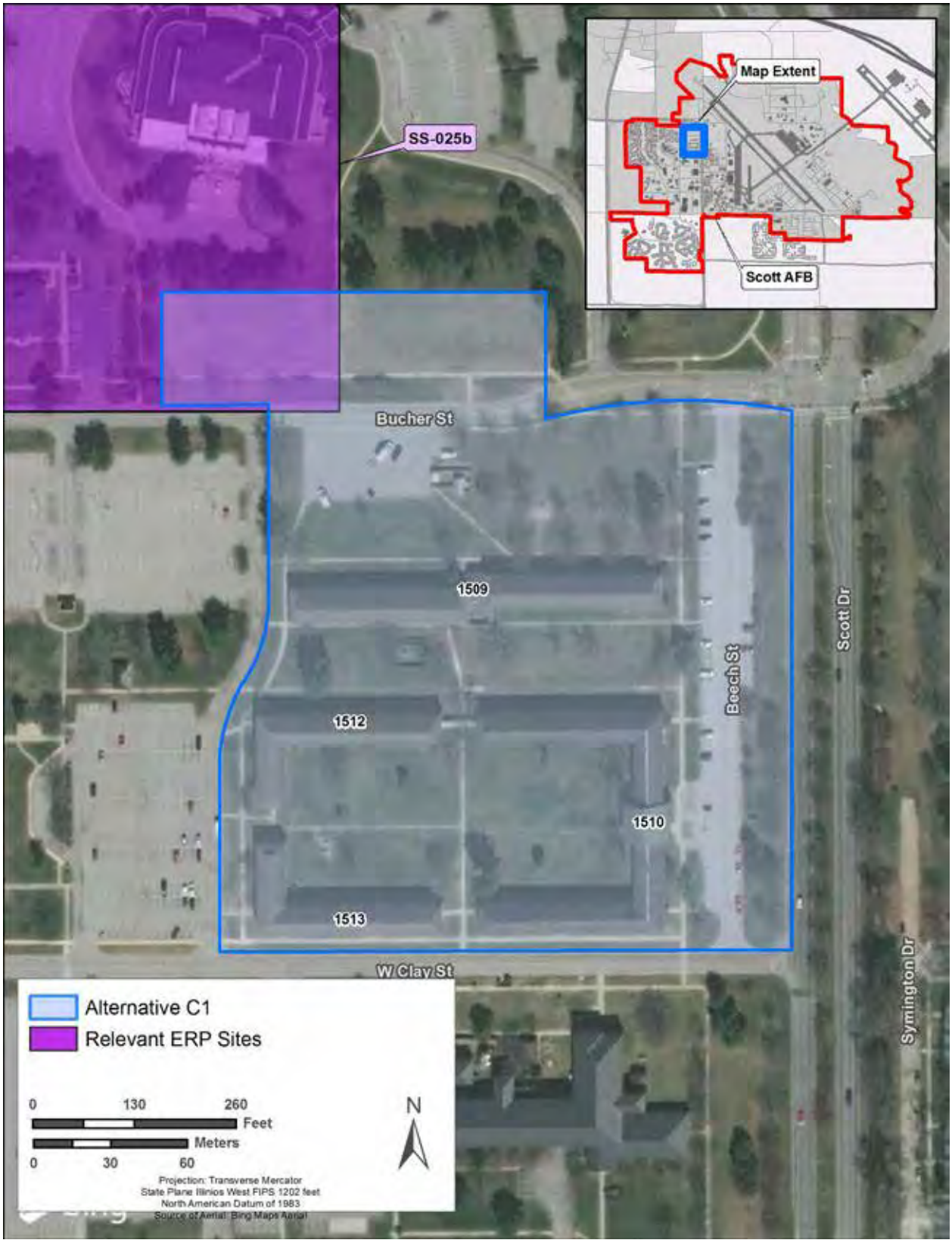

Figure 2-6. Location of the JOMPC under Alternative C1

2.3.2.2 Project C2: Construct Dormitory

This project is to construct and operate an approximately 48-bed dormitory for unaccompanied personnel. The proposed dormitory would be two or three stories tall, measuring approximately 22,000 ft^2 with a footprint of approximately 10,000 ft^2. It would alleviate the 48-bed deficit for housing E1 to E4 airmen or equivalent rank on Scott AFB. Following the implementation of this project, Scott AFB would have 439 beds for unaccompanied personnel and would meet housing requirements. This project is anticipated to be implemented in 2021.

Project-Specific Selection Standards: Alternatives to Project C2 must be consistent with the objectives of the Scott AFB Dormitory Master Plan (DMP), dated September 2018 (Scott AFB 2018b). Alternatives to Project C2 cannot conflict with future development plans for the installation.

Alternatives Considered but Eliminated from Analysis in this EA: USAF considered constructing the proposed dormitory at the former Visiting Quarter Complex. However, the former Visiting Quarter Complex is not available for the proposed dormitory because it is the preferred site for the proposed JOMPC (see Alternative C1). USAF also considered constructing the proposed dormitory immediately north of the enlisted dormitory campus on the north side of Enlisted Drive. However, a stormwater retention basin is scheduled to be constructed on this site in 2019 under a separate action and would leave no space available for the proposed dormitory. Additionally, constructing the proposed dormitory anywhere outside of the enlisted dormitory campus would not be consistent with the objectives of the DMP. For these reasons, constructing the proposed dormitory at these locations was determined not to meet the project-specific selection standards and was eliminated from analysis in this EA.

Alternatives Analyzed in this EA for Project C2:

- **Alternative C2 (Preferred Alternative):** This alternative would construct the proposed dormitory within Scott AFB's enlisted dormitory campus west of Building 1830. This siting is consistent with the objectives of the Scott AFB DMP and would provide mission efficiency from its proximity to the other dormitories on Scott AFB. No other locations within the enlisted dormitory campus are available for the proposed dormitory. The existing parking lot west of Building 1830 would be demolished and relocated northwest toward Enlisted Drive. The relocated parking lot would be smaller than the existing parking lot; therefore, the parking lot for Building 1812 (i.e., the current Visiting Officer Quarters) would be expanded to the north to offset the loss in parking from the proposed dormitory. Approximately 75,000 ft^2 would be disturbed from the construction of the proposed dormitory and parking lot relocation. Another approximately 20,000 ft^2 would be disturbed from the expansion of the Building 1812 parking lot. The amount of impervious surface would increase by roughly half of the total disturbance area, which would be 47,500 ft^2. **Figure 2-7** shows the proposed location for the dormitory and parking lot relocation and expansion under Alternative C2.

Figure 2-7. Location for the Dormitory and Parking Lot Expansions under Alternative C2

- **No Action Alternative for Project C2.** The No Action Alternative for Project C2 would not construct the dormitory. No construction would occur. Scott AFB would continue to experience a 48-bed deficit for housing E1 to E4 unaccompanied airmen or equivalent rank and would continue to house personnel off-installation when there are not sufficient dormitory rooms. Mission efficiency would continue to be lost when these personnel cannot reside on the installation.

2.3.2.3 Project C3: Demolish Unnumbered Building at Facility 9020

This project is to demolish the unnumbered building at Facility 9020, which is an electric substation (see **Figure 2-8**). The building proposed for demolition is vacant and formerly housed electrical infrastructure at the substation. The building measures approximately 1,200 ft^2 and was constructed in 1941. It has fallen into poor condition and is no longer used to support the substation. This project is anticipated to be implemented in 2019.

Project-Specific Selection Standards: There are no project-specific selection standards for Project C3.

Alternatives Considered but Eliminated from Analysis in this EA: USAF considered renovating and repurposing the unnumbered building; however, its proximity to the substation makes repurposing difficult. The building is partially within the substation's perimeter fence, and personnel using the building would be exposed to constant electrical safety hazards. Therefore, no other uses for this building are practicable, and no potential missions have been identified for the building. Therefore, the repair and repurpose alternative fails to meet Selection Standard 1 and is eliminated from analysis in this EA.

Alternatives Analyzed in this EA for Project C3:

- **Alternative C3 (Preferred Alternative):** This alternative would demolish the unnumbered building. The electric substation would not be altered and would remain functional during and after demolition. Following building demolition, the site would be graded and vegetated, as appropriate. The substation's perimeter fence would be repositioned, as needed. Demolition would disturb approximately 1,200 ft^2 and would remove the same amount of impervious surface. The unnumbered building was evaluated and determined to be not eligible for listing on the National Register of Historic Places (NRHP) (Scott AFB 1992).
- **No Action Alternative for Project C3.** The No Action Alternative for Project C3 would leave the unnumbered building intact. The building is in poor condition, so USAF resources would continue to be spent on maintenance and upkeep of this obsolete building.

2.3.2.4 Project C4: Demolish Building 533

This project is to demolish Building 533, Airman's Attic (see **Figure 2-9**). Building 533 is an approximately 9,700 ft^2 building at the Civil Engineering Complex temporarily being used as a thrift shop. The building was constructed in 1942 and has fallen into poor condition. It recently was struck by a vehicle and sustained structural damage. This project is anticipated to be implemented in 2019.

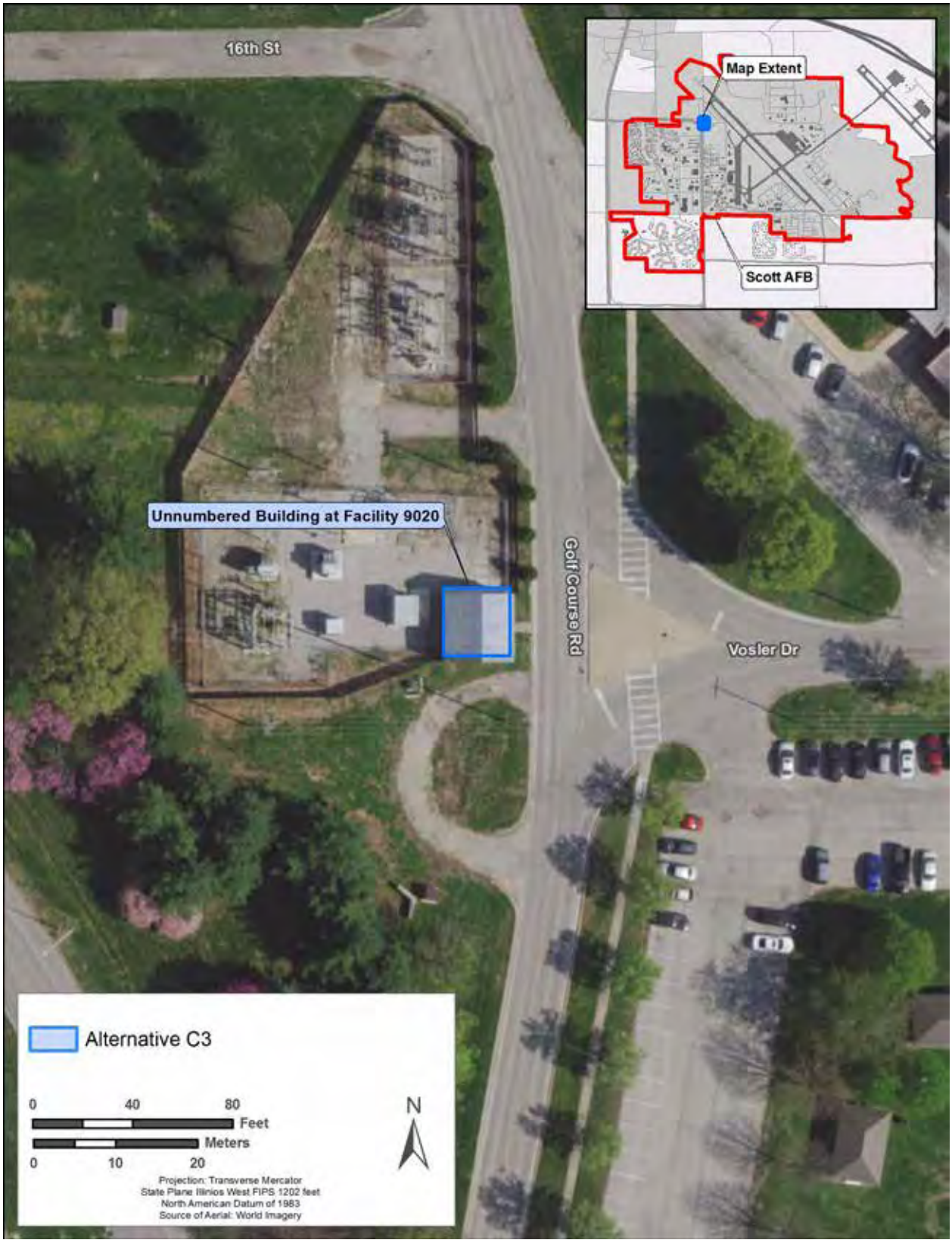

Figure 2-8. Location of the Unnumbered Building at Facility 9020 for Project C3

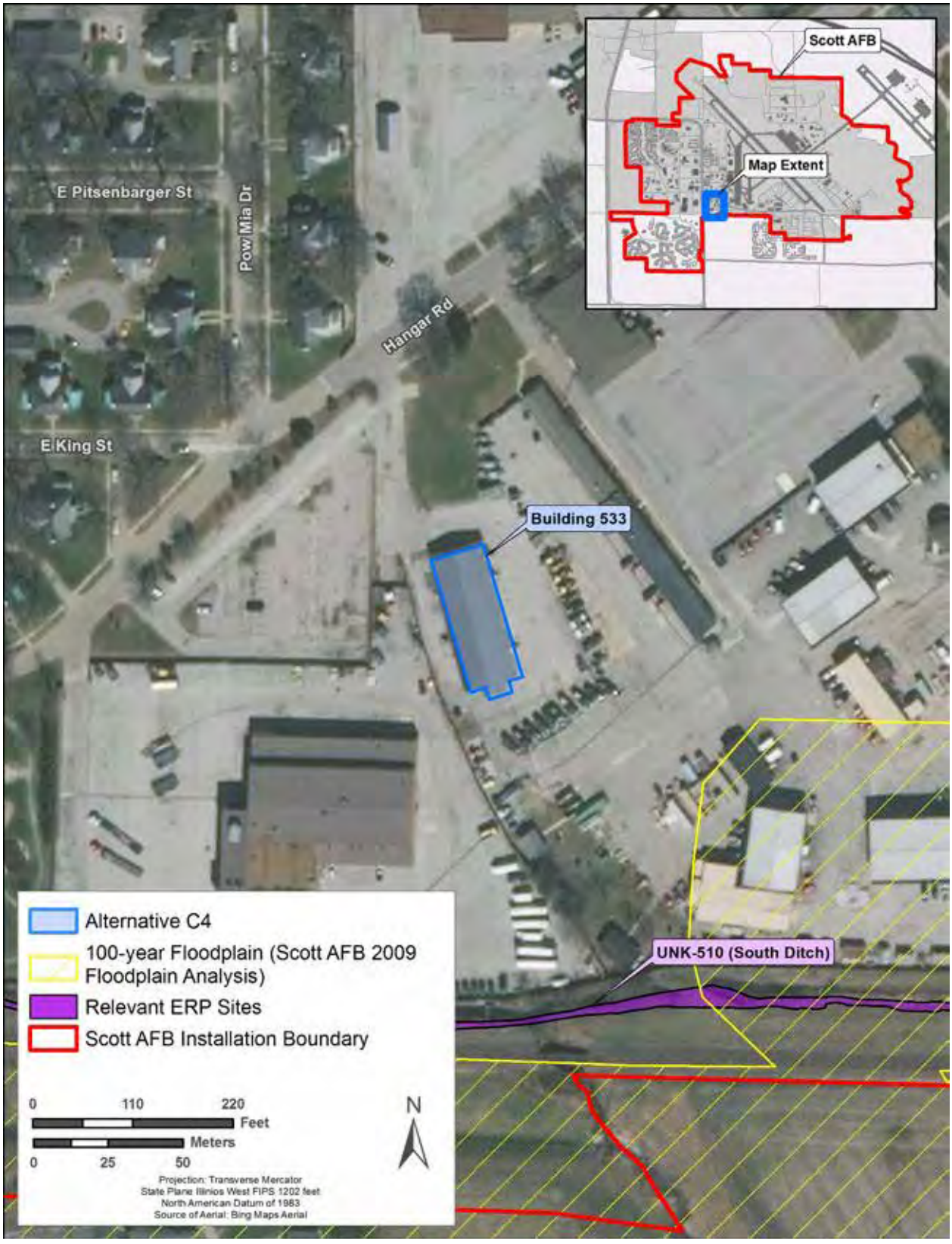

Figure 2-9. Location of Building 533 for Project C4

Project-Specific Selection Standards: There are no project-specific selection standards for Project C4.

Alternatives Considered but Eliminated from Analysis in this EA: USAF considered renovating and repurposing the building; however, the level of renovation needed to return the building to good condition is considerable and no potential missions have been identified for the building. The building formerly was used for civil engineering purposes and is no longer needed for such functions. Its location within the Civil Engineering Complex precludes most other missions from relocating to this building. For these reasons, the building repair and repurpose alternative fails to meet Selection Standard 1 and is eliminated from analysis in this EA.

Alternatives Analyzed in this EA for Project C4:

- **Alternative C4 (Preferred Alternative):** This alternative would demolish Building 533. The thrift shop would be relocated to vacant commercial space elsewhere on the installation. Following demolition, the site would be graded and vegetated, as appropriate. Demolition would disturb approximately 9,700 ft^2 and would remove the same amount of impervious surface. Building 533 was evaluated and determined to be not eligible for listing on the NRHP (Scott AFB 2011a).
- **No Action Alternative for Project C4.** The No Action Alternative for Project C4 would leave Building 533 intact. The building is in poor condition, so USAF resources would continue to be spent on maintenance and upkeep of this obsolete building. The thrift shop would continue to operate from Building 533 although this building was not meant to be its permanent home because it is within the Civil Engineering Complex rather than close to similar commercial uses.

2.3.3 MULTI-DISTRICT

2.3.3.1 Project M1: Construct Infiltration Basins

This project is to improve stormwater management on Scott AFB by constructing surface and subsurface stormwater infiltration basins at various locations. The proposed infiltration basins would be constructed where stormwater management issues have been identified. These locations include the parking lots for Buildings 1560 and 1600, Golf Course Road near Scott Field Heritage Air Park, and Building P-40. Construction of infiltration basins for each of these four locations are analyzed as Preferred Alternatives for Project M1. None of these locations are within the FEMA- or Scott AFB-designated 100-year floodplain and Scott AFB-delineated wetlands (FEMA 2003, Scott AFB 2009, Scott AFB 2010a).

Project-Specific Selection Standards: Alternatives to Project M1 must be consistent with the goals and objectives of the *Lower Silver Creek Watershed Plan* (Heartlands Conservancy 2018). The most applicable goals/objectives of this plan are to lessen flood damage and improve water quality by reducing the amount of sediment entering the lower Silver Creek watershed.

Alternatives Considered but Eliminated from Analysis in this EA: USAF considered expanding the stormwater drainage infrastructure on Scott AFB to address stormwater management issues. Expansion of the stormwater drainage infrastructure would include installing larger diameter pipes and culverts and constructing additional channels to increase the

volume of and rate at which stormwater drains from the installation. These expansion actions would not reduce the volume of stormwater runoff on Scott AFB. Additionally, they would increase the rate at which stormwater enters downstream water bodies, such as South Ditch, Ash Creek, and Silver Creek, after precipitation events, which would increase the potential for flooding and degradation of water quality in the lower Silver Creek watershed. As such, the alternative to expand the existing stormwater drainage infrastructure on Scott AFB fails to meet the project-specific selection standard because it is not consistent with the goals and objectives of the *Lower Silver Creek Watershed Plan* and has been eliminated from analysis in this EA.

Alternatives Analyzed in this EA for Project M1:

- **Alternative M1-1:** This alternative would construct up to 12 surface and subsurface infiltration basins south and west of Building 1560 to address stormwater ponding on the parking lots of the area. The infiltration basins would be designed to hold the approximate volume of stormwater from the 10-year event, which is 4.68 acre-feet at this drainage area. Construction would include excavating, amending the native soil, and modifying vegetation to promote infiltration. Grading and repaving would be conducted as necessary. Alternative M1-1 would disturb approximately 58,000 ft^2 and would result in no net change in impervious surface. This alternative is anticipated to be implemented in 2020 and would occur within the Core planning district of Scott AFB. Alternative M1-1 would coincide within the ERP Site SS-025b. **Figure 2-10** shows the proposed locations for the infiltration basins of Alternative M1-1 and ERP Site SS-025b.
- **Alternative M1-2:** This alternative would construct up to five surface and subsurface infiltration basins south of Building 1600 and beneath its parking lot to address stormwater ponding in the building's parking lot. The infiltration basins would be designed to hold the approximate volume of stormwater from the 10-year event, which is 2.84 acre-feet at this drainage area. Construction would include excavating, amending the native soil, and modifying vegetation to promote infiltration. Grading and repaving would be conducted as necessary. Alternative M1-2 would disturb approximately 65,000 ft^2 and would result in no net change in impervious surface. This alternative is anticipated to be implemented in 2020 and would occur within the Core planning district of Scott AFB. **Figure 2-11** shows the proposed locations for the infiltration basins of Alternative M1-2.
- **Alternative M1-3:** This alternative would construct at least one surface or subsurface infiltration basin between Scott Field Heritage Air Park and Golf Course Road to reduce stormwater ponding on Golf Course Road. The infiltration basin would be designed to hold the approximate volume of stormwater from the 10-year event, which is 4.50 acre-feet at this drainage area. Construction would include excavating, amending the native soil, and modifying vegetation to promote infiltration. Grading and repaving would be conducted as necessary. Alternative M1-3 would disturb approximately 140,000 ft^2 and would result in no net change in impervious surface. This alternative is anticipated to be implemented in 2021 and would occur within the Core and Airfield planning districts of Scott AFB. Alternative M1-3 could coincide within the ERP Site ST-010 depending on final design. **Figure 2-12** shows the proposed location for the infiltration basin of Alternative M1-3 and ERP Site ST-010.

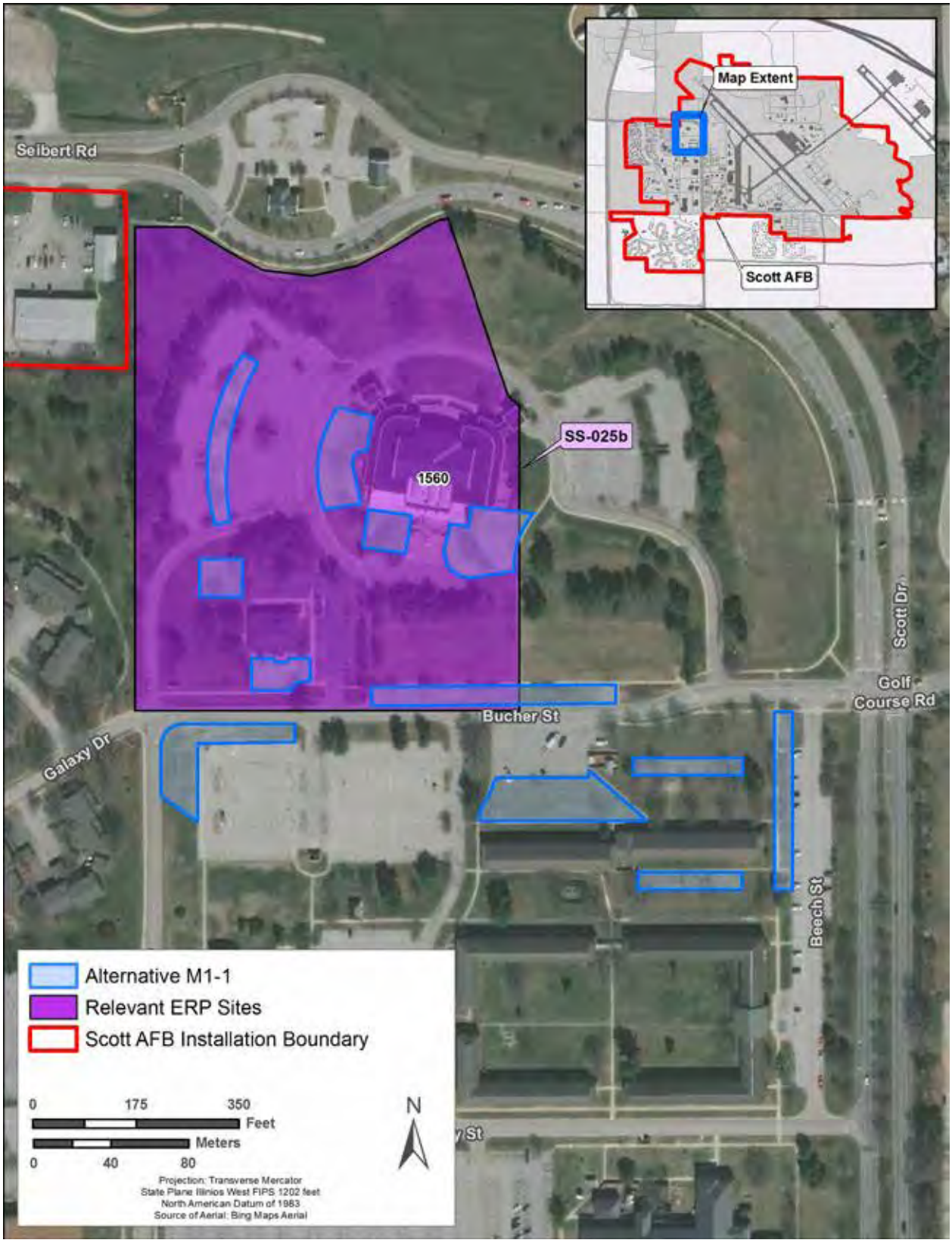

Figure 2-10. Locations for the Infiltration Basins of Alternative M1-1

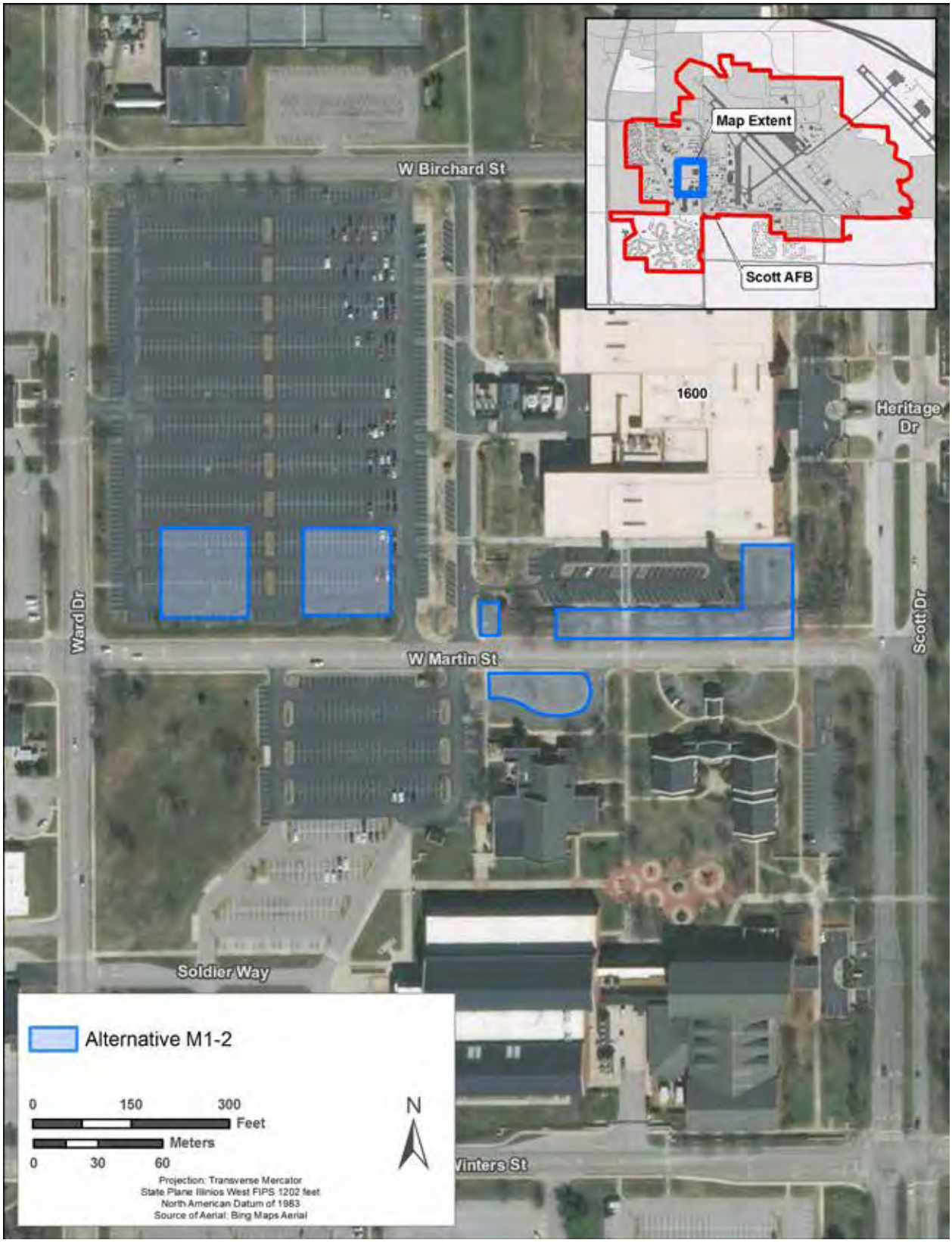

Figure 2-11. Locations for the Infiltration Basins of Alternative M1-2

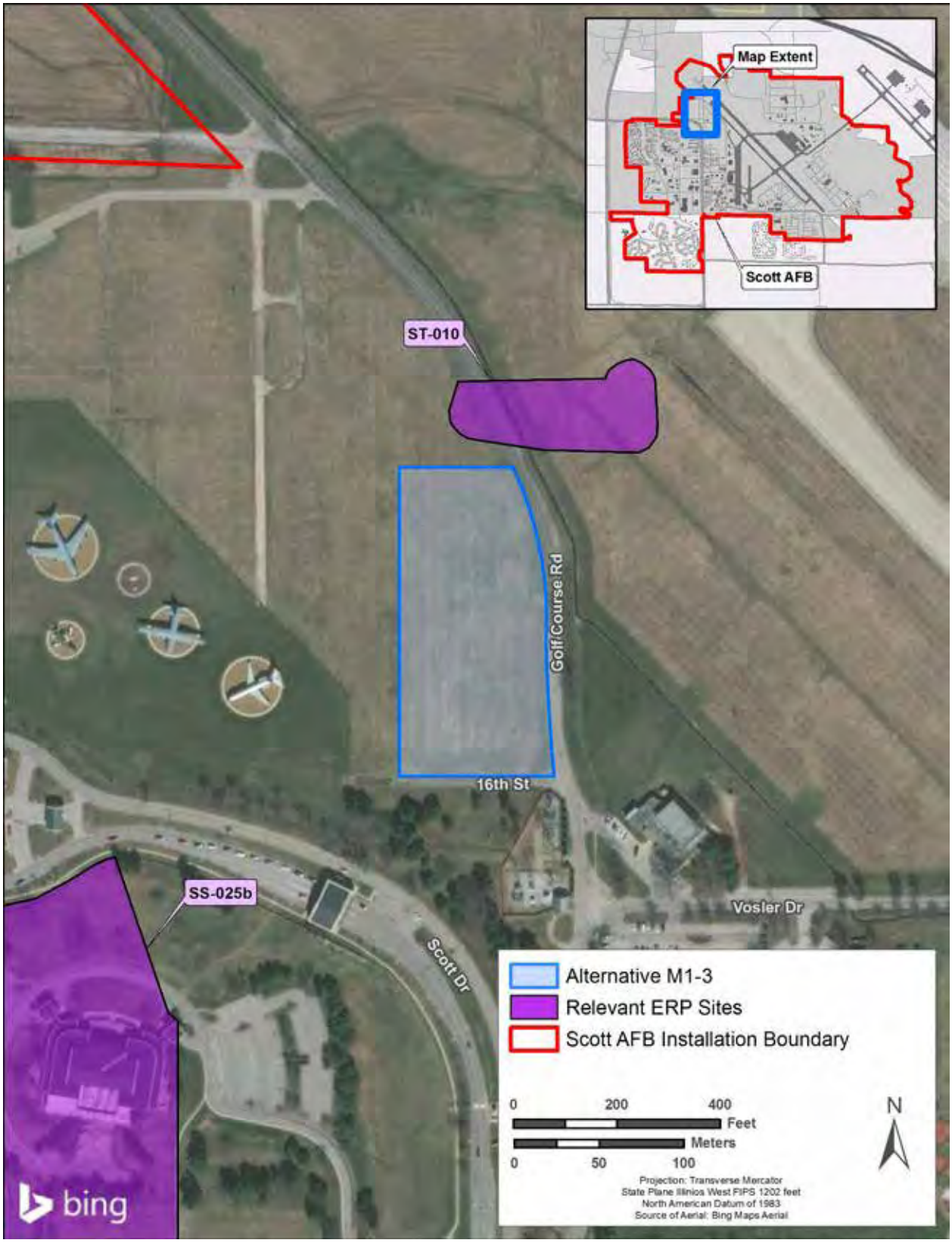

Figure 2-12. Location for the Infiltration Basin of Alternative M1-3

- **Alternative M1-4:** This alternative would construct up to four surface and subsurface infiltration basins around the perimeter of Building P-40 to reduce flooding in the lower levels of the building. The infiltration basins would be designed to hold the approximate volume of stormwater from the 10-year event, which is 1.15 acre-feet at this drainage area. Construction would include excavating, amending the native soil, and modifying vegetation to promote infiltration. Grading and repaving would be conducted as necessary. Alternative M1-4 would disturb approximately 29,700 ft^2 and would result in no net change in impervious surface. This alternative is anticipated to be implemented in 2021 and would occur within the Core planning district of Scott AFB. Alternative M1-4 is within the Scott Field Historic District. **Figure 2-13** shows the proposed locations for the infiltration basins of Alternative M1-4.
- **No Action Alternative for Project M1.** The No Action Alternative for Project M1 would not construct any infiltration basins on Scott AFB. Stormwater management would not improve, and stormwater management issues would continue to occur. Stormwater would continue to pond on the parking lots of Buildings 1560 and 1600 and on Golf Course Road near Scott Field Heritage Air Park. The lower levels of Building P-40 would continue to flood. These stormwater management issues would continue to potentially damage vehicles on the affected parking lots, stop traffic on Golf Course Road potentially requiring vehicles to cross the airfield during an evacuation, and negatively impact missions conducted from Building P-40.

2.3.3.2 Project M2: Repair South Ditch Channel

This project is to implement multiple repairs to the channel of South Ditch. South Ditch is the primary drainage feature for Scott AFB and receives stormwater discharge from the stormwater sewers serving the Scott Drive area, Hangar Road area, and airfield. The western portion of South Ditch has a concrete-lined channel bed, while the eastern portion has a natural channel bed. Water flows through several culverts where South Ditch crosses beneath current and former roads, a railroad spur, and other surface infrastructure. An approximately 200-foot-long, unlined interconnection channel between Ash Creek and South Ditch is southwest of Building 6354. All repairs to the South Ditch channel would be conducted along an approximately 1.0-mile length beginning at the first stormwater sewer outfall, located at the Belleville Gate, and continuing to the Chapman Circle culvert. This project is anticipated to be implemented in 2021 and would occur within the Airfield and Core planning districts of Scott AFB.

Project-Specific Selection Standards: There are no project-specific selection standards for Project M2.

Alternatives Considered but Eliminated from Analysis in this EA: No practicable action alternatives to Project M2 were identified because of the inherent nature of this project.

Alternatives Analyzed in this EA for Project M2:

- **Alternative M2 (Preferred Alternative):** Silt, sediment, debris, vegetation, and other impediments within the channel of South Ditch would be removed. The channel walls would be stabilized with appropriate armoring techniques, vegetated erosion-control blankets, and turf reinforcement mats, where appropriate, and the slope of the channel

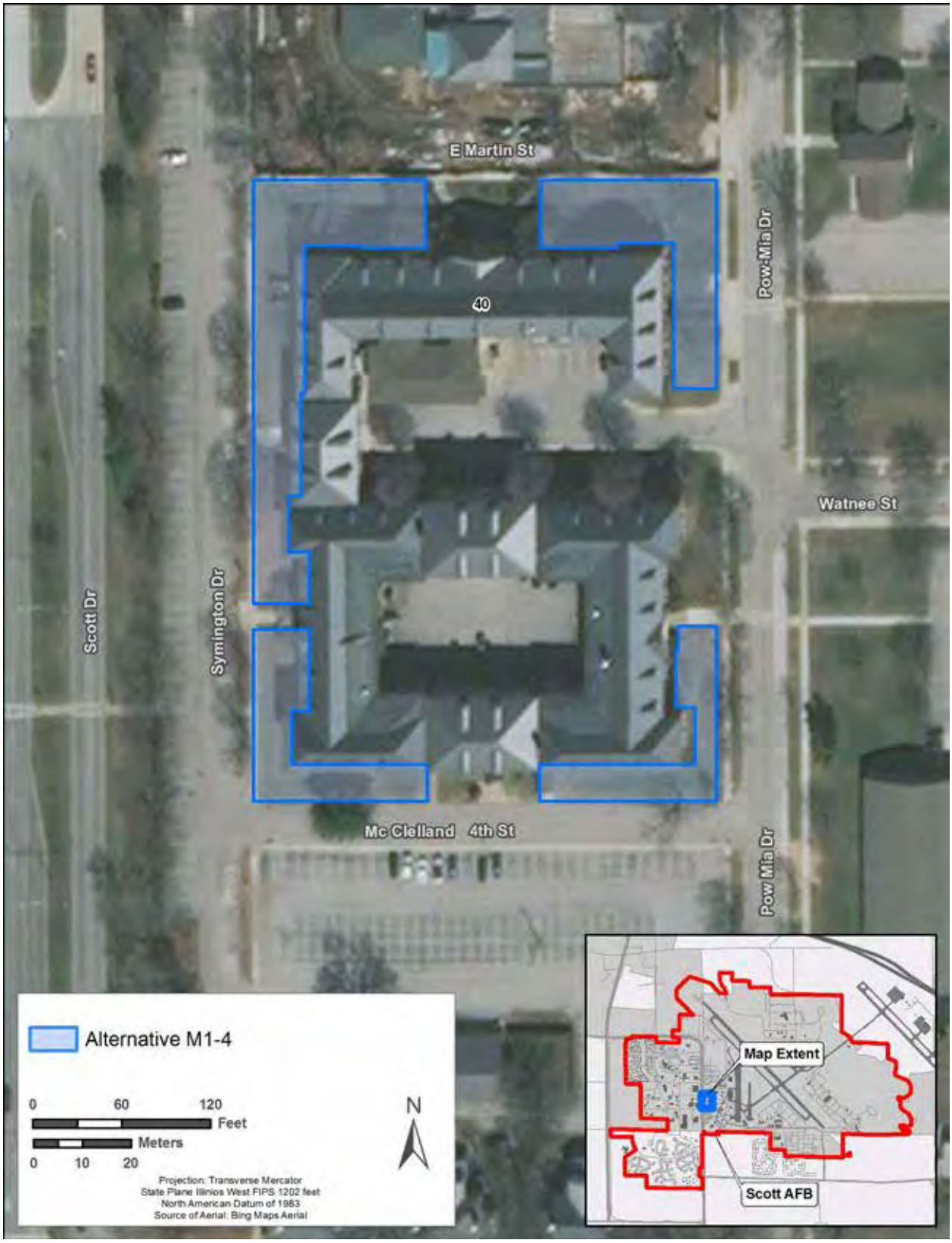

Figure 2-13. Locations for the Infiltration Basins of Alternative M1-4

walls would be graded to a maximum of 2:1 angle. The interconnection channel between South Ditch and Ash Creek would be filled, the associated spill gate removed, and new channel walls would be constructed for both waterways to prevent the exchange of water. Filling the interconnection channel would require coordination with the Norfolk Southern Railway because they own the railroad trestle that crosses the interconnection. The approximately 60-foot-long concrete culvert for a former railroad spur, located southeast of Building 6354, would be removed and replaced with an open, concrete-lined channel bed to match upstream and downstream characteristics, and the approximately 340-foot-long pipe culvert, located southeast of Building 570, would be removed and replaced with an open, natural bed channel. Armoring and velocity dissipation materials would be installed where the channel bed transitions from concrete-lined to natural materials. Erosional damage to the north bank of the channel from uncontrolled overland flow off the parking area east of Building 856 would be repaired, and the bank would be stabilized with riprap. Additional stormwater drainage infrastructure would be added from the parking area, under the jogging path, and into South Ditch. South Ditch channel is approximately 60 feet wide, so the project would disturb a maximum of approximately 325,000 ft^2. There would be no change in the amount of impervious surface. **Figure 2-14** shows the portion of the South Ditch channel proposed for repairs along with nearby environmental constraints.

Nearly the entire project area is within the 100-year floodplain as designated by FEMA and the Scott AFB 2009 Floodplain Analysis (FEMA 2003, Scott AFB 2009), and South Ditch and Ash Creek are waters of the United States (Scott AFB 2010a). Therefore, Alternative M2 would constitute action in a floodplain and new construction in a wetland. Based on the inherent nature of this project, there are no practicable action alternatives for avoiding the floodplain and wetlands. This project would coincide with ERP Sites SS-005 and UNK-510.

- **No Action Alternative for Project M2.** The No Action Alternative for Project M2 would not repair the channel of South Ditch. Debris would remain within the channel, and the walls of the channel would remain unstable. The unnecessary culverts and the interconnection with Ash Creek would remain. The volume of water that South Ditch could transport would not increase. The potential for stormwater to overtop the banks of South Ditch and for upstream flooding to occur would not be addressed.

2.3.3.3 Project M3: Airfield Tree Violations

This programmatic project is to trim or remove approximately 230 trees on Scott AFB to avoid conflicts with the airfield. Most of the trees are at the golf course between Golf Course Road and Runway 14R/32L; however, any tree on Scott AFB identified as blocking the view of the runway from the airfield control tower could be cut. Such trees are located in all four planning districts as well as the portion of Scott AFB not in a district. Tree cutting would occur annually, as needed, between 1 October and 31 March to avoid the active season for bat species and the nesting season for migratory bird species.

Project-Specific Selection Standards: There are no project-specific selection standards for Project M3.

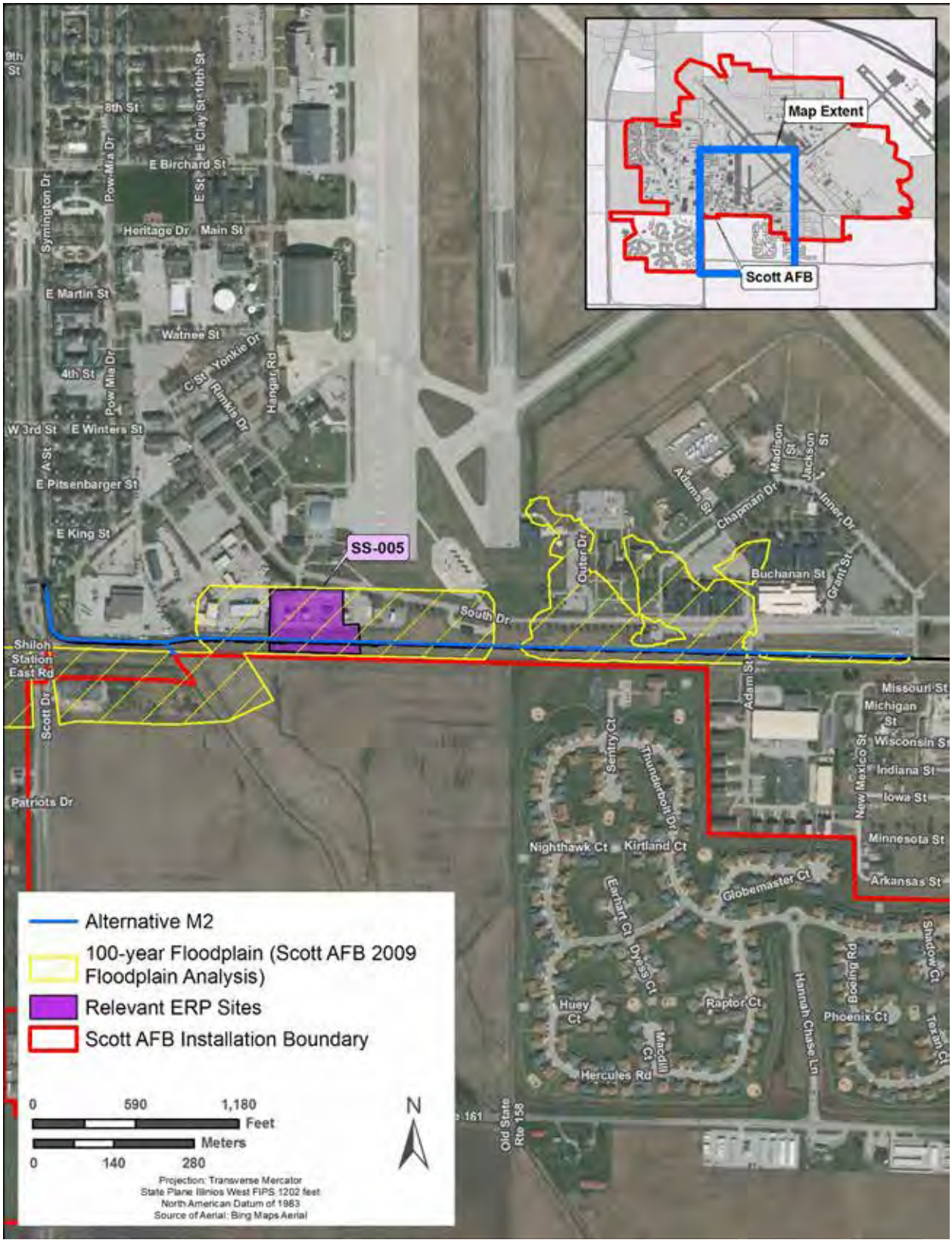

Figure 2-14. Portion of the South Ditch Proposed for Repairs under Alternative M2

Alternatives Considered but Eliminated from Analysis in this EA: No practicable action alternatives to Project M3 were identified because of the programmatic nature of this project.

Alternatives Analyzed in this EA for Project M3:

- **Alternative M3 (Preferred Alternative):** USAF would continuously monitor the height of trees to identify conflicts with the airfield. Trees within 1,000 feet of the runway centerline would be removed, and trees penetrating the 7:1 slope runway approach would either be removed or trimmed to a height of 10 feet below the imaginary slope. Trees that cannot be trimmed to a height at which they would remain healthy would be removed. In most cases, removal of the trees would entail grinding the stumps and perimeter roots to a depth between 6 and 12 inches below existing grade and removing excessive wood chips. Ground within a radius of 10 feet surrounding the tree stump would be graded to match the existing grade of the adjacent ground and would be reseeded with grasses or appropriate vegetation. Topsoil would be used to fill holes and voids. However, trees removed from the portions of Scott AFB with archaeological potential would be cut flush with the ground surface and the stump would not be ground below the surface to avoid a potential adverse effect on archaeological resources. Replacement trees would be planted in areas that do not interfere with the airfield and might include short-growing trees within the 7:1 slope runway approach. No trees would be planted at areas with archaeological potential. Tree trimming would result in no ground disturbance. Each tree removal or tree planting would disturb an area approximately 10 feet in radius around each tree stump and approximately 315 ft^2 in area. The total disturbance area of this project would not exceed 50,000 ft^2 each year. No change in impervious surface would occur. No trees would be removed or planted within the boundaries of the 100-year floodplain, wetlands, ERP sites, or known archaeological sites.
- **No Action Alternative for Project M3.** The No Action Alternative for Project M3 would leave the trees in place. No tree trimming or removal actions would be taken. These trees would continue to conflict with the airfield, and Scott AFB would not comply with UFC 3-260-01 and 14 CFR § 77. Aircraft using the runway would experience safety hazards from their presence.

2.3.4 NOT DISTRICTED

2.3.4.1 Project N1: Enhance FAM Camp

This project is to enhance the FAM Camp by constructing additional recreational vehicle campsites, providing additional utilities to existing campsites, and rebuilding the bathhouse (i.e., Building 6402). This project is anticipated to be implemented in 2020.

Project-Specific Selection Standards: There are no project-specific selection standards for Project N1.

Alternatives Considered but Eliminated from Analysis in this EA: USAF considered constructing a new FAM Camp elsewhere on Scott AFB; however, no suitable locations were identified because the FAM Camp requires large amounts of undeveloped space in close proximity to existing utilities. The existing FAM Camp is ideally sited to meet its mission

requirements when considering Scott AFB's planning constraints. Therefore, construction of a new FAM Camp fails to meet Selection Standard 1 and is eliminated from analysis in this EA.

Alternatives Analyzed in this EA for Project N1:

- **Alternative N1 (Preferred Alternative):** The FAM Camp would be enhanced by constructing approximately 20 additional recreational vehicle campsites; installing pavement at approximately 10 existing campsites; providing sewer connections to approximately 25 existing campsites; and rebuilding the bathhouse to provide additional space for laundry, bathing, and toilet facilities. The additional campsites would be sited northwest of the bathhouse and would provide paved pull-through recreational vehicle parking with electric, water, and sewer connections. Pavement would be installed at the existing campsites that surround the bathhouse. Trees within 15 feet of paved roads would be removed or trimmed as necessary. The existing bathhouse measures 1,344 ft^2 and is undersized. The proposed bathhouse would be constructed on the site of the existing bathhouse and would measure approximately 3,000 ft^2. Alternative N1 would involve approximately 28,000 ft^2 of new parking, 17,000 ft^2 of existing roadway demolition, and 5,900 ft^2 of new pavement at existing campsites. Impervious surface would increase by approximately 18,600 ft^2 and approximately 110,000 ft^2 could be disturbed. **Figure 2-15** shows the location of the FAM Camp along with nearby environmental constraints.

  Tree cutting would occur between 1 October and 31 March to avoid the active season for bat species and the nesting season for migratory bird species. While the footprint of disturbance does not coincide with the 100-year floodplain (as designated by FEMA or Scott AFB) and delineated wetlands, the 100-year floodplain and wetlands associated with Silver Creek are adjacent to the east (FEMA 2003, Scott AFB 2009, Scott AFB 2010a). This alternative does not entail action in a floodplain or new construction in a wetland.

- **No Action Alternative for Project N1.** The No Action Alternative for Project N1 would not enhance the FAM Camp. No new campsites would be constructed, and no new pavement or utilities would be provided to the existing campsites. The existing bathhouse would remain. The FAM Camp would continue not providing adequate service to campers by operating at near capacity, lacking sewer connections at each campsite, and requiring recreational vehicles to be moved to the dump station each time their holding tanks need to be emptied. Many campsites and the bathhouse would remain undersized.

2.3.4.2 Project N2: Remove Log Jams from Silver Creek

This programmatic project is to remove log jams from the portions of Silver Creek on and immediately adjacent to Scott AFB, as needed. Log jams result when vegetation debris in Silver Creek does not move downstream with the flow of water and accumulates in place. The accumulations slow the flow of Silver Creek, which causes sediment and debris within the creek to collect with the log jams. Log jams impair water quality by disrupting sediment transport and increase the severity of upstream flooding.

Figure 2-15. Location of the FAM Camp for Alternative N1

Project-Specific Selection Standards: There are no project-specific selection standards for Project N2.

Alternatives Considered but Eliminated from Analysis in this EA: No practicable action alternatives to Project N2 were identified because of the programmatic nature of this project.

Alternatives Analyzed in this EA for Project N2:

- **Alternative N2 (Preferred Alternative):** USAF would continuously monitor an approximately 3-mile stretch of Silver Creek on and immediately adjacent to Scott AFB for log jams. Log jams that are determined to be disrupting the flow of water and sediment or increasing the severity of flooding would be removed. Removal would entail using chain saws, backhoes, and other mechanical equipment to restore normal flow. Minimal tree removal and vegetation clearing would occur, as needed, to provide temporary vehicle access to the log jams. On average, each log jam removal would disturb approximately 1,000 ft^2 and would result in no change in impervious surface. Log jam removal would be implemented annually, as needed, between 1 October and 31 March to avoid the active season for bat species and the nesting season for migratory bird species, and one log jam is anticipated to be removed per year on average. Silver Creek is within the FEMA- and Scott AFB-designated 100-year floodplain and is a waters of the United States. It is also adjoined by extensive wetland areas (FEMA 2003, Scott AFB 2009, Scott AFB 2010a). Therefore, removal of log jams would constitute action in a floodplain and new construction in a wetland. Based on the inherent nature of this project, there are no practicable action alternatives for avoiding the floodplain and wetlands. **Figure 2-16** shows the portion of Silver Creek where log jams would be removed along with nearby environmental constraints.
- **No Action Alternative for Project N2.** The No Action Alternative for Project N2 would leave log jams in Silver Creek in place. No removal actions would be implemented, and the flow of water and sediment in Silver Creek would be disrupted whenever a log jam occurs. These potential log jams could impair water quality and increase the potential for upstream flooding.

2.3.4.3 Project N3: Enhance Aquatic Habitat at Cardinal Lake

This programmatic project is to enhance aquatic habitat at Cardinal Lake. Cardinal Lake is an approximately 6.5-acre, man-made surface water impoundment on the northeastern portion of Scott AFB that was built in 1995 (see photograph on cover). The lake is fed by natural surface water drainage, but it can receive effluent pumped from the installation's wastewater treatment plant and water pumped from Silver Creek. The maximum depth of Cardinal Lake is 12 feet, and an aeration system was installed to increase dissolved oxygen content. Scott AFB intermittently stocks Cardinal Lake to provide recreational fishing opportunities. USFWS's September 2017 Fisheries Management Plan Report described Cardinal Lake as an unbalanced fishery and recommended further management actions to ensure self-sustainable, long-term recreational fishing opportunities (USFWS 2017, Scott AFB 2015b). This imbalance was noticeable on 3 August 2018, when a lack of dissolved oxygen in the lake caused a major fish kill.

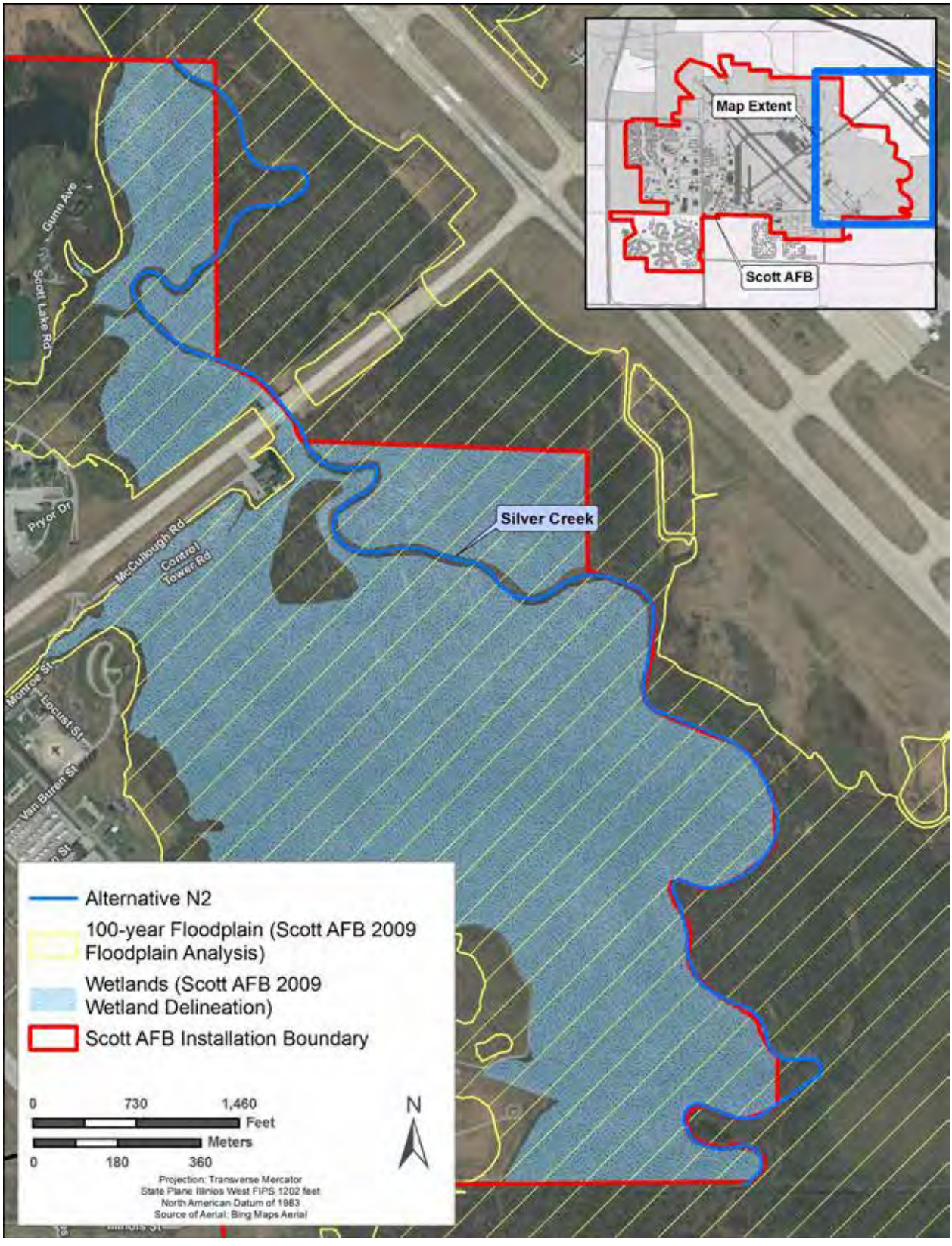

Figure 2-16. Portion of Silver Creek where Log Jams would be removed under Alternative N2

Project-Specific Selection Standards: There are no project-specific selection standards for Project N3.

Alternatives Considered but Eliminated from Analysis in this EA: No practicable action alternatives to Project N3 were identified because of the programmatic nature of this project.

Alternatives Analyzed in this EA for Project N3:

- **Alternative N3 (Preferred Alternative):** USAF would continuously monitor the quality of Cardinal Lake, and management actions would be taken, as needed, to enhance the aquatic habitat. Such management actions could include removing aquatic vegetation to increase sunlight within the water column, dredging sediment from the bottom of the lake to restore original depths, replacing the aeration system to increase dissolved oxygen content, and installing brush piles to provide cover for fish. The lake would continue to be stocked with the fish species determined to be best suited for a balanced fishery. Such species could include largemouth bass, bluegill, redear sunfish, channel catfish, and rainbow trout. Management actions would occur annually throughout all of Cardinal Lake and could disturb a maximum of 285,000 ft^2 resulting in no change in impervious surface. Cardinal Lake is within the 100-year floodplain as designated by FEMA but not by the Scott AFB 2009 Floodplain Analysis (FEMA 2003, Scott AFB 2009). Cardinal Lake is a wetland but was determined to be a non-jurisdictional water because it is a man-made feature constructed in upland soils (Scott AFB 2010a). Therefore, Alternative N3 would constitute action in a floodplain and new construction in a wetland. Based on the inherent nature of this project, there are no practicable action alternatives for avoiding the floodplain and wetlands. Trees surrounding the lake would be removed or trimmed between 1 October and 31 March to avoid the active season for bat species and the nesting season for migratory bird species. **Figure 2-17** shows the location of Cardinal Lake along with nearby environmental constraints.
- **No Action Alternative for Project N3.** The No Action Alternative for Project N3 would not enhance the aquatic habitat of Cardinal Lake. No management actions would be taken resulting in no enhancements to aquatic habitat. The lake would continue to fill with vegetation and sediment, the aeration system eventually would fail, and brush piles would not be installed. Fish would not be stocked into the lake. The repercussions from this lack of action would result in Cardinal Lake degrading to the point where recreational fishing opportunities would disappear.

2.4 Summary of Installation Development Projects and Reasonable Alternatives

The 15 installation development projects have a total of 21 reasonable action alternatives. These 21 reasonable action alternatives and the No Action Alternative for each project are analyzed in this EA. **Table 2-1** summarizes the disturbance area, change in impervious surface, and key environmental constraints for each reasonable action alternative.

Except for Alternatives A3-2, A3-3, and A4-2, all of the other reasonable action alternatives—including all four action alternatives for Project M1—are Preferred Alternatives. Implementation of these 18 Preferred Alternatives would disturb a maximum of approximately 2,457,500 ft^2 and

Figure 2-17. Location of Cardinal Lake for Project N3

Table 2-1. Summary of Installation Development Projects and Reasonable Action Alternatives

Alternative ID	Alternative Name	Disturbance Area (ft^2)	Change of Impervious Surface (ft^2)	Key Environmental Constraints
Airfield District				
A1	Construct Hangar	122,000	+122,000	None.
A2	Expand Fire Station 3	7,400	+7,400	100-year floodplain.
A3-1	Construct Airfield Service Road – Red	252,000	+43,000	100-year floodplain, ERP Sites UNK-510 and OT-007.
A3-2[a]	Construct Airfield Service Road – Blue	220,800	+127,200	None.
A3-3[a]	Construct Airfield Service Road – Green	187,200	0	None.
A4-1	Replace Collapsed Culvert for South Ditch – Convert Open Channel to Culvert	16,500	0	100-year floodplain, Wetlands, Waters of the United States, ERP Site UNK-510.
A4-2[a]	Replace Collapsed Culvert for South Ditch – Grade and Line Open Channel	16,500	0	100-year floodplain, Wetlands, Waters of the United States, ERP Site UNK-510.
A5	Airfield Repairs	510,000	0	None.
Core District				
C1	Construct JOMPC	380,000	+380,000	ERP Site SS-025b.
C2	Construct Dormitory	95,000	+47,500	None.
C3	Demolish Unnumbered Building at Facility 9020	1,200	-1,200	None.
C4	Demolish Building 533	9,700	-9,700	None.
Multi-District				
M1-1	Construct Infiltration Basins Adjacent to Building 1560	58,000	0	ERP Site SS-025b.
M1-2	Construct Infiltration Basins Adjacent to Building 1600	65,000	0	None.
M1-3	Construct Infiltration Basins Between Scott Field Heritage Park and Golf Course Road	140,000	0	ERP Site ST-010.
M1-4	Construct Infiltration Basins Around Building P-40	29,700	0	Scott Field Historic District.
M2	Repair South Ditch Channel	325,000	0	100-year floodplain, Wetlands, Waters of the United States, ERP Sites SS-005 and UNK-510.
M3	Airfield Tree Violations	50,000[b]	0	Protected species.

Alternative ID	Alternative Name	Disturbance Area (ft^2)	Change of Impervious Surface (ft^2)	Key Environmental Constraints
Not Districted				
N1	Enhance FAM Camp	110,000	+18,600	Protected species.
N2	Remove Log Jams from Silver Creek	1,000[b]	0	Protected species, 100-year floodplain, Wetlands, Waters of the United States.
N3	Enhance Aquatic Habitat at Cardinal Lake	285,000[b]	0	Protected species, 100-year floodplain, Wetlands.

Key: [a] = Not the Preferred Alternative; [b] = Programmatic alternative that could occur annually.

would add a maximum of approximately 607,600 ft^2 of impervious surface to Scott AFB. For the purpose of these estimates, programmatic Alternatives M3, N2, and N3, which could occur annually, are assumed to occur once.

Changing mission and funding priorities might necessitate implementation of the No Action Alternative or a not preferred action alternative for one or more installation development projects. Consequently, the total disturbance area could range between approximately 0 and 2,457,500 ft^2 and the total change in impervious surface could range between -10,900 and 702,700 ft^2 depending on which action alternatives are selected for implementation.

3. Affected Environment

This section describes the environmental resources and existing conditions that could be affected by installation development at Scott AFB. The information presented in this section serves as a baseline from which to identify and evaluate environmental consequences.

In compliance with NEPA, CEQ, and USAF EIAP regulations and guidelines, this EA focuses only on those environmental resources considered potentially subject to impacts from the installation development projects. These environmental resources are air quality, biological resources, cultural resources, geological resources, hazardous materials and wastes, infrastructure, land use, noise, safety, and water resources. The environmental resources not analyzed in detail in this EA because clearly insignificant or no impacts would occur are airspace, socioeconomics, and environmental justice and sensitive receptors. The following paragraphs explain why airspace, socioeconomics, and environmental justice and sensitive receptors were dismissed from detailed analysis in this EA.

Airspace. Installation development at Scott AFB would have no impacts on airspace. None of the installation development projects would include changes to existing airspace, including no changes to existing airspace configurations (i.e., size, shape, or location) or to the manner in which the existing airspace is used. The number of takeoffs and landings on the Scott AFB and MidAmerica Airport runways would not change from any of the installation development projects. All aircraft using Scott AFB or MidAmerica Airport would continue to follow the same flight profiles. As such, further analysis of airspace impacts are unnecessary for this EA.

Socioeconomics. Installation development at Scott AFB would have insignificant impacts on socioeconomics. Only eight new personnel would be added to Scott AFB through installation development; therefore, no appreciable change to the local population and demand for public/social services would occur. Beneficial impacts on the local economy would occur from the sale of construction materials and employment of local construction workers; however, the regional availability of building materials and labor would not be noticeably affected because of the limited scope of each installation development project and the timing of the projects over 3 years. The demand for housing in the surrounding communities would slightly decrease from the addition of 48 beds to Scott AFB for unaccompanied personnel; however, this decrease in housing demand would not be noticeable given the amount of housing stock in St. Clair County.

Environmental Justice and Sensitive Receptors. EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low Income Populations*, requires federal agencies to consider any potentially disproportionate human health or environmental risks their activities, policies, or programs may pose to minority or low-income populations. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires federal agencies to identify and assess health risks and safety risks that may disproportionately affect children.

Installation development at Scott AFB would not cause disproportionately high and adverse human health or environmental risks on any minority or low-income populations or result in any health and safety risks that would disproportionately affect children. Construction related to the

installation development projects would occur within discrete areas of Scott AFB that generally are not in or near areas where environmental justice or sensitive receptor populations reside or congregate. Construction could create temporary disruptions, such as noise, traffic, and visual intrusions. However, these nuisance generating activities would be temporary and spread out over 3 years and, therefore, would not disproportionately impact on- or off-installation populations.

Standard construction safety best management practices (BMPs) (e.g., fencing and other security measures) would reduce potential safety risks to on-installation populations to minimal levels. Therefore, there would be no disproportionately high and adverse health or environmental effects on any minority and low-income populations and no environmental health and safety risks that would disproportionately affect children.

3.1 Air Quality

3.1.1 DEFINITION OF THE RESOURCE

Air quality is defined by the concentration of various pollutants in the atmosphere at a given location. Under the Clean Air Act, the six pollutants defining air quality, called "criteria pollutants," are carbon monoxide (CO), sulfur dioxide, nitrogen dioxide, ozone (O_3), suspended particulate matter (measured less than or equal to 10 microns in diameter [PM_{10}] and less than or equal to 2.5 microns in diameter [$PM_{2.5}$]), and lead. CO, sulfur dioxide, lead, and some particulates are emitted directly into the atmosphere from emissions sources. Nitrogen dioxide, O_3, and some particulates are formed through atmospheric chemical reactions that are influenced by weather, ultraviolet light, and other atmospheric processes. Volatile organic compounds (VOCs) and nitrogen oxides (NO_x) emissions are used to represent O_3 generation because they are precursors of O_3. The air emission sources from the installation development projects would produce negligible emissions of lead; therefore, lead does not warrant further discussion in this EA.

The U.S. Environmental Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) (40 CFR § 50) for criteria pollutants. NAAQS are classified as primary or secondary. Primary standards protect against adverse health impacts; secondary standards protect against welfare impacts, such as damage to farm crops and vegetation and damage to buildings. Some pollutants have short-term and long-term standards. Short-term standards are designed to protect against acute, or short-term, health impacts, while long-term standards were established to protect against chronic health impacts.

Areas that are and have historically been in compliance with the NAAQS or have not been evaluated for NAAQS compliance are designated as attainment areas. Areas that violate a federal air quality standard are designated as nonattainment areas. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to adhere to maintenance plans to ensure continued attainment.

The USEPA General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The emissions thresholds that trigger

requirements for a conformity analysis are called *de minimis* levels. *De minimis* levels (in tons per year [tpy]) vary by pollutant and depend on the severity of the nonattainment status for the air quality management area in question.

Climate Change and Greenhouse Gases. Global climate change refers to long-term fluctuations in temperature, precipitation, wind, sea level, and other elements of Earth's climate system. Ways in which the Earth's climate system may be influenced by changes in the concentration of various gases in the atmosphere have been discussed worldwide. Of particular interest, greenhouse gases (GHGs) are gas emissions that trap heat in the atmosphere. These emissions occur from natural processes and human activities. Scientific evidence indicates a trend of increasing global temperature over the past century because of an increase in GHG emissions from human activities. The climate change associated with this global warming is predicted to produce negative economic and social consequences across the globe.

3.1.2 EXISTING CONDITIONS

Scott AFB is in St. Clair County, Illinois, which is within the Metropolitan St. Louis Interstate Air Quality Control Region (40 CFR § 81.18). St. Clair County is designated by USEPA as unclassified/attainment for all criteria pollutants except 8-hour O_3 and $PM_{2.5}$. O_3 is designated as marginal nonattainment, and $PM_{2.5}$ is designated as moderate nonattainment (USEPA 2018a). As a result of these designations, the General Conformity Rule is potentially applicable to emissions of NO_x and VOC (because they are precursors for O_3 and $PM_{2.5}$), $PM_{2.5}$, and sulfur oxides (SO_X) (because it is a precursor for $PM_{2.5}$) on Scott AFB. The General Conformity Rule also is potentially applicable to emissions of ammonia because it is a precursor for $PM_{2.5}$. However, the air emission sources for this Proposed Action would produce negligible emissions of ammonia; therefore, it does not warrant further discussion in this EA.

Scott AFB holds a Federally Enforceable State Operating Permit with the Illinois Environmental Protection Agency (IEPA). This permit allows the installation to operate stationary emissions sources consisting of jet fuel storage tanks, diesel-powered electricity generators, natural gas-fired heating equipment, gasoline storage tanks and dispensing operations, an propylene glycol storage tank, an indoor shooting range controlled by baghouse, and a sulfur dioxide generator for the wastewater treatment plant. This permit has emissions limits that reduce the installation's potential to emit to less than the major source thresholds and, therefore, excludes Scott AFB from Title V permitting applicability (IEPA 2018a). **Table 3-1** summarizes the potential to emit for Scott AFB. Scott AFB also holds an open burning permit with the IEPA for the combustion of fuel in fire fighter training (IEPA 2018b). No permitted sources of air emissions coincide with the installation development projects.

Table 3-1. Potential to Emit for Scott AFB

	CO	NO_x	VOC	Particulate Matter	Sulfur Dioxide
Potential to Emit	30.05	65.46	45.31	3.71	3.65

Source: IEPA 2018a
Note: All values are in tpy.

Climate Change and Greenhouse Gases. Ongoing global climate change has the potential to increase average temperatures, annual precipitation, heavy precipitation events, and consecutive dry days in the midwestern United States, including St. Clair County, Illinois. Increased average temperatures and consecutive dry days could reduce air and water quality leading to impairments of public health. Forest composition also may change as rising temperatures drive habitats for many tree species northward. Increased annual precipitation and heavy precipitation events could increase the frequency and intensity of flooding leading to damaged infrastructure, soil erosion, and lost agricultural productivity (Melillo et al. 2014).

3.2 Biological Resources

3.2.1 DEFINITION OF THE RESOURCE

Biological resources include native or naturalized plants and animals and the habitats (e.g., grasslands, forests, wetlands) in which they exist. Protected and sensitive biological resources include ESA- and state-listed species (threatened or endangered) and those proposed for ESA-listing as designated by USFWS (terrestrial and freshwater organisms) and migratory birds. Migratory birds are protected species under the MBTA. Sensitive habitats include those areas designated or proposed by USFWS as critical habitat protected by the ESA and as sensitive ecological areas designated by state or other federal rulings. Sensitive habitats also include wetlands, plant communities that are unusual or limited in distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, crucial summer and winter habitats).

The ESA (16 USC § 1531 et seq.) established a federal program to protect and recover imperiled species and the ecosystems upon which they depend. The ESA requires federal agencies, in consultation with USFWS, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. Under the ESA, “jeopardy” occurs when an action is reasonably expected, directly or indirectly, to diminish numbers, reproduction, or distribution of a species so that the likelihood of survival and recovery in the wild is appreciably reduced. An “endangered species” is defined by the ESA as any species in danger of extinction throughout all or a significant portion of its range. A “threatened species” is defined by the ESA as any species likely to become an endangered species in the foreseeable future. The ESA also prohibits any action that causes a “take” of any listed animal. “Take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Listed plants are not protected from take, although it is illegal to collect or maliciously harm them on federal land.

Critical habitat is designated if USFWS determines that the habitat is essential to the conservation of a threatened or endangered species. Federal agencies must ensure that their activities do not adversely modify designated critical habitat to the point that it will no longer aid in the species’ recovery.

The Illinois Department of Natural Resources oversees the protection and management of state-protected species under the Illinois Endangered Species Protection Act (520 Illinois

Compiled Statutes 10/1-11). Under this Act, the Endangered Species Protection Board determines those species to be state-listed as endangered or threatened for Illinois.

The MBTA of 1918 (16 USC § 703–712), as amended, and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, require federal agencies to minimize or avoid impacts on migratory birds. Unless otherwise permitted by regulations, the MBTA makes it unlawful to (or attempt to) pursue, hunt, take, capture, or kill any migratory bird, nest, or egg. Federal agencies with activities that could have measurable negative impacts on migratory birds are directed by EO 13186 to develop and implement a Memorandum of Understanding with USFWS to promote the conservation of migratory bird populations.

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (BGEPA), which prohibits the "take" of bald or golden eagles in the United States without a 50 CFR § 22.26 permit. BGEPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb." For purposes of these guidelines, "disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause: (1) injury to an eagle; (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

3.2.2 EXISTING CONDITIONS

Vegetation. Scott AFB is within the Till Plains Section of the Central Lowlands Physiographic Province (Illinois State Geological Survey 2009). Natural vegetative communities within the installation have been highly modified by development. The majority of the natural areas on Scott AFB are on the east side near Silver Creek. Vegetation on Scott AFB can be characterized into three community types: bottomland forest, upland forest, and turf and landscaped areas (Scott AFB 2015b).

Bottomland Forest. The bottomland forests at Scott AFB are excellent representations of Cottonwood-Elm-Ash hardwood forests of the north-central United States. This forest type depends on hydrological connections to adjacent or associated river systems. The dominant tree species in this forest type include box elder (*Acer negundo*), silver maple (*Acer saccharinum*), green ash (*Fraxinus pennsylvanica*), and American elm (*Ulmus americana*). Cottonwoods (*Populus* spp.) are common but are not one of the dominant species. Dominant vines include trumpet creeper (*Campsis radicans*) and Virginia creeper (*Parthenocissus quinquefolia*). Pawpaw (*Asimina triloba*) and rough-leaved dogwood (*Cornus drummondii*) are locally abundant in portions of the bottomland forest. Dominant herbs include Ontario aster (*Aster ontarionis*), various sedges (*Carex* spp.), honewort (*Cryptotaenia canadensis*), wood nettle (*Laportea canadensis*), clearweed (*Pilea pumila*), and swamp buttercup (*Ranunculus septentrionalis*). Dominant grasses include wild rye (*Elymus virginicus*), southern cutgrass (*Leersia hexandra*), and Virginia cutgrass (*L. virginica*) (Martin et al. 2002, Scott AFB 2010b).

Upland Forest. Upland forest at Scott AFB is limited to an approximately 5-acre site located south of the FAM Camp and an 8-acre site located north of Scott Lake. Dominant tree species include box elder, hackberry (*Celtis occidentalis*), white mulberry (*Morus alba*), wild black cherry (*Prunus serotina*), black locust (*Robinia pseudoacacia*), and American elm. Shrubs include shrub honeysuckle (*Lonicera* spp.) and multiflora rose (*Rosa multiflora*). Vines include Japanese honeysuckle (*Lonicera japonica*) and Virginia creeper. Dominant herbs include Indian strawberry (*Duchesnea indica*), white snakeroot (*Ageratina altissima*), and common goldenrod (*Solidago* spp.) (Martin et al. 2002, Scott AFB 2011b). The larger upland forest area north of Scott Lake is dominated by pine (*Pinus* sp.), green ash, American elm, and pin oak. Shrub species are limited to the invasive bush honeysuckle. Vine species observed include Japanese honeysuckle and winter creeper (*Euonymus fortunei*) (Scott AFB 2010b).

Turf and Landscaped Areas (Non-native Grassland). Nearly 90 percent of Scott AFB is developed or routinely managed (i.e., improved areas). Turf grass and landscape vegetation occur largely in association with the improved areas such as lawns, gardens, golf course fairways, ponds, and recreational fields. Semi-improved areas such as the runway borders, the runway infield, and clear zones (CZs) are planted with turf grass. Historically, Scott AFB has used a typical turf grass mix of Kentucky bluegrass (*Poa pratensis*), tall fescue, and rye for the majority of turf plantings in semi-improved and improved areas. The golf course generally uses a mix of perennial ryegrasses (*Lolium* sp.), bluegrass, zoysia (*Zoysia* sp.), and creeping bent grass (*Agrostis palustris*). Other common naturalized grasses observed in the semi-improved portions of the installation include foxtail barley (*Hordeum jubatum*), foxtail (*Setaria glauca*), and smooth brome (*Bromus inermis*). The invasive Johnson grass (*Sorghum halepense*) is also abundant on the installation (Scott AFB 2015b).

Common landscape shrubs used across the installation include hollies (*Ilex* spp.), viburnums (*Viburnum* spp.), yew (*Taxus* spp.), juniper (*Juniperus* spp.), American arborvitae (*Thuja occidentalis*), burning bush (*Euonymus atropurpureus*), and forsythia (*Forsythia forsythia)*. Common large landscape trees include red maple, eastern white pine (*Pinus strobus*), green ash, Norway maple (*Acer platanoides)*, and red oak. Small-to-medium landscape trees include juniper, crab apple (*Malus* spp.), hawthorns (*Crataegus* spp.), eastern redbud (*Cercis canadensis*), and Bradford pear (*Pyrus calleryana*) (Scott AFB 2010c).

The current list of noxious weeds on Scott AFB includes giant ragweed (*Artemisia trifida*), Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), Japanese honeysuckle, and Amur honeysuckle (*Lonicera maackii*). Invasive populations are greatest in areas that have been disturbed but are not mowed regularly. Scott AFB has developed an invasive species management plan to comply with federal and state law (Scott AFB 2011b).

Wildlife. The installation supports a relatively high diversity of wildlife given its size and location within an agricultural matrix. The Silver Creek riparian corridor on the eastern side of the installation provides approximately 400 acres or 10 percent of the installation's total area as important habitat for native wildlife species (Scott AFB 2015b).

Common mammals on the installation include the white-tailed deer (*Odocoileus virginianus*), eastern cottontail (*Sylvilagus floridanus*), coyote (*Canis latrans*), Virginia opossum (*Didelphis*

virginiana), beaver (*Castor canadensis*), raccoon (*Procyon lotor*), eastern gray and fox squirrel (*Sciurus carolinensis* and *S. niger*), muskrat (*Ondatra zibethicus*), red bat (*Lasiurus borealis*), and big brown bat (*Eptesicus fuscus*) (Scott AFB 2010c, Scott AFB 2015b).

According to surveys conducted at Scott AFB, the largest number of bird species observed on the installation is associated with the forest in the Silver Creek riparian corridor. Forest species that are routinely observed at Scott AFB include the tufted titmouse (*Baeolophus bicolor*), blue jay (*Cyanocitta cristata*), red-bellied woodpecker (*Melanerpes carolinus*), brown-headed cowbird (*Molothrus ater*), downy woodpecker (*Picoides pubescens*), brown thrasher (*Toxostoma rufum*), eastern towhee (*Pipilo erythrophthalmus*), and white-breasted nuthatch (*Sitta carolinensis*). Birds associated with open water communities, such as Scott and Cardinal Lakes, include the Canada goose (*Grus canadensis*), little blue heron (*Egretta caerulea*), great blue heron (*Ardea herodias*), and cattle egret (*Bubulcus ibis*). While grassland bird habitat is not common at Scott AFB, several grassland species have been commonly observed including northern bobwhite (*Colinus virginianus*), red-winged blackbird (*Agelaius phoeniceus*), American goldfinch (*Spinus tristis*), and common yellowthroat (*Geothlypis trichas*). Common raptors on Scott AFB include red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), Cooper's hawk (*Accipiter cooperii*), great-horned owl (*Bubo virginianus*), and barred owl (*Strix varia*) (Scott AFB 2015b).

Scott Lake and Cardinal Lake are actively managed for recreational fishing. Common fish species in these lakes include largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), and crappie (*Pomoxis* spp.). Other amphibian and reptile species associated with the lakes include the common snapping turtle (*Chelydra serpentine*), painted turtle (*Chrysemys picta*), and northern water snake (*Nerodia sipedon*) (Scott AFB 2015b).

Threatened and Endangered Species. There are 7 federally listed and 15 state-listed threatened and endangered species that are known to or may occur in St. Clair County (USFWS 2019, IDNR 2018). No designated or proposed critical habitat is on or near Scott AFB (USFWS 2019). **Table 3-2** details the possibility of occurrence on Scott AFB for each of the 22 listed species.

There are documented occurrences of two federally listed species, the endangered Indiana bat (*Myotis sodalis*) and the threatened northern long-eared bat (*Myotis septentrionalis*), on Scott AFB. Surveys for the Indiana bat and northern long-eared bat have occurred in 2001, 2007, 2009, 2014, and 2016 along Silver Creek. During the most recent survey in 2016, call surveys indicated that Indiana bat and northern long-eared bat species were likely to occur on Scott AFB even though mist netting did not yield individuals of either species (USFWS 2016). The Silver Creek floodplain and bottomland riparian forest at Scott AFB provide adequate roosting and foraging habitat for a number of bat species. Five maternity roost trees were identified within the Silver Creek bottomland forest via radio-telemetry (Scott AFB 2015b).

Suitable habitat for the federally listed decurrent false aster (*Boltonia decurrens*) and eastern prairie fringed orchid (*Platanthera leucophaea*) is extremely limited on installation. Surveys were conducted in 2001 and 2005 within annually disturbed mudflats along Silver Creek. No individuals were observed (Scott AFB 2015b). As a result of these surveys, the decurrent false

Table 3-2. Federally and State-Listed Species in St. Clair County with Potential for Occurrence on Scott AFB

Species	Federal and State Status	Potential for Occurrence
Invertebrates		
American eel (*Anguilla rostrata*)	ST	Unlikely. Observed in the Little Calumet-Galien River drainage; does not occur near Scott AFB (Fuller et al. 2019).
Illinois cave amphipod (*Gammarus acherondytes*)	SE, FE	Unlikely. Suitable habitat for this species is restricted to Stemler Cave in extreme southern St. Clair County. This amphipod inhabits underground karst caves and streams (Webb et al. 1998).
Fish		
Pallid sturgeon (*Scaphirhynchus albus*)	FE	Unlikely. No large river systems flowing through Scott AFB (USFWS 2018).
Birds		
Bald eagle (*Haliaeetus leucocephalus*)	D	Low. Prefers large open lakes and river systems. Very limited habitat on installation (Scott AFB 2015b).
Barn owl (*Tyto alba*)	ST	Low. Species is rare in Illinois, though breeding pairs were observed in St. Clair County in 2010. Prefers open hay fields or pastures for hunting their prey (Walk et al. 2011)
Black-crowned night heron (*Nycticorax nycticorax*)	SE	Possible. Fairly common migrant species in Illinois and an uncommon summer resident. This species inhabits bottomland forests, lakes, ponds, marshes, rivers, and other riparian areas (IDNR 2016).
Common gallinule (*Gallinula galeata*)	SE	Low. Species is an occasional migrant and summer resident in central and southern Illinois. Occurs in non-forested wetlands, streams, lakes, and reservoirs (INHS 2019).
Least bittern (*Ixobrychus exilis*)	ST	Possible. Has been observed on Scott AFB. This species mostly occurs in Cook and Lake Counties, but may occur throughout Illinois. It lives at the edge of shallow lakes and marshes surrounded by dense plant growth (IDNR 2017).
Least tern (*Sterna antillarum*)	FE	Unlikely. The least tern nests on bare alluvial and dredge spoil islands within or adjacent to large rivers. No large rivers occur near Scott AFB (Mankowski 2010).
Little blue heron (*Egretta caerulea*)	SE	Possible. Documented during 2001 bird survey, 2004 habitat survey, and 2005 wetland survey. Breeding potential of this species at Scott AFB is unknown (Scott AFB 2015b). Individual observed at Scott Lake in 2018.
Loggerhead shrike (*Lanius ludovicianus*)	SE	Possible. Has been observed on Scott AFB. Prefers open areas with windrows of trees and brush (Scott AFB 2015b).
Northern harrier (*Circus cyaneus*)	SE	Possible. Has been observed on Scott AFB (Scott AFB 2015b).
Short-eared owl (*Asio flammeus*)	SE	Possible. Has been observed on Scott AFB. Nests on ground. Prefers meadows, open fields, and prairies (Scott AFB 2015b).

Species	Federal and State Status	Potential for Occurrence
Birds (continued)		
Snowy egret (*Egretta thula*)	SE	Possible. Documented during 2001 bird survey, 2004 habitat survey, and 2005 wetland survey. Breeding potential of this species at Scott AFB is unknown (Scott AFB 2015b).
Yellow-crowned night heron (*Nyctanassa violacea*)	SE	Possible. Has been observed on Scott AFB. This species is a common migrant and summer resident in southern Illinois. Prefers wetlands for foraging and bottomland forests for nesting (Scott AFB 2015b, Mankowski 2010).
Mammals		
Indiana bat (*Myotis sodalist*)	SE, FE	High. Indiana bats have been captured during mist netting in 2001, 2007, 2009, and 2014 along Silver Creek. Call surveys in 2016 indicated the Indiana bat was likely to occur on the installation (Scott AFB 2015b, USFWS 2016).
Northern long-eared bat (*Myotis septentrionalis*)	ST, FT	High. This species' range overlaps with Scott AFB and suitable summer habitat is present. Individuals were documented on installation in 2014 along Silver Creek. Call surveys in 2016 indicated the northern long-eared bat was likely to occur on the installation (Scott AFB 2015b, USFWS 2016).
Plants		
Buffalo clover (*Trifolium reflexum*)	ST	Low. Not expected in the project areas. Occurs on dry mesic savannas, flatwoods, and prairies. Suitable habitat could exist on installation (Scott AFB 2015b).
Blue sage (*Salvia azurea*)	ST	Low. Not expected in the project areas. Habitats include dry, upland areas of black soil prairies, gravel prairies, limestone glades, roadsides, and miscellaneous waste areas (Illinoiswildflowers 2018).
Decurrent false aster (*Boltonia decurrens*)	FT	Low. Not expected in the project areas. Occurs on sunlit floodplains and open wetlands. Very limited habitat on installation (Scott AFB 2015b).
Eastern prairie fringed orchid (*Platanthera leucophaea*)	FT	Low. Not expected in the project areas. Occurs in open wetlands. Very limited habitat on installation (Scott AFB 2015b).
Green trillium (*Trillium viride*)	SE	Low. Not expected in the project areas. Occurs in bottomland forests. Suitable habitat could exist on installation (Scott AFB 2015b).

Notes: D = Delisted, FE = Federally Endangered, FT = Federally Threatened, SE = State Endangered, ST = State Threatened

aster and eastern prairie fringed orchid are unlikely to be present. Scott AFB does not have suitable habitat for the pallid sturgeon (*Scaphirhynchus albus*), least tern (*Sterna antillarum*), and Illinois cave amphipod (*Gammarus acherondytes*). The pallid sturgeon occurs in and the least tern nests along larger river systems, while the Illinois cave amphipod requires caves along streams (USFWS 2018, Mankowski 2010, Webb et al. 1998).

USAF treats state-listed species with the same protection afforded federally listed species whenever practicable (AFI 32-7064). Although not required by the ESA, USAF will provide acceptable conservation measures for species protected by Illinois state law, when such protection is not in direct conflict with the military mission. Migratory birds are protected under the MBTA and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*. Suitable habitat for the various state-listed and migratory bird species is present on Scott AFB.

Although no longer federally listed, the bald eagle (*Haliaeetus leucocephalus*) remains protected under the BGEPA. Bald eagles were observed on the installation in 2012 and 2013; however, this species is typically attracted to large open-water bodies, which are lacking on Scott AFB (Scott AFB 2015b). As suitable habitat does not exist on or adjacent to the installation, it is likely that any bald eagle occurrences would involve transient individuals.

3.3 Cultural Resources

3.3.1 DEFINITION OF THE RESOURCE

Cultural resources are historic districts, sites, buildings, structures, or objects considered important to a culture, subculture, or community for scientific, traditional, religious, or other purposes. Depending on the condition and historic use, such resources might provide insight into the cultural practices of previous civilizations, or they might retain cultural or religious significance to modern groups.

Typically, cultural resources are divided into archaeological resources (prehistoric or historic sites, where human activity has left physical evidence of that activity but no structures remain standing); architectural resources (buildings or other structures or groups of structures, or designed landscapes that are of historic or aesthetic significance); and resources of traditional, religious, or cultural significance to Native American tribes.

Archaeological resources comprise areas where human activity has measurably altered the earth, or deposits of physical remains are found (e.g., projectile points and bottles).

Architectural resources include standing buildings, bridges, dams, and other structures of historic or aesthetic significance. Generally, architectural resources must be more than 50 years old to be considered eligible for the NRHP. More recent structures, such as Cold War-era resources, might warrant protection if they are of exceptional importance or if they have the potential to gain significance in the future.

Resources of traditional, religious, or cultural significance to Native American tribes can include archaeological resources, structures, neighborhoods, prominent topographic features, habitat, plants, animals, and minerals that Native Americans or other groups consider essential for the preservation of traditional culture.

Cultural resources that are listed in or eligible for listing in the NRHP are known as historic properties. Section 106 of the NHPA requires federal agencies to assess the impacts of their undertakings on historic properties in the undertaking's Area of Potential Effect (APE). The APE is the "geographic area or areas within which an undertaking may directly or indirectly cause

alterations in the character or use of historic properties, if any such properties exist" (36 CFR Part 800.16[d]). USAF consulted under Section 106 of the NHPA with the Illinois SHPO and with federally recognized tribes (see **Appendix A**). As a part of the Section 106 process, USAF has defined the APE as the Scott AFB installation boundary as shown in **Figure 3-1**.

3.3.2 EXISTING CONDITIONS

Scott AFB is in the uplands adjacent to the American Bottom, which is an area of the Mississippi River floodplain rich in prehistory and history. The American Bottom was used throughout the prehistoric period but may be best known as the center of the mound-building Mississippian culture and location of Cahokia, which was the largest prehistoric city in North America north of Mexico. French explorers first arrived in the region in 1673 and the French established several permanent settlements by the early 18th century. The population increased greatly in the late 18th and 19th centuries with early settlers from Virginia and other southern states and substantial immigration by Germans later in the 19th century. While coal, stove manufacturing, and other industries were important to population centers such as Belleville, the area now occupied by Scott AFB was used for agriculture. The installation had its origins with Scott Field established in June 1917, and Scott AFB is among the oldest air bases in the United States. The installation has played a role in many aspects of military and USAF history, including Lighter-than-Air activities, Air Corps training during World War II, Cold War air defense, and aeromedical missions (Scott AFB 2017a).

Archaeological Resources. The National Park Service conducted a reconnaissance survey at Scott AFB in 1986 followed by an archaeological assessment and survey in 1992 that was designed to complete Scott AFB's obligations to identify archaeological historic properties under Section 110 of the NHPA. The 1992 assessment concluded that the majority of Scott AFB was heavily disturbed with extremely low potential for archaeological sites. Pedestrian surveys were conducted in 11 Survey Units (SUs), which yielded six historic sites but no prehistoric sites. The study concluded that SUs 3 and 4 had a moderate potential for unknown archaeological sites and SU 10, along the Silver Creek floodplain, was relatively intact but had low potential for archaeological sites. SUs 3, 4, and 10 are shown on **Figure 3-1**. The SHPO concurred with the report's determination that the remaining SUs did not contain intact archaeological properties. Several additional project-specific archaeological surveys have occurred on Scott AFB, including a reconnaissance survey of a 55-acre land acquisition in 1990 and a survey of 90 acres for a proposed airport taxiway in 1991 (Scott AFB 2017a).

Scott AFB contains 15 archaeological sites and 2 historic cemeteries (see **Table 3-3**). Three sites are lithic scatters from the prehistoric era. Seven sites are from the historic era and consist of five farmsteads, a historic debris scatter, and a livestock water tank. Five sites are multi-component artifact scatters with prehistoric lithic artifacts and historic debris. Twelve of the archaeological sites and both cemeteries have been evaluated as not eligible for listing in the NRHP. Two sites, an undated farmstead and an undated lithic scatter, are unevaluated for NRHP listing. Both of these sites are primarily outside of the installation boundary. Scott AFB does not contain any archaeological sites that are listed in or eligible for the NRHP (Scott AFB 2017a).

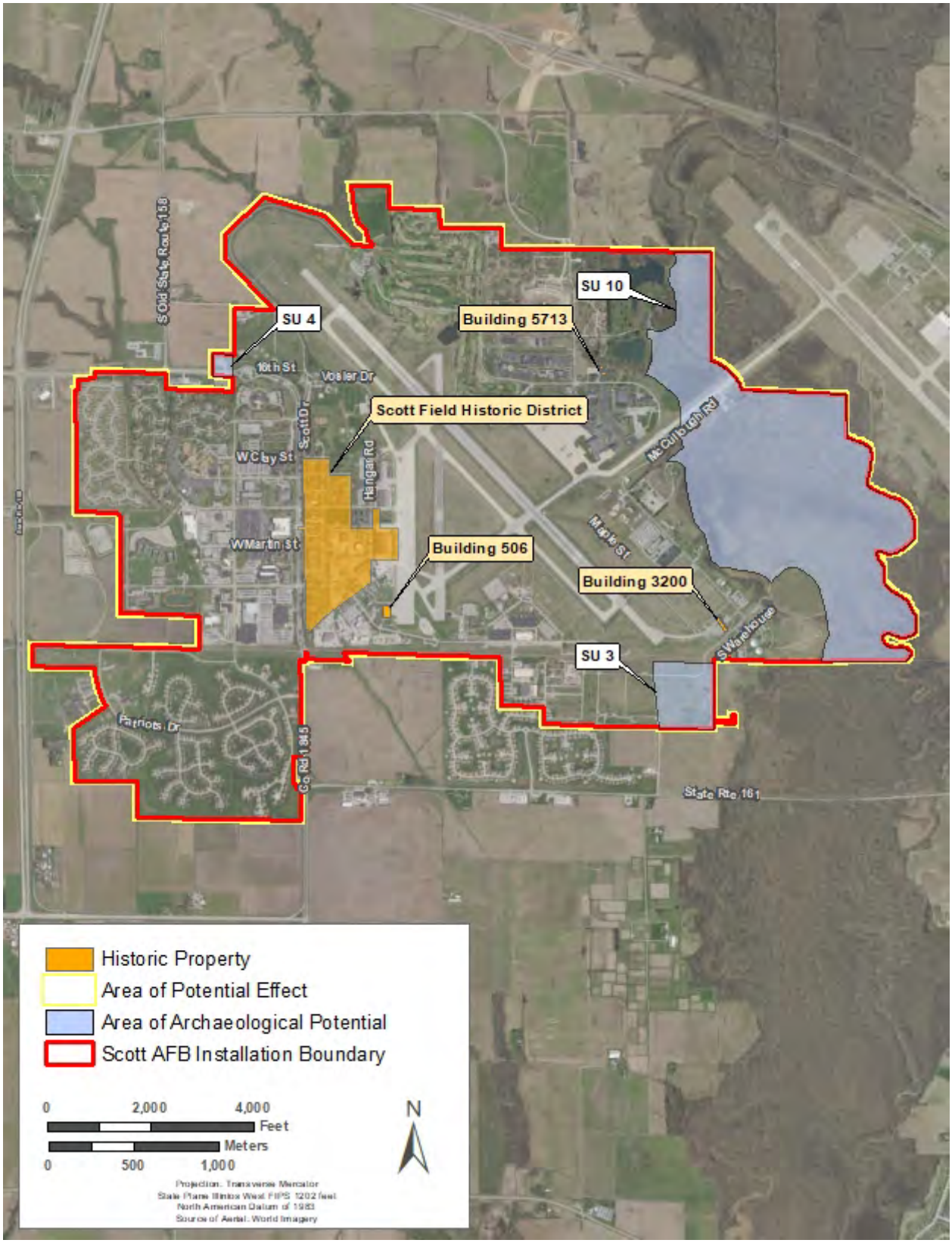

Figure 3-1. Cultural Resources Constraints at Scott AFB

Table 3-3. Archaeological Sites on Scott AFB

Site Number/ Name	Site Type	Cultural Affiliation	NRHP Status
11-S-894	Livestock water tank	Euro-American	Not Eligible
11-S-895	Farmstead	Euro-American	Not Eligible
11-S-896	Historic debris scatter	Euro-American	Not Eligible
11-S-897	Farmstead	Euro-American	Not Eligible
11-S-898	Farmstead	Euro-American	Not Eligible
11-S-899	Farmstead	Euro-American	Not Eligible
11-S-916	Farmstead	Euro-American	Unevaluated
11-S-924	Lithic scatter	American Indian	Not Eligible
11-S-935	Lithic scatter	American Indian	Unevaluated
11-S-1004	Lithic scatter	American Indian	Not Eligible
11-S-1005	Habitation	American Indian/Euro-American	Not Eligible
11-S-1008	Lithic scatter/Historic debris scatter	American Indian/Euro-American	Not Eligible
11-S-1013	Lithic scatter/Historic debris scatter	American Indian/Euro-American	Not Eligible
11-S-1060	Lithic scatter/Habitation	American Indian/Euro-American	Not Eligible
11-S-1061	Lithic scatter/Historic debris scatter	American Indian/Euro-American	Not Eligible
Middlecoff Cemetery	Historic cemetery	Euro-American	Not Eligible
Perschbacher Cemetery	Historic cemetery	Euro-American	Not Eligible

Source: Scott AFB 2017a

One site is within the footprint of an installation development project: Site 11-S-897, which is a historic farmstead that is not eligible for NRHP listing and was flooded during creation of Cardinal Lake. The site is within the footprint of Project N3. The Perschbacher Cemetery is also near Project N3 but is outside of potential disturbance areas (Scott AFB 2017a).

Architectural Resources. Scott AFB has conducted several installation-wide inventories of historic architectural resources. In 1992, Thomason and Associates inventoried and evaluated 119 buildings and structures built before 1946 (Thomason and Associates 1992). The study defined the Scott Field Historic District, which was listed in the NRHP in 1994. In 1994, USAF began a reconnaissance-level survey of Cold War-era resources on USAF installations, including Scott AFB (Scott AFB 2011a). The final report, completed in 1996, evaluated 59 buildings and structures built before 1989. In 2011, Scott AFB evaluated 49 additional buildings built prior to 1967 that had not been previously inventoried. Scott AFB has also conducted several smaller project-specific inventories and historic documentation projects (Scott AFB 2017a). The vast majority of historic buildings on Scott AFB have been evaluated for NRHP listing. Some Cold War-era buildings will require re-evaluation as they reach 50 years of age.

Scott Field Historic District contains the largest concentration of buildings constructed before 1946 on the installation and encompasses the original 1917 main base area as well as the 1937

to 1940 expansion area. The district contains 102 contributing features (mainly buildings) and 10 non-contributing features. The district is significant for its association with the training of Lighter-than-Air airship pilots between 1921 and 1937 and radio-operator mechanics during World War II. The district is also architecturally significant for its grouping of pre-1946 buildings within the original base area, many of which share similar design and construction characteristics. The district is governed by a Historic Building Maintenance Plan. Scott AFB has three buildings that are not within the historic district and are individually eligible for NRHP listing: Building 506 (Hangar 3), Building 3200 (a snow barn), and Building 5713 (Chapel 2). **Figure 3-1** shows the locations of the Scott Field Historic District and these three buildings.

Traditional Resources. No resources of traditional, religious, or cultural significance to Native American tribes have been identified at Scott AFB (Scott AFB 2017a). The following 19 Native American tribes have been identified as having historical affiliation with the Scott AFB geographic region: Citizen Potawatomi Nation of Oklahoma, Eastern Shawnee Tribe of Oklahoma, Kaw Nation, Kickapoo Tribe of Indians in Kansas, Kickapoo Tribe of Oklahoma, Match-E-Be-Nash-She-Wish Band of Potawatomi Indians of Michigan, Miami Tribe of Oklahoma, Omaha Tribe of Nebraska, Osage Nation of Oklahoma, Ottawa Tribe of Oklahoma, Peoria Tribe of Indians of Oklahoma, Pokagon Band of Potawatomi Indians, Ponca Tribe of Nebraska, Ponca Tribe of Oklahoma, Prairie Band of Potawatomi Nation, Quapaw Tribe of Indians, Sac and Fox Nation of Missouri in Kansas and Nebraska, Sac and Fox Nation of Oklahoma, and Sac and Fox Tribe of the Mississippi in Iowa. Scott AFB is consulting under Section 106 of the NHPA with these federally recognized tribes regarding the Proposed Action.

3.4 Geological Resources

3.4.1 DEFINITION OF THE RESOURCE

Geological resources consist of the Earth's surface and subsurface materials. Within a given physiographic province, these resources typically are described in terms of geology, topography and physiography, soils, and, where applicable, geologic hazards.

Geology is the study of the Earth's composition and provides information on the structure and configuration of surface and subsurface features. Such information derives from field analysis based on observations of the surface and borings to identify subsurface composition.

Topography and physiography pertain to the general shape and arrangement of a land surface, including its height and the position of its natural and human-made features.

Soils are the unconsolidated materials overlying bedrock or other parent material. Soils are typically 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. In appropriate cases, soil properties must be examined for their compatibility with particular construction activities or types of land use.

Prime farmland is protected under the Farmland Protection Policy Act (FPPA) of 1981 and is defined as land that has the best combination of physical and chemical characteristics for

producing food, feed, forage, fiber, and oilseed crops, and is available for these uses. The intent of the FPPA is to minimize the extent that federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses. The implementing procedures of the FPPA and Natural Resources Conservation Service (NRCS) require federal agencies to evaluate the adverse impacts (direct and indirect) of their activities on prime and unique farmland and farmland of statewide and local importance, and to consider alternative actions that would avoid adverse impacts. Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops. Farmland of statewide and local importance are lands that do not meet the criteria for prime or unique farmland, but are considered to be important for the production of food, feed, fiber, forage, and oilseed crops by state or local agencies (USDA-NRCS Undated).

Geologic hazards are natural geologic events that can endanger human lives and threaten property. Examples of geologic hazards include erosion, earthquakes, landslides, ground subsidence, and sinkholes.

3.4.2 EXISTING CONDITIONS

Regional Geology. Scott AFB is within the Till Plains Division of the Central Lowlands Physiographic Province of Illinois (Illinois State Geological Survey 2009). The Central Lowlands is a gently rolling plain of glacial till dissected by streams and drainages. These gently rolling fertile plains were carved and leveled by glaciers during the Illinoisan glaciation of the Pleistocene Ice Age. The Till Plains is an area of fertile soil that helps make Illinois one of the leading agricultural states in the nation (Scott AFB 2015b).

The stratigraphic sequence in the region consists of approximately 50- to 100-foot-thick deposits of Cenozoic (Quaternary) unconsolidated sediments overlying Paleozoic sedimentary bedrock. The Cenozoic unconsolidated materials consist of eolian, alluvial, and glacial deposits. The underlying bedrock consists primarily of low permeability, Pennsylvanian-age shale with thin, discontinuous beds of sandstone and limestone (Scott AFB 2015b).

Topography. Scott AFB is on the west end of the Silver Creek Valley, which is characterized by generally flat to gently rolling hills. The installation land surface is generally level. Just north of the installation boundary, there is a till ridge where the installation is at its maximum surface elevation of 510 feet above mean sea level (AMSL). Along the eastern boundary of the installation, within the Silver Creek riparian corridor, is the lowest point on the installation at approximately 420 feet AMSL. East of the installation, Silver Creek is approximately 405 feet AMSL (Scott AFB 2015b).

Soils. The NRCS mapped eight soil series, Mascoutah, Edwardsville, Wakeland, Bethalto, Menfro, Winfield, Petrolia, and Caseyville, within Scott AFB. The predominant soil types on the installation are the Mascoutah silty clay loam, Edwardsville silt loam, Wakeland silt loam, and Bethalto silt loam, which make up 32.6 percent, 21.6 percent, 11.5 percent, and 11.1 percent, respectively (USDA-NRCS 2019). These soils are fertile and productive because of their development from tall prairie grass and mixed hardwood forest. Silt loams and silty clay loams have a moderately high water holding capacity, moderate to high shrink to swell ratio, and

moderate to high corrosive potential. The topsoil is moderately permeable (Scott AFB 2015b). The soils within the installation development project areas have been previously disturbed by construction or landscaping. Most of the soil types found at Scott AFB are prime farmland or prime farmland if drained and one soil type found on the installation, Winfield silt loam (5 to 10 percent slope), is a farmland of statewide importance. Details about the soils at the installation development projects areas and their construction limitations are provided in **Table 3-4**.

Table 3-4. Characteristics of Soils Mapped at Installation Development Project Areas

Mapping Unit	Texture	Characteristics	Location (Project)	Construction Limitations	Farmland
Bethalto	Silt loam (0 to 2 percent slope)	Deep, poorly-drained, moderately permeable, formed in loess on till plains	A1, A3, A5, M2	Very limited. Frost action, low strength, depth to saturated zone, shrink-swell potential.	Prime farmland
Wakeland	Silt loam (0 to 2 percent slope)	Deep, poorly-drained, moderately permeable, formed in silty alluvium	A2, N2	Very limited. Flooding, depth to saturated zone, frost action and unstable excavation walls.	Prime farmland soil if drained and either protected from flooding or not frequently flooded during the growing season.
Mascoutah	Silty clay loam (0 to 2 percent)	Very deep, poorly-drained, moderately permeable, formed in loess	A3, A5, C1, C2, C4, M1-1, M1-2, M1-4, M2	Very limited. Ponding, depth to the saturated zone, and shrink-swell potential.	Prime farmland if drained
Edwardsville	Silt loam (0 to 2 percent slope)	Deep, poorly-drained, moderately permeable, formed in loess on till plains	A3, C1, C2, C3, M1-1, M1-3, M2	Somewhat limited to very limited. Depth to saturated zone, shrink-swell potential, and unstable excavation walls.	Prime farmland
Petrolia	Silty clay loam (0 to 2 percent slope)	Very deep, poorly-drained, moderately permeable, formed in silty alluvium	A2	Very limited. Ponding, depth to saturated zone, flooding, dusty, unstable excavation walls.	Not prime farmland
Caseyville	Silt loam (0 to 2 percent slope)	Deep, poorly-drained, moderately permeable, formed in loess on till plains	A3, A4	Very limited. Depth to saturation zone, dusty, and unstable excavation walls.	Prime farmland if drained

Mapping Unit	Texture	Characteristics	Location (Project)	Construction Limitations	Farmland
Menfro	Silt loam (2 to 5 percent slope)	Very deep, well drained, moderately permeable, formed in loess	N1	Somewhat limited. Dusty and unstable excavation walls.	Prime farmland
Menfro	Silt loam (10 to 18 percent slope)	Very deep, well drained, moderately permeable, formed in loess	N1, N3	Somewhat limited. Dusty, slope, and unstable excavation walls.	Not prime farmland
Winfield	Silt loam (2 to 5 percent slope)	Very deep, well drained, moderately permeable, formed in loess	N1, N3	Somewhat limited. Shrink-swell potential, depth to saturated zone, unstable excavation walls.	Prime farmland
Winfield	Silt loam (5 to 10 percent slope, eroded)	Very deep, well drained, moderately permeable, formed in loess	N1, N3	Somewhat limited to very limited. Slope, shrink-swell potential, depth to saturated zone, and unstable excavation walls.	Farmland of statewide importance

Sources: Scott AFB 2015b, USDA-NRCS 2019

Note: Project M3 is not included in the above table because airfield tree violations could be addressed anywhere on Scott AFB.

Geologic Hazards. Scott AFB lies within Seismic Zone IX, which contains the New Madrid Fault Zone that extends from Cairo, Illinois, on the Ohio River southward through New Madrid, Missouri. The New Madrid Fault Zone is the most active seismic area east of the Rocky Mountains with almost weekly tremors and, on rare occasions, small earthquakes measuring 3.0 to 4.0 or more on the Richter scale. The last major earthquake along this fault was in 1812 and had an estimated magnitude of 8.0 (USGS 2019a). The most recent significant earthquake in southern Illinois occurred in September 2017 and measured 3.8 on the Richter scale. The epicenter was approximately 120 miles east of Scott AFB (USGS 2019b).

The U.S. Geological Survey has produced seismic hazard maps based on current information for the rate at which earthquakes occur in different areas and on how far strong shaking extends from the quake source. The hazard maps show the levels of horizontal shaking that have a 2 in 100 chance of being exceeded in a 50-year period. Shaking is expressed as a percentage of the force of gravity (percent g) and is proportional to the hazard faced by a particular type of building. In general, little or no damage is expected at values less than 10 percent g, moderate damage could occur at 10 to 20 percent g, and major damage could occur at values greater than 20 percent g. The 2014 United States National Seismic Hazards Map shows that the region of Scott AFB has a seismic hazard rating of 20 to 30 percent g (USGS 2014).

3.5 Hazardous Materials and Wastes

3.5.1 DEFINITION OF THE RESOURCE

Hazardous Materials, Hazardous Wastes, and Petroleum Products. Hazardous materials are defined by 49 CFR § 171.8 as hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR § 172.101), and materials that meet the defining criteria for hazard classes and divisions in 49 CFR § 173.

Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA) at 42 USC § 6903(5), as amended by the Hazardous and Solid Waste Amendments, as "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."

Petroleum products include crude oil or any derivative thereof, such as gasoline, diesel, or propane. They are considered hazardous materials because they present health hazards to users in the event of incidental releases or extended exposure to their vapors.

Evaluation of hazardous materials and wastes focuses on the storage, transportation, handling, and use of hazardous materials, as well as the generation, storage, transportation, handling, and disposal of hazardous wastes. In addition to being a threat to humans, the improper release or storage of hazardous materials, hazardous wastes, and petroleum products can threaten the health and well-being of wildlife species, habitats, soil systems, and water resources.

Toxic Substances. A toxic substance is a chemical or mixture of chemicals that may present an unreasonable risk of injury to public health or the environment. These substances include asbestos-containing materials (ACMs), lead-based paint (LBP), and polychlorinated biphenyls (PCBs), all of which are typically found in older buildings and utilities infrastructure. USEPA has authority to regulate these substances via the Toxic Substances Control Act (15 USC § 53).

USEPA has established that any material containing more than 1 percent asbestos by weight is considered an ACM. ACMs generally are found in building materials such as floor tiles, mastic, roofing materials, pipe wrap, and wall plaster. ACMs might be present in buildings on Scott AFB. LBP is found in many surface coatings on Scott AFB. PCBs are man-made chemicals that persist in the environment and were used widely in building materials (e.g., caulk) and electrical products prior to 1979. Structures constructed prior to 1979 potentially include PCB-containing building materials.

Environmental Contamination. The Comprehensive Environmental Response, Compensation, and Liability Act governs response or cleanup actions to address releases of hazardous substances, pollutants, and contaminants into the environment. The Defense Environmental Restoration Program was formally established by Congress in 1986 to provide

for the cleanup of DoD property at active installations, Base Realignment and Closure installations, and formerly used defense sites throughout the United States and its territories. The two restoration programs under the Defense Environmental Restoration Program are the ERP and the Military Munitions Response Program (MMRP). The ERP addresses contaminated sites, while the MMRP addresses nonoperational military ranges and other sites suspected or known to contain unexploded ordnance, discarded military munitions, or munitions constituents. Each site is investigated and appropriate remedial actions are taken under the supervision of applicable federal and state regulatory programs. When no further remedial action is necessary for a given site, the site is closed and it no longer represents a threat to human health.

Radon. Radon is a naturally occurring odorless and colorless radioactive gas found in soils and rocks that can lead to the development of lung cancer. Radon tends to accumulate in enclosed spaces, usually those that are below ground and poorly ventilated (e.g., basements). USEPA established a guidance radon level of 4 picocuries per liter (pCi/L) in indoor air for residences, and radon levels above this amount are considered a health risk to occupants.

3.5.2 EXISTING CONDITIONS

Hazardous Materials, Petroleum Products, and Hazardous Wastes. Scott AFB uses hazardous materials and petroleum products such as liquid fuels, aircraft deicer, pesticides, and solvents for everyday operations. The use of these hazardous materials and petroleum products results in the generation and storage of hazardous wastes and used petroleum products on the installation. Scott AFB is an RCRA Large Quantity Generator with facility identification number IL7570024177 (Scott AFB 2018c). RCRA Large Quantity Generators generate 1,000 kilograms per month or more of hazardous waste or more than 1 kilogram per month of acutely hazardous waste.

The only facilities associated with the installation development projects that might use, store, or generate hazardous materials, petroleum products, or hazardous wastes are the 126 ARW's existing hangar (Building 5026) and Fire Station 3 (Building 3901). The existing hangar uses hazardous materials and petroleum products and generates hazardous wastes from the maintenance of aircraft. Fire Station 3 contains a diesel fuel aboveground storage tank (AST) for an emergency electricity generator, minimal quantities of fire equipment maintenance-related hazardous materials and petroleum products (e.g., motor oil), and aqueous film forming foam (AFFF) that is stored in various crash trucks (Scott AFB 2018d).

USAF installations manage hazardous materials in compliance with AFI 32-7086, *Hazardous Materials Management*, and hazardous wastes through AFI 32-7042, *Waste Management*. Scott AFB has implemented installation-specific hazardous materials and hazardous waste management plans. These plans define roles and responsibilities, address record keeping requirements, and provide spill contingency and response requirements. Such plans include Scott AFB's Hazardous Material Emergency Planning and Response Plan (HAZMAT Plan), Hazardous Waste Management Plan (HWMP), and Integrated Contingency Plan (ICP) (Scott AFB 2018c, Scott AFB 2018d, Scott AFB 2017b).

Toxic Substances. ACMs on Scott AFB are managed in accordance with the installation's ACMs plan. ACMs are generally maintained in place until the building is renovated or demolished. The unnumbered building at Facility 9020 and Building 533 were constructed in 1941 and 1942, respectively (Thomason and Associates 1992, Scott AFB 2011a). These buildings are assumed to contain ACMs and would need to be surveyed for asbestos by a certified contractor prior to demolition. The other buildings affected by installation development on Scott AFB include Fire Station 3 (Building 3901), which is proposed for expansion, and the FAM Camp bathhouse (Building 6402), which is proposed for demolition and rebuilding. These buildings were constructed in 2001 and 1997, respectively, and are not suspected to contain ACMs.

The installation's lead exposure and LBP management plan provides guidance on how to protect USAF personnel and the public from exposure and the management and disposal of LBP. Based on their year of construction, the unnumbered building at Facility 9020 and Building 533 are assumed to contain LBP. These buildings would need to be surveyed by a certified contractor prior to demolition. Fire Station 3 and the FAM Camp bathhouse are not suspected to contain LBP.

Most major equipment, components, and transformers with PCB concentrations of 500 parts per million (ppm) or greater at Scott AFB have been removed from service or refilled with non-PCB oils. The installation obtained "PCB-free" status in April 1996 (Scott AFB 2012). Older electrical infrastructure, such as light fixtures and surge protectors, within buildings may still contain PCBs.

Environmental Contamination. This EA focuses only on the active contamination sites that have a potential to be impacted by the installation development projects. Contamination sites that require no further action, do not directly coincide with proposed activities, or would not be impacted by an installation development project are not discussed in this EA. There are five active ERP sites on the installation that have the potential to be affected by the installation development projects. These sites are OT-007, SS-005, SS-025b, ST-010, and UNK-510. These sites are discussed in **Table 3-5** and are shown on **Figure 1-2**. There is one MMRP site on the installation; however, it is not located in proximity to any of the installation development projects (Scott AFB 2011c, Scott AFB 2019a) and does not warrant further consideration in this EA.

Radon. USEPA rates St. Clair County, Illinois, as radon zone 2. Counties in zone 2 have a predicted average indoor radon screening level of between 2 and 3.9 pCi/L (USEPA 2019a).

Table 3-5. Status of ERP Sites Potentially Affected by Installation Development

Site Number	Site Name	Site Description	Current Status	Affected Alternative	Expected Site Closure
OT-007	Sludge Weathering Lagoon/ Former Army Reserve Bulk Fuel Farm	Located south of Taxiway G near Building 5032, this site was a former sludge weathering lagoon and formerly contained two bulk fuel ASTs for the Army Reserve Bulk Fuel facility. Soil contamination has been addressed. The contaminants of concern in groundwater are metals, chloroform, and trichloroethylene. The current remedy is monitored natural attenuation with land use controls restricting the use of groundwater.	RA	A3-1	2060
SS-005	Bulk Fuel Storage Area	Located at the bulk fuel facility near Building 560, a release of 120,000 gallons of JP-4 jet fuel occurred in 1977. Contaminants of concern are polynuclear aromatic hydrocarbons, benzene, chromium, and lead in soil and methyl tert-butyl ether, arsenic, and manganese in shallow groundwater. The site is currently undergoing passive groundwater treatment. Land use controls prohibit residential development and the use of groundwater.	RA	M2	2024
SS-025b	Former Base Housing Areas (Pagelow Housing Area only)	Located in the vicinity of Building 1560, soil contamination resulted from leaks of residential heating oil ASTs at the Pagelow Housing Area. The ASTs were removed in 1984, and the houses were demolished in 1992. The contaminant of concern is polynuclear aromatic hydrocarbons in isolated pockets of soil. Soil was remediated to industrial standards. Land use controls prohibit residential development. The USAF is currently investigating whether a second source is responsible for this contamination.	RI	C1, M1-1	2025
ST-010	Base Wide Underground Storage Tanks (Tank 55 only)	The Tank 55 site is on the northwestern portion of the installation near the north taxiway. A former gasoline underground storage tank release resulted in benzene, ethylbenzene, and toluene contamination in soil and groundwater. Some contaminated soils have been removed. The site is currently undergoing passive groundwater treatment. Land use controls prohibit residential development and the use of groundwater.	RA	M1-3	2025

Site Number	Site Name	Site Description	Current Status	Affected Alternative	Expected Site Closure
UNK-510	South Ditch	This site is the entire South Ditch. Soil, sediment, and surface water have been contaminated with polynuclear aromatic hydrocarbons, PCBs, and metals (i.e., lead, manganese, barium, and arsenic) from many sources. The site is currently undergoing remedial investigation to determine a remedy.	RI	A3-1, A4-1, A4-2, M2	2025

Sources: Scott AFB 2011c, Scott AFB 2019a, Scott AFB 2008
Key: RA = Remedial Action, RI = Remedial Investigation

3.6 Infrastructure

3.6.1 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 man-made with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as "urban" or developed. The availability of infrastructure and its capacity to support growth are generally regarded as essential to the economic growth of an area. The infrastructure components discussed in this section are the airfield, electrical distribution, natural gas supply, water supply, sanitary sewer and wastewater treatment, stormwater management, communications, solid waste management, and transportation systems. Solid waste management primarily relates to the availability of landfills to support a population's solid waste needs. The transportation system addresses the capacity of roads and parking areas.

3.6.2 EXISTING CONDITIONS

***Airfield*.** Scott AFB has one runway, Runway 14R/32L, which is 8,001 feet long × 150 feet wide with a 1,000-foot overrun on the northwest end. Associated aprons, overruns, and taxiways cover approximately 4,689,300 ft^2. The apron, as of 2015, had capacity for 141 percent of Scott AFB's aircraft parking demand. Approximately 77 percent of the apron pavement was in good condition, 21 percent in fair condition, and 3 percent in poor condition. The airfield pavement, in general, was in good condition, as of 2015 (Scott AFB 2015a). The adjoining MidAmerica Airport has its own runway, Runway 14L/32R, which is 10,000 feet long × 150 feet wide.

Electrical Distribution. The installation's electricity is mostly supplied by Ameren Illinois. There are five substations on Scott AFB. They are rated from 5,250 to 12,500 kilovolt-ampere and each possess excess capacity ranging from 38.3 percent to 82.6 percent (Scott AFB 2015a).

Natural Gas Supply. Natural gas is supplied by Ameren Illinois, and the distribution system has capacity for 2,000,000 million British Thermal Units. The current demand, as of 2015, was 179,015 million British Thermal Units (Scott AFB 2015a). Buildings on Scott AFB are heated via individual facility boilers/furnaces fueled by natural gas.

Water Supply. The water for Scott AFB comes from surface water drawn from the Mississippi River, treated at the East St. Louis Water Treatment Facility, and supplied to the installation by Illinois American Water. Two transmission mains provide a peak water supply of 4,320,000 gallons per day (gpd). The average water demand, as of 2015, was 1,247,000 gpd with a peak demand of 3,070,500 gpd. Water storage is distributed amongst five aboveground storage tanks with a combined capacity of 1.5 million gallons (Scott AFB 2015a).

Sanitary Sewer and Wastewater Treatment. The sanitary sewer collection system consists of approximately 81,000 feet of gravity mains, 30,900 feet of force mains, and 36,500 feet of lateral pipes that convey wastewater to the wastewater treatment plant complex. Treated water is released into an unnamed tributary of Silver Creek or the Golf Course Pond for irrigation at the Cardinal Creek Golf Course. Treated wastewater can be released into Cardinal Lake but it is rarely released there. The wastewater treatment system was designed with a capacity of 3,000,000 gpd, while the current average demand, as of 2015, was 1,271,000 gpd with a peak demand of 1,887,000 gpd (Scott AFB 2015a). Scott AFB has an excess flow permit to allow for stormwater infiltration into the wastewater treatment system. The installation can release as much as 6,000,000 gpd during a major storm event.

Stormwater Management. Scott AFB has two stormwater discharge permits with the IEPA. Stormwater is collected from various locations on the installation and discharged into downstream water bodies such as South Ditch, Cardinal Lake, and Silver Creek. Stormwater management on Scott AFB is adequate; however, ponding is known to occur in some areas.

Communications. Manhole and conduit systems provide communications support for the installation through buried communication infrastructure. Service and infrastructure are available to support a wide range of communication requirements such as voice, data, video, wireless, land mobile radio, aircraft communications, and security systems (Scott AFB 2012).

Solid Waste Management. The Scott AFB Solid Waste Management Plan follows the solid waste management requirements stipulated by AFI 32-7042, *Waste Management*. All non-recyclable municipal solid waste is collected by a contractor and disposed of in landfills off installation. Industrial recycling is done on an as-needed basis. Construction and demolition waste is managed by individual construction contracts (Scott AFB 2012). As of fiscal year 2013, the non-hazardous solid waste diversion rate was 43.5 percent and the construction debris diversion rate was 92.8 percent (Scott AFB 2015a).

Transportation. Scott Drive is the primary north-south artery on Scott AFB for vehicular traffic. Golf Course Road, East Drive, South Drive, and Hangar Road complete a circumferential route around the airfield and the eastern half of Scott AFB. East Winters Street and West Birchard Street are two main arteries stemming from Scott Drive on the western side of the airfield. Major roadways surrounding the installation include Interstate (I-) 64 to the north and Illinois State Route (IL-) 4 to the east, IL-161 to the south, and IL-158 to the west. **Figures 1-1** and **1-2** show major roads on and surrounding Scott AFB. Parking is available on the installation adjacent to most buildings. In general, there is sufficient roadway and parking capacity to meet Scott AFB's needs.

3.7 Land Use

3.7.1 DEFINITION OF THE RESOURCE

Land Use. Land use refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are codified in local zoning laws. Two main objectives of land use planning are to ensure orderly growth and compatible uses among adjacent property parcels or areas. However, there is no nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use descriptions, labels, and definitions vary among jurisdictions. Natural conditions of property can be described or categorized as unimproved, undeveloped, conservation or preservation area, and natural or scenic area. There is a wide variety of land use categories resulting from human activity. Descriptive terms for human activity land uses often used include residential, commercial, industrial, military, agricultural, institutional, transportation, communications and utilities, and recreational.

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

3.7.2 EXISTING CONDITIONS

On-installation Land Use. As described in **Section 1.2**, Scott AFB is divided into four districts for planning future development: Administration, Airfield, Core, and Industrial. Additionally, the largely undeveloped and forested area along the eastern boundary of Scott AFB and some residential areas are not included in any planning district. The Administration planning district is on the northern portion of the installation and contains Defense Information System Agency – Continental United States Field Command and the Cardinal Creek Golf Course. The Airfield planning district includes the airfield and flight support facilities including the buildings for the 126 ARW and 932 AW. This planning district covers the central portion of the installation and runs northwest to southeast.

The Core planning district is on the western portion of Scott AFB and includes administrative buildings, stores, restaurants, two banks, a hotel, post office, clinic, gasoline station, chapel, and recreational facilities such as the bowling alley, fitness centers, and the library. Planning within the Core planning district is further divided into ADPs, which include the Community and Housing ADP, Major Command Administration ADP/HHQ ADP, Historic District ADP, and Flightline Support ADP. The Industrial district is along the southeastern edge of the installation and consists of maintenance, airfield, and operations buildings. The residential areas for accompanied and unaccompanied housing are primarily west and southwest of the airfield and are outside of a planning district, though some unaccompanied housing falls within the Core planning district (Scott AFB 2015a). The installation development projects addressed in this EA are organized by the planning districts in which they coincide (see **Table 1-1**).

There are 11 separately designated land use categories for Scott AFB. These are Administrative, Airfield Operations and Maintenance (O&M), Airfield, Community Commercial, Community Service, Housing Accompanied, Housing Unaccompanied, Industrial, Medical, Outdoor Recreation, and Open Space (Scott AFB 2015a). **Table 3-6** identifies the land use categories that each installation development project is within.

Table 3-6. Land Use Categories Associated with the Installation Development Projects

Land Use Category	Alternative
Administrative	C1, M1-1, M1-2, M1-4
Airfield	A1, A3-1, A3-2, A3-3, A4-1, A4-2, A5
Airfield O&M	A2
Community Service	C1, M1-1
Housing Unaccompanied	C2
Industrial	C4, M2
Outdoor Recreation	N1, N3
Open Space	C3, M1-3, N2

Source: Scott AFB 2015a
Note: Project M3 could occur in any land use category.

As noted in **Section 3.5.2**, there are five active ERP sites on the installation that have the potential to be affected by the installation development projects. Four of these five ERP sites have land use controls that prohibit residential development and/or restrict the use of groundwater at the sites. The land use controls at these ERP sites are as follows:

- ERP Site OT-007 – Restrict the use of groundwater for drinking purposes.
- ERP Site SS-005 – Prohibit residential development and restrict the use of groundwater for drinking purposes.
- ERP Site SS-0025b – Prohibit residential development.
- ERP Site ST-010 – Prohibit residential development and restrict the use of groundwater for drinking purposes (Scott AFB 2008).

Scott AFB has established three types of safety zones at the ends of the installation's runway to protect the airfield from airspace encroachment by incompatible land uses. These three safety zones are the CZ, Accident Potential Zone (APZ) I, and APZ II. The CZ is an area beginning immediately after the thresholds of the runway with the highest accident potential. Land use restrictions in CZs prohibit most land uses and development unrelated to the airfield, and USAF generally purchases land inside of these zones to ensure compatibility. All property within the CZs of Scott AFB's runway are owned by USAF, MidAmerica Airport, or St. Clair County and are zoned to ensure no future incompatible development (Scott AFB 2015a). The proposed locations for Alternatives A3-1, A3-2, A3-3, A4-1, A4-2, M1-3, and M3 are within Scott AFB's CZs (see **Figure 1-2**). No installation development projects are proposed to be within Scott AFB's APZs I and II; therefore, these safety zones do not require further discussion in this EA.

***Surrounding Region*.** Scott AFB is in St. Clair County, Illinois, approximately 20 miles from St. Louis, Missouri. The installation is adjacent to the communities of Shiloh, centered approximately 3 miles to the west; Mascoutah, approximately 7 miles to the southeast; and O'Fallon, approximately 6 miles to the northwest. The area immediately surrounding the installation consists mainly of agriculture or undeveloped land (i.e., cropland, wetlands, and forest) (Scott AFB 2015b). Scott AFB shares a runway, taxiway, and air traffic control tower staffed by USAF personnel with MidAmerica Airport.

The Shiloh-Scott MetroLink Station is immediately outside the western border of the installation. Off-installation military housing is adjacent to the southern border of the installation, and Scott Elementary School is off the installation but adjacent to the on-installation accompanied housing area in the southwestern corner of Scott AFB.

3.8 Noise

3.8.1 DEFINITION OF THE RESOURCE

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, distance between the noise source and the receptor, receptor sensitivity, and time of day. A sensitive receptor could be a specific location (e.g., schools, housing, or hospitals) or an expansive area (e.g., nature preserves, historic preservation districts) in which occasional or persistent sensitivity to noise above ambient levels exists. Noise is often generated by activities essential to a community's quality of life, such as construction, vehicular traffic, or aircraft operations.

Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The dB is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. Hertz are used to quantify sound frequency. The human ear responds differently to different frequencies. "A-weighting," measured in A-weighted decibels (dBA), approximates a frequency response expressing the perception of sound by humans. Sounds encountered in daily life and their approximate sound levels are provided in **Table 3-7**.

Table 3-7. Common Sounds and Their Levels

Outdoor	Sound Level (dBA)	Indoor
Impact pile driver at 50 feet	100	Rock band
Gasoline lawnmower at 3 feet	90	Food blender at 3 feet
Downtown (large city)	80	Garbage disposal
Heavy traffic at 150 feet	70	Vacuum cleaner at 10 feet
Normal conversation	60	Normal speech at 3 feet
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room

Source: Caltrans 2013

The sound pressure level noise metric describes steady noise levels, although few noises are, in fact, constant. Therefore, additional noise metrics such as the following have been developed to describe noise:

- **Equivalent Sound Level (L_{eq})** – L_{eq} is the average sound level in dB of a given event or period of time.
- **Day-night Sound Level (DNL) –** DNL is the average sound energy in a 24-hour period with a penalty added to the nighttime levels. Due to the potential to be particularly intrusive, noise events occurring between 10 p.m. and 7 a.m. are assessed a 10 dB penalty when calculating DNL. DNL is a useful descriptor for aircraft noise because it: (1) averages ongoing yet intermittent noise, and (2) measures total sound energy over a 24-hour period. DNL provides a measure of the overall acoustical environment, but it does not directly represent the sound level at any given time.
- **Annoyance** – Annoyance is a subjective response that is often triggered by interference of activities with noise. Although the reaction of an individual to noise depends on a wide variety of factors, surveys have found a correlation between the time-averaged noise level as measured in DNL and the percentage of the affected population that is highly annoyed. It is widely accepted that 65 dBA DNL is the noise level at which a substantial percentage of the population can be expected to be annoyed by noise (AFI 32-7063, *Air Installations Compatible Use Zones Program*).

Regulatory Review. The Noise Control Act of 1972 directs federal agencies to comply with applicable federal, state, and local noise control regulations. The minimum requirement states that constant noise exposure for workers must not exceed 90 dBA over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed is 115 dBA and exposure to this level must not exceed 15 minutes within an 8-hour period. The standards limit instantaneous exposure to 140 dBA. If noise levels exceed these standards, employers are required to provide personal protective equipment (PPE) to reduce sound levels to acceptable limits (29 CFR § 1910.95). Additionally, workers would be required to use proper personal hearing protection in accordance with Air Force Occupational Safety and Health Standard 48-20, *Operational Noise and Hearing Conservation Program*. According to USAF, Federal

Aviation Administration, and U.S. Department of Housing and Urban Development criteria, residential units and other noise-sensitive land uses are “clearly unacceptable” in areas where the noise exposure exceeds 75 dBA DNL, “normally unacceptable” in regions exposed to noise between 65 and 75 dBA DNL, and “normally acceptable” in areas exposed to noise of 65 dBA DNL or less.

Although Scott AFB is a federal property where state and local noise regulations are not directly enforceable, the consideration of state and local noise regulations in an EA is useful for establishing the context and intensity of noise impacts. Noise regulations for the State of Illinois include limits for several types of noise-producing activities; however, these limits do not apply to sound emissions from construction equipment (State of Illinois 2018). St. Clair County noise regulations do not provide sound emission limits for construction equipment; however, noise volume or frequency cannot be unreasonably offensive at or beyond property lines. Further, if the volume or frequency of noise is unreasonably offensive, the noise must be muffled (St. Clair County 2018).

Construction Noise. Construction and demolition can cause an increase in sound that is well above the ambient level. A variety of sounds are emitted from loaders, trucks, saws, and other work equipment. **Table 3-8** lists noise levels associated with common types of construction equipment. Construction equipment usually exceeds the ambient sound levels by 20 to 25 dBA in an urban environment and up to 30 to 35 dBA in a quiet suburban area. Construction and demolition noise is short-term and intermittent because it occurs only when construction and demolition activities are occurring.

Table 3-8. Average Noise Levels for Construction Equipment

Construction Category and Equipment	Predicted Noise Level at 50 feet (dBA)	Predicted Noise Level at 500 feet (dBA)	Predicted Noise Level at 1,000 feet (dBA)
Clearing and Grading			
Bulldozer	80	60	54
Grader	80–93	60–73	54–67
Truck	83–94	63–74	57–68
Excavation			
Backhoe	72–93	52–73	46–67
Jackhammer	81–98	61–78	55–72
Building Construction			
Concrete mixer	74–88	54–68	48–62
Welding generator	71–82	51–62	45–56
Pile driver	91–105	71–85	65–78
Crane	75–87	55–67	49–61
Paver	86–88	66–68	60–62
Miscellaneous			
Chain saw	87	67	61
Tree Stump Grinder	69	49	43

Sources: USEPA 1971, Predator 2007, Purdue 2000, TRS Audio Undated a

Note: Construction equipment equipped with noise control devices (e.g., mufflers) and use of sound barriers would be expected to result in lower noise levels than shown in this table.

3.8.2 EXISTING CONDITIONS

The ambient noise environment of Scott AFB is primarily affected by aircraft operations, vehicle traffic, and military operations such as aircraft maintenance activities and weapons training (Scott AFB 2012). Noise modeling for the Scott AFB and MidAmerica Airport airfields was last updated in April 2019. As shown in **Figure 1-2**, some of the project areas (i.e., 8 of the 21 action alternatives) coincide with the 65 to 79 dBA DNL noise zones. Aircraft operations from MidAmerica Airport immediately to the east of the installation also contribute to the ambient noise environment of Scott AFB; however, the 65 dBA DNL and greater noise zones associated with MidAmerica Airport are mostly contained within MidAmerica Airport boundaries and do not include any portion of Scott AFB (Scott AFB 2019b). Automobile traffic at Scott AFB consists of passenger vehicles, military vehicles, delivery trucks, and fuel trucks. Passenger vehicles compose a majority of the traffic on Scott AFB and the surrounding community roadways. Due to the aircraft operations, military operations, and vehicle traffic within and adjacent to Scott AFB, the ambient sound environment of Scott AFB is similar to an urban environment (Scott AFB 2012). The description of the surrounding area, the distance of the closest building and sensitive receptor, and the land use types associated with the closest building and sensitive receptor for each of the 21 action alternatives are summarized in **Table 3-9**.

Table 3-9. Existing Conditions for the Installation Development Project Areas

Alternative	Noise Zone(s) (dBA DNL)	Description of Surrounding Area	Closest Building(s) and Land Use Category	Approximate Distance to Closest Building(s) (feet)	Sensitive Receptor within 1,000 feet* and Land Use Category
Airfield Projects					
A1	65 to 69 and 70 to 74	Airfield, roadways, golf course, and aircraft O&M and industrial buildings	Building 6010 (Industrial)	130	None
A2	-	Airfield, McCullough Road, and open space	Building 3651 (Medical)	1,300	None
A3-1	65 to 69 and 70 to 74	Airfield, roadways, and administrative, aircraft O&M, community service, and industrial buildings	Building 3189 (Administrative)	50	None
A3-2	65 to 69 and 70 to 74	Airfield, roadways, outdoor recreation area, and administrative, aircraft O&M, community service, and industrial buildings	Building 5032 (Aircraft O&M)	150	None
A3-3	65 to 69 and 70 to 74	Airfield, roadways, and administrative, aircraft O&M, community service, and industrial buildings	Building 5032 (Aircraft O&M)	120	None
A4-1 & A4-2	65 to 69	Airfield, roadways, and industrial buildings	Building 3200 (Airfield)	500	None
A5	65 to 69 and 70 to 74	Airfield, roadways, and administrative and aircraft O&M buildings	Building 742 (Aircraft O&M)	Immediately adjacent	None
Core District Projects					
C1	-	Roadways, outdoor recreation area, and administrative, community service, housing, and medical buildings	Building 1520 (Administrative)	115	Building 1420 (Housing) - 650 feet
C2	-	Roadways, open space, outdoor recreation area, community service buildings, and housing	Building 1830 (Housing)	25	Building 1830 (Housing) – 25 feet
C3	-	Airfield, roadways, open space, outdoor recreation area, and administrative, community service, and community commercial buildings	Building 386 (Community Commercial)	250	None
C4	-	Airfield, roadways, housing, and administrative, aircraft O&M, and industrial buildings	Building 548 (Industrial)	85	Building 670 (Housing) – 350 feet

Alternative	Noise Zone(s) (dBA DNL)	Description of Surrounding Area	Closest Building(s) and Land Use Category	Approximate Distance to Closest Building(s) (feet)	Sensitive Receptor within 1,000 feet* and Land Use Category
Multi-District Projects					
M1-1	-	Airfield, roadways, housing, open space, outdoor recreation area, and administrative and community service buildings	Building 1560 (Community Service)	Immediately adjacent	Building 1441 (Housing) – 150 feet
M1-2	-	Roadways, open space, and administrative, community commercial, and medical buildings	Building 1600 (Administrative)	50	Building 155 (Medical) – 900 feet
M1-3	-	Airfield, roadways, open space, outdoor recreation area, and administrative, aircraft O&M, community commercial, and community service buildings	Building 386 (Community Commercial)	200	None
M1-4	-	Roadways, housing, open space, outdoor recreation area, and administrative buildings	Building P-40 (Administrative)	Immediately adjacent	Building 625 (Housing) – 200 feet
M2	-	Airfield, housing, roadways, and administrative, aircraft O&M, and industrial buildings	Belleville Gate (Industrial)	50	Building 661 (Housing) – 175 feet
M3	65 to 69, 70 to 74, and 75 to 79	Installation-wide except for areas within the 100-year floodplain, wetlands, ERP sites, or known archaeological sites	Various depending on tree location	-	Various depending on tree location
Not Districted Projects					
N1	-	Open space and outdoor recreation area	Recreational vehicles (Outdoor Recreation)	Immediately adjacent	None
N2	-	Open space and outdoor recreation area	Building 3901 (Aircraft O&M)	300	None
N3	-	Open space, outdoor recreation area, and administrative and community service buildings	Building 6403 (Outdoor Recreation)	75	None

Sources: Scott AFB 2015a, Scott AFB 2019b

* Provides the closest sensitive receptor, if any, within 1,000 feet. Additional sensitive receptors could be within 1,000 feet of the project.

3.9 Safety

3.9.1 DEFINITION OF THE RESOURCE

A safe environment is one in which there is no, or an optimally reduced, potential for serious bodily injury or illness, death, or property damage. Safety addresses the well-being, safety, and health of members of the public, contractors, and USAF personnel during the various aspects of a proposed action and alternatives.

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 together with the exposed (and possibly susceptible) population. The degree of exposure depends primarily on the proximity of the hazard to the population. Hazardous activities can include construction, demolition, and many military activities.

Construction and Demolition Safety. All contractors performing construction and demolition on USAF installations are responsible for following federal Occupational Safety and Health Administration (OSHA) regulations and are required to conduct these activities in a manner that does not increase risk to workers or the public. OSHA regulations address the health and safety of people at work and cover potential exposure to a wide range of chemical, physical, and biological hazards, and ergonomic stressors. The regulations are designed to control these hazards by eliminating exposure to the hazards via administrative or engineering controls, substitution, use of PPE, and availability of Safety Data Sheets (SDSs).

Occupational health and safety is the responsibility of each employer, as applicable. Employer responsibilities are to review potentially hazardous workplace conditions; monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous substances), physical (e.g., noise propagation, falls), and biological (e.g., infectious waste, wildlife, poisonous plants) agents, and ergonomic stressors; and recommend and evaluate controls (e.g., prevention, administrative, engineering, PPE) to ensure exposure to personnel is eliminated or adequately controlled. Additionally, employers are responsible for ensuring a medical surveillance program is in place to perform occupational health physicals for those workers subject to the use of respiratory protection, engaged in hazardous waste work, asbestos, lead, or other work requiring medical monitoring.

Mission Safety. Mission safety on USAF installations is maintained through adherence to DoD and USAF safety policies and plans. The USAF safety program ensures the safety of personnel and the public on the installation by regulating mission activities. AFI 91-202, *The USAF Mishap Prevention Program*, implements Air Force Policy Directive 91-2, *Safety Programs*, and provides guidance for implementing the safety program on all activities that occur on USAF installations.

Scott AFB is a secure military installation with access limited to military personnel, civilian employees, contract employees, military dependents, and approved visitors. Operations and maintenance activities conducted on the installation are performed in accordance with applicable USAF safety regulations, published USAF Technical Orders, and standards

prescribed by USAF occupational safety and health requirements. Adherence to industrial-type safety procedures and directives ensures safe working conditions.

Explosive safety clearance zones are established around facilities used for storage, handling, or maintaining munitions to safeguard military and civilian communities. Air Force Manual 91-201, *Explosives Safety Standards*, establishes the size of clearance zones based on Q-D criteria or the category and weight of the explosives contained within the facility. Separations set by Q-D arcs establish the minimum distances necessary to prevent the exposure of USAF personnel and the public to potential safety hazards.

Flight Safety. The primary safety concerns regarding military flights is the potential for aircraft mishaps (i.e., crashes or crash landings), including those caused by adverse weather events and bird-aircraft strikes. Bird and wildlife strikes are a flight safety concern due to the potential damage that a strike might have on the aircraft or injury to aircrews. AFI 91-202, *The U.S. Air Force Mishap Prevention Program*, establishes mishap prevention program requirements (including those for BASH), assigns responsibilities for program elements, and contains program management information.

3.9.2 EXISTING CONDITIONS

Construction and Demolition Safety. Construction and demolition contractors at Scott AFB must follow standard OSHA and USAF safety practices as outlined in **Section 3.9.1**.

Mission Safety. Areas that require explosive safety clearance zones (i.e., Q-D arcs) include munitions facilities, firing ranges, and Federal Aviation Administration restricted areas. Q-D arcs cover a portion of Scott AFB, primarily on airfield runways and taxiways, munitions areas, and fight line hot cargo pads. Scott AFB aggressively manages its development program to ensure that it meets explosive safety requirements. Several areas are constrained by Q-D arcs at Scott AFB. Q-D arcs on Scott AFB are primarily at the airfield and on the eastern side of the installation near Building 3150. The three primary Q-D zones on the installation are the 607-foot Q-D arc associated with the munitions storage area, the 300-foot Q-D arc for the Explosive Ordnance Disposal area, and the 1,250-foot Q-D arc associated with the flight line hot cargo pad (Scott AFB 2015a). Q-D arcs on Scott AFB are shown on **Figure 1-2**.

The 375th Civil Engineering Squadron Fire and Emergency Services Flight provides 24-hour crash, structural, and emergency medical first response; technical rescue; hazardous material and weapons-of-mass-destruction incident response; and fire prevention, safety, and training/education services to Scott AFB.

Flight Safety. The Scott AFB BASH Plan implements AFI 91-202 and provides guidance for BASH reduction in areas where flying operations are conducted (Scott AFB 2016a). This plan provides hazards that exist at Scott AFB based on historical and current data on bird and wildlife routes, presence, and strike records. Implementation of specific portions of the plan is continuous, while other portions are implemented as required by heavy bird or other wildlife activity, primarily during the migratory seasons (1 November to 15 December and 1 March to 15 April). Migratory waterfowl, especially geese, and large local flocks of blackbirds and starlings are the primary hazards. While still considered a minor constraint, wildlife aircraft strikes are

down significantly since the early 2000s. Between 2011 and 2014, Scott AFB experienced a decrease from 19 airstrikes in 2011 to 4 in 2014. Coyotes, deer, bats, and insects are also hazards for aircraft (Scott AFB 2015a).

3.10 Water Resources

3.10.1 DEFINITION OF THE RESOURCE

Water resources are natural and man-made sources of water that are available for use by and for the benefit of humans and the environment. The water resources relevant to Scott AFB include groundwater, surface water, floodplains, and wetlands. Evaluation of water resources examines the quantity and quality of the resource and its demand for various purposes.

Groundwater. Groundwater is water that collects or flows beneath the Earth's surface, filling the porous spaces in soil, sediment, and rocks. A deposit of subsurface water that is large enough to tap via a well is referred to as an aquifer. Groundwater originates from precipitation, percolates through the ground surface, and often is used for potable water consumption, agricultural irrigation, and industrial applications. Groundwater typically 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 includes natural, modified, and constructed water confinement and conveyance features above groundwater that may or may not have a defined channel and discernable water flows. These features generally are classified as streams, springs, wetlands, natural and artificial impoundments (e.g., ponds, lakes), and constructed drainage canals and ditches. Stormwater is surface water generated by precipitation events that may percolate into permeable surficial sediments or flow across the top of impervious or saturated surficial areas, which is a condition known as runoff. Stormwater is an important component of surface water systems because of its potential to introduce sediments and other contaminants that could degrade lakes, rivers, and streams. Stormwater flows, which can be exacerbated by high proportions of impervious surfaces associated with buildings, roads, and parking lots, are important to the management of surface water. Stormwater systems reduce sediments and other contaminants that would otherwise flow directly into surface waters.

The CWA (33 USC §1251 et seq., as amended) establishes federal limits, through the National Pollutant Discharge Elimination System (NPDES), on the amounts of specific pollutants that are discharged to surface waters to restore and maintain the chemical, physical, and biological integrity of the water. An NPDES Construction General Permit would be required for any change in the quality or quantity of stormwater runoff and for some non-stormwater discharges from construction sites where 1 acre or more would be disturbed. The permit mandates use of BMPs to ensure that soil disturbed during construction does not pollute nearby water bodies.

The NPDES stormwater program requires construction site operators engaged in activities that disturb 1 acre or more to obtain coverage under a Generic Permit for Stormwater Discharge from Large and Small Construction Activities for their stormwater discharges. Construction or demolition that necessitates a permit requires preparation of a Notice of Intent to discharge stormwater and a Stormwater Pollution Prevention Plan (SWPPP) that is implemented during

work activities. The issuance of stormwater NPDES permits is conducted by either a USEPA regional office or a state regulatory office depending on which organization has primacy. In Illinois, stormwater NPDES permits are issued by IEPA. The Illinois Environmental Protection Act and the Illinois Administrative Code (IAC) at Title 35, Subtitle C: *Water Pollution*, Chapter 1: *Pollution Control Board*, Part 309: *Permits* address the requirements of NPDES permitting.

Section 438 of the Energy Independence and Security Act (EISA) (42 USC § 17094) establishes stormwater design requirements for federal construction projects that disturb a footprint greater than 5,000 ft^2. Additional guidance is provided in the USEPA *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the EISA*. UFC 3-210-10, *Low Impact Development*, also provides technical criteria, technical requirements, and references for the planning and design of applicable DoD projects to comply with stormwater requirements under Section 438 of EISA. Per these requirements, any increase in surface water runoff as a result of construction would be attenuated through the use of temporary and/or permanent drainage management features. The integration of low impact development design concepts incorporates site design and stormwater management to maintain the site's pre-development runoff rates and volumes to minimize further potential adverse impacts associated with increases in impervious surface area.

Water Quality Standards. Water quality standards are regulated by USEPA under the CWA. CWA Section 303(d) requires states to identify and develop a list of impaired water bodies where technology based and other required controls have not provided attainment of water quality standards. In Illinois, impaired waters are considered to be of high priority if public water supply use is impaired by atrazine, simazine, or nitrate; of medium priority if the associated watershed has no approved or ongoing Total Maximum Daily Loads (TMDLs); and of low priority if the associated watershed has approved or ongoing TMDLs (IEPA 2018c). A TMDL is the maximum amount of a substance that can be assimilated by a water body without causing impairment. A water body can be deemed impaired if water quality analyses conclude that pollutant limits established by the CWA have been exceeded. CWA Section 305(b) requires states to assess and report the quality of their water bodies. Water quality standards for surface waters at Scott AFB are specified in the IAC at Title 35, Subtitle C: *Pollution*, Chapter 1: *Pollution Control Board*, Part 302: *Water Quality Standards*.

Floodplains. Floodplains are areas of low-level ground along rivers, stream channels, large wetlands, or coastal waters. Such lands might be subject to periodic or infrequent inundation due to rain or melting snow. Floodplain ecosystem functions include natural moderation of floods, flood storage and conveyance, groundwater recharge, and nutrient cycling.

The risk of flooding typically depends on local topography, the frequency of precipitation events, and the size of the watershed above the floodplain. Flood potential is expressed in terms of the 100-year and 500-year floodplain and has been evaluated on Scott AFB in the *Final 2009 Floodplain Analysis for Scott AFB* (Scott AFB 2009) and by FEMA in 2003 (FEMA 2003). The 100-year floodplain is an area that has a 1 percent chance of inundation by a flood event in a given year, while 500-year floodplains have a 0.2 percent chance of inundation in a given year. Certain facilities inherently pose too great a risk to be in either the 100- or 500-year floodplain,

such as hospitals, schools, or storage buildings for irreplaceable records. To reduce the risks to human health and safety, federal, state, and local regulations often limit floodplain development to passive land uses such as recreational and preservation activities.

EO 11988, *Floodplain Management*, requires federal agencies to determine whether a proposed action would occur within a floodplain. This determination typically involves consultation of FEMA Flood Insurance Rate Maps and other available floodplain documentation that contains enough general information to determine the relationship of the project area to nearby floodplains. EO 11988 directs federal agencies to avoid floodplains unless the agency determines that no practicable alternative exists. Where the only practicable alternative is to site in a floodplain, the agency should develop measures to reduce impacts and mitigate unavoidable impacts.

Wetlands. 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 provision, and erosion protection. Wetlands on Scott AFB were delineated in 2009 by the USAF (Scott AFB 2010a).

CWA Sections 404 and 401 (through water quality certification) regulate the discharge of dredged or fill materials into the waters of the United States. The term "waters of the United States" has a broad meaning under the CWA and incorporates deepwater aquatic habitats and special aquatic habitats (including wetlands). The U.S. Army Corps of Engineers (USACE) 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 § 328.3(c)(4)).

Section 404 of the CWA requires that a permit is obtained before dredged or fill material is discharged into waters of the United States. Individual permits are reviewed by USACE. USACE evaluates permit applications under a public interest review and environmental criteria provided in the CWA Section 404(b)(1) Guidelines. For discharges that will have minimal adverse impacts, a general permit may be issued (USEPA 2017).

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

USAF policy is to avoid construction of new facilities within areas containing wetlands or within floodplains, where practicable. A FONPA must be prepared and approved by the applicable

USAF major command for all projects involving construction in a wetland or action within floodplain areas.

3.10.2 EXISTING CONDITIONS

Groundwater. Scott AFB is in an area of western Illinois that lacks aquifers of regional significance. However, domestic and agricultural users within approximately 10 miles of the installation obtain a limited amount of water from shallow aquifers. Groundwater in the Scott AFB area is contained in alluvium, glacial aquifers, and bedrock aquifers. Groundwater is present in the alluvium at depths of 1 to 3 feet below ground surface (bgs), at depths of 10 to 35 feet bgs in the glacial aquifers, and at depths of 175 to 300 feet bgs in the bedrock aquifers. Water quality of the surficial deposits (i.e., alluvium and glacial aquifers) is usually of slightly better quality than water from the bedrock units. Precipitation is the primary source of groundwater recharge in the area, and groundwater from the alluvium and glacial aquifers discharges to the underlying bedrock aquifers. The alluvium groundwater at Scott AFB is primarily on the eastern portions of the installation along the Silver Creek riparian corridor, and the remainder of the installation overlies glacial aquifers (Scott AFB 2015b). Only Alternative N2 could overlie the alluvium, while all other action alternatives likely overlie glacial aquifers.

Drinking water/irrigation wells were formerly located on the installation; however, none of these water wells are currently in use. Scott AFB and surrounding communities obtain potable water from the Mississippi River via the Illinois American Water Company municipal water distribution system (Scott AFB 2015b).

Surface Water. Scott AFB is within the Lower Kaskaskia River watershed. The three primary creeks that flow through Scott AFB are Silver Creek in the eastern portion of the installation, Ash Creek in the western portion of the installation, and Cardinal Creek in the northern portion of the installation. Other prominent surface water features on Scott AFB include South Ditch, Mosquito Creek, Scott Lake, Cardinal Lake, and the Golf Course Pond (Scott AFB 2012, Scott AFB 2015b). **Figure 1-2** shows key water features on Scott AFB. **Table 3-10** identifies those action alternatives that coincide with a surface water feature and provides the distance to the nearest surface water feature for those alternatives that do not coincide.

Ash Creek is a tributary of Loop Creek, which in turn is a tributary of Silver Creek. Cardinal Creek and South Ditch also are tributaries of Silver Creek (Scott AFB 2012). Ash Creek has been channelized throughout most of its reach on Scott AFB, and Cardinal Creek has been channelized throughout its entire reach on Scott AFB (Scott AFB 2015b). South Ditch originates on the installation near the Belleville Gate and extends west along South Drive, eventually flowing into Mosquito Creek. An unlined interconnection channel between South Ditch and Ash Creek is southwest of Building 6354. Mosquito Creek is south of Control Tower Road and conveys stormwater east and south between the landfill cells and into Silver Creek. Scott and Cardinal Lakes are fed by natural surface drainage; however, treated wastewater can be released into Cardinal Lake although it is rarely released there (Scott AFB 2015b).

Approximately 60 percent of the surface runoff on the installation drains directly into Silver Creek. The western portion of Scott AFB drains, or water is pumped from stormwater pump

Table 3-10. Water Resources Relative to Each Action Alternative

Alternative	Distance to Closest Surface Water (feet)	Distance to Closest Floodplain (feet)	Area that Overlaps with the Floodplain (ft^2)	Distance to Closest Wetland (feet)	Area that Overlaps with the Wetland (ft^2)
Airfield District Projects					
A1	880 (Cardinal Creek)	830	None	880	None
A2	300 (Silver Creek)	Possibly within floodplain	4,400	50	None
A3-1	Adjacent to or on top of culvert for South Ditch	Possibly within floodplain	To be determined during project design	Adjacent to or on top of culvert for South Ditch	None
A3-2	900 (South Ditch)	650	None	900	None
A3-3	1,500 (South Ditch)	850	None	1,500	None
A4-1 & A4-2	Within South Ditch	Within floodplain	6,500	Within wetland	16,500
A5	700 (South Ditch)	30	None	700	None
Core District Projects					
C1	3,200 (Ash Creek)	3,150	None	3,200	None
C2	630 (Ash Creek)	220	None	630	None
C3	4,400 (Ash Creek)	4,415	None	2,700	None
C4	475 (South Ditch)	300	None	475	None
Multi-District Projects					
M1-1	2,790 (Ash Creek)	2,775	None	2,790	None
M1-2	1,530 (Ash Creek)	1,025	None	1,530	None
M1-3	4,075 (Ash Creek)	4,050	None	2,250	None
M1-4	2,000 (South Ditch)	1,750	None	2,000	None
M2	Within South Ditch and Ash Creek	Within floodplain	325,000	Within wetlands	325,000
M3*	Varies	Varies	None	Varies	None
Not Districted Projects					
N1	515 (Silver Creek)	35	None	50	None
N2	Within Silver Creek	Within floodplain	1,000 (per log jam)	Within wetland	1,000 (per log jam)
N3	Within Cardinal Lake	Within floodplain	285,000	Within wetland	285,000

Sources: Scott AFB 2009, FEMA 2003, Scott AFB 2010a

*Distances to surface water, floodplains, and wetlands would vary with tree location.

stations, into Ash Creek. Drainage from the airfield, administrative, and industrial areas is directed to the South Ditch. Runoff from the southeastern corner of the installation flows to Mosquito Creek (Scott AFB 2015b).

Approximately 25 percent of Scott AFB consists of impervious surfaces such as asphalt, concrete, or buildings/facilities. Stormwater drainage at Scott AFB is provided by a series of enclosed storm sewers and open channels. The quality of stormwater runoff is managed in accordance with the Scott AFB SWPPP, which is a requirement of the Scott AFB General NPDES Permit for Stormwater Discharges from Industrial Activities (Permit No. ILR00). The SWPPP is an engineering and management strategy prepared to improve the quality of the stormwater runoff and thereby improve the quality of the receiving waters. It ensures

implementation of BMPs and delineates monitoring, training, and documentation requirements of Scott AFB's NPDES stormwater permit. The plan includes notification, permit application, and erosion control requirements for any disturbance through clearing, grading, or excavating greater than 1 acre on Scott AFB (Scott AFB 2016b, Scott AFB 2012). Scott AFB also holds a Municipal Separate Storm Sewer System (MS4) permit (Permit No. ILR40 0611) with the IEPA. The MS4 permit is a NPDES permit and requires compliance with the installation's Stormwater Management Plan (Scott AFB 2016c).

The 2018 IEPA's list of CWA Section 303(d) impaired waters includes and designates Silver Creek as a medium priority due to poor aesthetic quality (i.e., debris, floatables, trash, and visible oil); low dissolved oxygen; and high concentrations of iron, phosphorus, and sedimentation/siltation (IEPA 2018c). Nutrients and siltation from agriculture are the main non-point sources of pollution in Silver Creek. The primary causes of the pollution are animal feeding operations, crop production, and municipal point source discharges (Scott AFB 2015b).

Scott AFB has no outfalls (directly or indirectly) that discharge into the Silver Creek segment that is an impaired water body (Scott AFB 2016b). No other surface water bodies on Scott AFB are listed in the 2018 IEPA's list of impaired waters per CWA Section 303(d) (IEPA 2018c).

Floodplains. The 2009 Floodplain Analysis determined that approximately 583 acres of 100-year floodplain are present within the boundaries of Scott AFB (Scott AFB 2009, Scott AFB 2015b). **Figure 1-2** shows the boundaries of the 100-year floodplain as designated in the 2009 Floodplain Analysis. FEMA has not digitized their floodplain data for Scott AFB; therefore, the FEMA designated floodplain was considered for this EA but cannot be shown on any figure. Some of the installation development projects would coincide with the 100-year floodplain as designated by the 2009 Floodplain Analysis and/or FEMA; however, none would coincide with the 500-year floodplain. **Table 3-10** identifies those action alternatives that coincide with the 100-year floodplain and provides the distance to the nearest floodplain for those alternatives that do not coincide.

Wetlands. The wetlands at Scott AFB are the primary natural resource feature of the installation. Wetlands cover approximately 378 acres of Scott AFB, and approximately 375 acres are considered Section 404 jurisdictional wetlands. The majority of jurisdictional wetlands at Scott AFB are in the Silver Creek riparian corridor and are classified as forested

wetlands (351.36 acres) or emergent wetlands (22.78 acres) (Scott AFB 2010a, Scott AFB 2012, Scott AFB 2015b). Additionally, USACE determined that Silver Creek, Ash Creek, Cardinal Creek, and South Ditch are waters of the United States, while the man-made surface water features, including Scott Lake, Cardinal Lake, and the golf course ponds, were constructed in upland soils and are not waters of the United States (Scott AFB 2010a). **Figure 1-2** shows the boundaries of the wetlands as delineated in the Scott AFB 2009 Wetland Delineation. **Table 3-10** identifies those action alternatives that coincide with wetlands and provides the distance to the nearest wetland for those alternatives that do not coincide.

4. Environmental Consequences

This section presents the environmental consequences from installation development at Scott AFB. **Section 4.1** provides the criteria that were used to determine whether or not impacts would be significant. Per **Section 2.1**, each installation development project is evaluated in this EA as part of a larger proposed action of installation development at Scott AFB and as a discrete proposed action. **Section 4.2** presents the environmental consequences of the larger proposed action of installation development, which is implementing all 15 installation development projects. For Projects A3, A4, and M1, which have multiple action alternatives, impacts from a specific alternative are denoted, where necessary, within the discussion for the larger proposed action of installation development. The environmental consequences of the No Action Alternative of installation development (i.e., not implementing any of the 15 installation development projects) are presented in **Section 4.3**. **Section 4.4** provides the environmental consequences for each installation development project as a discrete proposed action. It includes the environmental consequences from each installation development project, each reasonable action alternative, and each No Action Alternative. The evaluation of environmental consequences was conducted in accordance with CEQ NEPA regulations at 40 CFR § 1508.8.

4.1 Significance Criteria

Air Quality. Impacts on air quality would be significant if installation development were to exceed the General Conformity Rule *de minimis* level thresholds. Based on compliance with the NAAQS, the General Conformity Rule is potentially applicable in St. Clair County to emissions of NO_x, VOC, $PM_{2.5}$, and SO_x, and as outlined in 40 CFR § 93.153(b), the applicable *de minimis* level threshold for these pollutants is 100 tpy. While the General Conformity Rule is not applicable to emissions of CO and PM_{10}, 100 tpy also can be used as a surrogate to determine the level of impacts under NEPA. Should emissions of an attainment pollutant exceed 100 tpy, further investigation would be performed to ensure the new emissions would not interfere with St. Clair County's ability to maintain attainment for that NAAQS. Installation development also would be significant if the emissions from stationary sources (e.g., boilers, furnaces, electricity generators) were to increase Scott AFB's potential to emit above major source thresholds. Lastly, significant impacts would occur if installation development meaningfully contributed to the potential effects of global climate change.

Biological Resources. The biological resources analysis discusses impacts from construction, demolition, and operations on vegetation, wildlife, and protected and sensitive species from installation development at Scott AFB. The evaluation of impacts on biological resources considers whether the action would result in a direct injury or mortality of an individual, particularly a protected or sensitive species. Each species has unique, fundamental needs for food, shelter, water, and space and can be sustained only where their specific combination of habitat requirements are available. Removal of sustaining elements of a species' habitat impacts its ability to exist. Therefore, the evaluation of impacts on biological resources also is based on whether the action would cause habitat displacement resulting in reduced feeding or reproduction, removal of critical habitat for sensitive species, and/or behavioral avoidance of available habitat as a result of noise or human disturbance. The level of impacts is based on (1)

the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource, (2) the proportion of the resource that would be affected relative to its occurrence in the region, (3) the sensitivity of the resource to the proposed activities, and (4) the duration of ecological ramifications. Impacts on biological resources are considered significant if species or special habitats would be adversely affected over large areas, or disturbances would cause reductions in population size or distribution of a species of special concern.

Cultural Resources. Impacts on cultural resources result from actions that change culturally valued elements of a resource or restrict access to cultural resources. Impacts on cultural resources may be short-term or long-term and direct or indirect. Direct impacts can result from physically altering, damaging, or destroying all or part of a resource. Indirect impacts can occur from alterations to characteristics of the surrounding environment that contribute to the importance of the resource or introducing visual, atmospheric, or audible elements that are out of character with the property or that alter its setting or feeling. Actions may have beneficial impacts if they improve the preservation of cultural resources or their historic settings.

USAF is coordinating the analysis in this EA with their review under Section 106 of the NHPA, which requires federal agencies to determine the effects of their undertakings on historic properties in consultation with the SHPO. USAF may reach a determination of *no historic properties affected*, *no adverse effect on historic properties,* or *adverse effect on historic properties*. According to 36 CFR Part 800.5, "an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the [NRHP] in a manner that would diminish the integrity of the [property]." If an undertaking is determined to have an adverse effect, USAF must implement measures to avoid, minimize, or mitigate the effect. USAF's Section 106 determinations are presented in this section along with the analysis of impacts under NEPA.

Geological Resources. 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 an installation development project on geological resources. Generally, adverse impacts can be avoided or minimized if proper construction techniques, erosion-control measures, and structural engineering design are incorporated into project development.

Impacts on geological resources would be significant if they would substantially alter the lithology (i.e., the character of a rock formation), stratigraphy (i.e., the layering of sedimentary rocks), and geological structures that control groundwater quality, distribution of aquifers and confining beds, and groundwater availability; or substantially change the soil composition, structure, or function within the environment.

Hazardous Materials and Wastes. Impacts on or from hazardous materials and wastes would be significant if a proposed action would result in noncompliance with applicable federal or state regulations, or increase the amounts generated or procured beyond current management procedures, permits, and capacities.

Impacts on contaminated sites would be significant if a proposed action would disturb or create contaminated sites resulting in negative impacts on human health or the environment, or if a proposed action would make it substantially more difficult or costly to remediate existing contaminated sites.

Infrastructure. The analysis to determine whether impacts on infrastructure systems are significant primarily considers whether a proposed action would exceed capacity or place unreasonable demand on a specific utility. Impacts might arise from energy needs created by direct or indirect workforce and population changes related to installation activities. It is assumed construction contractors would be informed of utility locations prior to any ground-disturbing activities that could result in unintended utility disruptions or human safety hazards. All construction would be conducted in accordance with federal and state safety guidelines. Any permits required for excavation and trenching would be obtained prior to the commencement of construction activities. Impacts on transportation systems would be considered significant if they significantly degrade the existing transportation infrastructure by creating unacceptable traffic on roadways, excessive delays at installation access gates, or shortfalls in parking. Impacts on the airfield would be considered significant if they significantly degrade or diminish airfield pavement or aircraft parking capacity.

Land Use. The significance of potential land use impacts is based on the level of land use sensitivity in areas affected by a proposed action and compatibility of proposed actions with existing conditions. In general, a land use impact would be significant if any of the following apply to a proposed action:

- Inconsistent or noncompliant with existing land use plans or policies.
- Precludes the viability of existing land use.
- Precludes continued use or occupation of an area.
- Incompatible with adjacent land use to the extent that public health or safety is threatened.
- Conflicts with planning criteria established to ensure the safety and protection of human life and property.

Noise. The noise environmental consequences section discusses noise from construction, demolition, and operations; potential changes to land use compatibility from noise; and the potential for human annoyance from noise produced by implementing installation development at Scott AFB. Discussions of the impacts of noise on biological resources and land use compatibility as a whole are provided in those respective subsections. Changes in noise would be considered significant if they would lead to a violation of any federal, state, or local noise regulation, or substantially increase areas of incompatible land use outside the installation.

Safety. Any increase in safety risks is considered an adverse impact on safety. Significant impacts on safety would occur if a proposed action were to do either of the following:

- Substantially increase risks associated with the safety of USAF personnel or the general public.

- Introduce a new safety risk for which USAF is not prepared or does not have adequate management and response plans in place.

Water Resources. A proposed action would have significant impacts with respect to water resources if any of the following were to occur:

- Substantially reduce water availability or supply to existing users.
- Overdraft groundwater basins.
- Exceed safe annual yield of water supply sources.
- Substantially affect water quality.
- Endanger public health or safety by creating or worsening health or flood hazard conditions.
- Threaten or damage unique hydrologic characteristics.
- Violate established laws or regulations adopted to protect water resources.

Determination of the significance of wetland impacts is based on (1) the function and value of the wetland, (2) the proportion of the wetland that would be affected relative to the occurrence of similar wetlands in the region, (3) the sensitivity of the wetland to proposed activities, and (4) the duration of ecological ramifications. Impacts on wetland resources are considered significant if high-value wetlands would be adversely affected.

4.2 Environmental Consequences of Installation Development

4.2.1 AIR QUALITY

Short-term, moderate, adverse impacts on air quality would result from construction associated with installation development at Scott AFB. Emissions of criteria pollutants would be directly produced from building construction and demolition, excavating, paving, and site grading activities for each installation development project. Such emissions would be temporary in nature and produced only when construction for a given installation development project is occurring. Construction for the installation development projects would be staggered through 2019, 2020, and 2021; therefore, construction air emissions would be staggered over these 3 years as well.

Sources of construction air emissions would include the operation of heavy equipment, workers commuting daily to and from the project areas in their personal vehicles, heavy duty diesel vehicles hauling materials and debris to and from the project areas, and ground disturbance. Criteria pollutants would be produced from the combustion of fuels. Particulate matter air emissions, such as fugitive dust, would be produced from ground-disturbing activities and from the combustion of fuels. The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of activity. Fugitive dust air emissions would be greatest during the initial site grading and excavation and would vary day to day depending on the work phase, level of activity, and prevailing weather conditions. Particulate matter emissions would also be produced from the combustion of fuels

in vehicles and equipment needed for construction. Construction would incorporate BMPs and environmental control measures (e.g., wetting the ground surface) to minimize fugitive particulate matter air emissions. Additionally, work vehicles are assumed to be well maintained and to use diesel particulate filters to reduce particulate matter air emissions.

USAF's Air Conformity Applicability Model (ACAM), version 5.0.12b, was used to estimate the air emissions from each action alternative, and **Table 4-1** summarizes the annual air emissions from construction and demolition. To estimate the air emissions from these activities, the construction and demolition for each action alternative was assumed to occur only in the year that the project would be implemented, which is described in **Section 2.3**. Construction and demolition air emissions from Projects M3, N2, and N3, which could occur annually, were included for each year's total. For Projects A3 and A4, where only one action alternative would be constructed, the most emissive alternative was used in **Table 4-1**. **Section 4.4** provides the estimated construction air emissions for each action alternative and identifies the assumptions used to develop those estimates.

Table 4-1. Annual Air Emissions from Construction of the Installation Development Projects

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e
2019	1.365	8.567	7.871	0.018	12.891	0.399	1,756.700
2020	5.114	19.194	18.406	0.043	59.539	0.882	4,235.300
2021	5.333	27.688	27.519	0.065	129.063	1.251	6,491.700

Notes: All values are in tpy. CO_2e = carbon dioxide equivalent.

Installation development at Scott AFB would produce new operational air emissions, and these new air emissions would result in a long-term, minor, adverse impact on air quality. Projects A1, A2, C1, and C2 would add new building space to Scott AFB, and new air emissions would be produced from heating these spaces with natural gas-fired furnaces. However, Project C4 would slightly offset these new air emissions from a reduction in heated interior space. Project C1 would add an emergency electricity generator to Scott AFB, and this generator would produce air emissions from the combustion of diesel fuel when operating. Project A2 would add eight new personnel to the installation, and the daily commutes of these new personnel in their personal vehicles would produce new air emissions. **Table 4-2** summarizes the annual net change in operational air emissions from heating the new building space, operating the generator, and the daily commutes of the new personnel, as estimated with the USAF's ACAM. **Section 4.4** provides the estimated operational air emissions for each of these action alternatives and identifies the assumptions used to develop those estimates. The furnaces and the emergency electricity generator may need to be added to Scott AFB's State Operating Permit. As demonstrated in **Table 3-1**, Scott AFB is sufficiently below major source thresholds that these new air emissions would not increase the installation's potential to emit above major source thresholds.

As stated in **Section 3.1.2**, St. Clair County is designated by USEPA as unclassified/attainment for all criteria pollutants except 8-hour O_3, which is designated as marginal nonattainment, and $PM_{2.5}$, which is designated as moderate nonattainment. As such, the General Conformity Rule

Table 4-2. Annual Change in Operational Air Emissions from the Installation Development Projects

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e
2019	-0.002	-0.035	-0.029	<-0.001	-0.003	-0.003	-41.500
2020	0.004	0.018	0.049	<0.001	0.001	0.001	22.000
2021	0.056	0.938	0.784	0.010	0.075	0.075	1,104.300
2022	0.017	0.306	0.258	0.001	0.023	0.023	368.800
Final Net	**0.075**	**1.227**	**1.062**	**0.011**	**0.096**	**0.096**	**1,453.600**

Note: All values are in tpy. CO_2e = carbon dioxide equivalent

is potentially applicable to emissions of NO_x, VOC, $PM_{2.5}$, and SO_x. For each of these pollutants, 100 tpy is the *de minimis* level threshold for new emissions to trigger a conformity analysis. As demonstrated in **Tables 4-1** and **4-2**, the annual new emissions of each of these pollutants would be less than 100 tpy; therefore, the requirements of the General Conformity Rule are not applicable.

Emissions of CO and PM_{10} would not be subject to the General Conformity Rule because St. Clair County is designated by USEPA as unclassified/attainment for these pollutants. Nevertheless, when annual emissions of CO and PM_{10} are compared to 100 tpy, only the 2021 emissions of PM_{10} would exceed 100 tpy. 129 tpy of PM_{10} would be produced in that year, which is approximately one percent of the St. Clair County's 2014 emissions of PM_{10} (USEPA 2014). Concentrations of PM_{10} in St. Clair County are so much less than NAAQS that they are not even monitored by USEPA (USEPA 2019b); therefore, the one percent increase in the county's PM_{10} emissions would not be expected to exceed the PM_{10} NAAQS for the county.

Installation development at Scott AFB would produce GHGs from construction and operations associated with each project. Construction would produce approximately 1,757, 4,235, and 6,492 tons of carbon dioxide equivalent (CO_2e) during 2019, 2020, and 2021, respectively. Operation of the natural gas-fired furnaces, emergency electricity generator, and new personnel commutes would increase Scott AFB's annual CO_2e emissions by approximately 1,454 tons by 2022. By comparison, 6,500 tons of carbon dioxide equivalent is approximately the GHG footprint of 1,252 passenger vehicles driven for 1 year or 706 homes' energy use for 1 year (USEPA 2018b). As such, these annual emissions of GHGs would not meaningfully contribute to the potential effects of global climate change.

Ongoing changes to climate patterns in the Midwest United States are described in **Section 3.1.2**. These changes are unlikely to affect USAF's ability to implement installation development on Scott AFB. Because climate change could increase the frequency and intensity of flooding in the Midwest United States, Projects M1 and M2 would serve as climate change resiliency actions to lessen potential flood damage to infrastructure and the severity of local flooding.

4.2.2 BIOLOGICAL RESOURCES

Short- and long-term, negligible to minor, adverse and beneficial impacts on biological resources would occur from installation development at Scott AFB. The following subsections describe the impacts on the various aspects of biological resources.

***Vegetation*.** Short- and long-term, negligible to minor, adverse and beneficial impacts on vegetation would occur. Short-term, adverse impacts on vegetation would occur from the use of heavy equipment and may include vegetation removal, trampling, and soil compaction. Areas of temporary ground disturbance would be reseeded and restored with vegetation where applicable. Permanent removal of vegetation and trees would create long-term impacts from permanent reduction in vegetation cover on the installation. Most of the areas associated with the installation development projects are already highly disturbed and are of low ecological value. These areas are not considered natural vegetation areas; therefore, there would be no impacts on native vegetation. Impacts on native vegetation could occur from projects near Silver Creek. Beneficial impacts on vegetation would occur from the removal of impervious surfaces during the demolition of two buildings and from the restoration of Cardinal Lake.

***Wildlife*.** Short- and long-term, negligible to minor, adverse and beneficial impacts on wildlife would occur. Although some birds, mammals, reptiles, and fish species may use the areas of the installation development projects for shelter and feeding, the abundance of wildlife in these areas is low because vegetation is regularly disturbed and there are few native plant species. The installation development projects along Silver Creek and near Cardinal Lake would occur in an area with a higher abundance and diversity of wildlife species due to the higher-value habitat available. Trees proposed to be removed within the forested area along Silver Creek, which provide habitat for bats and birds, would be permanently lost. These trees and other vegetation would be removed outside of the active season for bat species and the nesting season for migratory bird species, which is 1 April to 30 September.

Short-term impacts on wildlife would occur from noise associated with heavy equipment use and increased human presence during construction and demolition. Any increase in the frequency or intensity of noise from construction and demolition would cause temporarily avoidance of these areas by wildlife. Construction and demolition would require the use of heavy equipment that would generate short-term increases in noise near the project sites. Individual pieces of heavy equipment typically generate noise levels of 80 to 90 dBA at a distance of 50 feet (see **Table 3-8**). With multiple items of equipment operating concurrently, noise levels can be high within several hundred feet of active construction and demolition sites. Wildlife species would be expected to utilize suitable habitat outside of the project areas during construction and would return to the areas once the noise has ceased. Furthermore, wildlife currently inhabiting the project areas are habituated to noise disturbances because of the existing highly urbanized environment. There could be a small increase in the frequency of startle responses or other behavioral modifications caused by construction noise.

Removal of log jams along Silver Creek and enhancement of aquatic habitat at Cardinal Lake would eventually provide long-term, minor, beneficial impacts on wildlife. These projects would increase habitat quality for fish and a variety of other wildlife species.

***Threatened and Endangered Species*.** Short- and long-term, minor, adverse and beneficial impacts on federally and state-listed species would occur with some of the proposed projects. Most of the installation development projects would result in no adverse effects on threatened and endangered species. However, four projects (i.e., Alternatives M3, N1, N2, and N3) may affect, but are not likely to adversely affect, the federally listed Indiana bat and northern long-eared bat. Each of these projects would permanently remove trees from the installation including some from the forested area near Silver Creek that are suitable habitat for the bats. Tree cutting in suitable habitat for listed bat species would occur outside of the active season for the bats, between 1 October and 31 March, to avoid an adverse impact. The permanent loss of these trees would slightly reduce the amount of edge habitat available for the listed bat species, but Scott AFB would still retain approximately 400 acres of higher quality habitat within the Silver Creek riparian corridor. Construction noise in these areas of the installation would temporarily disturb listed bat species. The improved water quality within Cardinal Lake would attract prey species for the listed bat species, resulting in a beneficial impact.

Suitable habitat for the federally listed decurrent false aster and eastern prairie fringed orchid is extremely limited on the installation. As a result, it is unlikely these two species would be affected by installation development at Scott AFB. Scott AFB does not have suitable habitat for the pallid sturgeon, least tern, and Illinois cave amphipod; therefore, these species would not be affected.

Consultation with USFWS under Section 7 of the ESA was conducted to identify and address impacts from the installation development projects on the federally listed species. Alternatives M3, N1, N2, and N3 as well as the Proposed Action of installation development at Scott AFB may affect, but are not likely to adversely affect, the federally listed Indiana bat and northern long-eared bat. The remaining 11 installation development projects would not affect federally listed species. The USFWS concurred with the USAF's determination of effect on 6 June 2019. Separate consultation was completed for Project N1, and the USFWS concurred with the USAF's determination of effect for that project on 6 October 2017 (see **Appendix A**).

The MBTA and EO 13186 require federal agencies to avoid take of migratory birds listed in 50 CFR § 10.13. The following environmental protection measures would be implemented as appropriate to minimize or avoid take of migratory birds that could occur within areas of the installation development projects:

- Any tree-cutting activities would be performed outside of nesting season (i.e., 1 October and 31 March).
- If construction is scheduled to start during the period when migratory birds are present, a site specific survey for nesting migratory birds would be performed immediately prior to construction by a qualified biologist. If nesting birds are found during the survey, appropriately-sized buffer areas would be established around nests. Construction would be deferred in buffer areas until birds have left the nest. Confirmation that all young have fledged would be made by a qualified biologist.

4.2.3 CULTURAL RESOURCES

Short- and long-term, negligible to minor, direct and indirect, adverse and beneficial impacts on cultural resources would occur from installation development at Scott AFB. Long-term, adverse impacts would result from the introduction of new visual elements adjacent to the Scott Field Historic District and from changes to the district's landscaping. Long-term, beneficial impacts would result from a stormwater management project that would reduce damaging flooding within a historic building. Although all of the installation development projects would involve some level of ground disturbance, these projects are not anticipated to impact archaeological resources.

Archaeological Resources. Installation development would have no impact on archaeological resources. As discussed in **Section 3.3.2**, Scott AFB does not contain any archaeological resources that are eligible for NRHP listing, and only small portions of two unevaluated sites extend into the installation boundary. Only archaeological site 11-S-897, which is a historic farmstead that was flooded during creation of Cardinal Lake and is not eligible for NRHP listing, is within the footprint of an installation development project.

Unidentified archaeological sites could occur within areas of the installation identified as having low to medium potential but would not be expected in areas of extremely low potential. Of the 15 installation development projects, 13 would occur in areas of extremely low archaeological potential and/or within footprints of previous ground disturbance: A1, A2, A3, A4, A5, C1, C2, C3, C4, M1, M2, N1, and N3. The remaining two projects, M3 and N2, would occur in areas of low to medium archaeological potential. Project M3 entails ground disturbance to remove and replace trees that are in conflict with the airfield. As part of the program, any trees that are identified for removal within areas of low to medium archaeological potential would be cut at ground level and new trees would not be planted. Therefore, no ground disturbance would occur in archaeologically sensitive areas and impacts on archaeological resources would not be expected. Project N2 would remove log jams in Silver Creek and could entail up to 1,000 ft^2 of ground disturbance per log jam. Both sides of the creek have been surveyed and no archaeological sites were identified adjacent to the stream channel, although several sites have been recorded on terraces east of the creek outside of Scott AFB. Potential ground disturbance associated with Project N2 would not extend into these terraces and would not effect the archaeological sites.

Although the installation development projects would not be expected to encounter NRHP-eligible archaeological resources, all projects would follow the requirements of Scott AFB's Standard Operating Procedures (SOPs) for the inadvertent discovery of archaeological resources or human remains should any such discoveries occur. These are SOPs 13 and 14 in the installation's Integrated Cultural Resources Management Plan.

Architectural Resources. The installation development projects would include building expansion and demolition, changes in use, new aboveground construction, and landscape changes that would have negligible to minor adverse impacts on historic architectural resources. One project alternative, M1-4, would have a minor, indirect, beneficial impact by reducing

flooding that currently affects Building P-40, which is a contributing resource to the Scott Field Historic District.

Building expansion, demolition, and changes in use would occur under Projects A2, C1, C3, C4, and N1. Most of the buildings involved in these projects are modern facilities; however, three are more than 50 years old. The unnumbered building associated with Facility 9020 was built in 1941 and would be demolished under Project C3. Building 533 was built in 1942 and would be demolished under Project C4. Both buildings were evaluated as not eligible for NRHP listing (Thomason and Associates 1992, Scott AFB 2011a), and the demolitions would have no impact on important historic architectural resources. The Illinois SHPO concurred with these determinations on 18 April 2019 (see **Appendix A**). The third building is Building 4, where operations would be removed under Project C1. Personnel from other missions on Scott AFB would immediately relocate to Building 4 and it would not become vacant. Building 4 is a contributing resource of the Scott Field Historic District. The building would continue to be maintained in accordance with Scott AFB's Historic Building Maintenance Plan.

New aboveground construction would occur under Projects A1, A2, C1, C2, and N1. Although most of the projects would present only an incremental change to the visual setting at Scott AFB, Project C1 would construct a large building adjacent to the Scott Field Historic District. The building would be of dissimilar size and massing and would have a minor, adverse impact on the district. However, the project would not affect the internal cohesion or historic setting within the district or any of its characteristics that qualify the district for listing in the NRHP.

Two projects would have potential to affect the landscape of the Scott Field Historic District: Projects M1 and M3. Alternative M1-4 would construct surface and/or subsurface infiltration basins adjacent to Building P-40, which is a contributing resource of the district. Existing vegetation could be removed or modified as part of the project. Similarly, Project M3 could result in the removal of trees within the historic district if they conflict with airfield operations. In accordance with the Historic Building Maintenance Plan, Scott AFB would ensure that vegetation is replaced with mature specimens of similar types and species that blend into the surrounding landscape. Therefore, these direct, adverse impacts on the district's landscape would not diminish the district's historic integrity and would be negligible.

Project M2 would fill an interconnection between South Ditch and Ash Creek that is crossed by the Norfolk Southern Railroad. The railroad has been in existence since at least 1870 when a train depot was constructed for the City of Mascoutah. The South Ditch was constructed by Scott AFB around 1940 and the interconnection between South Ditch and Ash Creek likely was constructed around this same time; therefore, the trestle is not original to the railroad. It is unknown if the railroad or the trestle over the interconnection are eligible for NRHP listing because they are owned by Norfolk Southern Railway and are outside of the USAF's jurisdiction. Filling the interconnection within the railroad right-of-way would require collaboration with Norfolk Southern Railway. Project M2 would leave the trestle intact and fill material would not encroach on the trestle. As such, the project would have a negligible impact on the railroad and trestle, assuming these resources are eligible for the NRHP.

Traditional Resources. No resources of traditional or religious cultural importance have been identified on Scott AFB (Scott AFB 2017a). Therefore, no impacts would be expected. Scott AFB contacted the 19 Native American tribes identified as having historical affiliation with the Scott AFB geographic region, in letters dated 28 June 2019, to invite them to consult on the Proposed Action and participate in the Section 106 process (see **Appendix A**).

[[Preparer's Note: This section will be updated to include any pertinent comments received from the tribes.]]

Section 106 Consultation. Scott AFB conducted review under Section 106 of the NHPA for the installation development undertaking in consultation with the Illinois SHPO and Native American tribes and determined the installation development projects would have no adverse effect on historic properties. Although Projects C1, M1-4, and M3 would occur in or adjacent to the Scott Field Historic District, these projects would not alter the district's characteristics in a manner that would diminish the district's historic integrity. Scott AFB sent a letter to the Illinois SHPO on 28 June 2019 requesting concurrence of the determination of no adverse effect (see **Appendix A**). The SHPO's concurrence is pending. Scott AFB is consulting with the 19 federally recognized tribes as discussed in the preceding paragraph.

[[Preparer's Note: This section will be updated to include the results of Section 106 consultation.]]

4.2.4 GEOLOGICAL RESOURCES

Short- and long-term, negligible to moderate, adverse impacts on geological resources would occur from installation development at Scott AFB. The following subsections describe the impacts on the various aspects of geological resources.

Regional Geology. The installation development projects would not alter geological structures or features and would have no impact on regional geology.

Topography. Long-term, negligible, adverse impacts on the natural topography would occur as a result of demolition, site preparation (i.e., grading, excavating, and recontouring), and construction associated with the installation development projects. However, the installation development projects would occur on mostly flat terrain, and disturbance of these areas would not appreciably change local topography.

Soils. Short-term, minor to moderate, adverse impacts on soils would occur from implementation of the installation development projects. Short-term impacts would result from soil disturbance, compaction, and erosion during construction of the proposed installation development projects. Soil productivity, which is the capacity of the soil to produce vegetative biomass, would decline in temporarily disturbed areas and would be eliminated within the footprint of new buildings and pavement. Loss of soil structure due to compaction from foot and construction vehicle/equipment traffic could result in changes in drainage patterns and increased erosion and sedimentation. However, soils within some of the installation development project areas have already been generally disturbed and compacted through previous construction and landscaping. Impacts may result from shallow excavations and

paving due to characteristics of the soil types found at Scott AFB as described in **Section 3.4.2**. Soil erosion and sediment control measures would be implemented as appropriate to minimize erosion and could include installing silt fencing and sediment traps, applying water to disturbed soil to prevent wind erosion, and re-vegetating disturbed areas as soon as possible. Use of stormwater control measures that favor infiltration would minimize the potential for erosion and sediment production as a result of future storm events. An Erosion and Sediment Control Plan (ESCP) would be prepared and implemented for each project to reduce soil erosion and sedimentation.

In water disturbances from Projects N2 and N3 would disturb sediment and temporarily increase turbidity in Silver Creek and Cardinal Lake. Turbidity levels would return to pre-disturbance levels after work is complete.

Construction activities would require the use of fuels, oils, lubricants, and chemicals, which could result in unintended spills or leaks from construction equipment. In the event of a petroleum product or chemical spill, the installation's ICP would be followed to quickly contain and remediate a spill.

No significant adverse impacts on soils or prime farmlands would occur as a result of implementation of the installation development projects. Although some soils in the installation development areas have the physical properties necessary for classification as prime farmland or farmland of statewide importance, most of these lands are enclosed within the U.S. Census-designed St. Louis, MO-IL Urbanized Area. Per Section 1540(c) (1) of the FPPA, "farmland" does not include land already in or committed to urban development where 'already in' urban development includes, amoung several factors, lands identified as an urbanized area on a Census Bureau Map. Some of the lands for Projects N1, N2, and N3 are not within a census-designated urban area (USCB 2012); however, the sites for Projects N2 and N3 occur largely within water and the site for Project N1 has been previously disturbed and modified due to development and has likely lost its prime farmland characteristics. Therefore, soils at the project areas are not considered "farmland" and are not subject to the FPPA.

Geologic Hazards. Long-term, minor, adverse impacts could result from geologic hazards. Earthquake activity could result in adverse impacts on humans and property. However, any new construction would be designed consistent with requirements established in UFC 3-310-03, *Seismic Design for Buildings*, and EO 13717, *Establishing a Federal Earthquake Risk Management Standard*, for development in a region with a seismic rating of approximately 20 to 30 percent g. This would minimize potential for adverse impacts on human life from earthquakes.

4.2.5 HAZARDOUS MATERIALS AND WASTES

Short-term, negligible to minor, adverse impacts would occur from the use of hazardous materials and petroleum products and the generation of hazardous wastes during construction and demolition. Hazardous materials that could be used include paints, welding gases, solvents, preservatives, sealants, and pesticides. Additionally, hydraulic fluids and petroleum products, such as diesel and gasoline, would be used in construction and demolition vehicles

and equipment. Contractors would report the use of hazardous materials to the Hazardous Materials Pharmacy, including pertinent information (e.g., SDSs), in an effort to control any potential impacts on hazardous materials management. Contractors would use environmental protection measures to prevent releases and ensure that any releases, should they occur, do not result in contamination. Construction would generate negligible to minor quantities of hazardous wastes. Contractors would be responsible for the disposal of hazardous wastes in accordance with federal and state laws. All hazardous materials, petroleum products, and hazardous wastes used or generated during construction would be contained, stored, and managed in accordance with installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF applicable regulations to minimize the potential for releases (e.g., secondary containment, inspections, spill kits). All construction equipment would be maintained according to manufacturer's specifications and drip mats would be placed under parked equipment as needed.

The hazardous materials, petroleum products, and hazardous wastes currently used, stored, and generated at the 126 ARW's existing hangar would be transferred to the proposed hangar, and the hazardous materials, petroleum products, and hazardous wastes currently used, stored, and generated at Fire Station 3 would be moved to another location within the building should these substances be within the footprint of construction. None of the other installation development projects would require changes to hazardous materials, petroleum products, and hazardous wastes used, stored, and generated on Scott AFB for mission purposes. Similar types and amounts of hazardous materials, petroleum products, and hazardous wastes as those already used, stored, and generated on Scott AFB would continue to be used, stored, and generated after the installation development projects are implemented. New hazardous materials storage and hazardous waste collection points would be established, as appropriate. Scott AFB's HAZMAT Plan, HWMP, and ICP would be amended, as needed, for any new hazardous material, hazardous waste, or petroleum product capabilities. These plans would continue to be followed to lessen the potential for a release and provide spill contingency and response requirements. The installation's hazardous waste disposal streams would not be altered.

Toxic Substances. Short-term, negligible to minor, adverse impacts from toxic substances would occur during the proposed demolition of the unnumbered building at Facility 9020 and Building 533. Surveys for toxic substances (i.e., ACMs, LBP, and PCBs) would be completed, as necessary, by a certified contractor prior to work activities to ensure that appropriate measures are taken to reduce potential exposure to, and release of, these substances. Contractors would wear appropriate PPE and would be required to adhere to all federal, state, and local regulations as well as the installation's management plans for these toxic substances. All ACM- and LBP-contaminated debris would be disposed of at an USEPA-approved landfill. Any potential PCB-containing equipment not labeled PCB-free or missing date of manufacture labels would be removed and handled in accordance with the installation's HWMP and federal and state regulations. PCB-containing materials would be transported off-installation and disposed of at a certified hazardous waste disposal facility. Long-term, negligible, beneficial impacts would be experienced from less potential for exposure to and maintenance of toxic

substances at Scott AFB. New building construction is unlikely to use these toxic substances because federal policies and laws limit their use in building construction applications.

Environmental Contamination. Short-term, negligible to minor, adverse impacts would occur because some installation development projects coincide with or are adjacent to active ERP sites. Prior to the start of construction within or adjacent to an active ERP site, contractors would coordinate with the Scott AFB ERP office to ensure that contamination from these sites is not impacted or spread from construction activities and a health and safety plan would be developed in accordance with OSHA regulations to protect contractors. The ERP office would ensure that consultation and coordination is completed with USEPA and IEPA, as necessary. Contractors conducting project activities within or adjacent to ERP sites with shallow groundwater contamination would take appropriate control measures should ground disturbance reach the depth of groundwater. Contractors would also ensure proper handling and disposal of any contaminated soils encountered when working within or adjacent to sites with soil contamination. Construction would not impact the ability to remediate, investigate, or monitor the ERP sites, and project planning would include protection of monitoring wells. The installation development projects would not conflict with the land use controls imposed on the ERP sites.

Contractors performing construction and demolition could encounter previously unknown soil or groundwater contamination. If soil or groundwater that is believed to be contaminated is discovered, the contractor would immediately stop work, report the discovery to the installation, and implement appropriate safety measures. Commencement of field activities would not continue in this area until the issue was investigated and resolved.

Radon. Long-term, negligible, adverse impacts from radon are possible. Based on the USEPA rating of radon zone 2 for St. Clair County, it is possible the new facilities could have indoor radon screening levels greater than 4 pCi/L. Although basements and poorly ventilated areas are most commonly affected by radon, any indoor space in contact with the ground (i.e., first floor of a slab building) is at risk. Radon would be managed in new construction by incorporating passive features into the design that limit the ability for radon to enter the building. These features would include placing aggregate material and matting below the concrete floor to encourage lateral, rather than vertical, flow of soil gas; designing the heating, ventilation, and air conditioning system to avoid depressurization of the first floor; and using airtight seals around pipes and wires where they protrude from below grade. Periodic radon testing would occur, as needed, in each new or renovated building. Post-construction radon management measures, such as installing ventilation systems to remove radon that has already entered the building, would be installed in buildings that test higher than 4 pCi/L.

4.2.6 INFRASTRUCTURE

Short- and long-term, negligible to moderate, adverse and beneficial impacts on infrastructure would occur from installation development at Scott AFB. The following subsections describe the impacts on the various aspects of infrastructure. Overall, the installation development projects would result in a long-term, minor, beneficial impact on infrastructure from replacing older buildings and facilities on Scott AFB with new construction.

Airfield. Short- and long-term, minor, adverse and beneficial impacts on the airfield would occur from construction of a new hangar, construction of an airfield service road, replacement of a collapsed culvert for South Ditch, implementation of airfield repairs, and removal of airfield tree violations under Projects A1, A3, A4, A5, and M3. These projects may necessitate temporary closures of taxiways and/or Runway 14R/32L when these projects are being implemented, resulting in short-term, minor, adverse impacts. Temporary aircraft taxi detours and the diversion of air traffic to the MidAmerica Airport runway would be necessary. Each of these projects would improve the condition of the airfield by facilitating safer and more efficient airfield operations, resulting in long-term, minor, beneficial impacts.

Electrical Distribution. Short-term, negligible, adverse impacts on the electrical distribution system would occur during construction and demolition. Electrical service interruptions could be experienced should aboveground or underground electrical lines need to be rerouted and when a new facility is connected to the installation's electrical distribution system. Long-term, negligible, adverse impacts would occur because the operation of new buildings would increase the demand on the electrical distribution system; however, the cessation of operations at demolished buildings would decrease the demand. Changes in demand would be minimal, and the electrical system has the capacity required to meet new demands, as described in **Section 3.6.2**.

Natural Gas Supply. Short-term, negligible, adverse impacts on the natural gas supply system would occur during construction and demolition when existing lines are connected to new buildings or capped, as appropriate. Long-term, negligible, adverse impacts would occur because the operation of new buildings would increase the demand on the natural gas supply system; however, the cessation of operations at demolished buildings would decrease the demand. Changes in demand would be minimal, and the natural gas supply system has the capacity required to meet new demands. As described in **Section 3.6.2**, Scott AFB's natural gas system is operating at approximately 10 percent of capacity.

Water Supply. Short-term, negligible, adverse impacts on the water supply system would occur during construction and demolition when existing lines are connected to new buildings or capped as appropriate. Long-term, negligible, adverse impacts would occur because the operation of the new buildings would increase the demand on the water supply system; however, the cessation of operations at demolished buildings would decrease the demand. Changes in demand would be minimal, and the water supply system has the capacity required to meet new demands. As described in **Section 3.6.2**, Scott AFB has excess capacity of 1,249,500 gpd at peak and 3,073,000 gpd on average.

Sanitary Sewer and Wastewater Treatment. Short-term, negligible, adverse impacts on the sanitary sewer and wastewater treatment system would occur during construction and demolition when existing lines are connected to new buildings or capped as appropriate. Long-term, negligible, adverse impacts would occur because the operation of the new buildings would increase the demand on the sanitary sewer and wastewater treatment system; however, the cessation of operations at demolished buildings would decrease the demand. Changes in demands would be minimal, and the sanitary sewer and wastewater treatment system has the

capacity required to meet new demands. As described in **Section 3.6.2**, Scott AFB has excess capacity of 1,113,000 gpd at peak and 1,729,000 gpd on average.

Stormwater Management. Long-term, negligible to moderate, adverse impacts on the rate and volume of stormwater runoff would occur if the amount of impervious surface was increased, which would lead to increased stormwater runoff. Installation development at Scott AFB would change the amount of impervious surface between -10,900 and 702,700 ft^2 depending on which action alternatives are ultimately selected for implementation. Additional runoff would be managed through implementation of Low Impact Development (LID) measures as appropriate, per Section 438 of EISA. Soil disturbance associated with construction and demolition activities would disrupt natural stormwater drainage flows and increase soil erosion until the areas are revegetated.

Long-term, minor, beneficial impacts on stormwater management would occur from Projects A4, M1, M2, N2, and N3. These projects would improve stormwater drainage through replacement of damaged or inefficient features, addition of more drainage features (i.e., infiltration basins), increased holding and transport capacities of Silver Creek and Cardinal Lake, and removal of obstructions to drainage flow. Flooding frequency and duration would be decreased from these projects.

Communications. Short-term, negligible, adverse impacts on the communications systems would occur during facility construction and demolition when existing lines are connected to new buildings or capped as appropriate. No long-term impacts on the communications systems would occur.

Solid Waste Management. Short-term, minor, adverse impacts on solid waste management would occur from the increased solid waste generated during construction and demolition. All solid waste, both municipal and construction and demolition debris, generated would be collected and transported off-site for disposal or recycling. Contractors would be required to comply with federal, state, and local regulations for the collection and disposal of solid waste from the installation. Much of the debris would be recycled, reused, or otherwise diverted from landfills to the extent practicable. No long-term impacts on solid waste management would occur because the installation development projects would not appreciably increase the amount of solid waste generated on the installation from everyday functions.

Transportation. Short-term, minor, beneficial and adverse impacts would occur depending on which project alternatives are implemented. Short-term, minor, adverse impacts would occur from the increased traffic and parking lot use associated with construction and demolition equipment and contractor vehicles. While some projects would change local parking availability, the parking capacity of the installation would not appreciably change and each project would include sufficient parking to meet its requirements. Only eight additional personnel would be added to the installation from these projects; therefore, no appreciable increase in long-term traffic delays would occur.

4.2.7 LAND USE

Short- and long-term, negligible to minor, adverse and beneficial impacts on land use would result from installation development at Scott AFB. USAF created each installation development project through an analysis of existing conditions; mission requirements; and the long-term vision, goals, and objectives of Scott AFB within each planning district. Therefore, each installation development project is consistent with the planning district for which it is proposed. The proposed installation development projects would generally comply with and be consistent with existing installation land use plans and policies identified in the Scott AFB Installation Development Plan and associated ADPs. In some cases, Scott AFB might need to change the land use category of a project area to the appropriate category to match the intended use of the project; however, these changes would be minor and would represent a long-term, beneficial impact from consistent land uses. Some installation development projects would occur within and adjacent to ERP sites that have land use controls. The installation development projects would not conflict with the land use controls imposed on these ERP sites. Some installation development projects would occur within Scott AFB's CZs; however, these projects would be allowable projects within such zones. Beneficial impacts on land use would result from efficient use of installation land, particularly through demolition of old, inadequate, underutilized facilities and enhancement of current land use.

The installation development projects would result in negligible impacts on land use in the areas surrounding the installation because the projects would occur entirely on Scott AFB. No lands outside of the installation boundary would be needed, and the surrounding local communities' or St. Clair County's land use regulations would not be applicable. Although, in the short term, the noise from construction vehicles, construction equipment operation, and construction and demolition activities occurring on the installation could be perceptible to off-installation receptors, the impacts on surrounding land uses would be negligible to minor and temporary (see ***Noise*** discussion). No off-installation land use designations or uses would require changes as a result of the installation development projects.

4.2.8 NOISE

Short-term and intermittent, negligible to minor impacts on the noise environment would occur from installation development at Scott AFB. The short-term impacts would result from noise generated by heavy equipment during construction and demolition. The intermittent impacts would result from the implementation of programmatic alternatives (i.e., Alternatives M3, N2, and N3). The projects identified in **Table 3-9** would be implemented at different times and locations between 2019 and 2021. It is possible that several projects could occur simultaneously; however, this would not be expected to result in substantial additional impacts from construction noise. Implementation of the installation development projects would not lead to a violation of any federal, state, or local noise regulations, and would not substantially increase areas of incompatible land use on or adjacent to Scott AFB.

Construction and demolition would require the use of heavy equipment that would generate short-term and intermittent increases in noise near the project areas. The proposed activities would require excavation, grading, paving, demolition, building construction, chain saw use, tree stump grinding, and excavation with a backhoe. Individual pieces of heavy equipment would be

expected to produce noise levels between approximately 70 and 100 dBA at a distance of 50 feet (see **Table 3-8**). Noise levels at the upper end of this range would be associated with equipment such as pile drivers and limited to intermittent spurts. Sound levels on the lower end of the range would be more constant during construction activities. These noise levels would decrease with distance from the project areas (see **Table 3-8**). Noise levels associated with typical construction equipment would noticeably attenuate to below 65 dBA between approximately 100 and 1,000 feet from the source, depending on the equipment in use (USEPA 1971, TRS Audio Undated a). As depicted in **Figure 1-2**, each installation development project would occur within or near developed areas where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA.

During construction, trucks would travel to and from the project areas. Because of the existing ambient noise environment of the project areas and surrounding areas, negligible impacts would occur from the increase in truck noise, as those sounds would not incrementally increase existing ambient noise levels.

Construction and demolition usually require several pieces of equipment to be used simultaneously. **Table 4-3** presents typical additive noise levels (dBA L_{eq}) for the main phases of construction. In general, the addition of a piece of equipment with identical noise levels to another piece of equipment would add approximately 3 dB to the overall noise environment (TRS Audio Undated b). Additive noise associated with multiple pieces of construction equipment operating simultaneously would, at most, increase the overall noise environment by a few dB over the noisiest equipment, depending on the noise levels; therefore, impacts would be negligible to minor. Noise from construction would be expected to attenuate below 65 dBA within 250 feet during the foundation phase, within 500 feet during the ground clearing and structural phases, and within 1,000 feet during the excavation/grading and finishing phases (USEPA 1971, FHWA 2006, TRS Audio Undated a). Noise levels could be reduced through the use of exhaust mufflers or other noise attenuation equipment.

Table 4-3. Additive Noise Levels Associated with Construction

Construction Phase	L_{eq} (dBA at 50 feet)	L_{eq} (dBA at 250 feet)	L_{eq} (dBA at 500 feet)	L_{eq} (dBA at 1,000 feet)
Ground clearing	84	70	64	58
Excavation, grading	89	75	69	63
Foundations	78	64	58	52
Structural	85	71	65	59
Finishing	89	75	69	63

Sources: USEPA 1971, FHWA 2006, TRS Audio Undated a

Note: Construction equipment equipped with noise control devices (e.g., mufflers) and use of sound barriers would be expected to result in lower noise levels than shown in this table.

All construction and demolition would occur within the Scott AFB boundary and would be collocated with other existing noise-compatible activities. Additionally, all noise generated during construction and demolition would end with the completion of such activities. The installation development projects would occur near various residential, administrative, and

outdoor recreation areas on Scott AFB. The nearest off-installation residential area is privatized military housing located approximately 575 feet south of Alternative M2. Therefore, some people living, working, or using outdoor recreation areas near the project areas may notice or potentially be annoyed by the noise. However, these activities would be conducted in the context of an active AFB where aircraft and other types of noise are typical. Given the temporary or intermittent nature of the proposed activities, distance to nearby noise-sensitive areas, and the existing noise environment, impacts on sensitive receptors would be negligible to minor. In addition to adhering to all federal, state, and local noise regulations, the following BMPs would be implemented under each alternative to further reduce noise impacts:

- Heavy equipment use would occur primarily during normal weekday business hours (i.e., 7 a.m. to 5 p.m.) in areas near noise-sensitive land uses.
- Heavy equipment mufflers or other noise attenuation equipment would be maintained properly and in good working order.
- Personnel, particularly equipment operators, would wear adequate PPE to limit exposure and ensure compliance with federal health and safety regulations.

No adverse impacts on the ambient noise environment would occur from facility/infrastructure operations associated with the installation development projects. A slight increase in vehicle traffic could occur due to the addition of eight firefighters; however, this increase would not appreciably contribute to the existing noise environment of the installation. While some existing operations would occur in new locations (e.g., Alternatives A1 and C1), the type and magnitude of noise from these operations would remain the same as experienced at their current locations. Additionally, the volume of airfield traffic would remain the same under Alternatives A3-1, A3-2, and A3-3.

4.2.9 SAFETY

Short- and long-term, negligible to minor, adverse and beneficial impacts on safety would occur from installation development at Scott AFB. The following subsections describe the impacts on the various aspects of safety.

Construction and Demolition Safety. Short-term, negligible to minor, adverse impacts on contractor health and safety would occur during facility construction and demolition associated with installation development at Scott AFB. Construction and demolition is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction and demolition would be exposed to an environment containing slightly greater health and safety risks than a non-construction and non-demolition environment. To minimize health and safety risks, contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous

materials and chemicals stored at the worksite would be kept on site and be available for immediate review.

As discussed in **Section 3.5.2**, some of the projects (i.e., Alternatives A3-1, A4-1, A4-2, C1, M1-1, M1-3, and M2) would occur within or adjacent to active ERP Sites OT-007, SS-005, SS-025b, ST-010, and UNK-510. Prior to the start of any construction, contractors would coordinate with the Scott AFB ERP office to ensure that these sites do not present safety hazards to construction workers.

The unnumbered building at Facility 9020 and Building 533 are expected to contain ACMs and LBP based on their years of construction. Short-term, negligible, adverse impacts on safety would occur during their demolitions; however, with adherence to all federal, state, and local regulations and Scott AFB management plans, the adverse impacts would be minimized. Long-term, negligible, beneficial impacts on safety would occur from the removal of ACMs and LBP because it would eliminate the potential for future exposure to these toxic substances by personnel.

Construction and demolition would be accomplished in accordance with federal, state, and local regulations to minimize safety hazards associated with hazardous materials and wastes. These hazards are discussed in more detail in **Section 3.5.2**.

Mission Safety. Short-term, negligible, adverse impacts on mission safety would occur. Projects A1, A2, A3, and A5 would occur within or in close proximity to Q-D arcs. However, each of these projects would not conflict with the Q-D arcs. Contractors would coordinate with the installation's Safety Office to ensure the Q-D arcs do not present a safety hazard to construction personnel. No impacts on mission safety would occur under the other installation development projects.

Flight Safety. No short-term impacts on flight safety would occur during construction. Runway 14R/32L would be shut down and air traffic would be directed to the MidAmerica Airport runway when construction is occurring near the Scott AFB runway to avoid safety hazards. A temporary construction waiver would be signed by the Wing Commander to authorize construction on the airfield. Construction would be coordinated with airfield management to ensure that construction personnel and equipment stay outside of the wing-tip and jet blast clearance of aircraft.

Long-term, minor, beneficial impacts on flight safety would occur from Alternatives A3-1, A4-1, A5, and M3. Alternative A3-1 would improve flight safety by eliminating the need for airfield vehicles to cross Runway 14R/32L. Flight safety would improve under Alternative A4-1 from a potential reduction in BASH interactions and Alternative A5 from the repair of airfield pavement failures, addition of airfield stormwater management infrastructure, and addition of aircraft grounding capability. Alternative M3 would improve flight safety by removing airfield tree violations that obstruct sight lines between the air traffic control tower and the runway. No impacts on flight safety would occur under the other installation development projects. All aircraft flight operations would continue to be conducted in accordance with standard flight rules and local operating procedures and policies.

4.2.10 WATER RESOURCES

Short- and long-term, negligible to minor, adverse and beneficial impacts on water resources would occur from installation development at Scott AFB. The following subsections describe the impacts on the various aspects of water resources.

***Groundwater*.** No short-term impacts on groundwater would occur from ground disturbance. No sensitive groundwater resources are known to occur in any areas planned for construction or demolition. Excavation associated with the installation development projects would not intersect the local groundwater table. While groundwater as shallow as 1 to 3 feet bgs could be present within the Silver Creek riparian corridor, the activities associated with the proposed log jam removal under Alternative N2 would not be expected to intersect the local groundwater table. There are no existing or proposed groundwater supply wells near the installation development projects.

Long-term, negligible to minor, adverse impacts on groundwater would occur due to the increase in impervious surfaces. As much as 702,700 ft^2 of new impervious surface could be added to the installation, and groundwater recharge to the aquifer system would be impacted if the new impervious surface increased runoff to nearby water bodies thereby decreasing infiltration to the soil and bedrock. However, by following the guidance provided by UFC 3-210-10 to comply with Section 438 of EISA, Scott AFB would ensure that post-project hydrology mirrors pre-project hydrology on the project areas to the maximum extent technically feasible with respect to temperature, rate, volume, and duration of flow. The quality and quantity of groundwater on and adjacent to Scott AFB would not be adversely impacted. Long-term, negligible, beneficial impacts on groundwater would occur from Alternatives A5, M1-1, M1-2, M1-3, and M1-4, which aim to minimize surface runoff and improve infiltration, and Alternative C3 and C4, which would reduce the amount of impervious surface on the installation.

***Surface Water*.** Short-term, negligible to minor, adverse impacts on surface water would occur from ground disturbance and vegetation removal. Ground disturbance and vegetation removal would result in minor alteration of the natural drainage flows, which could increase soil erosion and sedimentation. If not managed properly, disturbed soils and sediments would be washed into nearby water bodies during stormwater events and reduce water quality. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCPs, and the Scott AFB SWPPP. These documents specify measures to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system and surface waters. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit for all construction activities of 1 or more acres and to implement associated BMPs to minimize impacts from sedimentation on water quality. Such BMPs would include stabilizing construction entrances; covering soil stockpiles; installing inlet and outlet protection, silt fencing, berms, swales, basins, and traps; employing slope stabilization; and using erosion control blankets.

Long-term, negligible to minor, adverse impacts on surface water would occur due to the increase in impervious surfaces. Surface waters would be impacted if the new impervious surface increased runoff to nearby surface water bodies. As described for groundwater, Scott

AFB would ensure that post-project hydrology mirrors pre-project hydrology on and around the installation development project areas to the maximum extent technically feasible. Implementation of stormwater controls consistent with project-specific ESCPs and the Scott AFB SWPPP would minimize the potential for long-term adverse impacts on surface waters. Long-term, negligible to minor, beneficial impacts on surface water would occur from the stormwater infrastructure improvements under Alternatives A4-1, A4-2, A5, M1-1, M1-2, M1-3, M1-4, and M2 and the reduction in impervious surface under Alternatives C3 and C4. The proposed culvert replacement, stormwater infrastructure repair, construction of stormwater infiltration basins, South Ditch channel repairs, and the reduction in impervious surfaces would reduce and/or control stormwater discharge into surface waters and thereby improve surface water quality. Long-term, minor, beneficial impacts on the surface water quality of Silver Creek and Cardinal Lake would occur. The removal of log jams from Silver Creek under Alternative N2 would restore water and sediment flow as well as reduce flooding and erosion within the creek. The aquatic habitat enhancement at Cardinal Lake under Alternative N3 would improve the lake's water quality by restoring its depth and increasing its dissolved oxygen concentration.

Construction activities would require the use of fuels, oils, lubricants, and chemicals, which could result in unintended spills or leaks from construction equipment and contamination of groundwater and surface water resources. In the event of a petroleum product or chemical spill, the installation's ICP would be followed to quickly contain and remediate a spill. Additional information on potential impacts from accidental spills or leaks is included in the Hazardous Materials and Wastes subsection.

***Floodplains*.** Alternatives A2 and A3-1 could and Alternatives A4-1, A4-2, M2, N2, and N3 would occur within the 100-year floodplain. Direct impacts from implementation of these alternatives within the 100-year floodplain would be unavoidable. The proposed parking lot associated with Fire Station 3 (Alternative A2) must be constructed within or adjacent to the floodplain because of nearby Q-D arc and taxiway clearance requirements. Depending on final design, a small portion of the proposed airfield service road under Alternative A3-1 could need to be constructed within the 100-year floodplain because of airfield clearance requirements. Alternatives A4-1, A4-2, M2, N2, and N3 must occur within the floodplain because the inherent nature of these projects addresses South Ditch, Ash Creek, Silver Creek, and Cardinal Lake. These seven alternatives would not situate critical infrastructure within the floodplain.

***Wetlands*.** Alternatives A4-1, A4-2, M2, N2, and N3 would occur within wetlands. Direct impacts from implementation of these alternatives within wetlands would be unavoidable. These alternatives must occur within the wetlands because the inherent nature of these projects addresses South Ditch, Ash Creek, Silver Creek, and Cardinal Lake. Because South Ditch, Ash Creek, and Silver Creek are waters of the United States, Scott AFB would correspond with the USACE to obtain the necessary Section 404 permits prior to commencing any ground disturbing activities for Alternatives A4-1, A4-2, M2, and N2. These projects would restore water and sediment flow as well as reduce flooding and erosion within the water bodies. As such, these alternatives would have minimal adverse impacts on these water bodies and a general permit may be satisfactory.

4.3 Environmental Consequences of the No Action Alternative

4.3.1 AIR QUALITY

Under the No Action Alternative, Scott AFB would not implement the installation development projects; therefore, air emissions from construction would not be produced. No changes to Scott AFB's operational emissions would occur because no changes to the amount of interior space to heat, emergency electricity generators, and personnel commuting to the installation would occur. Air quality conditions would remain the same as discussed in **Section 3.1.2** and no new or additional air emissions would be produced.

4.3.2 BIOLOGICAL RESOURCES

Under the No Action Alternative, Scott AFB would not implement the installation development projects. Biological resources conditions would remain the same as described in **Section 3.2.2** and, in some cases, continue to decline from not implementing the projects to improve habitat on Scott AFB. Project A4 would not be implemented; therefore, the open channel immediately downstream of the collapsed culvert would remain. Birds would continue to be attracted to the open water near the airfield, which creates a potential for BASH interactions and a continuation of long-term, minor, adverse impacts on avian species. Aquatic habitat at Cardinal Lake would remain poor quality and would continue to decline from not implementing Project N3. The continued decline of aquatic habitat in Cardinal Lake from no action would result in a continuation of long-term, minor, adverse impacts.

4.3.3 CULTURAL RESOURCES

Under the No Action Alternative, Scott AFB would not implement the installation development projects; therefore, no new direct or indirect, adverse impacts on cultural resources would occur. Alternative M1-4 would not be implemented and flooding in Building P-40, which is a contributing resource of the Scott Field Historic District, would continue unabated. Flooding events would continue to have minor, adverse impacts on the building and recurring flooding could have moderate impacts on the building over time. No impacts would be expected on traditional resources from the No Action Alternative. Cultural resources conditions would remain the same as described in **Section 3.3.2** and no new impacts would occur.

4.3.4 GEOLOGICAL RESOURCES

Under the No Action Alternative, Scott AFB would not implement the installation development projects. Long-term, minor, adverse impacts would continue from not implementing projects to repair and improve the stormwater drainage systems on the installation. Geological resources conditions would remain the same as described in **Section 3.4.2** and no new or additional impacts would occur.

4.3.5 HAZARDOUS MATERIALS AND WASTES

Under the No Action Alternative, Scott AFB would not implement the installation development projects. Additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of hazardous materials, petroleum products, and hazardous wastes would not change. No

impacts on radon and ERP sites would occur. ERP sites would continue to be remediated, investigated, and monitored according to current plans. Toxic substances would remain in the unnumbered building at Facility 9020 and Building 533 and would continue to require maintenance by USAF personnel. As such, long-term, negligible, adverse impacts would continue from the potential for exposure to and maintenance of toxic substances in these buildings.

4.3.6 INFRASTRUCTURE

Under the No Action Alternative, Scott AFB would not implement the installation development projects; therefore, airfield conditions, utility demand, stormwater management, solid waste generation, and traffic conditions would not change. Infrastructure conditions would remain the same as described in **Section 3.6.2** and no new or additional impacts would occur.

4.3.7 LAND USE

Under the No Action Alternative, Scott AFB would not implement the installation development projects; therefore, no construction and demolition would occur. Land use conditions would remain the same as described in **Section 3.7.2**.

4.3.8 NOISE

Under the No Action Alternative, Scott AFB would not implement the installation development projects; therefore, no construction or heavy equipment noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2** and no new or additional impacts on the noise environment would occur.

4.3.9 SAFETY

Under the No Action Alternative, Scott AFB would not implement the installation development projects; therefore, no construction and demolition would occur. Airfield vehicles would continue to cross Runway 14R/32L when transiting between the eastern and western sides of the airfield and crossing the runway would continue to be a safety hazard. The open channel immediately downstream of the collapsed culvert would remain; therefore, BASH interactions would persist and continue to represent safety concerns to aircraft. As such, long-term, minor, adverse impacts on safety would continue to occur from the No Action Alternative.

4.3.10 WATER RESOURCES

Under the No Action Alternative, Scott AFB would not implement the installation development projects. Water resources conditions would remain the same as described in **Section 3.10.2** and, in some cases, continue to decline from not implementing the projects to improve surface water quality on Scott AFB. Long-term, minor, adverse impacts on water resources would continue to occur from not repairing degraded stormwater management infrastructure on Scott AFB, not removing impedances to the flow of South Ditch and Silver Creek, and not improving the aquatic habitat at Cardinal Lake. The condition of these surface water bodies would continue to degrade from no action.

4.4 Environmental Consequences of Each Installation Development Project's Reasonable Alternatives and No Action Alternative

4.4.1 PROJECT A1: CONSTRUCT HANGAR

4.4.1.1 Alternative A1

Air Quality. Short-term, minor, adverse impacts on air quality would result from construction of the proposed hangar and long-term, negligible, adverse impacts would result from operation of the proposed hangar. Construction activities would produce criteria pollutants and GHGs when site grading, trenching, building construction, and paving are occurring, which would be limited to 2021. Operation of the proposed hangar would produce criteria pollutants and GHGs from heating the proposed hangar with a natural gas-fired furnace. Heating air emissions would occur annually following construction and may need to be added to the installation's State Operating Permit. Such emissions would not increase Scott AFB's potential to emit above major source thresholds. USAF's ACAM was used to estimate the annual air emissions from Alternative A1. These air emissions are summarized in **Table 4-4**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative A1 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-4. Air Emissions from Alternative A1

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct Hangar	1.366	4.892	5.040	0.012	7.775	0.223	1,190.600	2021
Heat Hangar	0.013	0.229	0.193	0.001	0.017	0.017	276.000	2022 and Later

Note: All values are in tpy.

Biological Resources. Short- and long-term, negligible, adverse impacts on vegetation would result from construction of the proposed hangar. Short-term impacts would result from the temporary removal and trampling of surrounding vegetation and compaction of soil by heavy construction equipment. Construction would permanently remove approximately 122,000 ft^2 of vegetation within the footprint of the hangar, but most of this vegetation is not native (i.e., landscaped grasses). The minimal removal of nonnative vegetation would have no adverse impact on the amount or quality of native vegetation on Scott AFB.

Short- and long-term, negligible, adverse impacts on wildlife would occur. Construction would occur on a disturbed grass field that could provide approximately 122,000 ft^2 of foraging and shelter habitat for wildlife. Although construction would permanently remove this open area, it is located on the airfield and approximately 400 acres of higher quality wildlife habitat is available in the Silver Creek riparian corridor portion of the installation. Nearby wildlife would temporarily avoid the area during construction due to increased noise levels and increased human activity.

Alternative A1 would have no effect on federally and state threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impact on cultural resources would result from construction of the proposed hangar. The new hangar would be constructed in a previously disturbed area in the airfield district and would not be expected to impact archaeological resources. The existing hangar, Building 5026, would be retained for an unspecified future use. The hangar was constructed in 1955 and is not eligible for listing in the NRHP. Therefore, the change in use would have no impact on cultural resources. The new construction would have no visual impact on cultural resources. The new hangar would be approximately 0.7 miles from the Scott Field Historic District in an active part of the airfield.

Geological Resources. Short- and long-term, minor, adverse impacts on geological resources would result from construction of the proposed hangar. The short-term impacts would occur during construction and would result from the disturbance of soils, clearing of vegetation, grading, paving, and excavation or trenching. Clearing of vegetation would increase erosion and sedimentation potential.

As a result of constructing the hangar, the long-term impacts would occur as soils would be compacted and soil structure would be disturbed and modified. Project A1 would increase the rate and volume of stormwater runoff because of the 122,200 ft^2 increase in impervious surface. The increased runoff would result in a greater potential for erosion. Use of stormwater control measures that favor infiltration would minimize the potential for erosion and sediment production as a result of future storm events.

The Bethalto silt loam is the only soil mapped at the site of the proposed hangar. The soil was analyzed for building construction limitations associated with shallow excavations and was considered to be very limited due to frost action, low strength, depth to saturated zone, and shrink-swell potential. Frost action involves cycles of freezing and thawing of water in surface pores, cracks, and other openings, which can result in heaving of surfaces to produce uneven support of a pavement (USDA-NRCS 2019). Building design measures would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Short-term, negligible, adverse impacts associated with hazardous materials and wastes would result from construction of the proposed hangar. Construction would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

The hazardous materials, petroleum products, and hazardous wastes currently used, stored, and generated at the 126 ARW's existing hangar for the maintenance of aircraft would be transferred to the proposed hangar. Similar types and amounts of hazardous materials, petroleum products, and hazardous wastes as those already used, stored, and generated at the existing hangar would be used, stored, and generated at the proposed hangar. New hazardous materials storage and hazardous waste collection points would be established, as appropriate. Scott AFB's HAZMAT Plan, HWMP, and ICP would be amended, as needed, for any new

hazardous material, hazardous waste, or petroleum product capabilities. These plans would continue to be followed to lessen the potential for a release and provide spill contingency and response requirements. The installation's hazardous waste disposal streams would not be altered.

The proposed hangar is unlikely to use toxic substances in its construction because federal policies and laws limit their use in building construction applications, and no impacts on environmental contamination sites would occur. Radon management features would be incorporated into the design of the building if determined to be necessary.

Infrastructure. Short- and long-term, negligible to minor, adverse and beneficial impacts on infrastructure would result from construction of the proposed hangar. Temporary interruptions in electricity, water, natural gas, sanitary sewer, and communications services could occur when the proposed hangar is connected to the existing utilities. Operation of the proposed hangar would slightly increase the demand for electricity, water, natural gas, sanitary sewer, and communications services; however, as described in **Section 3.6.2**, these utilities have sufficient capacity to meet the additional demand. The rate and volume of stormwater runoff would increase due to the 122,200 ft^2 increase in impervious surface. The additional runoff would be managed through implementation of LID measures as appropriate, per Section 438 of EISA. Construction would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills. The proposed hangar would resolve a communication issue at the current hangar from lack of a mass notification system.

Land Use. No impacts on land use would result from construction of the proposed hangar. Although there would be a slight category change from Airfield to Airfield O&M, these categories are similar, and Airfield O&M is still compatible with the surrounding Airfield O&M, Airfield, and Open Space land uses. Airfield O&M is a permitted land use for the Airfield planning district in which Project A1 falls.

Noise. Short-term, minor impacts on the noise environment would result from construction of the proposed hangar. Such impacts would result from noise generated by heavy equipment during construction but would not lead to a violation of any federal, state, or local noise regulations and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce construction noise impacts. Construction noise would end with completion of construction.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 70 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical construction equipment would noticeably attenuate to below 65 dBA between approximately 100 and 4,000 feet from the source, depending on the equipment in use (USEPA 1971, TRS Audio Undated a). Alternative A1 coincides with the 65 to 69 and 70 to 74 dBA DNL Scott AFB Noise Zones and would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the

existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction.

Additive construction noise levels as high as 81 dBA L_{eq} could be experienced at the closest building (Building 6010, Industrial); therefore, some people working near the proposed hangar or using the nearby golf course may temporarily notice or potentially be annoyed by the noise (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative A1 would not occur within 1,000 feet of any sensitive receptors. Given the short-term nature of these noise levels generated during construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible. Additionally, noise levels could be reduced through the use of exhaust mufflers or other noise attenuation equipment.

No additional impacts on the noise environment from operations would be expected. While aircraft maintenance operations would occur in new a location under Alternative A1, the type and magnitude of noise from these operations would remain the same as currently experienced approximately 500 feet away at the existing hangar.

Safety. Short-term, minor, adverse impacts on contractor health and safety would result from construction of the proposed hangar. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to an environment containing slightly greater health and safety risks than a non-construction environment. To minimize health and safety risks, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential for exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and available for immediate review.

The proposed hangar would be constructed in close proximity to Q-D arcs for aircraft parking on the East Ramp. The aircraft parking spots that generate these Q-D arcs would be unavailable during and following construction of the proposed hangar; therefore, these Q-D arcs likely would be eliminated once construction begins. As a result, the hangar would not conflict with any Q-D arcs. No impacts on flight safety would occur.

Water Resources. No short-term impacts on groundwater would result from construction of the proposed hangar. Excavation associated with construction would not intersect the local groundwater table. Long-term, minor, adverse impacts (e.g., reduced potential for recharge) on groundwater would occur due to the 122,000 ft^2 increase in impervious surface. However, Scott AFB would ensure that post-development hydrology mirrors pre-development hydrology to the maximum extent technically feasible.

Short-term, minor, adverse impacts on surface water and short-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from ground disturbance and

vegetation removal. The closest surface water body and wetland, Cardinal Creek, is approximately 880 feet from the Alternative A1 project area. The nearest floodplain is approximately 830 from the Alternative A1 project area. Ground disturbance and vegetation removal would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts. Long-term, minor, adverse impacts on surface water and long-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from an increase in impervious surface and subsequent stormwater runoff. However, the pre-development hydrology would be maintained or restored to the maximum extent practical. Implementation of stormwater controls consistent with the ESCP and the Scott AFB SWPPP would minimize the potential for long-term adverse impacts on surface waters, the 100-year floodplain, and wetlands.

4.4.1.2 No Action Alternative for Project A1

Air Quality. Under the No Action Alternative for Project A1, the proposed hangar would not be constructed; therefore, air emissions from constructing and heating the hangar would not be produced. Air quality conditions would remain the same as discussed in **Section 3.1.2** and no new air emissions would be produced.

Biological Resources. Under the No Action Alternative for Project A1, no construction would occur; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project A1, the proposed hangar would not be constructed and the existing hangar would remain in use. The hangar's deficiencies and failing systems could create a need for increased maintenance. However, the building is not eligible for NRHP listing and increased maintenance would have no impact on cultural resources. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project A1, no construction would occur; therefore, no soil disturbance would occur. Geological resources conditions would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project A1, the proposed hangar would not be constructed; therefore, additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation and management of these substances would not change. No impacts on toxic substances, ERP sites, and radon would occur. Hazardous materials and waste conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project A1, no construction would occur; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. The current hangar would continue to lack a mass notification system. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project A1, the proposed hangar would not be constructed. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project A1, the proposed hangar would not be constructed; therefore, no construction noise would be generated. Noise resources conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project A1, the proposed hangar would not be constructed; therefore, no new or additional impacts on construction, mission, or flight safety would occur. The existing Q-D arcs for aircraft parking would not change. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project A1, no construction would occur; therefore, no impacts on groundwater, surface water, floodplains, or wetlands would occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.2 PROJECT A2: EXPAND FIRE STATION 3

4.4.2.1 Alternative A2

Air Quality. Short-term, minor, adverse impacts on air quality would result from the proposed expansion of Fire Station 3 and additional parking spaces along McCullough Road. Construction activities would produce criteria pollutants and GHGs when site grading, trenching, building construction and paving are occurring, which would be limited to 2019. The additional space within the fire station may require a larger furnace to be installed to provide seasonal heating. Operation of a larger natural-gas fired furnace would produce criteria pollutants and GHGs, and its air emissions may need to be added to the installation's State Operating Permit. Such emissions would not increase Scott AFB's potential to emit above major source thresholds. Criteria pollutants and GHGs also would be produced from the daily commutes of the eight additional personnel. Heating and commuting air emissions would occur annually following construction and result in a long-term, negligible, adverse impact on air quality. USAF's ACAM was used to estimate the annual air emissions from Alternative A2. These air emissions are summarized in **Table 4-5**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative A2 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-5. Air Emissions from Alternative A2

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct Addition to Station and New Parking	0.760	4.427	4.524	0.010	0.835	0.214	955.600	2019
Heat Addition to Station and New Commutes	0.004	0.018	0.049	<0.001	0.001	0.001	22.000	2020 and Later

Note: All values are in tpy.

Biological Resources. Short- and long-term, negligible, adverse impacts on vegetation would result from the proposed expansion of Fire Station 3 and additional parking spaces along McCullough Road. Short-term impacts would result from the temporary removal and trampling of surrounding vegetation and compaction of soil by heavy construction equipment. Construction would permanently remove approximately 7,400 ft^2 of vegetation within the footprint of the proposed building expansion and parking lot, but most of this vegetation is not native (i.e., landscaped grasses). The minimal removal of nonnative vegetation would have no adverse impact on the amount or quality of native vegetation on Scott AFB.

Short- and long-term, negligible, adverse impacts on wildlife would occur. Construction would occur on disturbed grass that could provide approximately 7,400 ft^2 of foraging and shelter habitat for wildlife. Although construction would permanently remove this open area, approximately 400 acres of higher quality wildlife habitat is available in the adjacent Silver Creek riparian corridor portion of the installation. Nearby wildlife would temporarily avoid the area during construction due to increased noise levels and increased human activity.

Alternative A2 would have no effect on federally and state listed threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impact on cultural resources would result from the proposed expansion of Fire Station 3 and additional parking spaces along McCullough Road. Expansion of Fire Station 3 and construction of additional parking would occur in an area determined to have low potential for archaeological resources and no sites have been previously recorded in or adjacent to the project area. Proposed ground disturbance would occur in previously disturbed areas and unidentified archaeological sites would not be expected. The alternative would not affect historic architecture. The buildings at the fire station were constructed in 1997 and 2001 and are not historic properties. The proposed expansion is in an isolated part of the installation and would not have visual impacts on the installation's historic architectural resources.

Geological Resources. Short- and long-term, minor, adverse impacts on geological resources would result from the proposed expansion of Fire Station 3 and additional parking spaces along McCullough Road. The short-term impacts would occur during construction and would result from the disturbance of soils, clearing of vegetation, grading, paving, and excavation or trenching. Clearing of vegetation would increase erosion and sedimentation potential.

As a result of constructing the addition to the fire station and expanding parking along McCullough Road, long-term impacts would result because soils would be compacted and soil structure would be disturbed and modified. Project A2 would increase the rate and volume of stormwater runoff because of the 7,400 ft^2 the increase in impervious surface. The increased runoff would result in a greater potential for erosion. Use of stormwater control measures that favor infiltration would minimize the potential for erosion and sediment production as a result of future storm events.

The Wakeland silt loam and Petrolia silty clay loam are the soils mapped at the site of Fire Station 3. The soils were analyzed for building construction limitations associated with shallow excavations and roads. The Wakeland silt loam was considered to be very limited due to frost action, flooding, depth to saturated zone, and unstable excavation walls. The Petrolia silty clay loam was considered to be very limited due to ponding, depth to saturated zone, flooding, dustiness, and unstable excavation walls (USDA-NRCS 2019). Building design measures would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Short-term, negligible, adverse impacts associated with hazardous materials and wastes would result from the proposed expansion of Fire Station 3 and additional parking spaces along McCullough Road. Construction would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

No long-term impacts on hazardous materials and wastes would occur from the operation of the expanded fire station. The hazardous materials, petroleum products, and hazardous wastes currently used, stored, and generated at Fire Station 3 would be moved to another location within the building should these substances be within the footprint of construction. Similar types and amounts of hazardous materials, petroleum products, and hazardous wastes as those already used, stored, and generated would continue to be used, stored, and generated after the building is expanded. The installation's hazardous waste disposal streams would not be altered. Expansion of Fire Station 3 would not generate ACM, LBP, or PCB waste because Building 3901 was constructed in 2001 and is not suspected to contain these toxic substances.

The expanded fire station is unlikely to use toxic substances in its construction because federal policies and laws limit their use in building construction applications, and no impacts on environmental contamination sites would occur. Radon management features would be incorporated into the design of the expanded building if determined to be necessary.

Infrastructure. Short- and long-term, negligible to minor, adverse and beneficial impacts on infrastructure would result from the proposed expansion of Fire Station 3 and additional parking spaces along McCullough Road. No disruptions to or increases in demand for utility services would occur. The rate and volume of stormwater runoff would increase due to the 7,400 ft^2 increase in impervious surface. Additional runoff would be managed through implementation of LID measures as appropriate, per Section 438 of EISA. Eight additional personnel would be

added to Scott AFB under Alternative A2, which would negligibly increase traffic on installation and surrounding roads. Alternative A2 also would provide 22 additional parking spaces at Fire Station 3, which would be a beneficial expansion to parking space. Construction would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills.

Land Use. No impacts on land use would result from the proposed expansion of Fire Station 3 and additional parking spaces along McCullough Road. There would be no change in land use categories. Airfield O&M is a permitted land use for the Airfield planning district in which Project A2 falls.

Noise. Short-term, minor impacts on the noise environment would result from the proposed expansion of Fire Station 3 and additional parking spaces along McCullough Road. Such impacts would result from noise generated by heavy equipment during construction but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce construction noise impacts. Construction noise would end with completion of construction.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 70 and 100 dBA at a distance of 50 feet; therefore, personnel working in Fire Station 3 during construction could notice or potentially be annoyed by the noise. Noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical construction equipment would noticeably attenuate to below 65 dBA between approximately 100 and 4,000 feet from the source, depending on the equipment in use. Noise from paving would be expected to attenuate below 65 dBA within approximately 700 feet of the source (USEPA 1971, TRS Audio Undated a). Alternative A2 would occur near developed areas where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction.

Additive construction noise levels as high as 61 dBA L_{eq} could be experienced at the closest building (Building 3651, Medical) (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative A2 would not occur within 1,000 feet of any sensitive receptors. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible. Additionally, noise levels could be reduced through use of exhaust mufflers or other noise attenuation equipment.

No additional impacts on the noise environment from operations would be expected. A slight increase in vehicle traffic could occur due to the addition of eight firefighters; however, this increase would not appreciably contribute to the existing noise environment of the installation. The type and magnitude of noise from firefighting operations would generally remain the same.

Safety. Short-term, minor, adverse impacts on contractor health and safety would result from the proposed expansion of Fire Station 3 and additional parking spaces along McCullough

Road. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to an environment containing slightly greater health and safety risks than a non-construction environment. To minimize health and safety risks, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review.

A Q-D arc from a nearby munitions storage area is immediately southwest of the proposed parking for the fire station. This parking was sited to avoid coinciding with the Q-D arc and would have no impact mission safety. Construction would be coordinated with airfield management to ensure that construction personnel and equipment stay outside of the wing-tip and jet blast clearance of aircraft using Taxiway G. As a result, the project would have no direct impacts on flight safety.

Water Resources. No short-term impacts on groundwater would result from the proposed expansion of Fire Station 3 and additional parking spaces along McCullough Road. Excavation associated with construction would not intersect the local groundwater table. Long-term, negligible, adverse impacts (e.g., reduced potential for recharge) on groundwater would occur due to the 7,400 ft^2 increase in impervious surface. However, Scott AFB would ensure that post-development hydrology mirrors pre-development hydrology to the maximum extent technically feasible.

Short-term, negligible, adverse impacts on surface water and wetlands and short-term, minor, adverse impacts on the 100-year floodplain would occur from ground disturbance and vegetation removal. The closest surface water body, Silver Creek, is approximately 300 feet from the Alternative A2 project area. Depending on final design, the 22 parking spaces measuring 4,400 ft^2 would coincide with or be immediately adjacent to the FEMA- and Scott AFB-designated 100-year floodplain. Construction within or adjacent to the 100-year floodplain is unavoidable because of nearby Q-D arc and taxiway clearance requirements. Alternative A2 would occur approximately 50 feet from a wetland. Ground disturbance and vegetation removal would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Long-term, negligible, adverse impacts on surface water and wetlands and long-term, minor, adverse impacts on the 100-year floodplain would occur from an increase in impervious surface and subsequent stormwater runoff. However, the pre-development hydrology would be maintained or restored to the maximum extent practical. Implementation of

stormwater controls consistent with the ESCP and the Scott AFB SWPPP would minimize the potential for long-term adverse impacts on surface waters, the 100-year floodplain, and wetlands.

4.4.2.2 No Action Alternative for Project A2

Air Quality. Under the No Action Alternative for Project A2, expansion of Fire Station 3 and additional parking would not be constructed; therefore, air emissions from construction, heating the new space, and the daily commute of the eight additional personnel would not be produced. Air quality conditions would remain the same as described in **Section 3.1.2**.

Biological Resources. Under the No Action Alternative for Project A2, expansion of Fire Station 3 and additional parking would not be constructed; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project A2, expansion of Fire Station 3 and additional parking would not be constructed; therefore, no ground disturbance would occur. Deficiencies that impact firefighting operations could present an increased risk to historic architectural resources from fire. However, most of the installation's significant historic buildings are near other fire stations and operational deficiencies at Fire Station 3 would not be expected to impact protection of those resources. Cultural resources conditions would remain the same as described under **Section 3.3.3**.

Geological Resources. Under the No Action Alternative for Project A2, expansion of Fire Station 3 and additional parking would not be constructed; therefore, no ground disturbance would occur. Geological resources conditions would remain the same as described under **Section 3.4.3**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project A2, expansion of Fire Station 3 and additional parking would not be constructed; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. No impacts on toxic substances, ERP sites, and radon would occur. Hazardous materials and wastes conditions would remain the same as described under **Section 3.5.3**.

Infrastructure. Under the No Action Alternative for Project A2, expansion of Fire Station 3 and additional parking would not constructed; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. The parking deficit at Fire Station 3 would continue to be experienced on reserve training weekends. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project A2, expansion of Fire Station 3 and additional parking would not be constructed. Land use conditions would remain the same as described under **Section 3.7.2**.

Noise. Under the No Action Alternative, expansion of Fire Station 3 and additional parking would not be constructed; therefore, no construction noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project A2; expansion of Fire Station 3 and additional parking would not be constructed; therefore, no new or additional impacts on construction, mission, or flight safety would occur. Facility space, parking, and staff deficit at Fire Station 3 would continue to represent safety hazards to the eastern side of the installation and MidAmerica Airport. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project A2, expansion of Fire Station 3 and additional parking would not be constructed; therefore, no impacts on groundwater, surface water, floodplains, or wetlands would occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.3 PROJECT A3: CONSTRUCT AIRFIELD SERVICE ROAD

4.4.3.1 Alternative A3-1

Air Quality. Short-term, negligible, adverse impacts on air quality would result from construction of the proposed airfield service road under Alternative A3-1. Construction activities would produce criteria pollutants and GHGs when site grading and paving are occurring, which would be limited to 2021. No long-term changes to air emissions, such as those produced by airfield vehicles, would occur because Project A3 would not alter the amount of airfield traffic. USAF's ACAM was used to estimate the annual air emissions from Alternative A3-1. These air emissions are summarized in **Table 4-6**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative A3-1 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-6. Air Emissions from Alternative A3-1

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct Service Road	0.418	2.531	2.520	0.005	15.165	0.124	531.400	2021

Note: All values are in tpy.

Biological Resources. Short- and long-term, negligible, adverse impacts on vegetation would result from construction of the proposed airfield service road under Alternative A3-1. Approximately 209,000 ft^2 of the proposed airfield service road's project area is considered an impervious surface with vegetation that is routinely maintained along the edges of pavement. Short-term impacts would result from the temporary removal and trampling of surrounding vegetation and compaction of soil by heavy construction equipment. Construction would permanently remove approximately 43,000 ft^2 of vegetation within the footprint of the proposed roadway, but most of this vegetation is not native (i.e., landscaped grasses). The minimal removal of nonnative vegetation would have no adverse impact on the amount or quality of native vegetation on Scott AFB.

Short- and long-term, negligible, adverse impacts on wildlife would occur. Construction would partially occur on disturbed grass that could provide some foraging and shelter habitat for wildlife. Although construction would permanently remove approximately 43,000 ft^2 of open area, it is located on the airfield and approximately 400 acres of higher quality wildlife habitat is available in the Silver Creek riparian corridor portion of the installation. Nearby wildlife would temporarily avoid the area during construction due to increased noise levels and increased human activity.

Alternative A3-1 would have no effect on federally and state-listed threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impacts on cultural resources would result from construction of the proposed airfield service road under Alternative A3-1. The new airfield service road would primarily use existing roads and airfield pavements, but would require 1,800 linear feet of new construction and complete replacement of some existing pavements. The new construction would occur in an area previously disturbed from airfield construction. Therefore, adverse impacts on archaeological resources would not be expected. The alternative would not introduce new aboveground elements or otherwise impact historic architectural resources.

Geological Resources. Short- and long-term, minor, adverse impacts on geological resources would result from construction of the proposed airfield service road under Alternative A3-1. The short-term impacts would occur during construction as vegetation (i.e., grasses) is removed and soils are disturbed. Vegetation would be restored once construction activities have ceased, where possible. Erosion and sedimentation potential would be greatest in areas where the soil is bare. Soil productivity would decline in disturbed areas and be eliminated in those areas within the footprint of the proposed roadway. Soil erosion and sediment control measures would be included in site plans to minimize long-term erosion and sediment production. The long-term impacts would occur due to an increase in the rate and volume of stormwater runoff from the 43,200 ft^2 increase in impervious surface. The increased runoff would result in a greater potential for erosion.

The Bethalto silt loam, Mascoutah silty clay loam, Caseyville silt loam, and the Edwardsville silt loam are the soils mapped at the site of the proposed airfield service road. These soils were analyzed for building construction limitations associated with shallow excavations and roads. Three of the soils, the Bethalto silt loam, Mascoutah silty clay loam, and the Caseyville silt loam, are considered very limited due to depth to the saturated zone, shrink-swell potential, slope, and flooding. Edwardsville silt loam is rated somewhat limited to very limited due to shrink-swell potential (USDA-NRCS 2019). Construction techniques would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Short-term, negligible, adverse impacts associated with hazardous materials and wastes would result from construction of the proposed airfield service road under Alternative A3-1. Construction would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these

substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

Alternative A3-1 would occur adjacent to ERP Sites OT-007 and UNK-510. Therefore, there is a potential for construction workers to encounter contamination during ground-disturbing activities adjacent to the ERP sites. Prior to the start of construction, contractors would coordinate with the Scott AFB ERP office to ensure that contamination from these sites is not impacted or spread from construction activities. Construction activities would not impact the ability to remediate, investigate, or monitor the ERP sites, and project planning would include protection of monitoring wells. Alternative A3-1 would not conflict with the land use controls restricting the use of groundwater at ERP Site OT-007.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative A3-1. No impacts from toxic substances and radon would occur.

Infrastructure. Short- and long-term, minor to moderate, adverse and beneficial impacts on infrastructure would result from construction of the proposed airfield service road under Alternative A3-1. Long-term, moderate, beneficial impacts on the airfield would result from the improved connectivity between the eastern and western sides of the airfield; however, short-term, minor, adverse impacts on the airfield would result when Runway 14R/32L is shut down and air traffic is directed to the MidAmerica Airport runway for construction near the runway. The rate and volume of stormwater runoff would increase due to the 43,200 ft^2 increase in impervious surface. Additional runoff would be managed through implementation of LID measures as appropriate, per Section 438 of EISA. Construction would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills.

Land Use. No impacts on land use would result from construction of the proposed airfield service road under Alternative A3-1. There would be no change in land use categories. Airfield is a permitted land use for the Airfield planning district in which Alternative A3-1 falls. Alternative A3-1 would not conflict with the land use controls restricting the use of groundwater at ERP Site OT-007. The proposed airfield service road would be allowable development within the CZ.

Noise. Short-term, minor impacts on the noise environment would result from construction of the proposed airfield service road under Alternative A3-1. Such impacts would result from noise generated by heavy equipment during construction, but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Construction noise would end with completion of construction.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 80 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with

typical construction equipment would noticeably attenuate to below 65 dBA between approximately 300 and 4,000 feet from the source, depending on the equipment in use. Noise from paving would be expected to attenuate below 65 dBA within approximately 700 feet of the source (USEPA 1971, TRS Audio Undated a). Alternative A3-1 coincides with the 65 to 69 and 70 to 74 dBA DNL Scott AFB Noise Zones and would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction.

Additive construction noise levels as high as 89 dBA L_{eq} could be experienced at the closest building (Building 3189, Administrative); therefore, some people working near the proposed airfield service road may notice or potentially be annoyed by the noise (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative A3-1 would not occur within 1,000 feet of any sensitive receptors. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible. Additionally, noise levels could be reduced through the use of exhaust mufflers or other noise attenuation equipment.

No additional impacts on the noise environment from operations would be expected. While the route taken by airfield vehicles would change under Alternative A3-1, the noise from airfield vehicle traffic would remain the same.

Safety. Short-term, minor, adverse impacts on contractor health and safety would result from construction of the proposed airfield service road under Alternative A3-1. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to an environment containing slightly greater health and safety risks than a non-construction environment. To minimize health and safety risks, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review.

Alternative A3-1 would occur adjacent to ERP Sites OT-007 and UNK-510. Therefore, there is the potential for construction workers to encounter contamination during ground-disturbing activities adjacent to the ERP sites. Prior to the start of construction, contractors would coordinate with the Scott AFB ERP office to ensure that these sites do not present safety hazards to construction workers.

Short-term, negligible, adverse impacts on mission safety would result from construction of the proposed airfield service road within a Q-D arc. Contractors would coordinate with the installation's Safety Office to ensure the Q-D arc does not present a safety hazard to

construction personnel. The proposed airfield service road would not conflict with the Q-D arc and is acceptable construction within such an area. Long-term, minor, beneficial impacts on flight safety would occur by eliminating the need for airfield vehicles to cross Runway 14R/32L. Runway 14R/32L would be shut down and air traffic would be directed to the MidAmerica Airport runway when construction is occurring near the runway to avoid safety conflicts. A temporary construction waiver would be signed by the Wing Commander to authorize construction on the airfield.

Water Resources. No short-term impacts on groundwater would result from construction of the proposed airfield service road under Alternative A3-1. Excavation associated with construction would not intersect the local groundwater table. Long-term, minor, adverse impacts (e.g., reduced potential for recharge) on groundwater would occur due to the 43,200-ft^2 increase in impervious surface. However, Scott AFB would ensure that post-development hydrology mirrors pre-development hydrology to the maximum extent technically feasible.

Short-term, minor, adverse impacts on surface water and floodplains and short-term, negligible, adverse impacts on wetlands would occur from ground disturbance and vegetation removal. South Ditch is the closest surface water body, and depending on final design, the proposed airfield service road would be adjacent to or on top of an existing culvert for South Ditch. Because of airfield clearance requirements, a small portion of the proposed airfield service road could need to be constructed within the Scott AFB-designated 100-year floodplain. While South Ditch is a waters of the United States, Alternative A3-1 would not disturb this wetland because all construction would stay adjacent to or on top of the existing culvert and would not disturb the waterway. Ground disturbance and vegetation removal would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts. Long-term, minor, adverse impacts on surface water and the 100-year floodplain and long-term, negligible, adverse impacts on wetlands would occur from the increase in impervious surface and subsequent stormwater runoff. However, the pre-development hydrology would be maintained or restored to the maximum extent practical. Implementation of stormwater controls consistent with the ESCP and the Scott AFB SWPPP would minimize the potential for long-term adverse impacts on surface waters, the 100-year floodplain, and wetlands.

4.4.3.2 Alternative A3-2

Air Quality. Short-term, negligible, adverse impacts on air quality would result from construction of the proposed airfield service road under Alternative A3-2. Construction activities would produce criteria pollutants and GHGs when site grading and paving are occurring, which would be limited to 2021. No long-term changes to air emissions, such as those produced by airfield vehicles, would occur because Project A3 would not alter the amount of airfield traffic. USAF's ACAM was used to estimate the annual air emissions from Alternative A3-2. These air

emissions are summarized in **Table 4-7**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative A3-2 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-7. Air Emissions from Alternative A3-2

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct Service Road	0.379	2.327	2.220	0.005	13.295	0.115	482.300	2021

Note: All values are in tpy.

Biological Resources. Impacts on biological resources under Alternative A3-2 would be similar to those described for Alternative A3-1; however, a greater amount of nonnative vegetation and foraging and shelter habitat for wildlife (i.e., 127,200 ft^2) would be permanently lost because the proposed airfield service road would create more impervious surface than Alternative A3-1. The greater amount of impervious surface under Alternative A3-2 is a result of the proposed airfield service road using less existing pavement than Alternative A3-1.

Cultural Resources. No impacts on cultural resource would result from construction of the proposed airfield service road under Alternative A3-2. The new airfield service road would incorporate some existing roads and airfield pavements and would require approximately 5,300 linear feet of new construction. Approximately 2,000 linear feet of existing pavements would require complete replacement. The new construction would occur in an area previously disturbed from airfield construction; therefore, no adverse impacts on archaeological resources would be expected. The alternative would not introduce new aboveground elements or otherwise impact historic architectural resources.

Geological Resources. Short- and long-term, minor, adverse impacts on geological resources would result from construction of the proposed airfield service road under Alternative A3-2. The short- and long-term impacts and soil construction limitations would be similar to those described for Alternative A3-1. Long-term, minor, adverse impacts would occur due to an increase in the rate and volume of stormwater runoff from the 127,200 ft^2 increase in impervious surface. The increased runoff would result in a greater potential for erosion.

Hazardous Materials and Wastes. Impacts on hazardous materials and wastes under Alternative A3-2 would be similar to those described for Alternative A3-1; however, construction would not occur within or adjacent to an ERP site.

Infrastructure. Impacts on infrastructure under Alternative A3-2 would be similar to those described for Alternative A3-1. Long-term, moderate, beneficial impacts on the airfield would result from the improved connectivity between the eastern and western sides of the airfield; however, short-term, minor, adverse impacts on the airfield would result when Runway 14R/32L is shut down and air traffic is directed to the MidAmerica Airport runway for construction near the runway. The rate and volume of stormwater runoff would increase due to the 127,200 ft^2 increase in impervious surface. Additional runoff would be managed through implementation of LID measures as appropriate, per Section 438 of EISA. Construction would generate increased

volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills.

Land Use. No impacts on land use would occur from the construction of the proposed airfield service road under Alternative A3-2. There would be no change in land use categories. Airfield is a permitted land use for the Airfield planning district in which Alternative A3-2 falls. The proposed airfield service road would be allowable development within the CZ.

Noise. Impacts on noise under Alternative A3-2 would be similar to those described for Alternative A3-1. Impacts would result from noise generated by heavy equipment during construction. Alternative A3-2 coincides with the 65 to 69 and 70 to 74 dBA DNL Scott AFB Noise Zones and would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction. Additive construction noise levels as high as 79 dBA L_{eq} could be experienced at the closest building (Building 5032, Aircraft Operations and Maintenance); therefore, some people working or using outdoor recreation areas near the proposed airfield service road may notice or potentially be annoyed by the noise (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative A3-2 would not occur within 1,000 feet of any sensitive receptors. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible.

No additional impacts on the noise environment from operations of the new airfield service road would be expected. While the route taken by airfield vehicles would change under Alternative A3-2, the noise from airfield vehicle traffic would remain the same.

Safety. Impacts on safety under Alternative A3-2 would be similar to those described for Alternative A3-1; however, construction would not occur within or adjacent to an ERP site. Additionally, the proposed airfield service road would cross the southern overrun for Runway 14R/32L. This overrun is scheduled to be converted to runway in 2019 as part of a separate runway lighting project; therefore, no beneficial impacts on flight safety would occur from this alternative.

Water Resources. Impacts on groundwater, surface water, and wetlands under Alternative A3-2 would be similar to those described for Alternative A3-1. The closest surface water body and wetland, South Ditch, is approximately 900 feet from the project area. Alternative A3-2 would occur approximately 650 feet from the 100-year floodplain. Short- and long-term, negligible, adverse impacts on water resources would occur from potential erosion from ground disturbance and the increase in impervious surface. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and

implement associated BMPs to further minimize impacts. Additionally, pre-development hydrology would be maintained or restored to the maximum extent practical.

4.4.3.3 Alternative A3-3

Air Quality. Short-term, negligible, adverse impacts on air quality would result from construction of the proposed airfield service road under Alternative A3-3. Construction activities would produce criteria pollutants and GHGs when site grading and paving are occurring, which would be limited to 2021. No long-term changes to air emissions, such as those produced by airfield vehicles, would occur because Project A3 would not alter the amount of airfield traffic. USAF's ACAM was used to estimate the annual air emissions from Alternative A3-3. These air emissions are summarized in **Table 4-8**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative A3-3 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-8. Air Emissions from Alternative A3-3

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct Service Road	0.371	2.266	2.171	0.005	11.284	0.110	470.300	2021

Note: All values are in tpy.

Biological Resources. Impacts on biological resources under Alternative A3-3 would be similar to those described for Alternative A3-1; however, no nonnative vegetation and foraging and shelter habitat for wildlife would be permanently lost because the proposed airfield service road would be constructed entirely on existing impervious surface.

Cultural Resources. No impact on cultural resources would result from construction of the proposed airfield service road under Alternative A3-3. The new airfield service road would follow existing roads and airfield pavements and would require complete replacement of approximately 2,000 linear feet of existing pavements. Replacement of pavements would be contained within areas of previous disturbance and would have no potential to impact archaeological resources. The alternative would not introduce new aboveground elements or otherwise impact historic architectural resources.

Geological Resources. Short-term, negligible, adverse impacts on geological resources would result from construction of the proposed airfield service road under Alternative A3-3. The short-term impacts and soil construction limitations would be similar to those described for Alternative A3-1.

Hazardous Materials and Wastes. Impacts on hazardous materials and wastes under Alternative A3-3 would be similar to those described for Alternative A3-1; however, construction would not occur within or adjacent to an ERP site.

Infrastructure. Impacts on infrastructure under Alternative A3-3 would be similar to those described for Alternative A3-1. Long-term, moderate, beneficial impacts on the airfield would result from the improved connectivity between the eastern and western sides of the airfield; however, short-term, minor, adverse impacts on the airfield would result when Runway 14R/32L

is shut down and air traffic is directed to the MidAmerica Airport runway for construction near the runway. Alternative A3-3 would not increase the amount of imperious surface; therefore, no impacts on stormwater management would occur. Construction would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills.

Land Use. No impacts on land use would occur from construction of the airfield service road under Alternative A3-3. There would be no change in land use categories. Airfield is a permitted land use for the Airfield planning district in which Alternative A3-3 falls. The proposed airfield service road would be allowable development within the CZ.

Noise. Impacts on noise under Alternative A3-3 would be similar to those described for Alternative A3-1. Impacts would result from noise generated by heavy equipment during construction. Alternative A3-3 coincides with the 65 to 69 and 70 to 74 dBA DNL Scott AFB Noise Zones and would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction. Additive construction noise levels as high as 81 dBA L_{eq} could be experienced at the closest building (Building 5032, Aircraft Operations and Maintenance); therefore, some people working near the proposed airfield service road may notice or potentially be annoyed by the noise (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative A3-3 would not occur within 1,000 feet of any sensitive receptors. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible.

No additional impacts on the noise environment from operations would be expected. While the route taken by airfield vehicles would change under Alternative A3-3, the noise from of airfield vehicle traffic would remain the same.

Safety. Impacts on safety under Alternative A3-3 would be similar to those described for Alternative A3-1; however, construction would not occur within or adjacent to an ERP site. Additionally, the proposed airfield service road would cross the southern overrun for Runway 14R/32L. This overrun is scheduled to be converted to runway in 2019 as part of a separate runway lighting project; therefore, no beneficial impacts on flight safety would occur from this alternative.

Water Resources. Short-term impacts on groundwater, surface water, and wetlands under Alternative A3-3 would be similar to, but slightly less than, those described for Alternative A3-1 due to the smaller area of disturbance. The closest surface water body and wetland, South Ditch, is approximately 1,500 feet from the project area. Alternative A3-3 would occur approximately 850 feet from the 100-year floodplain. Short-term, negligible, adverse impacts on water resources would occur from erosion due to disturbance during construction. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of

floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts. Additionally, pre-development hydrology would be maintained or restored, to the maximum extent practical. No long-term impacts would occur because Alternative A3-3 would not add impervious surface to the installation.

4.4.3.4 No Action Alternative for Project A3

Air Quality. Under the No Action Alternative for Project A3, the airfield service road would not be constructed; therefore, air emissions from construction would not be produced. Air quality conditions would remain the same as described in **Section 3.1.2** and no new or additional air emissions would be produced.

Biological Resources. Under the No Action Alternative for Project A3, the airfield service road would not be constructed; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project A3; the airfield service road would not be constructed; therefore, no ground disturbance would occur. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project A3, construction would not occur; therefore, no ground disturbance would occur. Geological resources conditions would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project A3, the airfield service road would not be constructed; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. ERP Sites OT-007 and UNK-510 would continue to be managed according to the current plan. No impacts on toxic substances and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project A3, the airfield service road would not be constructed; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. Airfield vehicles would continue to cross Runway 14R/32L, which would continue to potentially impair airfield movements. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project A3, the airfield service road would not be constructed. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project A3, the airfield service road would not be constructed; therefore, no construction noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project A3, the airfield service road would not be constructed; therefore, no new or additional impacts on construction and mission safety would occur. Airfield vehicles would continue to cross Runway 14R/32L when transiting between the eastern and western sides of the airfield. Crossing the runway would continue to be a safety hazard by introducing the possibility of unauthorized runway incursions and increasing chances for foreign object debris. As such, long-term, minor, adverse impacts on flight safety would continue to occur from the No Action Alternative.

Water Resources. Under the No Action Alternative for Project A3, the airfield service road would not be constructed; therefore, no impacts on groundwater, surface water, floodplains, or wetlands would occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.4 PROJECT A4: REPLACE COLLAPSED CULVERT FOR SOUTH DITCH

4.4.4.1 Alternative A4-1

Air Quality. Short-term, negligible, adverse impacts on air quality would result from construction activities to replace the collapsed culvert and convert the open channel to enclosed box culvert under Alternative A4-1. Construction activities would produce criteria pollutants and GHGs when site grading and trenching are occurring, which would be limited to 2020. No long-term changes to air emissions would occur. USAF's ACAM was used to estimate the annual air emissions from Alternative A4-1. These air emissions are summarized in **Table 4-9**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative A4-1 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-9. Air Emissions from Alternative A4-1

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Replace Collapsed Culvert and Convert Open Channel to Box Culvert	0.327	2.075	1.955	0.005	2.059	0.089	491.500	2020

Note: All values are in tpy.

Biological Resources. Short-term, negligible, adverse impacts on vegetation would result from replacement of the collapsed culvert and conversion of the open channel to an enclosed box culvert under Alternative A4-1. Construction would require the temporary removal and trampling of approximately 16,500 ft^2 of nonnative vegetation and compaction of soil by heavy construction equipment. Vegetation would recover when construction is complete. The removal of nonnative vegetation would have no adverse impact on the amount or quality of native vegetation on Scott AFB.

Short- and long-term, negligible, adverse and beneficial impacts on wildlife species would occur. Wildlife would temporarily avoid the area during construction because of increased noise and human presence. Once construction is finished, wildlife utilizing the area would likely return. The conversion of the open channel to a box culvert would reduce the amount of surface water near the airfield, which could potentially discourage birds from occurring so close to the runway

and reduce BASH interactions (see the Safety subsection for further information on BASH interactions). The conversion of the open channel to a box culvert would remove marginal foraging and shelter habitat for some wildlife, which would likely be displaced to other areas throughout the installation.

Project A4-1 would have no effect on threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impacts on cultural resources would result from construction activities to replace the collapsed culvert and convert the open channel to enclosed box culvert under Alternative A4-1. The replacement of approximately 700 feet of culvert and the conversion of approximately 200 feet of open channel to box culvert would occur in an area heavily disturbed from construction of the airfield and drainage ditch. No impacts on archaeological resources would be expected. The alternative would not introduce new aboveground elements or otherwise impact historic architectural resources.

Geological Resources. Short- and long-term, negligible to minor, adverse and beneficial impacts on geological resources would result from replacement of the collapsed culvert and conversion of the open channel to an enclosed box culvert under Alternative A4-1. Short-term, negligible, adverse impacts would occur during construction as vegetation (i.e., grasses) is removed and soils are disturbed. Long-term, minor, beneficial impacts would occur due to the decreased erosion and sedimentation potential resulting from the improved stormwater control measures. Fixing the sinkhole and using a box culvert rather than open channel would decrease the potential for erosion.

Hazardous Materials and Wastes. Short-term, minor, adverse impacts associated with hazardous materials and wastes would result from construction activities to replace the collapsed culvert and convert the open channel to enclosed box culvert under Alternative A4-1. Construction would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

Alternative A4-1 would occur entirely within ERP Site UNK-510. Therefore, there is a potential for construction workers to encounter contamination during ground-disturbing activities. Prior to the start of construction, contractors would coordinate with the Scott AFB ERP office to ensure that contamination from the site is not impacted or spread from construction activities. Construction activities would not impact the ability to remediate, investigate, or monitor the ERP site.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative A4-1. No impacts from toxic substances and radon would occur.

Infrastructure. Short- and long-term, minor to moderate, adverse and beneficial impacts on infrastructure would result from construction activities to replace the collapsed culvert and convert the open channel to enclosed box culvert under Alternative A4-1. Replacing 700 feet of collapsed corrugated metal pipe with concrete and converting the open channel downstream of the collapse to a box culvert would improve stormwater flows that are partially obstructed by the collapse. Additional stormwater inlets would reduce local flooding. Protecting the two exposed sanitary sewer pipes crossing South Ditch would prevent damage and curtail any potential issues with the sanitary sewer system leaking into South Ditch. Construction would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills. Air traffic on Runway 14R/32L would be directed to the MidAmerica Airport runway during the periods when construction is interfering with runway operations.

Land Use. No impacts on land use would occur from replacement of the collapsed culvert and conversion of the open channel to an enclosed box culvert under Alternative A4-1. Because the replacement would occur at existing stormwater management features, this alternative is compatible with the current land use category, Airfield. This land use is permitted for the Airfield planning district in which Alternative A4-1 falls. The proposed repairs to the culvert would be allowable development within the CZ.

Noise. Short-term, minor impacts on the noise environment would occur from construction activities to replace the collapsed culvert and convert the open channel to enclosed box culvert under Alternative A4-1. Such impacts would result from noise generated by heavy equipment during construction but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Construction noise would end with completion of construction.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 80 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical construction equipment would noticeably attenuate to below 65 dBA between approximately 300 and 4,000 feet from the source, depending on the equipment in use (USEPA 1971, TRS Audio Undated a). Alternative A4-1 coincides with the 65 to 69 dBA DNL Scott AFB Noise Zone and would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction.

Additive construction noise levels as high as 69 dBA L_{eq} could be experienced at the closest building (Building 3200, Airfield); therefore, some people working near the culvert replacement project area may notice or potentially be annoyed by the noise (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative A4-1 would not occur within 1,000 feet of any sensitive receptors. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be

negligible. Additionally, noise levels could be reduced through the use of exhaust mufflers or other noise attenuation equipment.

Safety. Short-term, negligible to minor, adverse impacts on contractor health and safety would result from construction activities to replace the collapsed culvert and convert the open channel to enclosed box culvert under Alternative A4-1. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to an environment containing slightly greater health and safety risks than a non-construction environment. To minimize health and safety risks, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review.

This project would occur entirely within ERP Site UNK-510. Therefore, there is the potential for construction workers to encounter contamination during ground-disturbing activities. Prior to the start of construction, contractors would coordinate with the Scott AFB ERP office to ensure that this site does not present safety hazards to construction workers.

Long-term, minor, beneficial impacts on flight safety would result from Alternative A4-1 because the open channel immediately downstream of the collapsed culvert would be converted to a box culvert to reduce ponding, prevent erosion, and protect two exposed sanitary sewer pipes. Alternative A4-1 is the Preferred Alternative because the conversion of the open channel to a box culvert would reduce the amount of surface water near the airfield, which could potentially discourage birds from occurring so close to the runway and reduce BASH interactions. Air traffic on Runway 14R/32L would be directed to the MidAmerica Airport runway during the periods when construction presents a safety hazard for runway operations. A temporary construction waiver would be signed by the Wing Commander to authorize construction on the airfield.

Water Resources. No impacts on groundwater would result from replacement of the collapsed culvert and conversion of the open channel to an enclosed box culvert under Alternative A4-1. Excavation associated with construction would not intersect the local groundwater table. Short-term, minor, adverse impacts on surface water, the 100-year floodplain, and wetlands would occur from ground disturbance. Alternative A4-1 would occur within and immediately adjacent to South Ditch. Alternative A4-1 would disturb approximately 6,500 ft^2 within the Scott AFB-designated 100-year floodplain and approximately 16,500 ft^2 of wetlands. These less than significant impacts on the floodplain and wetland would be unavoidable because of the inherent nature of this project to address South Ditch. Because South Ditch is a waters of the United States, Scott AFB would obtain the necessary Section 404 permit from the USACE prior to starting construction. Ground disturbance would result in erosion, sedimentation, and increased

stormwater runoff. Impacts would be less than significant because all ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts. Additionally, predevelopment hydrology would be maintained or restored to the maximum extent practical. Restored flow of South Ditch would result in long-term, minor, beneficial impacts on surface water, the 100-year floodplain, and wetlands because it would allow for transport of debris/sediment, improve water quality through reduced erosion, and would reduce the severity of stormwater ponding in the area. Stormwater management would be improved through the construction of additional stormwater inlets.

4.4.4.2 Alternative A4-2

Air Quality. Short-term, negligible, adverse impacts on air quality would result from construction activities to replace the collapsed culvert and grade and line the open channel under alternative A4-2. Construction activities would produce criteria pollutants and GHGs when site grading and trenching are occurring, which would be limited to 2020. No long-term changes to air emissions would occur. USAF's ACAM was used to estimate the annual air emissions from Alternative A4-2. These air emissions are summarized in **Table 4-10**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative A4-2 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-10. Air Emissions from Alternative A4-2

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Replace Collapsed Culvert and Grade and Line Open Channel	0.327	2.069	1.954	0.005	1.491	0.089	489.600	2020

Note: All values are in tpy.

Biological Resources. Impacts on biological resources under Alternative A4-2 would be similar to those described for Alternative A4-1. Clearance of approximately 16,500 ft^2 of nonnative vegetation would occur; however, the vegetation would recover once construction ends. Wildlife would temporarily avoid the area during construction because of increased noise and human presence. Because the open channel immediately downstream of the collapsed culvert would be graded and lined with riprap rather than converted to box culvert, the amount of surface water near the airfield would not be reduced and birds would continue to be attracted to the open water, which would continue the potential for BASH interactions to occur. No reduction in foraging and shelter habitat for wildlife would occur. Alternative A4-2 would have no effect on threatened and endangered species.

Cultural Resources. No impacts on cultural resources would result from construction activities to replace the collapsed culvert and grade and line the open channel under alternative A4-2.

The replacement of approximately 700 feet of culvert and lining of approximately 200 feet of open channel with riprap would occur in an area heavily disturbed from construction of the airfield and drainage ditch; therefore, no impacts on archaeological resources would be expected. The alternative would not introduce new aboveground elements or otherwise impact historic architectural resources.

Geological Resources. Impacts on geological resources under Alternative A4-2 would be similar to those described for Alternative A4-1. Grading and lining open channel with riprap would decrease the potential for erosion.

Hazardous Materials and Wastes. Impacts on hazardous materials and wastes under Alternative A4-2 would be the same as those described for Alternative A4-1.

Infrastructure. Impacts on infrastructure under Alternative A4-2 would be the same as those described for Alternative A4-1.

Land Use. Impacts on land use under Alternative A4-2 would be the same as those described for Alternative A4-1.

Noise. Impacts on noise under Alternative A4-2 would be similar to those described for Alternative A4-1. Impacts would result from noise generated by heavy equipment during construction. Alternative A4-2 coincides with the 65 to 69 dBA DNL Scott AFB Noise Zone and would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction. Additive construction noise levels as high as 69 dBA L_{eq} could be experienced at the closest building (Building 3200, Airfield); therefore, some people working near the culvert replacement project area may notice or potentially be annoyed by the noise (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative A4-2 would not occur within 1,000 feet of any sensitive receptors. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible.

Safety. Impacts on safety under Alternative A4-2 would be similar to those described for Alternative A4-1; however, because the open channel immediately downstream of the collapsed culvert would be graded and lined with riprap rather than converted to box culvert, the amount of surface water near the airfield would not be reduced. Therefore, the potential for BASH incidents would remain and continue to represent safety concerns to aircraft.

Water Resources. Impacts on water resources under Alternative A4-2 would be largely similar to those described for Alternative A4-1; however, because the open channel immediately downstream of the collapsed culvert would be graded and lined with riprap rather than converted to box culvert, the amount of surface water near the airfield would not be reduced. Impacts on water resources would remain less than significant because all ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit,

project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands.

4.4.4.3 No Action Alternative for Project A4

Air Quality. Under the No Action Alternative for Project A4, the collapsed culvert and downstream erosion would not be repaired; therefore, air emissions from construction would not be produced. Air quality conditions would remain the same as described in **Section 3.1.2** and no new or additional air emissions would be produced.

Biological Resources. Under the No Action Alternative for Project A4, the collapsed culvert and downstream erosion would not be repaired; therefore, no new impacts on vegetation, wildlife, or protected species would occur. The open channel immediately downstream of the collapsed culvert would remain and birds would continue to be attracted to the open water, which would continue the potential for BASH interactions to occur. The continuation of such interactions would represent long-term, minor, adverse impacts.

Cultural Resources. Under the No Action Alternative for Project A4, the collapsed culvert and downstream erosion would not be repaired; therefore, no ground disturbance would occur. Continued erosion downstream of the collapsed culvert would not be expected to impact cultural resources, as the area has been heavily disturbed from construction of the airfield and drainage ditch. No impacts on historic architectural resources would occur. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project A4, the collapsed culvert and downstream erosion would not be repaired; therefore, the potential for erosion and sedimentation from storm events would remain high due to impairment of stormwater control measures in the South Ditch. Geological resources conditions would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project A4, the collapsed culvert and downstream erosion would not be repaired; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. ERP Site UNK-510 would continue to be managed according to the current plan. No impacts on toxic substances and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project A4, the collapsed culvert and downstream erosion would not be repaired; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. The collapsed culvert in South Ditch would continue to impede the flow of water, which could cause flooding during storm events. The potential for damage to the two exposed sanitary sewer pipes would remain. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project A4, the collapsed culvert and downstream erosion would not be repaired. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project A4, the collapsed culvert and downstream erosion would not be repaired, no construction noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2** and no new or additional impacts on the noise environment would occur.

Safety. Under the No Action Alternative for Project A4, the collapsed culvert and downstream erosion would not be repaired; therefore, no new or additional impacts on construction and mission safety would occur. The open channel immediately downstream of the collapsed culvert would remain; therefore, the potential for BASH incidents would continue to represent safety concerns to aircraft. The continuation of such safety concerns would represent long-term, minor, adverse impacts on flight safety.

Water Resources. Under the No Action Alternative for Project A4, the collapsed culvert and downstream erosion would not be repaired and the flow of water in South Ditch would continue to be impeded. Long-term, minor, adverse impacts on surface water, the 100-year floodplain, and wetlands would continue from insufficient transport of debris/sediment and impaired water quality from continued erosion.

4.4.5 PROJECT A5: AIRFIELD REPAIRS

4.4.5.1 Alternative A5

Air Quality. Short-term, minor, adverse impacts on air quality would result from construction associated with proposed airfield repairs. Construction activities would produce criteria pollutants and GHGs when site grading, trenching, and paving are occurring, which would be limited to 2021. No long-term changes to air emissions would occur because Project A5 would not alter the amount of airfield traffic. USAF's ACAM was used to estimate the annual air emissions from Alternative A5. These air emissions are summarized in **Table 4-11**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative A5 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-11. Air Emissions from Alternative A5

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Airfield Repairs	0.936	5.698	5.574	0.013	61.146	0.264	1,327.300	2021

Note: All values are in tpy.

Biological Resources. Short-term, negligible, adverse impacts on vegetation would result from construction associated with proposed airfield repairs. Construction would require the temporary removal and trampling of nonnative vegetation and compaction of soil by heavy construction equipment. This vegetation is located along the edges of the airfield pavement, is highly disturbed, and contains mostly nonnative species (i.e., grasses). Approximately 25,000 ft^2 of vegetation could be temporarily removed. Vegetation would recover when

construction is complete. The minimal removal of nonnative vegetation would have no adverse impact on the amount or quality of native vegetation on Scott AFB.

Short-term, negligible, adverse impacts on wildlife would occur. Temporary impacts would include increased noise levels from heavy equipment and an increase in human activity. Most of the project area is already highly disturbed or already an impervious surface providing very little habitat for any wildlife species. Any wildlife occurring in the area would temporarily avoid the area until construction finishes.

Alternative A5 would have no effect on threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impacts on cultural resources would result from construction associated with proposed airfield repairs. Full-depth replacement of existing pavement and stormwater upgrades would be contained within previous disturbance areas, and no impacts on archaeological resources would be expected. The alternative would not introduce new aboveground elements or otherwise impact historic architectural resources.

Geological Resources. Short-term, minor, adverse impacts on geological resources would result from construction associated with proposed airfield repairs. These impacts would occur during construction as vegetation (i.e., grasses) is removed and soils are disturbed. Vegetation would be restored once construction activities have ceased, where possible. Erosion and sedimentation potential would be greatest in areas where the soil is bare.

Hazardous Materials and Wastes. Short-term, negligible, adverse impacts associated with hazardous materials and wastes would occur from construction associated with proposed airfield repairs. Construction would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative A5. No impacts from toxic substances, environmental contamination, and radon would occur.

Infrastructure. Short- and long-term, minor, adverse and beneficial impacts on infrastructure would result from proposed airfield repairs. Portions of airfield pavement would be improved, increasing the overall pavement condition index; however, temporary closures of small portions of the airfield would necessitate aircraft taxi detours during construction. Fixing the damaged junction boxes, culverts, and pipes would ensure that the flow of stormwater is not impeded and the system would function more efficiently. Installing additional inlets and grading the adjacent surfaces would improve the capacity of the stormwater system and potentially lessen the frequency and duration of flooding. Construction would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills.

Land Use. No impacts on land use would result from proposed airfield repairs on Taxiways G and R, Ramp F, and the South Ramp. Because the airfield repairs would be conducted on the airfield, there would be no change in the current Airfield land use category. Airfield is a permitted land use for the Airfield planning district in which Project A5 falls.

Noise. Short-term, minor impacts on the noise environment would results from construction associated with proposed airfield repairs. Such impacts would result from noise generated by heavy equipment during construction but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Construction noise would end with completion of construction.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 80 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical construction equipment would noticeably attenuate to below 65 dBA between approximately 300 and 4,000 feet from the source, depending on the equipment in use. Noise from paving would be expected to attenuate below 65 dBA within approximately 700 feet of the source (USEPA 1971, TRS Audio Undated a). Alternative A5 would occur partially within the 65 to 69 and 70 to 74 dBA DNL Scott AFB Noise Zones where ambient noise levels from aircraft operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction.

Additive construction noise levels as high as 123 dBA L_{eq} could be experienced at the closest building (Building 742, Aircraft Operations and Maintenance); therefore, some people working near the proposed airfield repairs could notice or potentially be annoyed by the noise (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative A5 would not occur within 1,000 feet of any sensitive receptors. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible. Additionally, noise levels would be reduced through the use of exhaust mufflers or other noise attenuation equipment.

No additional impacts on the noise environment from operations would be expected. The noise from airfield vehicle traffic would remain the same.

Safety. Short-term, negligible to minor, adverse impacts on contractor health and safety would result from construction associated with proposed airfield repairs. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to an environment containing slightly greater health and safety risks than a non-construction environment. To minimize health and safety risks, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to

work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review.

Short-term, negligible, adverse impacts on mission safety would occur from construction within a Q-D arc. Contractors would coordinate with the installation's Safety Office to ensure the Q-D arc does not present a safety hazard to construction personnel. The proposed airfield repairs would not conflict with the Q-D arc and is acceptable construction within such an area. Long-term, minor, beneficial impacts on flight safety would occur when airfield pavement failures and stormwater management issues are addressed and aircraft grounding capability is provided.

Water Resources. No impacts on groundwater would result from construction associated with proposed airfield repairs. Excavation associated with construction would not intersect the local groundwater table. Long-term, negligible, beneficial impacts on groundwater would occur from the implementation of stormwater drainage improvements that would minimize surface runoff and thereby improve infiltration and recharge.

Short-term, minor, adverse impacts on surface water would occur from ground disturbance. Because ground disturbance would not directly coincide with the 100-year floodplain or wetlands, indirect short-term, negligible, adverse impacts on floodplains and wetlands would occur. The closest surface water body and wetland, South Ditch, is approximately 700 feet from the Alternative A5 project area, and the project area is approximately 30 feet from the Scott AFB-designated 100-year floodplain. Ground disturbance would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts. Long-term, minor, beneficial impacts on surface water and long-term, negligible, beneficial impacts on the 100-year floodplain and wetlands would occur from the implementation of stormwater drainage improvements that would minimize stormwater runoff.

4.4.5.2 No Action Alternative for Project A5

Air Quality. Under the No Action Alternative for Project A5, airfield repairs would not occur; therefore, air emissions from construction would not be produced. Air quality conditions would remain the same as discussed in **Section 3.1.2**.

Biological Resources. Under the No Action Alternative for Project A5, airfield repairs would not occur; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project A5, airfield repairs would not occur; therefore, no ground disturbance would occur. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project A5, airfield repairs would not occur; therefore, the potential for erosion and sedimentation from storm events would remain high due to the impairment of the stormwater drainage infrastructure. Geological resources conditions would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project A5, airfield repairs would not occur; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. No impacts on toxic substances, ERP sites, and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project A5, airfield repairs would not occur; therefore, the condition of the airfield would remain unchanged. No changes to utility demand, solid waste generation, and traffic conditions would occur. Infrastructure conditions would remain the same as described in **Section 3.6.2**

Land Use. Under the No Action Alternative for Project A5, airfield repairs would not occur. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project A5, airfield repairs would not occur; therefore, no construction noise would be generated. Noise conditions would be the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project A5, airfield repairs would not occur; therefore, no new or additional impacts on construction, mission, or flight safety would be anticipated. Pavement failures, stormwater management issues, and lack of aircraft grounding capability would continue to represent flight safety hazards. Safety conditions would remain the same as those described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project A5, airfield repairs would not occur; therefore, no impacts on groundwater, surface water, floodplains, or wetlands would be anticipated. Stormwater management issues identified on these portions of the airfield would continue to occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.6 PROJECT C1: CONSTRUCT JOMPC

4.4.6.1 Alternative C1

Air Quality. Short-term, minor, adverse impacts on air quality would result from construction of the proposed JOMPC and long-term, negligible, adverse impacts would result from operation of the proposed JOMPC. Construction activities would produce criteria pollutants and GHGs when site grading, trenching, building construction, and paving are occurring, which would be limited

to 2020. Operation of the proposed JOMPC would produce criteria pollutants and GHGs from heating the proposed JOMPC with a natural gas-fired furnace and using a diesel-fueled emergency electricity generator. Heat and generator air emissions would occur annually following construction. These air emissions may need to be added to the installation's State Operating Permit and would not increase Scott AFB's potential to emit above major source thresholds. USAF's ACAM was used to estimate the annual air emissions from Alternative C1. These air emissions are summarized in **Table 4-12**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative C1 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-12. Air Emissions from Alternative C1

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct JOMPC	2.954	5.703	5.726	0.013	23.313	0.273	1,267.600	2020
Heat JOMPC and Use Electricity Generator	0.056	0.938	0.784	0.010	0.075	0.075	1,104.300	2021 and Later

Note: All values are in tpy.

Biological Resources. Short- and long-term, negligible, adverse impacts on vegetation would result from construction of the proposed JOMPC. Short-term impacts would result from the temporary removal and trampling of surrounding vegetation and compaction of soil by heavy construction equipment. Construction would permanently remove approximately 380,000 ft^2 of vegetation within the footprint of the proposed JOMPC, but most of this vegetation is not native (i.e., landscaped grasses). The minimal removal of nonnative vegetation would have no adverse impact on the amount or quality of native vegetation on Scott AFB.

Short- and long-term, negligible, adverse impacts on wildlife would occur. Most of the project area is already highly disturbed or already an impervious surface providing very little habitat for any wildlife species. Although construction would permanently remove approximately 380,000 ft^2 of open area, approximately 400 acres of higher quality wildlife habitat is available in the Silver Creek riparian corridor portion of the installation. Nearby wildlife would temporarily avoid the area during construction due to increased noise levels and increased human activity.

Alternative C1 would have no effect on threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impacts on archaeological resources would be expected from construction of the proposed JOMPC, because the JOMPC and associated parking would be constructed within previously disturbed areas and existing building footprints. The JOMPC would be constructed in the location of current Buildings 1509, 1510, 1512, and 1513, which will be demolished under a separate action that was previously analyzed and approved under the NEPA and NHPA.

Construction of the JOMPC would occur adjacent to the Scott Field Historic District. As a large multistory building of dissimilar massing and size, the new construction would have a minor visual intrusion on the district. However, the JOMPC would not affect the internal cohesion or

historic setting within the district. Under Alternative C1, current operations at Buildings 4, 1600, 3189, 1948, and T-1990 would move to the JOMPC and the buildings would be retained for future use. Of these, Building 4 is a contributing resource to the Scott Field Historic District. No change of use would occur for Building 4. This building would immediately receive personnel from other missions on Scott AFB and would not become vacant. Building 4 would also continue to be managed in accordance with the Historic Building Maintenance Plan.

Geological Resources. Short- and long-term, minor to moderate adverse impacts on geological resources would result from construction of the proposed JOMPC. Short-term, minor, adverse impacts would occur during construction and would result from the disturbance of soils, clearing of vegetation, grading, paving, and excavation or trenching. Clearing of vegetation would increase erosion and sedimentation potential. Long-term, moderate, adverse impacts would occur due to an increase in the rate and volume of stormwater runoff from the 380,000 ft^2 increase in impervious surface. The increased runoff would result in a greater potential for erosion. Use of stormwater control measures that favor infiltration would minimize the potential for erosion and sediment production as a result of future storm events.

The Edwardsville silt loam and Mascoutah silty clay loam are the soils mapped at the site of the proposed JOMPC. The soils were analyzed for building construction limitations associated with shallow excavations. The Edwardsville silt loam was considered to be somewhat limited to very limited due to depth to saturated zone, shrink-swell potential, and unstable excavation walls. The Mascoutah silty clay loam was considered to be very limited due to ponding, depth to saturated zone, and shrink-swell potential (USDA-NRCS 2019). Building design measures would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Short-term, minor, adverse impacts associated with hazardous materials and wastes would result from construction of the proposed JOMPC. Construction would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

Alternative C1 would occur within ERP Site SS-025b. Therefore, there is a potential for construction workers to encounter contamination during ground-disturbing activities within the ERP site. Prior to the start of construction, contractors would coordinate with the Scott AFB ERP office to ensure that contamination from the site is not impacted or spread from construction activities. Construction activities would not impact the ability to remediate, investigate, or monitor the ERP site, and project planning would include protection of monitoring wells. Alternative C1 would not conflict with the land use controls prohibiting residential development at ERP Site SS-025b.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative C1. The proposed JOMPC is unlikely to use toxic substances in its construction because federal policies and laws limit their use in building

construction applications. Radon management features would be incorporated into the design of the building if determined to be necessary.

Infrastructure. Short- and long-term, negligible to moderate, adverse and beneficial impacts on infrastructure would result from construction of the proposed JOMPC. Temporary interruptions in electricity, water, natural gas, sanitary sewer, and communications services could occur when the proposed JOMPC is connected to the existing utilities. Operation of the proposed JOMPC would slightly increase the demand for electricity, water, natural gas, sanitary sewer, and communications services; however, as described in **Section 3.6.2**, these utilities have sufficient capacity to meet the additional demand. The rate and volume of stormwater runoff would increase due to the 380,000 ft^2 increase in impervious surface. Additional runoff would be managed through implementation of LID measures as appropriate, per Section 438 of EISA. New parking adjacent to the proposed building (i.e., 775 parking spaces) would beneficially expand parking on-installation. Construction would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills.

Land Use. Short-term, minor, adverse impacts on land use would result from construction of the proposed JOMPC. The JOMPC building would be constructed within the Administrative land use category; however, a small portion of the parking lot proposed for the JOMPC would be constructed within the Community Service land use category. Although Community Service land use is compatible with Administrative land use, the portion of the project area within the Community Service category would need to be changed to the Administrative category. Administrative land use is permitted for the Core planning district in which Alternative C1 falls. Alternative C1 would not conflict with the land use controls restricting residential development at ERP Site SS-025b.

Noise. Short-term, minor impacts on the noise environment would result from construction of the proposed JOMPC. Impacts would result from noise generated by heavy equipment during construction but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Construction noise would end with completion of construction.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 70 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical construction equipment would noticeably attenuate to below 65 dBA between approximately 100 and 4,000 feet from the source, depending on the equipment in use (USEPA 1971, TRS Audio Undated a). Alternative C1 would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction.

Additive construction noise levels as high as 82 dBA L_{eq} could be experienced at the closest building (Building 1520, Administrative); therefore, some people working, living, or using outdoor

recreation areas near the proposed JOMPC may temporarily notice or potentially be annoyed by the noise. Construction noise levels as high as 67 dBA L_{eq} could be experienced by the closest sensitive receptor (Building 1420, Housing) (USEPA 1971, FHWA 2006, TRS Audio Undated a). Given the level of noise, temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible to minor. Additionally, noise levels could be reduced through the use of exhaust mufflers or other noise attenuation equipment, and louder construction noise equipment would generally be used only during daytime hours.

No additional impacts on the noise environment from operation of the JOMPC would be anticipated. While JOMPC operations would consolidate into a new location, the type and magnitude of operations would remain the same.

Safety. Short-term, minor, adverse impacts on contractor health and safety would result from construction of the proposed JOMPC. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to an environment containing slightly greater health and safety risks than a non-construction environment. To minimize health and safety risks, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review.

Construction of the proposed JOMPC would occur within ERP Site SS-025b. Therefore, there is the potential for construction workers to encounter contamination during ground-disturbing activities within the ERP site. Prior to the start of construction, contractors would coordinate with the Scott AFB ERP office to ensure that this site does not present safety hazards to construction workers. No impacts on mission or flight safety would occur.

Water Resources. No short-term impacts on groundwater would result from construction of the proposed JOMPC. Excavation associated with construction would not intersect the local groundwater table. Long-term, minor, adverse impacts (e.g., reduced potential for recharge) on groundwater would occur due to the 380,000 ft^2 increase in impervious surface. However, Scott AFB would ensure that post-development hydrology mirrors pre-development hydrology to the maximum extent technically feasible.

Short-term, minor, adverse impacts on surface water and short-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from ground disturbance and vegetation removal. The closest surface water body and wetland, Ash Creek, is approximately 3,200 feet from the Alternative C1 project area. Alternative C1 would occur approximately 3,150 feet from the 100-year floodplain. Ground disturbance and vegetation removal would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing

activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts. Long-term, minor, adverse impacts on surface water and long-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from the increase in impervious surface and subsequent stormwater runoff. However, the pre-development hydrology would be maintained or restored to the maximum extent practical. Implementation of stormwater controls consistent with the ESCP and the Scott AFB SWPPP would minimize the potential for long-term adverse impacts on surface waters, the 100-year floodplain, and wetlands.

4.4.6.2 No Action Alternative for Project C1

Air Quality. Under the No Action Alternative for Project C1, the JOMPC would not be constructed; therefore, air emissions from constructing and heating the proposed building would not be produced. Additionally, air emissions from operating the emergency electricity generator would not be produced. Air quality conditions would remain the same as discussed in **Section 3.1.2** and no new air emissions would be produced.

Biological Resources. Under the No Action Alternative for Project C1, the JOMPC would not be constructed; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project C1, the JOMPC would not be constructed; therefore, no ground disturbance and visual impacts on the Scott Field Historic District would occur. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project C1, the JOMPC would not be constructed; therefore, no ground disturbance would occur. Geological resources conditions would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project C1, the JOMPC would not be constructed; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. ERP Site SS-025b would continue to be managed according to the current plan. No impacts on toxic substances and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project C1, the JOMPC would not be constructed; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project C1, the JOMPC would not be constructed. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project C1, the JOMPC would not be constructed; therefore, no construction noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project C1, the JOMPC would not be constructed; therefore, no new or additional impacts on construction, mission, or flight safety would occur. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project C1, the JOMPC would not be constructed; therefore, no impacts on groundwater, surface water, floodplains, or wetlands would occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.7 PROJECT C2: CONSTRUCT DORMITORY

4.4.7.1 Alternative C2

Air Quality. Short-term, minor, adverse impacts on air quality would result from construction of the proposed dormitory and long-term, negligible, adverse impacts would result from operation of the proposed dormitory. Construction activities would produce criteria pollutants and GHGs when site grading, trenching, building construction, and paving are occurring, which would be limited to 2021. Operation of the proposed dormitory would produce criteria pollutants and GHGs from heating the dormitory with a natural gas-fired furnace. Heating air emissions would occur annually following construction. These air emissions may need to be added to the installation's State Operating Permit and would not increase Scott AFB's potential to emit above major source thresholds. USAF's ACAM was used to estimate the annual air emissions from Alternative C2. These air emissions are summarized in **Table 4-13**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative C2 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-13. Air Emissions from Alternative C2

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct Dormitory	2.954	5.703	5.726	0.013	23.313	0.273	1,267.600	2021
Heat Dormitory	0.056	0.938	0.784	0.010	0.075	0.075	1,104.300	2022 and Later

Note: All values are in tpy.

Biological Resources. Short- and long-term, negligible, adverse impacts on vegetation would result from construction of the proposed dormitory. Short-term impacts would result from the temporary removal and trampling of surrounding vegetation and compaction of soil by heavy construction equipment. Construction would permanently remove approximately 47,500 ft^2 of vegetation within the footprint of the proposed dormitory, but most of this vegetation is not native (i.e., landscaped grasses). The minimal removal of nonnative vegetation would have no adverse impact on the amount or quality of native vegetation on Scott AFB.

Short- and long-term, negligible, adverse impacts on wildlife would occur. Most of the project area is already highly disturbed or already an impervious surface providing very little habitat for any wildlife species. Although construction would permanently remove approximately 47,500 ft^2 of open area, approximately 400 acres of higher quality wildlife habitat is available in the Silver Creek riparian corridor portion of the installation. Nearby wildlife would temporarily avoid the area during construction due to increased noise levels and increased human activity.

Alternative C2 would have no effect on threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impacts on cultural resources would result from construction of the proposed dormitory. The proposed dormitory and relocated parking lot would be built in areas that are previously disturbed and the construction would have no impact on archaeological resources. The new dormitory would be built approximately 0.6 miles west of the Scott Field Historic District in an area of other modern construction. The new construction would not have adverse visual impacts on the historic district.

Geological Resources. Short- and long-term, minor, adverse impacts on geological resources would result from construction of the proposed dormitory. The short-term impacts would occur during construction and would result from disturbance of soils, clearing of vegetation, grading, paving, and excavation or trenching. Clearing of vegetation would increase erosion and sedimentation potential. Project C2 would increase the rate and volume of stormwater runoff because of the 47,500 ft^2 increase in impervious surface. The increased runoff would result in a greater potential for erosion. Use of stormwater control measures that favor infiltration would minimize the potential for erosion and sediment production as a result of future storm events.

The Edwardsville silt loam and Mascoutah silty clay loam are the soils mapped at the site of the proposed dormitory. The soils were analyzed for building construction limitations associated with shallow excavations. The Edwardsville silt loam was considered to be somewhat limited to very limited due to depth to saturated zone, shrink-swell potential, and unstable excavation walls. The Mascoutah silty clay loam was considered to be very limited due to ponding, depth to saturated zone, and shrink-swell potential (USDA-NRCS 2019). Building design measures would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Short-term, negligible, adverse impacts associated with hazardous materials and wastes would result from construction of the proposed dormitory. Construction would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative C2. The proposed dormitory is unlikely to use toxic substances in its construction because federal policies and laws limit their use in building

construction applications. Radon management features would be incorporated into the design of the building if determined to be necessary. No impacts from environmental contamination would occur.

Infrastructure. Short- and long-term, negligible to minor, adverse and beneficial impacts on infrastructure would result from construction of the proposed dormitory. Temporary interruptions in electricity, water, natural gas, sanitary sewer, and communications services could occur when the proposed dormitory is connected to the existing utilities. Operation of the proposed dormitory would slightly increase the demand for electricity, water, natural gas, sanitary sewer, and communications services; however, as described in **Section 3.6.2**, these utilities have sufficient capacity to meet the additional demand. The rate and volume of stormwater runoff would increase due to the 47,500 ft^2 increase in impervious surface. Additional runoff would be managed through implementation of LID measures as appropriate, per Section 438 of EISA.

Short-term, negligible, adverse impacts on parking would occur from the displacement of the parking lot at the proposed dormitory construction site and subsequent decrease in size of the replacement lot. The parking lot for Building 1812 would be expanded instead to meet parking requirements. Construction would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills.

Land Use. Short-term, minor, adverse impacts on land use would result from construction of the proposed dormitory. The dormitory would be constructed within the Housing Unaccompanied land use category. No change to land use categories would be necessary. The proposed dormitory would generally be compatible with the surrounding Housing Unaccompanied, Housing Accompanied, Community Service, and Open Space land uses. Housing Unaccompanied is a permitted land use for the Core planning district in which Alternative C2 falls.

Noise. Short-term, minor impacts on the noise environment would result from construction of the proposed dormitory. Impacts would result from noise generated by heavy equipment during building and parking lot construction but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Construction noise would end with completion of construction and demolition.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 70 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical construction equipment would noticeably attenuate to below 65 dBA between approximately 100 and 4,000 feet from the source, depending on the equipment in use. Noise from paving would be expected to attenuate below 65 dBA within approximately 700 feet of the source (USEPA 1971, TRS Audio Undated a). Alternative C2 would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and

surrounding areas, minor impacts would be expected from the increase in noise during construction.

Additive construction and demolition noise levels as high as 95 dBA L_{eq} could be experienced at the closest building and sensitive receptor (Building 1830, Housing); therefore, some people living, working, or using outdoor recreation areas near the proposed dormitory and parking lots may temporarily notice or potentially be annoyed by the noise (USEPA 1971, FHWA 2006, TRS Audio Undated a). Given the temporary nature of the proposed construction and the existing noise environment, impacts on sensitive receptors would be minor. Additionally, noise levels could be reduced through the use of exhaust mufflers or other noise attenuation equipment, and louder construction noise equipment would generally be used only during daytime hours.

No additional impacts on the noise environment from operations would be expected. A slight increase in vehicle traffic noise could occur due to the housing of additional personnel on the installation following dormitory construction; however, this increase would not appreciably contribute to the existing noise environment of the area.

Safety. Short-term, minor, adverse impacts on contractor health and safety would result from construction of the proposed dormitory. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to an environment containing slightly greater health and safety risks than a non-construction environment. To minimize health and safety risks, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review. No impacts on mission or flight safety would occur.

Water Resources. No short-term impacts on groundwater would result from construction of the proposed dormitory. Excavation associated with construction would not intersect the local groundwater table. Long-term, minor, adverse impacts (e.g., reduced potential for recharge) on groundwater would occur due to the 47,000 ft^2 increase in impervious surface. However, Scott AFB would ensure that post-development hydrology mirrors pre-development hydrology to the maximum extent technically feasible.

Short-term, minor, adverse impacts on surface water and short-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from ground disturbance and vegetation removal. The closest surface water body and wetland, Ash Creek, is approximately 630 feet from the Alternative C2 project area. Alternative C2 would occur approximately 220 feet from the 100-year floodplain. Ground disturbance and vegetation removal would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific

ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts. Long-term, minor, adverse impacts on surface water and long-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from the increase in impervious surface and subsequent stormwater runoff. However, the pre-development hydrology would be maintained or restored to the maximum extent practical. Implementation of stormwater controls consistent with the ESCP and the Scott AFB SWPPP would minimize the potential for long-term adverse impacts on surface waters, the 100-year floodplain, and wetlands.

4.4.7.2 No Action Alternative for Project C2

Air Quality. Under the No Action Alternative for Project C2, the dormitory would not be constructed; therefore, air emissions from constructing and heating the proposed dormitory would not be produced. Air quality conditions would remain the same as discussed in **Section 3.1.2**.

Biological Resources. Under the No Action Alternative for Project C2, the dormitory would not be constructed; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project C2, the dormitory would not be constructed; therefore, no ground disturbance or new aboveground construction would occur. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project C2, the dormitory would not be constructed; therefore, no ground disturbance would occur. Geological resources conditions would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project C2, the dormitory would not be constructed; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. No impacts on toxic substances, ERP sites, and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project C2, the dormitory would not be constructed; therefore, no new or additional impacts on infrastructure would occur and utility demand, solid waste generation, and traffic conditions would not change. Infrastructure conditions would remain as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project C2, the dormitory would not be constructed. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project C2, the dormitory would not be constructed; therefore, no construction noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project C2, the dormitory would not be constructed; therefore, no new or additional impacts on construction, mission, or flight safety would occur. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project C2, the dormitory would not be constructed; therefore, no impacts on groundwater, surface water, floodplains, or wetlands would occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.8 PROJECT C3: DEMOLISH UNNUMBERED BUILDING AT FACILITY 9020

4.4.8.1 Alternative C3

Air Quality. Short-term, negligible, adverse impacts on air quality would result from demolition of the unnumbered building at Facility 9020. Demolition would produce criteria pollutants and GHGs when site grading and building demolition are occurring, which would be limited to 2019. Because the unnumbered building is currently vacant and not heated, no heating infrastructure would be deactivated and removed as part of demolition. No long-term changes to air emissions would occur. USAF's ACAM was used to estimate the annual air emissions from Alternative C3. These air emissions are summarized in **Table 4-14**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative C3 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-14. Air Emissions from Alternative C3

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Demolition of Unnumbered Building at Facility 9020	0.134	0.903	0.780	0.002	0.082	0.042	174.900	2019

Note: All values are in tpy.

Biological Resources. Long-term, minor, beneficial impacts on vegetation would result from demolition of the unnumbered building at Facility 9020. After the unnumbered building is demolished, the site would be graded and vegetated with native species or grasses. Approximately 1,200 ft^2 of new vegetation would be added.

Short-term, negligible, adverse, and long-term, minor, beneficial impacts on wildlife would occur from the demolition of the unnumbered building. Most of the areas surrounding the unnumbered building are already highly disturbed providing very little habitat for any wildlife species. Temporary displacement of nearby wildlife would occur as a result of increased noise levels from heavy equipment and an increase in human activity during the building demolition. Any wildlife would temporarily avoid the area until demolition ends. After the unnumbered building is removed, USAF would grade and vegetate the area, which would provide new foraging and shelter habitat for wildlife.

Alternative C3 would have no effect on threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impacts on cultural resources would result from demolition of the unnumbered building at Facility 9020. Demolition activities, site grading, and repositioning of the substation's perimeter fence would be contained within areas of previous disturbance and would not impact archaeological resources. The unnumbered building at Facility 9020 was constructed in 1941 and was evaluated in 1992 as not eligible for NRHP listing (Thomason and Associates 1992). The facility was evaluated again in 2019 as not eligible. The Illinois SHPO concurred with this determination on 18 April 2019 (see **Appendix A**). As such, the project would have no impact on historic architectural resources.

Geological Resources. Short- and long-term, negligible, adverse and beneficial impacts on geological resources would result from demolition of the unnumbered building at Facility 9020. Short-term, negligible, adverse impacts would occur during demolition as vegetation (i.e., grasses) is removed and soils are disturbed. Vegetation would be restored once demolition has ceased, where possible. Erosion and impacts on soils would occur if the area was revegetated with native vegetation or grasses, which would decrease rates of erosion and sedimentation and promote soil productivity.

Long-term, negligible, beneficial impacts would occur due to a decrease in the rate and volume of stormwater runoff from the 1,200 ft^2 decrease in impervious surface. The decreased runoff would result in a lower potential for erosion.

Hazardous Materials and Wastes. Short-term, minor, adverse impacts associated with hazardous materials and wastes would result from demolition of the unnumbered building at Facility 9020. Demolition would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

Based on the year of construction, this building is assumed to contain ACMs, LBP, and PCBs. Surveys for toxic substances would occur prior to demolition so that these materials can be properly characterized, handled, and disposed of. Any potential PCB-containing equipment not labeled PCB-free or missing date of manufacture labels would be removed and handled in accordance with the installation's HWMP and federal and state regulations. PCB-containing materials would be transported off-installation and disposed of at a certified hazardous waste disposal facility. Long-term, negligible, beneficial impacts would be experienced from less potential for exposure to and maintenance of toxic substances on Scott AFB.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative C3. No impacts from environmental contamination and radon would occur.

Infrastructure. Short- and long-term, negligible to minor, adverse and beneficial impacts on infrastructure would result from demolition of the unnumbered building at Facility 9020. Temporary electrical service interruptions could be experienced as any current connections are disconnected or rerouted. The rate and volume of stormwater runoff would decrease due to the 1,200 ft^2 reduction in impervious surface. Demolition would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills.

Land Use. Long-term, negligible, beneficial impacts would result from demolition of the unnumbered building at Facility 9020. Demolition activities would have beneficial impacts on the installation's organizational functions by removing this old, outdated, and unnecessary facility and creating space for future projects, although no future projects would be likely at this location because of its proximity to an electric substation. There would be no change in land use. The current land use category, Open Space, is compatible with surrounding Outdoor Recreation, Open Space, and Community Service land uses and demolition would be a beneficial impact. Open Space is a permitted land use for the Core planning district in which Alternative C3 falls.

Noise. Short-term, minor impacts on the noise environment would result from demolition of the unnumbered building at Facility 9020. Impacts would result from noise generated by heavy equipment during demolition but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Demolition noise would end with completion of demolition.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 70 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical demolition equipment would noticeably attenuate to below 65 dBA between approximately 100 and 4,000 feet from the source, depending on the equipment in use (USEPA 1971, TRS Audio Undated a). Alternative C3 would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during demolition.

Additive demolition noise levels as high as 75 dBA L_{eq} could be experienced by the closest building (Building 386, Community Commercial); therefore, some people working or using outdoor recreational areas near the unnumbered building may notice or potentially be annoyed by the noise (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative C3 would not occur within 1,000 feet of any sensitive receptors. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible. Additionally, noise levels could be reduced through use of exhaust mufflers or other noise attenuation equipment.

Safety. Short-term, minor, adverse impacts on contractor health and safety would result from demolition of the unnumbered building at Facility 9020. Demolition is inherently hazardous

because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing demolition would be exposed to an environment containing slightly greater health and safety risks than a non-demolition environment. To minimize health and safety risks, demolition contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review. Demolition personnel would be trained on electrical safety and would avoid contact with the nearby electric substation. The project area would be fenced and appropriately marked with signs. Demolition equipment and associated trucks transporting material to and from the project area would be directed to roads and streets that have a lesser volume of traffic.

Based on the year of construction for the unnumbered building at Facility 9020, ACMs and LBP are assumed to be within the building, and short-term, negligible, adverse impacts on safety would occur when these toxic substances are disturbed by demolition. ACMs and LBP require appropriate characterization, removal, handling, and disposal during demolition by qualified personnel to minimize adverse impacts. Long-term, negligible, beneficial impacts on safety would occur from the removal of ACMs and LBP, thus eliminating the potential for future exposure to these toxic substances by personnel. No impacts on flight safety would occur.

Water Resources. No impacts on groundwater would result from demolition of the unnumbered building at Facility 9020. Excavation associated with demolition would not intersect the local groundwater table. Long-term, negligible, beneficial impacts on groundwater would occur from increased infiltration and recharge due to the decrease in impervious surface.

Short-term, negligible, adverse impacts on surface water, the 100-year floodplain, and wetlands would occur from ground disturbance. The closest surface water body, Ash Creek, is approximately 4,400 feet from the Alternative C3 project area. Alternative C3 would occur approximately 4,415 feet from the 100-year floodplain and 2,700 feet from a wetland. Ground disturbance would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Long-term, negligible, beneficial impacts on surface waters, the 100-year floodplain, and wetlands would occur from the reduction in impervious surface and subsequent stormwater runoff.

4.4.8.2 No Action Alternative for Project C3

Air Quality. Under the No Action Alternative for Project C3, the unnumbered building would not be demolished; therefore, air emissions from demolition would not be produced. Because the

unnumbered building is vacant and not heated, long-term air emissions would not change. Air quality conditions would remain the same as discussed in **Section 3.1.2**.

Biological Resources. Under the No Action Alternative for Project C2, the unnumbered building would not be demolished; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project C3, the unnumbered building would not be demolished; therefore, no ground disturbance would occur. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project C3, the unnumbered building would not be demolished; therefore, no ground disturbance would occur. Geological resources would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project C3, the unnumbered building would not be demolished; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. No impacts on ERP sites and radon would occur. Toxic substances would remain in the unnumbered building and would continue to require maintenance by USAF personnel. Long-term, negligible, adverse impacts would continue from the potential for exposure to and maintenance of toxic substances in this building.

Infrastructure. Under the No Action Alternative for Project C3, the unnumbered building would not be demolished; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project C3, the unnumbered building would not be demolished; therefore, its presence would continue to be considered incompatible with the current Open Space land use designation. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project C3, the unnumbered building would not be demolished; therefore, no construction noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project C3, the unnumbered building would not be demolished; therefore, no new or additional impacts on construction, mission, or flight safety would occur. ACMs and LBP potentially within the unnumbered building would remain and continue to present a negligible safety hazard to personnel from exposure. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project C3, the unnumbered building would not be demolished; therefore, no impacts on groundwater, surface water, floodplains, or

wetlands would occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.9 PROJECT C4: DEMOLISH BUILDING 533

4.4.9.1 Alternative C4

Air Quality. Short-term, negligible, adverse and a long-term, negligible, beneficial impacts on air quality would result from demolition of Building 533. Demolition would produce criteria pollutants and GHGs when site grading and building demolition are occurring, which would be limited to 2019. Building 533 is currently occupied and is assumed to be heated with a natural gas-fired furnace. Therefore, this furnace would be deactivated and removed as part of demolition, and Scott AFB would experience a permanent, negligible reduction in air emissions from the deactivation and removal of this heating infrastructure. USAF's ACAM was used to estimate the annual air emissions from Alternative C4. These air emissions are summarized in **Table 4-15**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative C4 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-15. Air Emissions from Alternative C4

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Demolition of Building 533	0.134	0.911	0.782	0.002	0.373	0.042	177.400	2019
Reduction from Heating Building 533	-0.002	-0.035	-0.029	<-0.001	-0.003	-0.003	-41.500	2019 and Later

Note: All values are in tpy.

Biological Resources. Long-term, negligible, beneficial impacts on vegetation would result from demolition of Building 533. After Building 533 is demolished, the site would be graded and vegetated with native species or grasses. Approximately 9,700 ft^2 of new vegetation would be added.

Short-term, negligible, adverse, and long-term, minor, beneficial impacts on wildlife would result from demolition of Building 533. Most of the areas surrounding Building 533 are already highly disturbed providing very little habitat for any wildlife species. Temporary displacement of nearby wildlife would occur as a result of increased noise levels from heavy equipment and an increase in human activity during the building demolition. Any wildlife would temporarily avoid the area until demolition ends. After Building 533 is removed, USAF would grade and vegetate the area, which would provide new foraging and shelter habitat for wildlife.

Alternative C4 would have no effect on threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impact on cultural resources would result from demolition of Building 533. Demolition of Building 533 and site grading would be contained within areas of previous disturbance and would not impact archaeological resources. Building 533 was constructed in 1942 and was evaluated in 2011 as not eligible for NRHP listing (Scott AFB 2011a). The facility

was evaluated again in 2019 as not eligible. The Illinois SHPO concurred with this determination on April 18, 2019 (see **Appendix A**). As such, the project would have no impact on historic architectural resources.

Geological Resources. Short- and long-term, negligible, adverse and beneficial impacts on geological resources would result from demolition of Building 533. Short-term, negligible, adverse impacts would occur during demolition when soils are disturbed. Erosion and sedimentation potential would be greatest in areas where the soil is bare. Long-term, negligible, beneficial impacts on soils would occur if the area was vegetated with native vegetation or grasses, which would decrease rates of erosion and sedimentation and promote soil productivity.

Long-term, negligible, beneficial impacts would occur due to a decrease in the rate and volume of stormwater runoff from the 9,700 ft^2 decrease in impervious surface. The decreased runoff would result in a lower potential for erosion.

Hazardous Materials and Wastes. Short-term, minor, adverse impacts associated with hazardous materials and wastes would result from demolition of Building 533. Demolition would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

Based on the year of construction, this building is assumed to contain ACMs, LBP, and PCBs. Surveys for toxic substances would occur prior to demolition so that these materials can be properly characterized, handled, and disposed of. Any potential PCB-containing equipment not labeled PCB-free or missing date of manufacture labels would be removed and handled in accordance with the installation's HWMP and federal and state regulations. PCB-containing materials would be transported off-installation and disposed of at a certified hazardous waste disposal facility. Long-term, negligible, beneficial impacts would be experienced from less potential for exposure to and maintenance of toxic substances on Scott AFB.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative C4. No impacts from environmental contamination and radon would occur.

Infrastructure. Short- and long-term, negligible to minor, adverse and beneficial impacts on infrastructure would result from demolition of Building 533. Temporary interruptions in electricity, water, natural gas, sanitary sewer, and communications services could occur when Building 533 is disconnected from the existing utilities. Demolition of Building 533 would slightly reduce the demand for electricity, water, natural gas, sanitary sewer, and communications services. The rate and volume of stormwater runoff would decrease due to the 9,700 ft^2 reduction in impervious surface. Demolition would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills.

Land Use. Long-term, minor, beneficial impacts would result from demolition of Building 533. Demolition activities would have beneficial impacts on the installation's organizational functions by removing this old, outdated, and unnecessary facility and creating space for future projects. The land made available by demolition of Building 533 would increase the amount of space available for future development by at least 9,700 ft^2 within the civil engineering complex. No change in land use would occur.

Noise. Short-term, minor impacts on the noise environment would result from demolition of Building 533. Impacts would result from noise generated by heavy equipment during demolition but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Demolition noise would end with completion of demolition.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 70 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical demolition equipment would noticeably attenuate to below 65 dBA between approximately 100 and 4,000 feet from the source, depending on the equipment in use (USEPA 1971, TRS Audio Undated a). Alternative C4 would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during demolition.

Additive demolition noise levels as high as 84 dBA L_{eq} could be experienced by the closest building (Building 548, Industrial); therefore, some people working or living near Building 533 may temporarily notice or potentially be annoyed by the noise. Demolition noise levels as high as 72 dBA L_{eq} could be experienced at the closest sensitive receptor (Building 670, Housing) (USEPA 1971, FHWA 2006, TRS Audio Undated a). Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be minor. Additionally, noise levels could be reduced through the use of exhaust mufflers or other noise attenuation equipment, and louder construction noise equipment would generally be used only during daytime hours.

Safety. Short-term, minor, adverse impacts on contractor health and safety would result from demolition of Building 533. Demolition is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing demolition would be exposed to an environment containing slightly greater health and safety risks than a non-demolition environment. To minimize health and safety risks, demolition contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and

installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review. The project area would be fenced and appropriately marked with signs. Demolition equipment and associated trucks transporting material to and from the project area would be directed to roads and streets that have a lesser volume of traffic.

Based on the year of construction for Building 533, ACMs and LBP are assumed to be within the building, and short-term, negligible, adverse impacts on safety would occur when these toxic substances are disturbed by demolition. ACMs and LBP require appropriate characterization, removal, handling, and disposal during demolition by qualified personnel to minimize adverse impacts. Long-term, negligible, beneficial impacts on safety would occur from the removal of ACMs and LBP, thus eliminating the potential for future exposure to these toxic substances by personnel. No impacts on flight safety would occur.

Water Resources. No impacts on groundwater would result from demolition of Building 533. Excavation associated with demolition would not intersect the local groundwater table. Long-term, negligible, beneficial impacts on groundwater would occur from increased infiltration and recharge due to the decrease in impervious surface.

Short-term, minor, adverse impacts on surface water and short-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from ground disturbance. The closest surface water body and wetland, Ash Creek, is approximately 475 feet from the Alternative C4 project area. Alternative C4 would occur approximately 300 feet from the 100-year floodplain. Ground disturbance would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, and wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Long-term, minor, beneficial impacts on surface water and long-term, negligible, beneficial impacts on the 100-year floodplain and wetlands would occur from the reduction in impervious surface and subsequent stormwater runoff.

4.4.9.2 No Action Alternative for Project C4

Air Quality. Under the No Action Alternative for Project C4, Building 533 would not be demolished; therefore, air emissions from demolition would not be produced. Air emissions from operating a natural gas-fired furnace to heat Building 533 would continue to be produced, and long-term air emissions would not change. Air quality conditions would remain the same as discussed in **Section 3.1.2**.

Biological Resources. Under the No Action Alternative for Project C4, Building 533 would not be demolished; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project C4, Building 533 would not occur; therefore, no ground disturbance would occur. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project C4, Building 533 would not be demolished; therefore, no ground disturbance would occur. Geological resources conditions would remain the same as those described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project C4, Building 533 would not be demolished; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. No impacts on ERP sites and radon would occur. Toxic substances would remain in Building 533 and would continue to require maintenance by USAF personnel. Long-term, negligible, adverse impacts would continue from the potential for exposure to and maintenance of toxic substances in this building.

Infrastructure. Under the No Action Alternative for Project C4, Building 533 would not be demolished; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project C4, Building 533 would not be demolished. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project C4, Building 533 would not be demolished; therefore, no construction noise would not be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project C4, Building 533 would not be demolished; therefore, no new or additional impacts on construction, mission, or flight safety would occur. ACMs and LBP potentially within Building 533 would remain and continue to present a negligible safety hazard to personnel from exposure. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project C4, Building 533 would not be demolished; therefore, no impacts on groundwater, surface water, floodplains, or wetlands would occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.10 PROJECT M1: CONSTRUCT INFILTRATION BASINS

4.4.10.1 Alternative M1-1

Air Quality. Short-term, negligible, adverse impacts on air quality would result from construction of the proposed infiltration basins adjacent to Building 1560. Construction activities would produce criteria pollutants and GHGs when site grading and trenching are occurring, which would be limited to 2020. No long-term changes to air emissions would occur. USAF's

ACAM was used to estimate the annual air emissions from Alternative M1-1. These air emissions are summarized in **Table 4-16**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative M1-1 would not require a General Conformity analysis and would not result in a significant impact on air quality. Alternative M1-1 would serve as a climate change resiliency action because it would lessen the severity of local flooding, which might be exacerbated by global climate change.

Table 4-16. Air Emissions from Alternative M1-1

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct Infiltration Basins Adjacent to Building 1560	0.327	2.068	1.953	0.005	7.012	0.089	489.100	2020

Note: All values are in tpy.

Biological Resources. Short-term, negligible, adverse impacts on vegetation would result from construction of the proposed infiltration basins adjacent to Building 1560. Construction would require the temporary removal and trampling of nonnative vegetation and compaction of soil by heavy construction equipment. Vegetation would recover when construction is complete, and much of this vegetation would be restored with native vegetation and improved as part of the project. The removal of up to 58,000 ft^2 of nonnative vegetation within a highly developed portion of the installation would have no impact on the amount or quality of native vegetation on Scott AFB.

Short-and long-term, negligible, adverse impacts on wildlife would occur. The construction of various infiltration basins would result in a temporary increase in noise levels as well as human activity, which would cause wildlife to temporarily avoid the area during the construction. After construction is finished, wildlife utilizing the area would likely return. Alternative M1-1 would reduce ponding of stormwater in this portion of the installation. The lack of ponding would remove marginal foraging and shelter habitat for some wildlife. The wildlife likely would be displaced to other areas with ponding water throughout the installation.

Alternative M1-1 would have no effect on threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impact on cultural resources would result from construction of the proposed infiltration basins adjacent to Building 1560. The construction of up to 12 surface and subsurface infiltration basins near Building 1560 would occur entirely in previously disturbed areas and would have no impact on archaeological resources. The project would not introduce any aboveground elements or otherwise impact historic architectural resources.

Geological Resources. Short- and long-term, negligible, adverse and beneficial impacts on geological resources would result from construction of the proposed infiltration basins adjacent to Building 1560. Short-term, negligible, adverse impacts would occur during construction when vegetation is removed and soils are disturbed. Vegetation would be restored once construction has ceased, where possible. Erosion and sedimentation potential would be greatest in areas where the soil is bare. Long-term, negligible, beneficial impacts would occur due to the

increased number of infiltration basins that would encourage infiltration of stormwater, thereby, reducing the erosion and sedimentation potential during storm events.

The Mascoutah silty clay loam and the Edwardsville silt loam are the soils mapped at the site of the proposed infiltration basins. Both soils were analyzed for building construction limitations associated with shallow excavations. The Edwardsville silt loam was considered to be somewhat limited to very limited due to depth to saturated zone, shrink-swell potential, and unstable excavation walls. The Mascoutah silty clay loam was considered to be very limited due to ponding, depth to saturated zone, and shrink-swell potential (USDA-NRCS 2019). Construction techniques and project design measures would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Short-term, negligible to minor, adverse impacts associated with hazardous materials and wastes would occur from construction of the proposed infiltration basins. Construction would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

Alternative M1-1 would occur within ERP Site SS-025b. Therefore, there is a potential for construction workers to encounter contamination during ground-disturbing activities within the ERP site. Prior to the start of construction, contractors would coordinate with the Scott AFB ERP office to ensure that contamination from the site is not impacted or spread from construction activities. Construction activities would not impact the ability to remediate, investigate, or monitor the ERP site, and project planning would include protection of monitoring wells. Alternative M1-1 would not conflict with the land use controls prohibiting residential development at ERP Site SS-025b.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative M1-1. No impacts from toxic substances and radon would occur.

Infrastructure. Long-term, minor, beneficial impacts on infrastructure would result from construction of the proposed infiltration basins adjacent to Building 1560. The proposed infiltration basins would allow for greater infiltration of stormwater, which would alleviate ponding in the area and reduce the volume of stormwater that flows into Scott AFB's stormwater drainage systems. No impacts on any other aspects of infrastructure would occur.

Land Use. No impacts on land use would result from construction of the proposed infiltration basins adjacent to Building 1560. Because the infiltration basins would be created south and west of Building 1560 and within parking lots, the current land use categories of Community Service and Administrative would remain. The project would be compatible with the surrounding Administrative, Community Service, and Open Space land use categories. Community Service and Administrative are permitted land uses for the Core planning district in

which Alternative M1-1 falls. Alternative M1-1 would not conflict with the land use controls restricting residential development at ERP Site SS-025b.

Noise. Short-term, minor impacts on the noise environment would result from construction of the proposed infiltration basins adjacent to Building 1560. Impacts would result from noise generated by heavy equipment during construction but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Construction noise would end with completion of construction.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 80 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical construction equipment would noticeably attenuate to below 65 dBA between approximately 300 and 4,000 feet from the source, depending on the equipment in use. Noise from paving would be expected to attenuate below 65 dBA within approximately 700 feet of the source (USEPA 1971, TRS Audio Undated a). Alternative M1-1 would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction.

Additive construction noise levels as high as 123 dBA L_{eq} could be experienced at the closest building (Building 1560, Community Service) which is adjacent to the basin site; therefore, some people working, living, or using outdoor recreation areas near the infiltration basins may temporarily notice or potentially be annoyed by the noise. Additive construction noise levels as high as 79 dBA L_{eq} could be experienced at the closest sensitive receptor (Building 1441, Housing) (USEPA 1971, FHWA 2006, TRS Audio Undated a). Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be minor. Additionally, noise levels would be reduced through the use of exhaust mufflers or other noise attenuation equipment, and louder construction noise equipment would generally be used only during daytime hours.

Safety. Short-term, negligible to minor, adverse impacts on contractor health and safety would result from construction of the proposed infiltration basins adjacent to Building 1560. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to an environment containing slightly greater health and safety risks than a non-construction environment. To minimize health and safety risks, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce

the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review.

Alternative M1-1 would occur within ERP Site SS-025b. Therefore, there is the potential for construction workers to encounter contamination during ground-disturbing activities within the ERP site. Prior to the start of construction, contractors would coordinate with the Scott AFB ERP office to ensure that this site does not present safety hazards to construction workers. No impacts on mission or flight safety would occur.

Water Resources. No impacts on groundwater would result from construction of the proposed infiltration basins adjacent to Building 1560. Excavation associated with construction would not intersect the local groundwater table. Long-term, negligible, beneficial impacts on groundwater would result from amending the native soil and modifying vegetation to increase infiltration and groundwater recharge.

Short-term, minor, adverse impacts on surface water and short-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from ground disturbance. The closest surface water body and wetland, Ash Creek, is approximately 2,790 feet from the Alternative M1-1 project area. Alternative M1-1 would occur approximately 2,775 feet from the 100-year floodplain. Ground disturbance would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts. Long-term, minor, beneficial impacts on surface waters and long-term, negligible, beneficial impacts on the 100-year floodplain and wetlands would occur from the operation of the infiltration basins because they would minimize stormwater runoff, soil erosion, and downstream sedimentation and flooding potential through the reduction of stormwater runoff and stormwater ponding.

4.4.10.2 Alternative M1-2

Air Quality. Short-term, negligible, adverse impact on air quality would result from construction of the proposed infiltration basins adjacent to Building 1600. Construction activities would produce criteria pollutants and GHGs when site grading, trenching, and paving are occurring, which would be limited to 2020. No long-term changes to air emissions would occur. USAF's ACAM was used to estimate the annual air emissions from Alternative M1-2. These air emissions are summarized in **Table 4-17**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative M1-2 would not require a General Conformity analysis and would not result in a significant impact on air quality. Alternative M1-2 would serve as a climate change resiliency action because it would lessen the severity of local flooding, which might be exacerbated by global climate change.

Table 4-17. Air Emissions from Alternative M1-2

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct Infiltration Basins Adjacent to Building 1600	0.404	2.512	2.430	0.006	7.874	0.115	566.800	2020

Note: All values are in tpy.

Biological Resources. Impacts on biological resources under Alternative M1-2 would be similar to those described for Alternative M1-1; however, approximately 7,000 ft^2 of additional nonnative vegetation within a highly developed portion of the installation would require removal. Much of the removed vegetation would be restored with native vegetation as part of the project.

Cultural Resources. No impact on cultural resources would result from construction of the proposed infiltration basins adjacent to Building 1600. The construction of up to five surface and subsurface infiltration basins near Building 1600 would occur entirely in previously disturbed areas and would have no impact on archaeological resources. The project would not introduce any aboveground elements or otherwise impact historic architectural resources.

Geological Resources. Impacts on geological resources under Alternative M1-2 would be similar to those described for Alternative M1-1. The Mascoutah silty clay loam is the only soil mapped at the site of the proposed infiltration basins. The soil was analyzed for building construction limitations associated with shallow excavations and was considered to be very limited due to ponding, depth to the saturated zone, unstable excavation walls, frost action, low strength, and shrink-swell potential (USDA-NRCS 2019). Construction techniques and project design measures would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Impacts on hazardous materials and wastes under Alternative M1-2 would be similar to those described for Alternative M1-1; however, construction would not occur within or adjacent to an ERP site.

Infrastructure. Long-term, minor, beneficial impacts on infrastructure would result from construction of the proposed infiltration basins adjacent to Building 1600. The proposed infiltration basins would allow for greater infiltration of stormwater, which would alleviate ponding in the area and reduce the volume of stormwater that flows into Scott AFB's stormwater drainage systems. No impacts on any other aspects of infrastructure would occur.

Land Use. No impacts on land use would result from construction of the proposed infiltration basins adjacent to Building 1600. Because the infiltration basins would be created south of Building 1600 and beneath its parking lot, the current land use category, Administrative, would remain. The project would be compatible with the surrounding Administrative land use category. Administrative is a permitted land use for the Core planning district in which Alternative M1-2 falls.

Noise. Impacts on noise under Alternative M1-2 would be similar to those described for Alternative M1-1. Impacts would result from noise generated by heavy equipment during construction. Alternative M1-2 would occur within a developed area where ambient noise levels

from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction. Additive construction noise levels as high as 89 dBA L_{eq} could be experienced at the closest building (Building 1600, Administrative) which is adjacent to the basin site; therefore, some people working near the infiltration basins may temporarily notice or potentially be annoyed by the noise. Additive construction noise levels as high as 64 dBA L_{eq} could be experienced by the closest sensitive receptor (Building 155, Medical) (USEPA 1971, FHWA 2006, TRS Audio Undated a). Given the level of noise, temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be minor. Additionally, louder construction noise equipment would generally be used only during daytime hours.

Safety. Impacts on safety under Alternative M1-2 would be similar to those described for Alternative M1-1; however, construction would not occur within or adjacent to an ERP site.

Water Resources. Impacts on water resources under Alternative M1-2 would be largely similar to those described for Alternative M1-1. Excavation associated with construction would not intersect the local groundwater table. Long-term, negligible, beneficial impacts on groundwater would result from amending the native soil and modifying vegetation to increase infiltration and groundwater recharge. Long-term, minor, beneficial impacts on surface waters and long-term, negligible, beneficial impacts on the 100-year floodplain and wetlands would occur because the proposed infiltration basins would reduce stormwater runoff, soil erosion, and downstream sedimentation and flooding potential.

4.4.10.3 Alternative M1-3

Air Quality. Short-term, negligible, adverse impacts on air quality would result from construction of the proposed infiltration basins between Scott Field Heritage Park and Golf Course Road. Construction activities would produce criteria pollutants and GHGs when site grading and trenching are occurring, which would be limited to 2021. No long-term changes to air emissions would occur. USAF's ACAM was used to estimate the annual air emissions from Alternative M1-3. These air emissions are summarized in **Table 4-18**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative M1-3 would not require a General Conformity analysis and would not result in a significant impact on air quality. Alternative M1-3 would serve as a climate change resiliency action because it would lessen the severity of local flooding, which might be exacerbated by global climate change.

Table 4-18. Air Emissions from Alternative M1-3

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct Infiltration Basins Between Scott Field Heritage Park and Golf Course Road	0.365	2.241	2.287	0.006	16.806	0.094	569.200	2021

Note: All values are in tpy.

Biological Resources. Impacts on biological resources under Alternative M1-3 would be similar but slightly greater than those described for Alternative M1-1 because approximately 82,000 ft^2 of additional nonnative vegetation would require removal. Much of the removed vegetation would be restored with native vegetation as part of the project.

Cultural Resources. No impact on cultural resources would result from construction of the proposed infiltration basins between Scott Field Heritage Park and Golf Course Road. The construction of at least one surface or subsurface infiltration basin between the Scott Field Heritage Air Park and Golf Course Road would occur in previously disturbed areas and would have no impact on archaeological resources. The project would not introduce any aboveground elements or otherwise impact historic architectural resources.

Geological Resources. Impacts on geological resources under Alternative M1-3 would be similar to those described for Alternative M1-1. The Edwardsville silt loam is the only soil mapped at the site of the proposed infiltration basins. The soil was analyzed for building construction limitations associated with shallow excavations and was considered to be somewhat limited to very limited due to depth to the saturated zone, unstable excavation walls, and shrink-swell potential (USDA-NRCS 2019). Construction techniques and project design measures would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Impacts on hazardous materials and wastes under Alternative M1-3 would be similar to those described for Alternative M1-1; however, Alternative M1-3 would occur adjacent to ERP Site ST-010. Alternative M1-3 would not conflict with the land use controls prohibiting residential development and the use of groundwater at ERP Site ST-010.

Infrastructure. Long-term, minor, beneficial impacts on infrastructure would result from construction of the proposed infiltration basins between Scott Field Heritage Park and Golf Course Road. The proposed infiltration basins would allow for greater infiltration of stormwater, which would alleviate ponding in the area and reduce the volume of stormwater that flows into Scott AFB's stormwater drainage systems. No impacts on any other aspects of infrastructure would occur.

Land Use. No impacts on land use would result from construction of the proposed infiltration basins between Scott Field Heritage Park and Golf Course Road. Because the infiltration basins would be created between Scott Field Heritage Park and Golf Course Road, the current land use category, Open Space, would remain. The project would be compatible with the surrounding Open Space, Administrative, and Industrial land use categories. Open Space is a permitted land use for the Core and Airfield planning districts in which Alternative M1-3 falls. Alternative M1-3 would not conflict with the land use controls prohibiting residential development and the use of groundwater at ERP Site ST-010. The proposed infiltration basins would be allowable development within the CZ.

Noise. Impacts on noise under Alternative M1-3 would be similar to those described for Alternative M1-1. Impacts would result from noise generated by heavy equipment during

construction. Alternative M1-3 would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction. During construction, additive noise levels as high as 77 dBA L_{eq} could be experienced at the closest building (Building 386, Community Commercial); therefore, some people working or using outdoor recreation areas near the infiltration basin may temporarily notice or potentially be annoyed by the noise (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative M1-3 would not occur within 1,000 feet of any sensitive receptors. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible.

Safety. Impacts on safety under Alternative M1-3 would be similar to those described for Alternative M1-1; however, Alternative M1-3 would occur adjacent to ERP Site ST-010.

Water Resources. Impacts on water resources under Alternative M1-3 would be largely similar to those described for Alternative M1-1. Excavation associated with construction would not intersect the local groundwater table. Long-term, negligible, beneficial impacts on groundwater would result from amending the native soil and modifying vegetation to increase infiltration and groundwater recharge. Long-term, minor, beneficial impacts on surface waters and long-term, negligible, beneficial impacts on the 100-year floodplain and wetlands would occur because the proposed infiltration basins would reduce stormwater runoff, soil erosion, and downstream sedimentation and flooding potential.

4.4.10.4 Alternative M1-4

Air Quality. Short-term, negligible, adverse impacts on air quality would result from construction of the proposed infiltration basins around Building P-40. Construction activities would produce criteria pollutants and GHGs when site grading and trenching are occurring, which would be limited to 2021. No long-term changes to air emissions would occur. USAF's ACAM was used to estimate the annual air emissions from Alternative M1-4. These air emissions are summarized in **Table 4-19**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative M1-4 would not require a General Conformity analysis and would not result in a significant impact on air quality. Alternative M1-4 would serve as a climate change resiliency action because it would lessen the severity of local flooding, which might be exacerbated by global climate change.

Table 4-19. Air Emissions from Alternative M1-4

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construct Infiltration Basins Around Building P-40	0.308	1.868	1.934	0.005	3.623	0.078	489.000	2021

Note: All values are in tpy.

Biological Resources. Impacts on biological resources under Alternative M1-4 would be similar but slightly less than those described for Alternative M1-1 because approximately 28,300 ft^2 fewer of nonnative vegetation within a highly developed portion of the installation

would require removal. Much of the removed vegetation would be restored with native vegetation as part of the project.

Cultural Resources. No impacts on archaeological resources would be expected to result from construction of the proposed infiltration basins around Building P-40, because the project would occur in previously disturbed areas. This building is a contributing resource to the Scott Field Historic District, where landscape is an important component of the district's historic setting. Modification of vegetation at Building P-40 under Alternative M1-4 could alter the district's historic setting if the resulting changes are out of character with the district. Per the recommendations of the installation's Historic Building Maintenance Plan, any landscape elements such as trees or shrubs that must be removed would be replaced with mature specimens of appropriate types and species to avoid gaps in the landscape and blend into surrounding areas. With this BMP, modification of vegetation as part of the construction of stormwater infiltration basins would not diminish the historic integrity of the Scott Field Historic District and would have a negligible adverse impact. Alternative M1-4 would have a minor, indirect, beneficial impact on Building P-40 by reducing flooding in the building's lower levels.

Geological Resources. Impacts on geological resources under Alternative M1-3 would be similar to those described for Alternative M1-1. The Mascoutah silty clay loam is the only soil mapped at the site of the proposed infiltration basins. The soil was analyzed for building construction limitations associated with shallow excavations and was considered to be very limited due to ponding, depth to the saturated zone, unstable excavation walls, frost action, low strength, and shrink-swell potential (USDA-NRCS 2019). Construction techniques and project design measures would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Impacts on hazardous materials and wastes under Alternative M1-4 would be similar to those described for Alternative M1-1; however, construction would not occur within or adjacent to an ERP site.

Infrastructure. Long-term, minor, beneficial impacts on infrastructure would occur due to the construction of infiltration basins under Alternative M1-4. The proposed infiltration basins would allow for greater infiltration of stormwater, which would alleviate ponding in the area, reduce flooding in the lower levels of Building P-40, and reduce the volume of stormwater that flows into Scott AFB's stormwater drainage systems. No impacts on any other aspects of infrastructure would occur.

Land Use. No impacts on land use would result from construction of the proposed infiltration basins around Building P-40. Because the infiltration basins would be created around the perimeter of Building P-40, the current land use category, Administrative, would remain. The project would be compatible with the surrounding Administrative, Housing Unaccompanied, and Open Space land use categories. Administrative is a permitted land use for the Core planning district in which Alternative M1-4 falls. Alternative M1-4 also falls within the Scott Field Historic District and appropriate restrictions would be adhered to during design and construction (see ***Cultural Resources*** discussion).

Noise. Impacts on noise under Alternative M1-4 would be similar to those described for Alternative M1-1. Impacts would result from noise generated by heavy equipment during construction. Alternative M1-4 would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction. Additive construction noise levels as high as 123 dBA L_{eq} could be experienced at the closest building (Building P-40, Administrative); therefore, some people working, living, or using outdoor recreation areas near the infiltration basins may temporarily notice or potentially be annoyed by the noise. Additive construction noise levels as high as 77 dBA L_{eq} could be experienced by the closest sensitive receptor (Building 625, Housing) (USEPA 1971, FHWA 2006, TRS Audio Undated a). Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be minor. Additionally, louder construction noise equipment would generally be used only during daytime hours.

Safety. Impacts on safety under Alternative M1-4 would be similar to those described for Alternative M1-1; however, construction would not occur within or adjacent to an ERP site.

Water Resources. Impacts on water resources under Alternative M1-4 would be largely similar to those described for Alternative M1-1. Excavation associated with construction would not intersect the local groundwater table. Long-term, negligible, beneficial impacts on groundwater would result from amending the native soil and modifying vegetation to increase infiltration and groundwater recharge. Long-term, minor, beneficial impacts on surface waters and long-term, negligible, beneficial impacts on the 100-year floodplain and wetlands would occur because the proposed infiltration basins would reduce stormwater runoff, soil erosion, and downstream sedimentation and flooding potential.

4.4.10.5 No Action Alternative for Project M1

Air Quality. Under the No Action Alternative for Project M1, infiltration basins would not be constructed; therefore, air emissions from construction would not be produced. Air quality conditions would remain the same as described in **Section 3.1.2** and no new air emissions would be produced.

Biological Resources. Under the No Action Alternative for Project M1, infiltration basins would not be constructed; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project M1, infiltration basins would not be constructed; therefore, no ground disturbance or modification of vegetation would occur. Flooding would continue in the lower levels of Building P-40, which is a contributing resource to the Scott Field Historic District. Flooding events could cause damage to the building and its interior elements. Recurring flooding and flood damage could have a moderate adverse impact on the building over time. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project M1, infiltration basins would not be constructed. Without construction of the infiltration basins, the potential for erosion and sedimentation during storm events would remain high due to the lack of stormwater infiltration. Geological resources conditions would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project M1, infiltration basins would not be constructed; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. ERP Sites SS-025b and ST-010 would continue to be managed according to the current plan. No impacts on toxic substances and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project M1, infiltration basins would not be constructed; therefore, no new or additional impacts on infrastructure, utility demand, and solid waste generation would occur. Stormwater would continue to pond on the parking lots of Buildings 1560 and 1600 and on Golf Course Road near Scott Field Heritage Air Park. These stormwater management issues would continue to have the potential to damage vehicles on the affected parking lots and stop traffic on Golf Course Road potentially requiring vehicles to cross the airfield during an evacuation. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project M1, infiltration basins would not be constructed. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project M1, infiltration basins would not be constructed; therefore, no construction noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project M1, infiltration basins would not be constructed; therefore, no new or additional impacts on construction, mission, or flight safety would occur. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project M1, infiltration basins would not be constructed; therefore, no improvements to stormwater management would be realized. No new or additional impacts on groundwater, surface water, floodplains, or wetlands would occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.11 PROJECT M2: REPAIR SOUTH DITCH CHANNEL

4.4.11.1 Alternative M2

Air Quality. Short-term, negligible, adverse impacts on air quality would result from construction activities associated with the proposed repairs to South Ditch channel. Construction activities would produce criteria pollutants and GHGs when site grading, trenching, and paving are occurring, which would be limited to 2021. No long-term changes to air emissions would occur. USAF's ACAM was used to estimate the annual air emissions from

Alternative M2. These air emissions are summarized in **Table 4-20**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative M2 would not require a General Conformity analysis and would not result in a significant impact on air quality. Alternative M2 would serve as a climate change resiliency action because it would lessen the severity of local flooding, which might be exacerbated by global climate change.

Table 4-20. Air Emissions from Alternative M2

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construction Associated with Repairs to South Ditch Channel	0.683	4.170	4.000	0.010	6.975	0.185	987.400	2021

Note: All values are in tpy.

Biological Resources. Short- and long-term, negligible, adverse impacts on vegetation would result from construction activities associated with the proposed repairs to South Ditch channel. Alternative M2 could remove up to 325,000 ft^2 of nonnative vegetation from the channel. After the construction is finished, the channel walls would be lined with vegetation for erosion control, where necessary. No other vegetation would be replanted. The removal of nonnative vegetation would have no impact on the amount or quality of native vegetation on Scott AFB.

Short-term, negligible, adverse impacts on wildlife species would occur. The repairs to the South Ditch channel would result in a temporary increase in noise levels as well as human activity, which would cause wildlife to temporarily avoid the area during the repair activities. After construction is finished, wildlife utilizing the area would likely return.

Alternative M2 would have no effect on threatened and endangered species. The area does not provide suitable habitat to support any listed species.

Cultural Resources. No impact on cultural resources would be expected to result from construction activities associated with the proposed repairs to South Ditch channel. Activities to repair South Ditch would include ground disturbance, including grading and stabilization of channel walls, conversion of culverts to a concrete-lined open channel, and additions of stormwater drainage infrastructure. These activities would occur in areas that were previously disturbed by construction of the drainage ditch and other infrastructure on Scott AFB. Therefore, no impacts on archaeological resources would be expected. These activities would not introduce any aboveground elements or otherwise impact historic architectural resources.

Alternative M2 would also fill an interconnection between South Ditch and Ash Creek that is crossed by Norfolk Southern Railway. The railroad has been in existence since at least 1870 when a train depot was constructed for the City of Mascoutah. The South Ditch was constructed by Scott AFB around 1940 and the interconnection between South Ditch and Ash Creek was likely constructed around this same time; therefore, the trestle is not original to the railroad. It is unknown if the railroad or the trestle over the interconnection are eligible for NRHP listing because they are owned by Norfolk Southern Railway and are outside of the USAF's jurisdiction. Filling the interconnection within the railroad right-of-way would require collaboration with Norfolk Southern Railway. Project M2 would leave the trestle intact and fill

material would not encroach on the trestle. As such, the project would have a negligible impact on the railroad and trestle, assuming these resources are eligible for the NRHP.

Geological Resources. Short-term, minor, adverse and long-term, minor, beneficial impacts on geological resources would result from the proposed repairs to South Ditch channel. The short-term impacts would occur during construction when vegetation is removed and soils are disturbed. Vegetation would be restored once construction has ceased, where possible. Erosion and sedimentation potential would be greatest in areas where the soil is bare. The long-term impacts would occur due to the improvement of stormwater management in the South Ditch, which would decrease the erosion and sedimentation potential during storm events.

The Mascoutah silty clay loam is the only soil mapped at the site of the proposed South Ditch channel repairs. The soil was analyzed for building construction limitations associated with shallow excavations and was considered to be very limited due to ponding, depth to the saturated zone, and shrink-swell potential (USDA-NRCS 2019). Construction techniques and project design measures would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Short-term, minor, adverse impacts associated with hazardous materials and wastes would result from construction activities associated with the proposed repairs to South Ditch channel. Construction would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

Alternative M2 would occur within ERP Sites UNK-510 and SS-005. Therefore, there is a potential for construction workers to encounter contamination during ground-disturbing activities within the ERP sites. Prior to the start of construction, contractors would coordinate with the Scott AFB ERP office to ensure that contamination from the site is not impacted or spread from construction activities. Construction activities would not impact the ability to remediate, investigate, or monitor the ERP sites, and project planning would include protection of monitoring wells. Alternative M2 would not conflict with the land use controls prohibiting residential development and the use of groundwater at ERP Site SS-005.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative M2. No impacts from toxic substances and radon would occur.

Infrastructure. Long-term, minor, beneficial impacts on infrastructure would result from the proposed repairs to South Ditch channel. Long-term impacts on stormwater would occur from replacing existing culverts to match upstream and downstream characteristics so that stormwater drainage is unimpeded. Silt, sediment, debris, vegetation and other impediments would be removed from the channel, which would improve drainage flow and increase the capacity of the channel. Increased capacity and the lowering of the channel's water surface

elevation would reduce the risk for flooding to overtop South Ditch's banks. No impacts on any other aspects of infrastructure would occur.

Land Use. No impacts on land use would result from the proposed repairs to South Ditch channel. The project area would continue to be categorized as Industrial, so there would be no change in land use category. The current land use category is compatible with the surrounding Airfield and Airfield O&M land use categories. Industrial is a permitted land use for the Airfield and Core planning districts in which Alternative M2 falls. Alternative M2 would not conflict with the land use controls prohibiting residential development and the use of groundwater at ERP Site SS-005.

Noise. Short-term, minor impacts on the noise environment would result from construction activities associated with the proposed repairs to South Ditch channel. Impacts would result from noise generated by heavy equipment during repairs (i.e., construction) but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Construction noise would end with completion of construction.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 70 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical construction equipment would noticeably attenuate to below 65 dBA between approximately 100 and 4,000 feet from the source, depending on the equipment in use (USEPA 1971, TRS Audio Undated a). Alternative M2 would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction.

Additive construction noise levels as high as 89 dBA L_{eq} could be experienced at the closest building (Belleville Gate, industrial); therefore, some people working or living near the South Ditch project area may temporarily notice or potentially be annoyed by the noise. Additive construction noise levels as high as 78 dBA L_{eq} could be experienced by the closest sensitive receptor (Building 661, Housing) (USEPA 1971, FHWA 2006, TRS Audio Undated a). Additionally, Alternative M2 would occur within approximately 575 feet of an off-installation sensitive receptor (housing). Additive construction noise levels as high as 68 dBA L_{eq} could be experienced at the off-installation military housing. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be minor. Additionally, noise levels could be reduced through the use of exhaust mufflers or other noise attenuation equipment, and louder construction noise equipment would generally be used only during daytime hours.

Safety. Short-term, negligible to minor, adverse impacts on contractor health and safety would result from construction activities associated with the proposed repairs to South Ditch channel. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and

working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to an environment containing slightly greater health and safety risks than a non-construction environment. To minimize health and safety risks, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review.

This project would occur within ERP Sites UNK-510 and SS-005. Therefore, there is the potential for construction workers to encounter contamination during ground-disturbing activities within the ERP sites. Prior to the start of construction, contractors would coordinate with the Scott AFB ERP office to ensure that these sites do not present safety hazards to construction workers. No impacts on mission or flight safety would occur.

Water Resources. No impacts on groundwater would result from the proposed repairs to South Ditch channel. Excavation associated with construction would not intersect the local groundwater table. Short-term, minor, adverse impacts on surface water, the 100-year floodplain, and wetlands would occur from ground disturbance. Alternative M2 would occur within and immediately adjacent to South Ditch and Ash Creek. As a result, Alternative M2 would overlap and disturb approximately 325,000 ft^2 of land within the 100-year floodplain. Additionally, it would overlap and disturb approximately 325,000 ft^2 of wetlands. Impacts on the floodplain and wetland would be unavoidable because of the inherent nature of this project to address South Ditch and Ash Creek. Because South Ditch and Ash Creek are waters of the United States, Scott AFB would obtain from the USACE the necessary Section 404 permit prior to starting construction. Ground disturbance would result in erosion, sedimentation, and increased stormwater runoff; however, these impacts would be minor because all ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts.

Long-term, minor, beneficial impacts on surface waters, the 100-year floodplain, and wetlands would occur because the flow of South Ditch would be restored through the removal of impediments from the channel, erosion would be minimized through the stabilization of the bank and restoration of previous erosion damage, and stormwater management would improve through the construction of additional stormwater drainage infrastructure. The proposed removal of the interconnection channel between Ash Creek and South Ditch would prevent water in Ash Creek from entering South Ditch and contributing to its limited capacity.

4.4.11.2 No Action Alternative for Project M2

Air Quality. Under the No Action Alternative for Project M2, repairs to South Ditch channel would not be conducted; therefore, air emissions associated with the proposed construction would not be produced. Air quality conditions would remain the same as discussed in **Section 3.1.2**.

Biological Resources. Under the No Action Alternative for Project M3, repairs to South Ditch channel would not be conducted; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project M2, repairs to South Ditch channel would not be conducted; therefore, no ground disturbance would occur. The continuation of conditions such as unstable channel walls and potential for upstream flooding would not be expected to impact cultural resources because the area along the drainage ditch is previously disturbed and no NRHP-eligible resources occur in the vicinity. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project M2, repairs to South Ditch channel would not be conducted. Without repairs to the South Ditch channel, stormwater drainage would remain inefficient, increasing the erosion and sedimentation potential during storm events. Geological resources conditions would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project M2, repairs to South Ditch channel would not be conducted; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. ERP Sites UNK-510 and SS-005 would continue to be managed according to the current plan. No impacts on toxic substances and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project M2, repairs to South Ditch channel would not be conducted; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. Silt, sediment, debris, vegetation, and other impediments currently obstructing the full flow in the channel would remain. The walls of the channel are unstable and could potentially collapse causing further obstruction of stormwater flow. The potential for stormwater to overtop the banks of South Ditch and for upstream flooding to occur would remain. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project M2, repairs to South Ditch channel would not be conducted. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project M2, repairs to South Ditch channel would not be conducted; therefore, no construction noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project M2, repairs to South Ditch channel would not be conducted; therefore, no new or additional impacts on construction, mission, or flight safety would occur. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project M2, repairs to South Ditch channel would not be conducted. The flow of water in South Ditch would continue to be impeded from lack of proper channel maintenance. Long-term, minor, adverse impacts on surface water, the 100-year floodplain, and wetlands would continue from insufficient transport of debris/sediment and impaired water quality from continued erosion.

4.4.12 PROJECT M3: AIRFIELD TREE VIOLATIONS

4.4.12.1 Alternative M3

Air Quality. Long-term, negligible, adverse impacts on air quality would result from tree trimming, removal, and planting. Criteria pollutants and GHGs would be produced intermittently from the operation of tree cutting and site grading equipment. Tree trimming would require little ground disturbance; however, tree removal and planting would disturb approximately 315 ft^2 per tree, and under worst-case scenario, the total annual site grading would reach 50,000 ft^2. USAF's ACAM was used to estimate the annual air emissions from site grading under Alternative M3. These air emissions are summarized in **Table 4-21**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative M3 would not require a General Conformity analysis and would not result in a significant impact on air quality. The annual air emissions from the operation of chain saws, stump grinders, and similar tree cutting equipment would be negligible and do not warrant estimation.

Table 4-21. Air Emissions from Alternative M3

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Site Grading for Tree Removal and Planting	0.183	1.263	0.962	0.002	3.039	0.055	245.200	2019 and Later

Note: All values are in tpy.

Biological Resources. Short- and long-term, less than significant, adverse impacts on vegetation would result from tree trimming, removal, and planting. The USAF plans to trim or remove approximately 230 trees that conflict with the airfield. Most of these trees are at the golf course between Golf Course Road and Runway 14R/32L or within the developed and maintained areas of the installation mostly along the airfield. They are not within the Silver Creek riparian corridor and do not provide high quality habitat for wildlife. Removal of problem trees would directly result in the loss of potentially native vegetation as well as unintended impacts of trampling and crushing non-target vegetation. No more than 50,000 ft^2 of vegetation would be disturbed per year. To minimize for the loss of vegetation, USAF would reseed tree

removal areas with grasses or other appropriate vegetation and would replace the trees they remove with new plantings at locations that do not conflict with the airfield.

Long-term, less than significant, adverse impacts on wildlife species would occur. The removal of approximately 230 large trees would cause the permanent avoidance of wildlife species in the area and reduce and fragment wildlife habitat. Large trees provide suitable nesting, foraging, and shelter habitat for a variety of bird and mammal species; however, the trees proposed for removal do not constitute high quality habitat. During the removal process wildlife would avoid the area due to the increased noise levels from tree trimming equipment such as chainsaws, boom trucks, and wood chippers. Species that inhabit or use large trees in this area would be displaced to adjacent suitable habitat. USAF would avoid harming nesting bird species and active bats by conducting tree removal between 1 October and 31 March when no activity would occur.

Alternative M3 may affect, but is not likely to adversely affect the federally listed Indiana bat and northern long-eared bat. The removal of these trees would reduce the amount of edge habitat available for threatened and endangered species. Although unlikely, the federally listed Indiana bat and northern long-eared bat may use trees selected for removal as foraging habitat; however, these bat species primarily utilize the forested areas along Silver Creek. Similarly, state-listed owls, raptors, or other tree dwelling birds may use these trees for nesting or for foraging. Prior to conducting removal activities, a qualified biologist would survey each tree slated for removal for bat or bird nesting activities. Because the Silver Creek riparian corridor portion of Scott AFB provides approximately 400 acres of higher quality forested habitat for bird and bat species, removal of individual trees at the golf course and in the developed and maintained area mostly along the airfield would have less than significant impacts on listed species. USAF would avoid harming nesting bird species and active bats by conducting tree removal between 1 October and 31 March when no activity would occur. Scott AFB consulted with USFWS on this project, and USFWS concurred on 6 June 2019 that the project is not likely to adversely affect federally listed species (see **Appendix A**).

Cultural Resources. No impacts on archaeological resources would result from tree trimming, removal, and planting. Trees removed from the portions of the installation with archaeological potential would be cut flush with the ground surface and no ground disturbance would occur. New trees would not be planted in these areas to avoid impacts on archaeological resources. Elsewhere, tree removal would typically involve small amounts of ground disturbance within a 10 foot radius around the tree stump to a depth of 6 to 12 inches. These areas of the installation have been determined to have extremely low potential for archaeological resources. Therefore, Alternative M3 would not be expected to impact archaeological resources.

Tree removal within the Scott Field Historic District could alter the district because landscape is an important component of the district's historic setting. Few trees within the historic district are anticipated to present conflicts with the airfield; however, if conflicts are identified, then any removed trees would be replaced with mature species of a similar type or species to blend in with the surrounding landscape, per Scott AFB's Historic Building Maintenance Plan. With this

BMP, impacts on the Scott Field Historic District would be negligible and would not diminish the district's historic integrity.

Geological Resources. Short- and long-term, minor, adverse impacts on geological resources would result from tree trimming, removal, and planting. The short-term impacts would occur when heavy equipment is used to remove or plant trees. Such activities would disturb soil resulting in a temporary increase in the potential for erosion. The long-term impacts would occur because soil disturbance could decrease soil productivity from compaction. Most trees would be replaced elsewhere on Scott AFB. However, in local areas where trees would be replaced by grasses, soil formation would not occur as quickly as is presently occurring because there would be less organic material (e.g., leaves) deposited and decomposing to become humus. Environmental protection measures and an ESCP would be developed and followed to ensure onsite infiltration of stormwater runoff and minimize the increase in erosion and sedimentation.

Hazardous Materials and Wastes. Short-term, negligible, adverse impacts associated with hazardous materials and wastes would result from tree trimming, removal, and planting. These activities would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative M3. No impacts from toxic substances, environmental contamination, and radon would occur.

Infrastructure. Long-term, negligible, beneficial impacts on infrastructure would result from tree trimming, removal, and planting. Removal of airfield tree violations would improve the condition of the airfield by facilitating safer and more efficient airfield operations. No impacts on any other aspects of infrastructure would occur. Vegetation waste from trees that are removed would be mulched.

Land Use. Long-term, minor, beneficial impacts on land use would result from trimming or removing trees that are conflicting with the airfield. Such trees are located within all of the land use categories of Scott AFB, and cutting these trees would have no conflict with any land use category. This project would support and enhance the Airfield land use category by preventing safety conflicts caused by airfield obstructions and reduced views of the runway. Furthermore, the project would meet the Joint Use Agreement signed between the Secretary of the Air Force and St. Clair County. Some trees are within the runway CZs. Tree maintenance is a permitted activity within the CZs, and tree cutting would be consistent with the objectives of the CZs. New trees would be planted in a compatible land use categories (i.e., not within the CZ).

Noise. Intermittent, minor impacts on the noise environment would result from tree trimming, removal, and planting. Intermittent impacts would result from noise generated by heavy equipment during tree removal but would not lead to a violation of any federal, state, or local

noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts.

Individual pieces of heavy equipment (i.e., tree stump grinders and graders) would be expected to produce noise levels between approximately 70 and 90 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels would noticeably attenuate to below 65 dBA between approximately 75 and 1,250 feet from the source, respectively (USEPA 1971, Predator 2007, TRS Audio Undated a). Alternative M3 could occur within any of the Scott AFB Noise Zones and would occur within a developed area where ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, negligible impacts would be expected from the increase in noise during tree removal.

Additive noise associated with the simultaneous operation of tree stump grinders and graders would not exceed 93 dBA at 50 feet (USEPA 1971, Predator 2007, TRS Audio Undated b). Some people working, living, or using outdoor recreation areas near tree removal activities may temporarily notice or potentially be annoyed by the noise. Given the temporary and intermittent nature of the proposed tree removal, potential distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be minor. Additionally, noise levels would be reduced through the use of exhaust mufflers or other noise attenuation equipment, and louder construction noise equipment would generally be used only during daytime hours.

Safety. Short-term, negligible, adverse impacts on contractor health and safety would result from tree trimming, removal, and planting. These activities are inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation, chain saw use, and working in noisy environments. Therefore, contractors performing tree trimming, removal, and planting would be exposed to an environment containing slightly greater health and safety risks than a normal setting. To minimize health and safety risks, contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. Long-term, minor, beneficial impacts on flight safety would occur by removing airfield tree violations that obstruct sight lines between the air traffic control tower and the runway.

Water Resources. No impacts on groundwater would result from tree trimming, removal, and planting. Excavation associated with tree removal and planting would not intersect the local groundwater table. Short-term, minor, adverse impacts on surface water and short-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from ground disturbance. Tree trimming, removal, and planting would occur at varying distances from surface waters, floodplains, and wetlands; however, it would not occur within the 100-year floodplain and wetlands. Ground disturbance from tree removal and planting would result in

erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology.

4.4.12.2 No Action Alternative for Project M3

Air Quality. Under the No Action Alternative for Project M3, no trees would be trimmed, removed, or planted; therefore, air emissions from the operation of tree cutting and site grading equipment would not be produced. Air quality conditions would remain the same as discussed in **Section 3.1.2** and no new air emissions would be produced.

Biological Resources. Under the No Action Alternative for Project M3, no trees would be trimmed, removed, or planted; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project M3, no trees would be trimmed, removed, or planted; therefore, no ground disturbance would not occur. Trees would not be trimmed or removed within the Scott Field Historic District and impacts on the district's historic setting would not occur. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project M3, no trees would be trimmed, removed, or planted; therefore, no ground disturbance would occur. Geological resources conditions would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project M3, no trees would be trimmed, removed, or planted; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. No impacts on toxic substances, ERP sites, and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project M3, no trees would be trimmed, removed, or planted; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. Airfield tree violations would continue to adversely affect airfield operations due to the obstruction of sight lines between the air traffic control tower and the runway and violations of the CZs. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project M3, no trees would be trimmed, removed, or planted; therefore, airfield tree violations would continue to cause safety conflicts from airfield obstructions, reduced views of the runway from the control tower, and degradation of the Airfield land use category. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project M3, no trees would be trimmed, removed, or planted; therefore, no noise from heavy equipment would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project M3, no trees would be trimmed, removed, or planted; therefore, no new or additional impacts on construction, mission, or flight safety would occur. Trees that obstruct sight lines between the air traffic control tower and the runway would remain and continue to represent flight safety hazards. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project M3, no trees would be trimmed, removed, or planted; therefore, no impacts on groundwater, surface water, floodplains, or wetlands would occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.13 PROJECT N1: ENHANCE FAM CAMP

4.4.13.1 Alternative N1

Air Quality. Short-term, negligible, adverse impact on air quality would result from construction associated with the proposed enhancements to FAM Camp. Construction activities would produce criteria pollutants and GHGs when building demolition, site grading, trenching, building construction, and paving are occurring, which would be limited to 2020. No or negligible long-term changes to air emissions would occur. Air emissions, if any, produced from heating the proposed bathhouse would be similar in magnitude to air emissions produced from heating the existing bathhouse. USAF's ACAM was used to estimate the annual air emissions from construction associated with Alternative N1. These air emissions are summarized in **Table 4-22**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative N1 would not require a General Conformity analysis and would not result in a significant impact on air quality.

Table 4-22. Air Emissions from Alternative N1

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Construction to Enhance the FAM Camp	0.765	4.510	4.557	0.010	7.680	0.215	971.500	2020

Note: All values are in tpy.

Biological Resources. Short- and long-term, minor, adverse impacts on vegetation would result from construction associated with the proposed enhancements to FAM Camp. Short-term impacts would result from the temporary removal and trampling of surrounding vegetation and compaction of soil by heavy construction equipment. Construction would permanently remove approximately 18,600 ft^2 of vegetation within the footprint of the project area, some of which could be native. This area is approximately 0.1 percent of the 400-acre Silver Creek riparian corridor. Trees within 15 feet of paved roads also would be removed or trimmed as necessary. To minimize impacts, USAF would minimize the construction footprint to the maximum extent possible to avoid unnecessary vegetation removal.

Short- and long-term, minor, adverse impacts on wildlife would occur. Wildlife species would temporarily avoid the area during construction due to increased noise levels and increased human activity. Species would likely return once construction is finished. Large trees provide suitable foraging and nesting habitat for a variety of birds and small mammals. Permanent removal of trees could displace individuals. This impact is considered minor because there is abundant (i.e., 400 acres) suitable habitat adjacent to the FAM Camp within the Silver Creek riparian corridor. Furthermore to minimize impact on wildlife, tree cutting would occur between 1 October and 31 March to avoid the active season for bats and the nesting season for bird species.

Alternative N1 may affect, but is not likely to adversely affect the federally listed Indiana bat and northern long-eared bat. The federally listed Indiana bat and northern long-eared bat, state-listed species (particularly the little blue heron, which has been observed at nearby Scott Lake in 2018), and migratory birds would temporarily avoid the area due to an increase in human presence and noise levels. Listed species would likely return to the area once activities are completed. Furthermore, to minimize impact on protected bats and bird species, tree cutting would occur between 1 October and 31 March to avoid the active season for bat species and the nesting season for migratory bird species, and prior to conducting tree cutting activities, a qualified biologist would survey each tree proposed for removal for bat or bird nesting activities. Scott AFB consulted with USFWS on this project, and USFWS concurred on 6 October 2017 and 6 June 2019 that the project is not likely to adversely affect the Indiana bat and northern long-eared bat (see **Appendix A**). No impacts on any other listed species would occur.

Cultural Resources. No impact on cultural resources would result from construction associated with the proposed enhancements to FAM Camp. Construction of additional recreational vehicle campsites, utilities, and building construction would occur in areas that have extremely low potential for archaeological resources. Much of the proposed construction would occur in previously disturbed areas. No impacts on archaeological resources would be expected. The alternative would also have no impact on historic architectural resources. Building 6402 is a modern building (constructed in 1997) and is not eligible for NRHP listing.

Geological Resources. Short- and long-term, minor, adverse impacts on geological resources would result from construction associated with the proposed enhancements to FAM Camp. The short-term impacts would occur during construction when vegetation is removed and soils are disturbed. Vegetation would be restored once construction has ceased, where possible. Erosion and sedimentation potential would be greatest in areas where the soil is bare. Soil productivity would decline in disturbed areas and be eliminated in those areas within the footprint of roadways. Soil erosion and sediment control measures would be included in site plans to minimize long-term erosion and sediment production.

Long-term, minor, adverse impacts would occur from the removal of any trees. After the trees have been removed and ground stabilization has ceased, there would be decreased soil productivity from the compaction of soils from the use of heavy equipment. In areas where trees would be replaced by grasses, soil formation would not occur as quickly as is presently

occurring, as there would be less organic material (e.g., leaves) deposited and decomposing to become humus.

The soils at the Winfield silt loam (2 to 5 percent slope), Winfield silt loam (5 to 10 percent slope), Menfro silt loam (2 to 5 percent slope), and Menfro silt loam (10 to 18 percent slope) are mapped at the proposed site of the FAM Camp enhancement. The soils were analyzed for building construction limitations associated with shallow excavations and roads. The Menfro silt loams were considered to be somewhat limited due to dusty and unstable excavation walls and, additionally slope for the Menfro 10 to 18 percent slope. The Winfield silt loam (2 to 5 percent slope) was considered somewhat limited due to depth to the saturated zone, unstable excavation walls, and shrink-swell potential. The Winfield silt loam (5 to 10 percent slope) was considered to be somewhat limited to very limited due to shrink-swell potential, depth to saturated zone, and unstable excavation walls (USDA-NRCS 2019). Construction techniques and project design measures would be implemented to lessen these constraints, and site-specific soil testing would be conducted prior to project implementation.

Hazardous Materials and Wastes. Short-term, negligible, adverse impacts associated with hazardous materials and wastes would result from construction associated with the proposed enhancements to FAM Camp. Construction would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative N1. No impacts from environmental contamination and radon would occur. Demolition of the existing bathhouse would not generate ACM, LBP, or PCB waste because this building was constructed in 1997 and is not suspected to contain these toxic substances.

Infrastructure. Short- and long-term, negligible to minor, adverse and beneficial impacts on infrastructure would result from the proposed enhancements to FAM Camp. Temporary interruptions in electricity, water, and sanitary sewer could occur when the old bathhouse is disconnected from the existing utilities and the new bathhouse and campsites are connected to the existing utilities. Operation of the new bathhouse and campsites would slightly increase the demand for electricity, water, and sanitary sewer; however, as described in **Section 3.6.2**, these utilities have sufficient capacity to meet the additional demand. Providing sanitary sewer connections at the existing campsites would beneficially expand wastewater infrastructure because campers would no longer need to move their recreational vehicles to the dump station each time they must empty their holding tanks. The rate and volume of stormwater runoff would increase due to the 18,600 ft^2 increase in impervious surface. Additional runoff would be managed through implementation of LID measures as appropriate, per Section 438 of EISA. Construction and demolition would generate increased volumes of solid waste. Contractors would dispose of solid waste off-installation with recycling used to divert material from landfills. Removed trees would be mulched.

Land Use. Long-term, minor, beneficial impacts on land use would result from the proposed enhancements to FAM Camp. This project would expand and improve the existing FAM Camp, which would enhance its current land use category of Outdoor Recreation. The FAM Camp is compatible with the surrounding Outdoor Recreation and Open Space land uses categories.

Noise. Short-term, minor impacts on the noise environment would result from construction associated with the proposed enhancements to FAM Camp. Impacts would result from noise generated by heavy equipment during construction and demolition but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Construction noise would end with completion of construction and demolition.

Individual pieces of heavy equipment would be expected to produce noise levels between approximately 70 and 100 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with typical construction equipment would noticeably attenuate to below 65 dBA between approximately 100 and 4,000 feet from the source, depending on the equipment in use. Noise from paving would be expected to attenuate below 65 dBA within approximately 700 feet of the source (USEPA 1971, TRS Audio Undated a). Alternative N1 would not occur within a developed area; however, ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during construction and demolition.

Additive construction and demolition noise levels as high as 123 dBA L_{eq} could be experienced at the closest buildings (private recreational vehicles, Outdoor Recreation); however, the campsites of the FAM Camp would be unoccupied during construction and demolition, which would eliminate impacts on people using the FAM Camp (USEPA 1971, FHWA 2006, TRS Audio Undated a). Alternative N1 would not occur within 1,000 feet of any sensitive receptors. Given the temporary nature of the proposed construction, distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible. Additionally, noise levels could be reduced through the use of exhaust mufflers or other noise attenuation equipment.

No additional impacts on the noise environment from operations would be expected. A slight increase in noise from vehicle traffic in the area could occur due to the construction of additional campsites; however, this increase would not appreciably contribute to the existing noise environment of the area.

Safety. Short-term, negligible to minor, adverse impacts on contractor health and safety would result from construction associated with the proposed enhancements to FAM Camp. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to an environment containing slightly greater health

and safety risks than a non-construction environment. To minimize health and safety risks, construction contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review. No impacts on mission or flight safety would occur.

Water Resources. No short-term impacts on groundwater would result from the proposed enhancements to FAM Camp. Excavation associated with construction would not intersect the local groundwater table. Long-term, negligible, adverse impacts (e.g., reduced potential for recharge) on groundwater would occur due to the 18,600-ft^2 increase in impervious surface. However, Scott AFB would ensure that post-development hydrology mirrors pre-development hydrology to the maximum extent technically feasible.

Short-term, minor, adverse impacts on surface water and short-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from ground disturbance and vegetation removal. The closest surface water body, Silver Creek, is approximately 515 feet from the Alternative N1 project area. Alternative N1 would occur approximately 35 feet from the 100-year floodplain and approximately 50 feet from a wetland. Ground disturbance would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, surface waters, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts. Long-term, minor, adverse impacts on surface water and long-term, negligible, adverse impacts on the 100-year floodplain and wetlands would occur from the increase in impervious surface and subsequent stormwater runoff. However, the pre-development hydrology would be maintained or restored to the maximum extent practical. Implementation of stormwater controls consistent with the ESCP and the Scott AFB SWPPP would minimize the potential for long-term adverse impacts on surface waters, the 100-year floodplain, and wetlands.

4.4.13.2 No Action Alternative for Project N1

Air Quality. Under the No Action Alternative for Project N1, enhancements to FAM Camp would not occur; therefore, air emissions from this construction would not be produced. Air quality conditions would remain the same as discussed in **Section 3.1.2** and no new air emissions would be produced.

Biological Resources. Under the No Action Alternative for Project N1, enhancements to FAM Camp would not occur; therefore, no impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project N1, enhancements to FAM Camp would not occur; therefore, no ground disturbance occur. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project N1, enhancements to FAM Camp would not occur; therefore, no ground disturbance would occur. Geological resources conditions would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project N1, enhancements to FAM Camp would not occur; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. No impacts on toxic substances, ERP sites, and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project N1, enhancements to FAM Camp would not occur; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. Campers would continue to move their recreational vehicles to the dump station each time they must empty their holding tanks because campsites would continue to lack sanitary sewer connections. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project N1, enhancements to FAM Camp would not occur. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project N1, enhancements to FAM Camp would not occur; therefore, no construction noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project N1, enhancements to FAM Camp would not occur; therefore, no new or additional impacts on construction, mission, or flight safety would occur. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project N1, enhancements to FAM Camp would not occur; therefore, no impacts on groundwater, surface water, floodplains, or wetlands would occur. Water resources conditions would remain the same as described in **Section 3.10.2**.

4.4.14 PROJECT N2: REMOVE LOG JAMS FROM SILVER CREEK

4.4.14.1 Alternative N2

Air Quality. Long-term, negligible, adverse impacts on air quality would result from the proposed removal of log jams from Silver Creek. Criteria pollutants and GHGs would be produced intermittently from the operation of chain saws and site grading equipment needed to access and remove the log jams. Log jams would be removed annually, as needed, with one log jam removed per year. Site grading for each log jam would measure approximately 1,000 ft^2. USAF's ACAM was used to estimate the annual air emissions from site grading under

Alternative N2. These air emissions are summarized in **Table 4-23**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative N2 would not require a General Conformity analysis and would not result in a significant impact on air quality. The annual air emissions from the operation of chain saws would be negligible and do not warrant estimation.

Table 4-23. Air Emissions from Alternative N2

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Site Grading to Remove Log Jams from Silver Creek	0.030	0.210	0.160	<0.001	0.019	0.009	40.900	2019 and Later

Note: All values are in tpy.

Biological Resources. Short- and long-term, minor, adverse impacts on vegetation would result from the proposed removal of log jams from Silver Creek. To clear a path for the equipment required to clear the log jams, USAF likely would need to trim and remove up to 1,000 ft^2 of vegetation within the forested areas along the 2-mile stretch of Silver Creek. Clearing activities would result in the trampling and crushing of vegetation as well as potential soil compaction for the duration of the project. These impacts would be temporary. Subsequent to project completion, the cleared path would be regularly maintained into the future to enable access to Silver Creek.

Short-term, minor, adverse and long-term, minor, beneficial impacts on wildlife species would occur. Wildlife species would temporarily avoid the area during the log jam removal due to an increase in human presence and noise levels. Wildlife would likely return to the area once activities are completed. Coordination with the United States Department of Agriculture would occur prior to removal activities to ensure beavers would not be adversely impacted. To avoid adverse impacts on bat and bird species, tree removal needed for access to the log jam sites would occur between 1 October and 31 March to avoid the active season for bat species and the nesting season for migratory bird species, and prior to conducting tree removal activities, a qualified biologist would survey each tree proposed for removal for bat or bird nesting activities. Long-term, minor, beneficial impacts on wildlife species that rely upon Silver Creek as a water and food source would occur because the project would improve water quality and increase flow along the creek. Abundance of fish species in the creek should also increase with the improved quality of the water.

Alternative N2 may affect, but is not likely to adversely affect the federally listed Indiana bat and northern long-eared bat. The federally listed Indiana bat and northern long-eared bat as well as state-listed species would temporarily avoid the area during the log jam removal due to an increase in human presence and noise levels. Listed species would likely return to the area once activities are completed. Long-term, minor, beneficial impacts on listed species that rely on Silver Creek as a water source would occur because the project would improve water quality and increase flow along the creek. Scott AFB consulted with USFWS on this project, and USFWS concurred on 6 June 2019 that the project is not likely to adversely affect federally listed species (see **Appendix A**).

Cultural Resources. No adverse impacts on cultural resources would result from the proposed removal of log jams from Silver Creek. Removal of log jams could disturb up to 1,000 ft^2. This area has been determined to have low potential for archaeological resources. Both sides of the stream have been previously surveyed and there are no known archaeological resources within or adjacent to the stream channel. Several sites have been recorded outside Scott AFB on the terraces above the channel. Log jam removals would not impact these terraces and would not be expected to impact archaeological resources. Vegetation removal to access log jams would not include ground disturbing activities. The alternative would have no impact on historic architectural resources.

Geological Resources. Short- and long-term, negligible to minor, adverse impacts on geological resources would result from the proposed removal of log jams from Silver Creek. Short-term, negligible, adverse impacts on soil would arise from the potential removal of vegetation to allow vehicle access. Vegetation removal would result in soil disturbance and increased erosion and sedimentation potential.

Short-term, minor, adverse impacts would occur due to disturbance of sediment during log jam removal activities, when suspension of sediment particles in the water column would increase (i.e., increased turbidity). Long-term, negligible, adverse impacts on sediment would occur, as particles would no longer accumulate in the area of the log jams. Removal of the log jams would likely allow small sediment particles (i.e., silts and clays) to remain suspended in the water column for a longer duration, and would result in deposition of sediment further downstream. In addition, Silver Creek would be able to flow more quickly once the log jam is removed, and therefore larger sediment particles (such as sands and pebble-sized particles) would also be suspended in the water column and deposited downstream.

Long-term, negligible, adverse impacts on soils would occur as the area of inundation created by the log jam would decrease in size or be removed entirely, and the amount of sediment deposited along the banks and within the floodplain of Silver Creek at the site of the log jam would decrease. Floodwaters depositing sediment increase the productivity of floodplain soils because the sediment is often rich in organic matter such as decomposing plant and animal material. Because the sediment supplied to the creek banks would decrease, soil productivity would subsequently decrease slightly along the banks adjacent to the log jam.

Hazardous Materials and Wastes. Short-term, negligible, adverse impacts associated with hazardous materials and wastes would result from the proposed removal of log jams from Silver Creek. These activities would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative N2. No impacts from toxic substances, environmental contamination, and radon would occur.

Infrastructure. Long-term, minor, beneficial impacts on infrastructure would result from the proposed removal of log jams from Silver Creek. Removing the log jams would allow for better flow of water through Silver Creek, which would decrease the potential for and severity of upstream flooding. No impacts on any other aspects of infrastructure would occur.

Land Use. No impact on land use would result from the proposed removal of log jams from Silver Creek. Alternative N2 is compatible with the existing Open Space land use category. Removal of log jams is consistent with the INRMP, which proposes this project to meet the natural resources management goal of maximize structure, function, and native composition of wetland and floodplain ecosystems where practical and consistent with the military mission and reducing flooding to mission critical areas (Scott AFB 2015a).

Noise. Intermittent, minor impacts on the noise environment would result from the proposed removal of log jams from Silver Creek. Intermittent impacts would result from noise generated by heavy equipment during log jam removal but would not lead to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts.

Individual pieces of heavy equipment (i.e., chain saws, backhoes, and tree stump grinders) would be expected to produce noise levels between approximately 70 and 90 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels would noticeably attenuate to below 65 dBA between approximately 75 and 1,250 feet from the source (USEPA 1971, Predator 2007, Purdue 2000, TRS Audio Undated a). Alternative N2 would not occur within a developed area; however, ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, negligible impacts would be expected from the increase in noise during log jam removal.

Additive noise levels as high as 78 dBA L_{eq} (from simultaneous operation of chain saws, backhoes, and tree stump grinders) could be experienced at the closest building (Building 3901, Aircraft Operations and Maintenance); therefore, some people working or using outdoor recreation areas near the log jam removal activities could temporarily notice or potentially be annoyed by the noise (USEPA 1971, Predator 2007, Purdue 2000, TRS Audio Undated b). Alternative N2 would not occur within 1,000 feet of any sensitive receptors. Given the temporary and intermittent nature of the proposed tree removal, potential distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible. Additionally, noise levels would be reduced through the use of exhaust mufflers or other noise attenuation equipment, and louder construction noise equipment would generally be used only during daytime hours.

Safety. Short-term, negligible, adverse impacts on contractor health and safety would result from the proposed removal of log jams from Silver Creek. Construction is inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in confined, poorly-ventilated, and noisy environments. Therefore, contractors performing construction would be exposed to

an environment containing slightly greater health and safety risks than a non-construction environment. To minimize health and safety risks, contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. No impacts on mission or flight safety would occur.

Water Resources. No impacts on groundwater would result from the proposed removal of log jams from Silver Creek. Excavation associated with this alternative would not intersect the local groundwater table. Short-term, minor, adverse impacts on Silver Creek, the 100-year floodplain, and wetlands would occur from ground disturbance. Alternative N2 would occur within Silver Creek, the 100-year floodplain, and wetlands. Impacts on the floodplain and wetlands would be unavoidable because of the inherent nature of this project to address Silver Creek. Because Silver Creek is a waters of the United States, Scott AFB would obtain from the USACE the necessary Section 404 permit prior to starting construction. Ground disturbance would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, Silver Creek, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Long-term, minor, beneficial impacts on Silver Creek, the 100-year floodplain, and wetlands would result from restoring flow of Silver Creek because it would allow for transport of sediment, improved water quality, and reduced severity of upstream flooding.

4.4.14.2 No Action Alternative for Project N2

Air Quality. Under the No Action Alternative for Project N2, log jams would not be removed from Silver Creek; therefore, air emissions from chain saws and site grading equipment would not be produced. Air quality conditions would remain the same as discussed in **Section 3.1.2** and no new air emissions would be produced.

Biological Resources. Under the No Action Alternative for Project N2, log jams would not be removed from Silver Creek; therefore, no new or additional impacts on vegetation, wildlife, or protected species would occur. Biological resources conditions would remain the same as described in **Section 3.2.2**.

Cultural Resources. Under the No Action Alternative for Project N2, log jams would not be removed from Silver Creek; therefore, no ground disturbance and vegetation clearing activities would occur. Present conditions, including potential upstream flooding, would continue. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project N2, log jams would not be removed from Silver Creek. By allowing log jams to remain in Silver Creek, sediment in the area of the log jams would accumulate faster than if there were no obstruction in the creek. Sediment would continue to be deposited along the creek banks at the site of log jams, which

would continue to increase the productivity of the floodplain soils. Geological resources would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project N2, log jams would not be removed from Silver Creek; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. No impacts on toxic substances, ERP sites, and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project N2, log jams would not be removed from Silver Creek; therefore, no new or additional impacts on infrastructure, utility demand, solid waste generation, and traffic conditions would occur. Log jams in Silver Creek would continue to disrupt the flow of water thereby increasing the potential for and severity of upstream flooding during storm events. Infrastructure conditions would remain as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project N2, log jams would not be removed from Silver Creek. Removal of log jams is consistent with the INRMP, which proposes this project to meet the natural resources management goal of maximize structure, function, and native composition of wetland and floodplain ecosystems where practical and consistent with the military mission and reducing flooding to mission critical areas (Scott AFB 2015b). Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project N2, log jams would not be removed from Silver Creek; therefore, no additional noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project N2, log jams would not be removed from Silver Creek; therefore, no new or additional impacts on construction, mission, or flight safety would occur. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project N2, log jams would not be removed from Silver Creek and the flow of water in Silver Creek would continue to be disrupted by log jams. This would continue to impair water quality and increase the potential for upstream flooding. As a result, long-term, minor, adverse impacts on Silver Creek, the 100-year floodplain, and wetlands would continue.

4.4.15 PROJECT N3: ENHANCE AQUATIC HABITAT AT CARDINAL LAKE

4.4.15.1 Alternative N3

Air Quality. Long-term, negligible, adverse impacts on air quality would result from the proposed enhancement of aquatic habitat at Cardinal Lake. Annual management actions for Cardinal Lake could include removing aquatic vegetation, dredging sediment from the bottom of the lake, replacing the aeration system, stocking the lake with fish, and installing brush piles. For the purposes of this air quality analysis, site grading is used as a surrogate for these management actions with approximately 285,000 ft^2 graded per year. Criteria pollutants and GHGs would be produced intermittently when such activities are occurring. USAF's ACAM was

used to estimate the annual air emissions from site grading under Alternative N3. These air emissions are summarized in **Table 4-24**. Annual air emissions would be less than the 100 tpy *de minimis* threshold; therefore, Alternative N3 would not require a General Conformity analysis and would not result in a significant impact on air quality. Trees surrounding the lake would be removed or trimmed as needed; however, the annual air emissions from the operation of chain saws would be negligible and do not warrant estimation.

Table 4-24. Air Emissions from Alternative N3

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	Year
Site Grading To Enhance Aquatic Habitat at Cardinal Lake	0.124	0.853	0.663	0.002	8.543	0.037	162.700	2019 and Later

Note: All values are in tpy.

Biological Resources. Short-term, minor, adverse, and long-term, minor, beneficial impacts on vegetation would result from the proposed enhancement of aquatic habitat at Cardinal Lake. USAF plans to increase the quality of Cardinal Lake by removing aquatic vegetation, dredging sediment, replacing the aeration system, and installing brush piles to provide cover for fish. Minor adverse impacts would initially occur from vegetation and tree removal within and surrounding the lake as well as trampling upland vegetation during the dredging process. After the restoration efforts are complete and water quality in the lake quality has improved, the vegetation within and along the banks of Cardinal Lake would experience long-term, beneficial impacts. Native riparian vegetation would be able to establish once invasive species are removed.

Short-term, minor, adverse, and long-term, minor, beneficial impacts on wildlife species would occur. Bird and mammal species would temporarily avoid the area during enhancement of Cardinal Lake due to an increase in human presence and noise levels. Mobile species would likely return to the area once activities are completed. To avoid adverse impacts on bat and bird species, work on Cardinal Lake would occur between 1 October and 31 March to avoid the active season for bat species and the nesting season for migratory bird species. Prior to conducting tree cutting activities, a qualified biologist would survey each tree proposed for removal for bat or bird nesting activities. Long-term, minor, beneficial impacts on wildlife species would occur from the improved water quality within the lake. Fish species populations should increase with the enhanced quality of the water.

Alternative N3 may affect, but is not likely to adversely affect the federally listed Indiana bat and northern long-eared bat. The federally listed Indiana bat and northern long-eared bat as well as state-listed species (particularly the little blue heron, which has been observed at nearby Scott Lake in 2018) would temporarily avoid the area during work on Cardinal Lake due to an increase in human presence and noise levels. Listed species would likely return to the area once activities are completed. To avoid adverse impacts on bat and bird species, restoration would occur between 1 October and 31 March to avoid the active season for bat species and the nesting season for migratory bird species. Long-term, minor, beneficial impacts on listed species would occur due to the improved water quality and available prey within the proximity of

Cardinal Lake. Scott AFB consulted with USFWS on this project, and USFWS concurred on 6 June 2019 that the project is not likely to adversely affect federally listed species (see **Appendix A**).

Cultural Resources. No impact on cultural resources would result from the proposed enhancement of aquatic habitat at Cardinal Lake. Cardinal Lake is a man-made lake in an area that once contained site 11-S-897, which is a historic farmstead evaluated as not eligible for NRHP listing. The area has been determined to have extremely low potential for archaeological resources. Proposed ground disturbing activities such as dredging would be contained within modern sediment deposits and would not be expected to impact archaeological resources. Other proposed activities such as vegetation removal and installing brush piles would not have potential to impact archaeological or historic architectural resources.

Geological Resources. Short-term, minor, adverse impacts on geological resources would result from the proposed enhancement of aquatic habitat at Cardinal Lake. Short-term impacts on soil would arise from the potential removal of vegetation. Vegetation removal would result in soil disturbance and increased erosion and sedimentation potential. Short-term impacts on sediment would occur if dredging sediment from the bottom of the lake to restore original depths is implemented. Dredging would disturb the sediment of the lake, temporarily increasing the turbidity.

Hazardous Materials and Wastes. Short-term, negligible, adverse impacts associated with hazardous materials and wastes would result from the proposed enhancement of aquatic habitat at Cardinal Lake. These activities would result in a temporary increase in the use of hazardous materials and petroleum products and the generation of hazardous and petroleum wastes. Contractors would be responsible for the management and disposal of these substances, which would be handled in accordance with the installation's HAZMAT Plan; HWMP; ICP; and federal, state, and USAF regulations.

No long-term changes to hazardous materials, petroleum products, or hazardous wastes management would occur from Alternative N3. No impacts from toxic substances, environmental contamination, and radon would occur.

Infrastructure. Long-term, negligible, beneficial impacts on infrastructure would result from the proposed enhancement of aquatic habitat at Cardinal Lake. Dredging the lake to maintain a sufficient depth would increase the holding capacity for stormwater drainage and wastewater effluent. No impacts on any other aspects of infrastructure would occur.

Land Use. Long-term, minor, beneficial impacts on land use would occur from the enhancement of aquatic habitat at Cardinal Lake. Cardinal Lake would continue to be used for outdoor recreation, which is compatible with the Outdoor Recreation land use category. The Outdoor Recreation land use category would be enhanced as the fishing stock improves.

Noise. Intermittent, minor impacts on the noise environment would result from the proposed enhancement of aquatic habitat at Cardinal Lake. Intermittent impacts would result from noise generated by heavy equipment during aquatic habitat enhancement activities but would not lead

to a violation of any federal, state, or local noise regulations, and would not increase areas of incompatible land use on or adjacent to Scott AFB. In addition to adhering to all noise regulations, BMPs would be implemented to further reduce noise impacts. Aquatic habitat enhancement noise would end with completion of aquatic habitat enhancement activities.

Individual pieces of heavy equipment (i.e., backhoes and tree stump grinders) would be expected to produce noise levels between approximately 70 and 90 dBA at a distance of 50 feet; however, these noise levels would decrease with distance from the project area (see **Table 3-8**). Noise levels associated with tree stump grinders and backhoes would noticeably attenuate to below 65 dBA between approximately 75 and 1,250 feet from the source, respectively (USEPA 1971, Predator 2007, TRS Undated a). Alternative N3 would occur near a developed area and ambient noise levels from traffic, aircraft, and military operations could regularly exceed 65 dBA. Because of the existing ambient noise environment of the project area and surrounding areas, minor impacts would be expected from the increase in noise during aquatic habitat enhancement activities.

Additive noise levels as high as 89 dBA L_{eq} (from simultaneous operation of backhoes and tree stump grinders) could be experienced at the closest building (Building 6403, Outdoor Recreation); therefore, some people working or using outdoor recreation areas near Cardinal Lake may temporarily notice or potentially be annoyed by the noise (USEPA 1971, Predator 2007, TRS Audio Undated b). Alternative N3 would not occur within 1,000 feet of any sensitive receptors. Given the temporary and intermittent nature of the proposed aquatic habitat enhancement, potential distance to sensitive receptors, and the existing noise environment, impacts on sensitive receptors would be negligible. Additionally, noise levels would be reduced through the use of exhaust mufflers or other noise attenuation equipment, and louder construction noise equipment would generally be used only during daytime hours.

Safety. Short-term, negligible to minor, adverse impacts on contractor health and safety would result from the proposed enhancement of aquatic habitat at Cardinal Lake. The proposed management activities are inherently hazardous because personnel are potentially exposed to health and safety hazards from heavy equipment operation; hazardous materials and chemicals use; and working in noisy environments. Therefore, contractors performing these activities would be exposed to an environment containing slightly greater health and safety risks than a normal setting. To minimize health and safety risks, contractors would be required to use appropriate PPE and establish and maintain site-specific health and safety programs for their employees. Contractor health and safety programs would follow all applicable federal OSHA regulations and would be reviewed by Scott AFB personnel prior to work beginning to ensure that appropriate measures are taken to reduce the potential exposure of workers and installation personnel to health and safety risks. SDSs for all hazardous materials and chemicals stored at the worksite would be kept on site and be available for immediate review. No impacts on mission or flight safety would occur.

Water Resources. No impacts on groundwater would result from the proposed enhancement of aquatic habitat at Cardinal Lake. Excavation associated with Alternative N3 would not intersect the local groundwater table. Short-term, minor, adverse impacts on Cardinal Lake, the

100-year floodplain, and wetlands would occur from ground disturbance. Alternative N3 would occur within Cardinal Lake, the FEMA-designated 100-year floodplain, and wetlands. Impacts on the floodplain and wetlands would be unavoidable because of the inherent nature of this project to address Cardinal Lake. Cardinal Lake is not a waters of the United States; therefore, Scott AFB would not need to obtain a Section 404 permit from the USACE. Ground disturbance would result in erosion, sedimentation, and increased stormwater runoff. All ground-disturbing activities would be conducted in accordance with the applicable stormwater discharge permit, project-specific ESCP, and the Scott AFB SWPPP to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system, Cardinal Lake, or wetlands. Adherence to the ESCP and Scott AFB SWPPP would also prevent the alteration of floodplain hydrology. Scott AFB would be required to obtain coverage under the NPDES Construction General Permit and implement associated BMPs to further minimize impacts. Long-term, minor, beneficial impacts on the water quality of Cardinal Lake would result from the removal of sediment and increase in the dissolved oxygen concentration through the replacement of the lake's aeration system.

4.4.15.2 No Action Alternative for Project N3

Air Quality. Under the No Action Alternative for Project N3, aquatic habitat at Cardinal Lake would not be enhanced; therefore, air emissions from such actions would not be produced. Air quality conditions would remain the same as discussed in **Section 3.1.2** and no new air emissions would be produced.

Biological Resources. Under the No Action Alternative for Project N3, aquatic habitat at Cardinal Lake would not be enhanced. Cardinal Lake would remain unbalanced and would not provide self-sustaining aquatic habitat. The aquatic habit in the lake could continue to decline potentially resulting in long-term, minor, adverse impacts on biological resources.

Cultural Resources. Under the No Action Alternative for Project N3, aquatic habitat at Cardinal Lake would not be enhanced; therefore, no ground disturbance, such as dredging, would occur. Cultural resources conditions would remain the same as described in **Section 3.3.2**.

Geological Resources. Under the No Action Alternative for Project N3, aquatic habitat at Cardinal Lake would not be enhanced; therefore, increased sediment collection would continue to occur on the lake bed, decreasing the depth of the lake. Geological resources would remain the same as described in **Section 3.4.2**.

Hazardous Materials and Wastes. Under the No Action Alternative for Project N3, aquatic habitat at Cardinal Lake would not be enhanced; therefore, new or additional quantities of hazardous materials, petroleum products, and hazardous wastes would not be used, stored, or generated on the installation, and the management of these substances would not change. No impacts on toxic substances, ERP sites, and radon would occur. Hazardous materials and wastes conditions would remain the same as described in **Section 3.5.2**.

Infrastructure. Under the No Action Alternative for Project N3, aquatic habitat at Cardinal Lake would not be enhanced; therefore, no new or additional impacts on infrastructure, utility

demand, solid waste generation, and traffic conditions would occur. Continued sedimentation in Cardinal Lake would decrease its holding capacity for stormwater drainage and wastewater effluent. Infrastructure conditions would remain the same as described in **Section 3.6.2**.

Land Use. Under the No Action Alternative for Project N3, aquatic habitat at Cardinal Lake would not be enhanced. Without enhancement, the aquatic habitat at Cardinal Lake would remain degraded and could potentially continue to degrade. Recreational fishing is a current use of the lake and without healthy fish populations. Land use conditions would remain the same as described in **Section 3.7.2**.

Noise. Under the No Action Alternative for Project N3, aquatic habitat at Cardinal Lake would not be enhanced; therefore, no heavy equipment noise would be generated. Noise conditions would remain the same as described in **Section 3.8.2**.

Safety. Under the No Action Alternative for Project N3, aquatic habitat at Cardinal Lake would not be enhanced; therefore, no new or additional impacts on construction, mission, or flight safety would occur. Safety conditions would remain the same as described in **Section 3.9.2**.

Water Resources. Under the No Action Alternative for Project N3, aquatic habitat at Cardinal Lake would not be enhanced; therefore, water quality in the lake would not improve and could continue to decline, potentially resulting in long-term, minor, adverse impacts on surface water quality. No new or additional impacts on groundwater, floodplains, or wetlands would occur.

5. Cumulative Impacts

Federal regulations implementing NEPA (40 CFR §§ 1500–1508) require that cumulative impacts of a proposed action be assessed. CEQ regulations implementing the procedural provisions of NEPA define cumulative impacts as follows (40 CFR § 1508.47):

> "The impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions."

Cumulative impacts can be additive (i.e., the net adverse cumulative impacts are strengthened by the sum of individual impacts), countervailing (i.e., the net adverse cumulative impacts are less because of the interaction between beneficial and adverse individual impacts), or synergistic (i.e., the net adverse cumulative impacts are greater than the sum of the individual impacts). Cumulative impacts could result from individually minor, but collectively significant, actions that take place over time. Accordingly, a cumulative impacts analysis identifies and defines the scope of other actions and their interrelationship with a proposed action if there is an overlap in space and time.

Cumulative impacts may occur when there is a relationship between a proposed action and other actions are expected to occur in a similar location (i.e., overlapping geographic location) or during a similar time period (i.e., coincidental or sequential time of events). This relationship may or may not be obvious. The impacts may then be incremental and may result in cumulative impacts. Actions overlapping with or in close proximity to a proposed action can reasonably be expected to have more potential for cumulative impacts on "shared resources" than actions that may be geographically separated. Similarly, actions that coincide in the same timeframe tend to offer a higher potential for cumulative impacts.

This section discusses the potential for cumulative impacts caused by installation development at Scott AFB when combined with other past, present, and reasonably foreseeable actions.

5.1 Past, Present, and Reasonably Foreseeable Actions

This section evaluates the cumulative impacts of the Proposed Action by determining the incremental contribution of the Proposed Action together with past, present, and reasonably foreseeable actions. The installation development projects analyzed in this EA have been identified by the installation as those that would occur within the reasonably foreseeable future and detailed descriptions of these projects are included in **Section 2.3**. **Table 5-1** summarizes sizeable past, present, and reasonably foreseeable actions at Scott AFB and within the region that might interact with the Proposed Action. The table briefly describes each action and presents the proponent, location, and timeframe (e.g., past, present/ongoing, future) of the action.

Table 5-1. Past, Present, and Reasonably Foreseeable Actions at Scott AFB and Associated Region

Action	Location	Timeframe	Description
Military Actions			
Construct New DISA Facility	Former Cardinal Creek Military Family Housing (MFH) Area within the Administration District	Past	DISA constructed an approximately 160,000 ft^2, multi-story, facility at the former Cardinal Creek MFH neighborhood. The new facility consolidated functions occurring in three older, undersized buildings into one modern building with sufficient space. The facility includes computer operations space, secure information facilities, administrative work areas, staging and testing areas, conference rooms, supply and storage areas, a cafeteria, training rooms, a loading dock, a security office, and a visitor reception area. The DISA facility was the first major construction project at the former MFH area since the housing units were demolished in 1999. The portion of Pryor Drive adjacent to the DISA Facility was reconstructed and widened (Scott AFB 2012).
Relocate Four C-21A Aircraft from Joint Base Andrews to Scott AFB	Airfield District	Present	Consolidation of the Operational Support Aircraft and Executive Airlift force structure would result in the relocation of 4 C-21A aircraft and 14 personnel from Joint Base Andrews to Scott AFB. The relocation would result in a total of 14 C-21As at Scott AFB. The increase in C-21As will not require a change in flight tracks or result in a significant increase in the total number of aircraft operations at Scott AFB/MidAmerica Airport. Total annual airfield operations are anticipated to increase from 27,399 to 28,802, resulting in a 5 percent increase in operations (Scott AFB 2019c).
Airfield Lighting Project	Runway 14R/32L, ramps, and taxiways within the Airfield District	Present	This project will bring Scott AFB airfield lighting up to standards. The project is currently underway and is scheduled to be completed in 2021. Phase 1 will remove and replace all airfield lighting systems for Runway 14R/32L and upgrade the approach lighting from medium intensity to a high intensity system. All non-LED signage will be replaced with LED. The primary home run duct bank conduit system and the fiber optic connection between the airfield lighting vault and the air traffic control tower will be replaced, including an update to the Airfield Lighting Control and Management System. Asphalt pavement on both overruns will be removed and replaced. Phase 2 of the project will repair airfield taxiway lights, shoulders, and pavements. A counterpoise ground for taxiway light metallic base cans will be installed and any manholes and handholes that are not in compliance will be replaced. Runway signage and distance marker lighting will be replaced as needed. This project would allow the southern overrun of Runway 14R/32L to be converted to usable runway. The current aboveground lighting would be relocated to be flush with the pavement, which would allow for aircraft movements on the overrun (Scott AFB 2019c).
Enhance Aquatic Habitat at Scott Lake	Scott Lake (Not Districted)	Future	Remove aquatic vegetation, dredge sediment, replace the aeration system, install brush piles, and stock Scott Lake with appropriate fish. This programmatic project would be carried out identically to Project N3 but would occur at Scott Lake.

Action	Location	Timeframe	Description
Military Actions (continued)			
Implement the HHQ ADP	HHQ Area within the Core District	Future	The HHQ ADP is a component of the CPP and provides a roadmap to accomplish, strengthen, and support the 2015 Scott AFB IDP. The goal of the ADP is to assist Scott AFB in developing, improving, and sustaining campus-style facilities and infrastructure; consolidating organizations and functions, as appropriate; and promoting connectivity to optimize capabilities and resiliency. The ADP addresses the immediate need to provide better buildings and infrastructure by phasing a series of renovation and construction projects that will make existing buildings more inhabitable, replace outdated buildings, and create more functional space. By slightly reorganizing land uses, the district gains opportunity for mixed use at the edges of the administrative areas that can bring services and support functions closer to the buildings where people spend most of their workday. The ADP proposes a pedestrian park along the central spine of the district that provides a pedestrian connection to all high density administrative buildings, large parking lots, and community services (Scott AFB 2018a).
Implement the DMP	Enlisted Campus within the Core District	Future	The DMP is a comprehensive investment planning tool used by USAF to meet training and permanent party unaccompanied housing requirements. The Enlisted Campus at Scott AFB includes three dormitories (Buildings 1820, 1830, and 1850) with an inventory of 391 beds built between 1994 and 2009. The campus is in the center of the installation, adjacent to a majority of the community facilities. The Integrated Manpower Requirement Document for Fiscal Year 2021 is 439 beds, which results in a 48-bed deficit. The DMP investment recommendations for sustainment, improvement, replacement, divestiture, or new construction are developed based upon condition, inventory planning, and base planning to meet the manpower requirement. The recommended investment strategy outlined in the Scott AFB DMP is to sustain two dormitories (Buildings 1820 and 1850), improve one dormitory (Building 1830), and construct one 48-bed dormitory (Project C2) to meet the 439-bed manpower requirement (Scott AFB 2018b).
Qatar Emiri Air Force (QEAF) F-15QA Training	MidAmerica Airport	Future	QEAF will temporarily base up to six F-15QA aircraft under USAF control at MidAmerica Airport in order to train a small number of pilots and maintainer ground crews on the aircraft prior to delivery to their country. Up to 4 aircraft will be flown in single formation on 4 to 6 sorties per day (12 to 20 sorties per week) between 1 October 2020 and 28 February 2021. Approximately 50 Boeing employees, 16 QEAF personnel, and 5 USAF training and logistics oversight personnel will participate. Temporary facilities for operations and maintenance will be erected at MidAmerica Airport prior to the training period and removed immediately after. The aircraft will depart MidAmerica Airport for nearby Military Operating Areas for tactical maneuvering at medium to high altitudes under current parameters as previously established and published in DoD Flight Information Publications. Flying operations are expected to occur Monday to Friday and no night operations will be conducted (Scott AFB 2019c).

Action	Location	Timeframe	Description
Relevant State and Local Actions			
I-64 Rieder Road Interchange	I-64 Exit 21	Past	St. Clair County constructed the Rieder Road Interchange, which included widening 3 miles of I-64 to a 6-lane roadway and replacing the existing 2-lane Rieder Road Bridge over I-64 with an 80-foot wide bridge. The interchange also included lighting and signalized intersections (IBJ 2019).
Bobcat of St. Louis New Store Location	I-64 Exit 21	Future	The St. Clair County Board approved selling 15 acres of land near Rider Road to Bobcat of St. Louis to construct a new sales, service, and parts store. The parcel sits between Shiloh Valley Township Road and I-64 just west of Rieder Road. Bobcat is currently on a smaller site in Fairview Heights and was considering relocating out of the county (BND 2018).

Past activities are those actions that occurred within the geographic scope of cumulative impacts that have shaped the current environmental conditions at Scott AFB and the surrounding area. Scott AFB was initially constructed in 1917 and is one of the oldest continuous-service USAF installations. Scott AFB, formerly Scott Field, was originally used as a flight training field. The installation boundaries have increased more than five times in size since its initial construction, and the facilities and infrastructure have undergone several major periods of construction and reconstruction to accommodate student training loads and new missions and commands (Scott AFB 2015a). For many resource areas, such as biological resources and hazardous materials and wastes, the impacts of past actions are now part of the existing environment and are included in the description of the affected environment in **Section 3**.

5.1.1 CUMULATIVE IMPACTS

The following analysis qualitatively examines the cumulative impacts that would result from the incremental impacts of the Proposed Action when combined with past, present, and reasonably foreseeable future actions.

Air Quality. Emissions of criteria pollutants from construction associated with installation development at Scott AFB and present and reasonably foreseeable actions on Scott AFB and within the surrounding area would be directly produced from building construction and demolition, excavating, paving, and site grading. Such emissions would be temporary in nature and produced only when construction is occurring. Construction would be staggered through 2019, 2020, and 2021. For purposes of this analysis, it is assumed construction of the new Bobcat of St. Louis location would occur in 2020 or 2021. No other reasonably foreseeable actions would require permanent construction. Emissions from construction and operation of the new Bobcat location would be minimal compared to installation development at Scott AFB and when added to the annual emissions listed in **Tables 4-1** and **4-2**, emissions would be expected to remain well below *de minimis* threshold levels. BMPs and environmental control measures outlined in **Section 4**, including dust suppression, are also consistent with those adhered to within St. Clair County and would minimize impacts from the Proposed Action and other past, present, and reasonably foreseeable future projects. Additionally, work vehicles for projects on and off the installation are assumed to be well maintained and use diesel particulate

filters to reduce particulate matter air emissions. Long-term, adverse impacts on air quality would be anticipated from heating new building space and operating new emergency generators; however, these emissions would be expected to be sufficiently below major source thresholds and would not increase the potential to emit above major source thresholds and appropriate state operating permits would be obtained for these sources. Added automobile and aircraft traffic would also produce new air emissions, but these air emissions, when combined with those from installation development, would not be expected to appreciably degrade air quality within St. Clair County. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts on air quality at Scott AFB or regionally.

Biological Resources. Installation development at Scott AFB and present and reasonably foreseeable actions on Scott AFB and within the surrounding area would result in impacts on vegetation during ground-disturbing activities. Most of the areas within the Proposed Action are already highly disturbed from ongoing routine maintenance, development, and landscaping activities and are of low ecological value. The area of the new Bobcat of St. Louis location is also disturbed and routinely maintained to keep vegetation at a low level. No other reasonably foreseeable actions would require permanent construction. Increased flight activities would occur at established locations in existing military operating areas. Long-term impacts on native vegetation could occur within areas of the Proposed Action along Silver Creek from the creation of a cleared path, which would be regularly maintained to enable continued access to Silver Creek. Long-term, beneficial impacts on vegetation would result from the removal of impervious surfaces and restoration of Cardinal Lake.

On- and off-installation activities that require heavy equipment could cause mobile mammals, reptiles, and birds, including breeding migratory birds and the federally listed Indiana bat and northern long-eared bat, to temporarily relocate to nearby similar habitat. Disturbances would be expected to be minor and it is assumed that displaced wildlife would return soon after activities conclude. Long-term, adverse impacts on wildlife, to include the federally listed Indiana bat and northern long-eared bat, would occur from the permanent loss of potential habitat for bats and birds from the removal of trees along the airfield and within the forested areas along Silver Creek. Removal of trees and other vegetation would be scheduled to occur outside of the active season for bat species and the nesting season for migratory bird species, which is 1 April to 30 September, in order to reduce impacts on the federally listed bat species and migratory birds. Removal of log jams along Silver Creek and restoration of Cardinal Lake would provide long-term beneficial impacts on wildlife species by increasing habitat quality for fish and other wildlife species. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects (see **Table 5-1**), would not result in a significant cumulative impact on biological resources.

Cultural Resources. Installation development at Scott AFB and present and reasonably foreseeable actions on Scott AFB and within the surrounding area are not anticipated to result in significant impacts on cultural resources. Adverse impacts would result from the introduction of new visual elements adjacent to Scott Field Historic District and changes to the district's landscaping. The HHQ ADP includes a few blocks east of Scott Drive, which are included in the Scott Field Historic District. Any work in this area would be coordinated with the Illinois SHPO.

No other reasonably foreseeable actions would require permanent construction. Beneficial impacts would result from stormwater management that reduces the potential for damaging flooding within a historic building. Although all of the on- and off-installation projects would involve some level of ground disturbance, these projects are not anticipated to impact archaeological resources. Scott AFB does not contain any archaeological resources that are eligible for NRHP listing and only small portions of two unevaluated sites extend into the installation boundary.

Unidentified archaeological sites could occur within areas of the installation identified as having low to medium potential. Of the 15 on-installation development projects, only 2 would occur in areas of low to medium archaeological potential. None of the present or reasonably foreseeable future projects listed in **Table 5-1** would occur within areas that have a potential to encounter known archaeological resources. Any trees identified for removal in areas of low to medium archaeological potential would be cut at ground level and new trees would not be planted. No resources of traditional or religious cultural importance have been identified on Scott AFB. Therefore, no ground disturbance would occur in archaeologically sensitive areas and impacts on archaeological resources would not be expected. Avoidance of known cultural resources sites would be taken into consideration when planning reasonably foreseeable future projects on the installation and within the surrounding area. However, if activities would be conducted adjacent to or could not be adjusted to avoid impacting an archaeological site, then consultation with the SHPO/THPO would occur, and mitigation measures would be developed in accordance with Section 106 of the NHPA.

Should an inadvertent discovery of cultural or human remains occur on Scott AFB, all project activities would follow the requirements of Scott AFB's SOPs for inadvertent discoveries outlined in the installation's ICRMP. Should an inadvertent discovery occur during construction of the new Bobcat of St. Louis location, all construction activities would stop and the discovery would be reported to the SHPO for assistance and further guidance. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects (see **Table 5-1**), would not result in a significant cumulative impact on cultural resources.

Geological Resources. Installation development at Scott AFB and present and reasonably foreseeable actions on Scott AFB and within the surrounding area would not alter geological structures or features and would have no impact on regional geology. Because the projects listed in **Table 5-1** would occur on mostly flat terrain, no change in local topography is anticipated. The use of heavy equipment or vehicles could result in soil compaction and erosion. Therefore, standard soil erosion and sediment control measures would be implemented as appropriate to minimize erosion, which could include installing silt fencing and sediment traps, applying water to disturbed soil to prevent wind erosion, and revegetating disturbed areas as soon as possible. Use of stormwater control measures that favor infiltration would minimize the potential for erosion and sediment production as a result of future storm events. Preparation and implementation of an ESCP for each project would further minimize soil erosion and sedimentation impacts. In addition, construction activities associated with the Proposed Action and present and reasonably foreseeable future projects would take the attributes of the topography and underlying soil types within a project area into consideration in the design of each potential project. No other reasonably foreseeable actions would require

permanent construction. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts on geology and soils.

Hazardous Materials and Wastes. Installation development at Scott AFB and present and reasonably foreseeable actions on Scott AFB and within the surrounding area would result in intermittent, short-term, temporary increases in the use of hazardous materials and petroleum products and generation of waste. Environmental control measures outlined in **Section 4**, to include proper vehicle maintenance, proper procurement of hazardous materials, and proper disposal of hazardous wastes are typical control measures to minimize impacts. If soil or groundwater that is believed to be contaminated is discovered on or off the installation, the contractor would immediately stop work; report the discovery to the appropriate installation, state, or county personnel; and implement applicable safety measures. Commencement of construction activities would not occur until the issue was investigated and resolved. The Proposed Action, as well as present and reasonably foreseeable future projects at Scott AFB and within the surrounding area, would incorporate standard measures to limit or control hazardous materials and waste into their design and operation plans. No other reasonably foreseeable actions would require permanent construction. Increased flight activities would occur at established locations in existing military operating areas. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact on hazardous materials and wastes.

Infrastructure. Installation development at Scott AFB and present and reasonably foreseeable actions on Scott AFB and within the surrounding area have the potential to impact the following infrastructure: airfield, electrical distribution, natural gas supply, water supply, sanitary sewer and wastewater treatment, stormwater handling, communications, solid waste management, and transportation. No short- or long-term impacts on the on- or off-installation liquid fuel supply are anticipated. Impacts during construction are anticipated to be intermittent, short-term, and temporary in nature. On- and off-installation service interruptions could be experienced should lines need to be rerouted or when a new facility is connected to the distribution systems. Upgrade and construction of new infrastructure on and off the installation would result in long-term beneficial impacts from upgraded communications systems and improved stormwater handling and energy efficiency. No other reasonably foreseeable actions would require permanent construction. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact on infrastructure.

Land Use. Installation development at Scott AFB and the present and reasonably foreseeable actions on Scott AFB would comply with and be consistent with existing installation land use plans and policies as defined in the Scott AFB IDP and associated Area Development Plans. The HHQ ADP is a component of the comprehensive planning effort and provides a roadmap to accomplish, strengthen, and support the 2015 Scott AFB IDP. The IDP includes the dormitory construction project (Project C2) as discussed in the DMP (see **Table 5-1**). Installation development projects would occur entirely on Scott AFB. No lands outside the installation boundary would be needed, and the surrounding local communities' or St. Clair County's land use regulations would not be applicable or impacted. Construction of Bobcat of St. Louis off-

installation would be conducted in accordance with St. Clair County land use regulations. Although noise from construction vehicles, equipment operation, and construction and demolition activities occurring on and off the installation could be perceptible to nearby sensitive noise receptors, the impacts on surrounding land uses would be negligible and temporary. No off-installation land use designations or uses would require changes as a result of the installation development projects. No other reasonably foreseeable actions would require permanent construction. Increased flight activities would occur at established locations in existing military operating areas. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact on land use.

Noise. Installation development at Scott AFB and present and reasonably foreseeable actions on Scott AFB and within the surrounding area would result in intermittent, short-term, temporary increases on the noise environment. Noise generated by heavy equipment during construction would be intermittent, short-term, and temporary in nature. Given the temporary or intermittent nature of the proposed activities, distance to nearby noise-sensitive areas, and the existing noise environment, impacts on sensitive receptors would be negligible to minor. The Proposed Action and present and reasonably foreseeable future actions would adhere to all federal, state, and local noise regulations. Additionally, adhering to standard BMPs listed in **Section 4**, such as maintaining heavy equipment mufflers or other noise attenuation equipment properly and limiting heavy equipment use to normal weekday business hours, noise impacts generated by the Proposed Action and present and reasonably foreseeable future projects would result in only temporary increases in ambient noise levels during construction activities. No other reasonably foreseeable actions would require permanent construction. Increased flight activities would occur at established locations in existing military operating areas and negligible increases in the noise environment are anticipated. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts on sensitive noise receptors or the noise environment at Scott AFB or regionally.

Safety. Installation development at Scott AFB and present and reasonably foreseeable actions on Scott AFB and within the surrounding area would not result in cumulative impacts on health and safety. Adherence to established procedures, including the use of PPE, fencing project areas and posting signs, and compliance with all federal, state, and DoD OSHA standards would reduce or eliminate health and safety impacts on contractors, military personnel, and the general public. These procedures are typical for construction projects on the installation and within the surrounding area. No other reasonably foreseeable actions would require permanent construction. Increased flight activities would occur at established locations in existing military operating areas. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact on health and safety.

Water Resources. Installation development at Scott AFB and present and reasonably foreseeable actions on Scott AFB and within the surrounding area would result in impacts on local and regional water resources on and downstream of the installation. Adverse impacts would result from ground-disturbing activities associated with the Proposed Action and present

and reasonably foreseeable future projects; however, these impacts would be reduced by incorporating LIDs to promote stormwater retention and re-use and implementation of standard BMPs and environmental protection measures. No other reasonably foreseeable actions would require permanent construction. Long-term beneficial impacts would result from improvements to stormwater infrastructure; restoration of flow, minimization of erosion, and reduced severity of flooding/ponding within South Ditch and Silver Creek; reduction in impervious surface from demolition; and enhancement of Cardinal Lake's aquatic habitat.

Construction areas associated with the Proposed Action and present and reasonably foreseeable future projects on the installation and within the surrounding area would require all construction activities, regardless of size, to implement standard BMPs to ensure that stormwater pollutants are contained to the maximum extent practical and do not enter storm drainage systems. Coverage under the NPDES Construction General Permit would be required for all on- or off-installation construction activities over 1 acre as well as implementation of standard BMPs to minimize impacts from sedimentation on water quality and reduce soil erosion and stormwater runoff. Soil disturbance from construction and demolition activities have the potential to result in a minor disruption of natural drainage patterns, contamination of stormwater discharge, and heavy sediment loading. Development of new stormwater drainage systems and upgrade of existing systems would be designed with consideration for the UFC LID requirements, in accordance with Section 438 of EISA, to maintain or restore the natural hydrologic functions of the area.

Accidental spills or leaks of substances such as fuels, oils, and other lubricants could contaminate water resources. All equipment would be maintained according to manufacturer's specifications and all fuels and potentially hazardous materials would be contained and stored appropriately. The potential for contamination to occur would be minimized through the use of secondary containment for the temporary storage of any hazardous materials and other BMPs to prevent or minimize spills or leaks. The Proposed Action and projects presented in **Table 5-1** would be conducted in accordance with environmental considerations, including implementation of stormwater and erosion control as well as water conservation (e.g., using low flow toilets, etc.) measures. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact on water resources

5.2 Unavoidable Adverse Impacts

Unavoidable adverse impacts would result from the installation development projects. None of these impacts would be significant.

Biological Resources. Ground-disturbing activities associated with installation development would result in the loss of vegetation and wildlife habitat. These losses would be unavoidable; however, temporarily disturbed sites would be revegetated with native species following construction to support the native plant community and restore wildlife habitat in the long-term. Vegetation and wildlife habitat within the footprint of new construction would be permanently lost.

***Energy*.** Installation development activities at Scott AFB would require the use of fossil fuels, a non-renewable natural resource, during construction and demolition. The use of non-renewable resources is an unavoidable occurrence, although not considered significant.

Hazardous Materials and Wastes. The use and generation of hazardous materials and wastes during construction and demolition would be unavoidable; however, the hazardous materials and wastes would be handled in accordance with federal, state, and local policies and would not be expected to result in significant impacts.

5.3 Compatibility with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls

The Proposed Action would occur on government-owned lands that USAF operates. The proposed construction and demolition and long-term operations associated with each installation development project would not differ from the current activities occurring at the installation. USAF would continue to follow all requirements related to installation development and would therefore be consistent with current federal, regional, state, and local land use policies and controls. The Proposed Action would not conflict with any applicable off-installation land-use ordinances and would follow all applicable permitting, building, and safety requirements.

5.4 Relationship between Short-Term Uses of the Human Environment and Maintenance and Enhancement of Long-Term Productivity

Short-term uses of the biophysical components of the human environment include direct, project-related disturbances and direct impacts associated with an increase of population and activity that occurs over less than 5 years. Long-term uses of the human environment include those impacts occurring over more than 5 years, including permanent resource loss.

The installation development projects would not require short-term resource uses that would result in long-term compromises of productivity. Although implementation of installation development projects could result in an increase of up to 702,700 ft^2 of impervious surface, it would not result in intensification of land use at Scott AFB or within the surrounding area, as most projects would occur within previously developed or disturbed areas. Therefore, it is anticipated that the Proposed Action would not result in any adverse cumulative impacts on land use or aesthetics

5.5 Irreversible and Irretrievable Commitment of Resources

Irreversible and irretrievable resource commitments are related to the use of non-renewable resources and the impacts that use of these resources would have on future generations. Irreversible impacts primarily result from use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable timeframe. The irreversible and irretrievable commitment of resources that would result from the Proposed Action involve the consumption of material resources used for construction, energy resources, biological

resources, and human labor resources. The use of these resources is considered to be permanent.

Material Resources. Material resources used for the Proposed Action would potentially include concrete and various construction materials and supplies. The materials that would be consumed are not in short supply, would not limit other unrelated construction activities, and would not be considered significant.

Energy Resources. Energy resources, including petroleum-based products (e.g., gasoline and diesel), used for the Proposed Action would be irretrievably lost. During construction and demolition, gasoline and diesel would be used for the operation of vehicles and construction and demolition equipment. Consumption of these energy resources would not place a significant demand on their availability in the region; therefore, less than significant impacts would be expected.

Biological Resources. The Proposed Action would result in a negligible loss of vegetation and wildlife habitat. Most of the losses would be lower quality vegetation and habitat on the airfield or in developed portions of the installation and would not include the Silver Creek riparian corridor, which provides approximately 400 acres or 10 percent of the installation's total area as higher quality vegetation and habitat. Temporarily disturbed sites would be revegetated with native species to support the native plant community in the long-term.

Human Resources. The use of human resources for construction and demolition is considered an irretrievable loss only in that it would preclude such personnel from engaging in other work activities. However, the use of human resources for the Proposed Action represents employment opportunities and is considered beneficial.

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6. List of Preparers

This EA has been prepared by HDR, Inc. and its subcontractor One Stop Environmental, LLC under the direction of USAF personnel. The individuals who contributed to the preparation of this document are as follows.

Michelle Bare
Project Management, Cumulative Impacts, and Technical Reviews
General Studies
Years of Experience: 30

Jeanne Barnes
Cultural Resources
M.A. History
B.A. History
Years of Experience: 12

Timothy Didlake
Project Management, Air Quality, and Technical Reviews
B.S. Earth Sciences
Years of Experience: 11

Kelly Flickinger
Biological Resources
B.S. Wildlife Conservation and Management
Years of Experience: 8

Leigh Hagan
Technical Reviews
M.E.S.M. Environmental Science and Management
B.S. Biology
Years of Experience: 14

Christopher Holdridge
Quality Control
M.S. Environmental Assessment
B.S. Environmental Science/Chemistry
Years of Experience: 21

Abbey Humphreys-Rowe
Geological Resources, Infrastructure, and Land Use
M.S. Biology
B.S. Environmental Biology
B.S. Geospatial Science
Years of Experience: 3

Elizabeth Leclerc
Cultural Resources
B.A. Anthropology
Years of Experience: 10

Kathy Lemberg
Graphics and Mapping
B.A. Anthropology
Years of Experience: 13

Christopher McJetters
Editing
B.S. English
Years of Experience: 12

Darrell Molzan, PE
Quality Control
B.S. Civil Engineering
Years of Experience: 36

Cheryl Myers
Document Formatting
A.A.S. Nursing
Years of Experience: 25

Deborah Peer
Technical Reviews
M.S. Environmental Science and Management
B.S. Zoology
B.S. Wildlife Science
Years of Experience: 18

David Parks (One Stop Environmental)
Hazardous Materials and Wastes and Safety
B.S. Civil Engineering
Years of Experience: 40

Stephen Pyle, Esq.
Program Management
J.D. with Certification in Environmental Law
B.S. Natural Resources Management
Years of Experience: 18

Morgan Shelby
Noise and Water Resources
B.S. Environmental Studies
Years of Experience: 3

Patrick Solomon, CEP
Technical Reviews
M.S. Geography
B.A. Geography
Years of Experience: 25

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A

Stakeholder Consultation and Public Involvement Materials

Notice for Early Public Review

A Notice for Early Public Review was published in the *Belleville News-Democrat* and Scott AFB's newspaper, *Command Post*, on Friday, 11 January 2019, because Projects A2, A3, A4, M2, N2, and N3 coincide with the 100-year floodplain and/or wetlands. The notice, as it appeared in the newspaper, is below. No public comments were received from this notice.

Notice for Early Public Review of a Proposed Action in the 100-Year Floodplain and Wetlands

To: All interested Agencies, Groups, and Individuals

The United States Air Force (USAF) has proposed 15 installation development projects for the next 3 years (i.e., 2019 to 2021) at Scott Air Force Base (AFB), Illinois (IL). The purpose of these installation development projects is to provide the infrastructure and functionality improvements necessary to support the mission of the 375th Air Mobility Wing (375 AMW) and tenant units. Six of the fifteen installation development projects coincide with the 100-year floodplain and/or wetlands. These projects are: A2–Expand Fire Station 3 (floodplain); A3–Construct Airfield Service Road, Preferred Alternative (floodplain); A4–Replace Collapsed Culvert for South Ditch, both alternatives (floodplain and wetland); M2–Repair South Ditch Channel (floodplain and wetland); N2–Remove Log Jams from Silver Creek (floodplain and wetland); and N3–Enhance Aquatic Habitat at Cardinal Lake (floodplain and wetland).

The Proposed Action is subject to the requirements and objectives of Executive Order (EO) 11988, *Floodplain Management*; Clean Water Act sections 401, 404, and 404(b)(1) guidelines; and EO 11990, *Protection of Wetlands*, because these six installation development projects coincide with the 100-year floodplain and/or wetlands. This notice is required by Section 2(a)(4) of EO 11988 and Section 2(b) of EO 11990 and has been prepared and made available to the public by the USAF in accordance with 32 Code of Federal Regulations (CFR) Part 989.24(c) and Air Force Instruction 32-7064, *Integrated Natural Resources Management*, for actions proposed in floodplains or wetlands.

The USAF is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) and the USAF's Environmental Impact Analysis Process to determine whether the installation development projects would result in a significant impact on the human environment. As part of the NEPA public involvement process, the USAF will contact the U.S. Fish and Wildlife Service, IL State Historic Preservation Officer, U.S. Army Corps of Engineers, and local and regional governments, amongst other agencies, for their input on the installation development projects and their impacts on the environment.

Per EO 11988, Section 2(a)(4); EO 11990, Section 2(b); and 32 CFR Part 989.14(l), the USAF requests comments on the Proposed Action described above. The public comment period is from January 11 to February 10, 2019. Submit written comments to 375 AMW Public Affairs Office, 901 South Drive, Building 700, Scott AFB, IL 62225. Telephone calls can be directed to 618-256-4241, and email messages should be sent to 375AMW.PA@us.af.mil.

Section 7 of the Endangered Species Act Consultation

The U.S. Air Force (USAF) consulted with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act because Projects M3, N1, N2, and N3 as well as the Proposed Action of installation development at Scott AFB may affect, but is not likely to adversely affect, the federally listed Indiana bat and northern long-eared bat. The remaining 11 installation development projects would not affect federally listed species. The USFWS concurred with the USAF's determination of effect on 6 June 2019. Separate consultation was completed for Project N1, and the USFWS concurred with the USAF's determination of effect for that project on 6 October 2017. A copy of the consultation letters are on the following pages. Attachments to the letters are saved in the project's Administrative Record. The address for the USFWS office is:

Mr. Matthew Mangan
U.S. Fish and Wildlife Service
Marion Illinois Sub-Office
8588 Route 148
Marion, Illinois 62959

Letter to the USFWS for the Proposed Action of Installation Development

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 375TH AIR MOBILITY WING (AMC)

7 May 2019

Mr. Keith Brumley, USAF
Natural Resources Manager
701 Hangar Road
Building 531
Scott AFB, IL 62225-5035

Mr. Matthew Mangan
U.S. Fish and Wildlife Service
Marion Illinois Sub-Office
8588 Route 148
Marion, IL 62959

Dear Mr. Mangan,

The United States Air Force (Air Force) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act to evaluate the potential environmental impacts associated with 15 installation development projects at Scott Air Force Base (AFB), St. Clair County, Illinois. Pursuant to Section 7 of the Endangered Species Act (ESA) of 1973 (16 USC 1531-1544), the Air Force has determined that these installation development projects *may affect, but is not likely to adversely affect* federally listed species.

Proposed Action

The Air Force has identified and programmed 15 installation development projects (**Table 1**) for the next 3 years (i.e., 2019 to 2021) at Scott AFB, Illinois. The purpose of implementing these installation development projects is to provide the infrastructure and functionality improvements necessary to support the mission of 375 Air Mobility Wing (AMW) and tenant units. The installation development projects are needed to address deficiencies of function and capability in facilities and infrastructure at Scott AFB that result from obsolescence, deterioration, and evolving mission needs. These deficiencies are remedied through an ongoing process of construction of new facilities and infrastructure, renovation of existing facilities, and demolition of redundant or obsolete facilities. Installation development projects are required to allow 375 AMW and its tenant units to successfully complete their missions. **Figure 1** of **Attachment 1** shows the locations of these installation development projects relative to Scott AFB's environmental constraints.

Table 1. Installation Development Projects to be Analyzed in the EA

Project ID	Project Name	Description of Project	Approximate Implementation Year
Airfield District			
A1	Construct Hangar	Construct and operate a new 50,000 ft² aircraft hangar with 72,000 ft² of apron access	2021

1

Project ID	Project Name	Description of Project	Approximate Implementation Year
A2	Expand Fire Station 3	Expand Fire Station 3 (Building #901) by 1,500 ft² and add eight firefighters. Construct 22 parallel parking spaces along McCullough Road.	2020
A3	Construct Airfield Service Road	Construct an airfield service road between the eastern and western sides of the Scott AFB's airfield. New road construction and modification to existing airfield roads and taxiways would be necessary. There are three alternatives routes for the airfield service road under consideration. Up to 5,300 linear feet of new road would be constructed. Up to 2,000 linear feet of existing pavements would be replaced.	2021
A4	Replace Collapsed Culvert for South Ditch	Replace a 700-foot-long section of culvert for South Ditch that has collapsed. The 200 feet of open channel downstream of the collapse would be enclosed in a culvert or graded and lined with riprap.	2020
A5	Airfield Repairs	Replace pavement and upgrade stormwater drainage infrastructure for portions of Taxiways F and G. Rebuild 14 aircraft parking spots on the South Ramp.	2021
Core District			
C1	Construct JOMPC	Construct and operate a Joint Operations and Mission Planning Center. The building would be two stories tall with a footprint of 86,000 ft². The proposed building would occupy the site of four vacant buildings planned for demolition under a separate action. Additional parking would be constructed.	2020
C2	Construct Dormitory	Construct and operate an approximately 48-bed dormitory for unaccompanied personnel within the enlisted dormitory campus. An adjacent parking lot would be enlarged.	2021
C3	Demolish Unnumbered Building at Facility 9020	Demolish the unnumbered building at Facility 9020. This 1,200-ft², vacant building supports an electric substation.	2019
C4	Demolish Building 533	Demolish Building 533. This 9,700-ft² building is being used as a thrift shop and is inside of the civil engineering complex.	2019
Multi-District			
M1	Construct Infiltration Basins	Construct surface and subsurface stormwater infiltration basins to improve stormwater management. Four general locations for the proposed basins are being considered including south and west of Building 1560, south of Building 1600, between Scott Field Heritage Air Park and Golf Course Road, and around the perimeter of Building F-40. Multiple basins could be constructed at each general location.	2020 and 2021
M2	Repair South Ditch Channel	Repair the channel of South Ditch over a 1.0-mile distance by removing debris, stabilizing the walls,	2021

Project ID	Project Name	Description of Project	Approximate Implementation Year
		eliminating unnecessary culverts, and filling the interconnection channel with Ash Creek.	
M3	Airfield Tree Violations	Periodically trim or remove approximately 230 trees located anywhere on Scott AFB to avoid conflicts with the airfield. Replace those trees that are completely removed with new trees at appropriate locations on the installation.	2019 to 2021
Not Districted			
N1	Enhance FAM Camp	Enhance the Family Campground (FAM Camp) by constructing additional recreational vehicle campsites, providing additional utilities to existing campsites, and rebuilding the bathhouse.	2020
N2	Remove Log Jams from Silver Creek	Periodically remove log jams from Silver Creek. Vegetation clearing may be necessary to access the creek.	2019 to 2021
N3	Enhance Aquatic Habitat at Cardinal Lake	Periodically remove aquatic vegetation, dredge sediment, replace the aeration system, install brush piles, and stock Cardinal Lake with appropriate fish.	2019 to 2021

Of the 15 proposed installation development projects, 11—A1, A2, A3, A4, A5, C1, C2, C3, C4, M1, and M2—occur within highly developed or disturbed vegetation that provides little to no suitable or marginal habitat for federally listed species (see **Figure 1** in **Attachment 1**). Nearly 90 percent of Scott AFB is developed or routinely managed (i.e. improved areas). Common turf or landscaped species include ryegrasses (*Lolium* sp.), bluegrass (*Poa* sp.), zoysia (*Zoysia* sp.), and creeping bent grass (*Agrostis palustris*). Other common naturalized grasses observed in the semi-improved portions of the installation include foxtail barley (*Hordeum jubatum*), foxtail (*Setaria glauca*), and smooth brome (*Bromus inermis*). The invasive Johnson grass (*Sorghum halepense*) is also abundant on the installation. Common landscape shrubs used across the installation include hollies (*Ilex* spp.), viburnums (*Viburnum* spp.), yew (*Taxus* spp.), juniper (*Juniperus* spp.), American arborvitae (*Thuja occedentalis*), burning bush (*Euonymus atropurpureus*), and forsythia (*Forsythia forsythia*). Common large landscape trees include red maple (*Acer rubrum*) eastern white pine (*Pinus strobus*), green ash (*Fraxinus pennsylvanica*), Norway maple (*Acer platanoides*), and red oak. Small-to-medium landscape trees include juniper, crab apple (*Malus* spp.), hawthorns (*Crataegus* spp.), eastern redbud (*Cercis canadensis*), and Bradford pear (*Pyrus calleryana*).

Four of the installation development projects—M3, N1, N2, and N3—occur on forested habitat present on Scott AFB (see **Figures 1** through **4** in **Attachment 1**). The forested habitat occurs along the northeastern portion of Scott AFB. The bottomland forests at Scott AFB are excellent representations of Cottonwood-Elm-Ash hardwood forests of the north-central United States. The dominant tree species in this forest type include box elder (*Acer negundo*), silver maple (*Acer saccharinum*), green ash (*Fraxinus pennsylvanica*), and American elm (*Ulmus americana*). Cottonwoods (*Populus* spp.) are common but are not one of the dominant species. Pawpaw (*Asimina triloba*) and rough-leaved dogwood (*Cornus drummondii*) are locally abundant in portions of the bottomland forest. Dominant forbs include Ontario aster (*Aster ontarionis*), various sedges (*Carex* spp.), honewort (*Cryptotaenia canadensis*), wood nettle (*Laportea canadensis*), clearweed (*Pilea pumila*), and swamp buttercup (*Ranunculus septentrionalis*). Dominant grasses include wild rye (*Elymus virginicus*), southern cutgrass (*Leersia hexandra*), and Virginia cutgrass (*L. virginica*).

Threatened, Endangered, and Candidate Species and Critical Habitat

The 2015 Scott AFB Integrated Natural Resource Management Plan (INRMP) and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation System (IPaC) (**Attachment 2**) were reviewed to determine if any federally listed species potentially occur in the vicinity of the installation development projects. The IPaC listed three species not included in the 2015 INRMP including, the Illinois cave amphipod (*Gammarus acherondytes*), pallid sturgeon (*Scaphirhynchus albus*), and least tern (*Sterna antillarum*). These species would not occur on Scott AFB due to the lack of suitable habitat for each of the three species. The following four federally listed species have the potential to occur on Scott AFB (**Table 2**).

Table 2. Federally Listed Species with the Potential to Occur on Scott AFB

Species	Status	Preferred Habitat
Mammals		
Indiana bat (*Myotis sodalist*)	E	Habitat for this species consists of wooded or semi-wooded areas, often but not always along streams. Solitary females or small maternity colonies bear their offspring in hollow trees or under loose bark of living or dead trees
Northern long-eared bat (*Myotis septentrionalis*)	T	Habitat for this species is old-growth forests composed of trees 100 years old or older. It relies on intact interior forest habitat with low edge-to-interior ratios. Forest features include a high percentage of old trees, uneven forest structure, single and multiple tree-fall gaps, standing snags, and woody debris. Foraging occurs within forests, along forest edges, over forest clearings, and occasionally over ponds.
Plants		
Decurrent false aster (*Boltonia decurrens*)	T	Occurs on sunlit floodplains and open wetlands.
Eastern prairie fringed orchid (*Platanthera leucophaea*)	T	Occurs in open wetlands.

Notes: E = Endangered; T = Threatened

The endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) have been documented on Scott AFB in recent years. Indiana bats were observed on Scott AFB during surveys conducted in 2001, 2007, 2009, and 2014 along Silver Creek in the eastern portion of the installation. The northern long-eared bat was detected along Silver Creek in 2014 during mist netting and call surveys. The Silver Creek floodplain and bottomland riparian forest at Scott AFB provide adequate roosting and foraging habitat for a number of bat species. Additionally, five maternity roost trees were identified within the Silver Creek bottomland forest via radio-telemetry.

Suitable habitat for the federally listed decurrent false aster (*Boltonia decurrens*) and eastern prairie fringed orchid (*Platanthera leucophaea*) is extremely limited on the installation. Surveys were conducted in 2001 and 2005 within annually disturbed mudflats along Silver Creek. No individuals were observed. As a result of these surveys, the decurrent false aster and eastern prairie fringed orchid are unlikely to be present though an extremely limited distribution of marginal habitat is present.

The Proposed Action *may affect, but is not likely to adversely affect* federally listed species. As mentioned early, the majority of the proposed installation development projects occur in highly developed or previously and routinely disturbed habitat. Because of the lack of suitable habitat for federally listed species, 11 of the installation development projects would not affect federally listed species. Four projects occur in bottomland forest along Silver Creek—M3, N1, N2, and N3. These projects are not

likely to adversely affect federally listed species. The federally listed Indiana bat and northern long-eared bat would temporarily avoid the area during the activities associated with these projects due to a temporary increase in human presence and noise levels. Listed species would likely return to the area once activities are completed. Furthermore, to minimize impact on protected bats, project-related activities, including tree removal, would occur between 1 October and 31 March to avoid the active season for many species. Trees that are completely removed would be replaced with new trees at appropriate locations on the installation. Scott AFB has previously consulted with the USFWS on Project N1, and the USFWS concurred on 6 October 2017 that that project is not likely to adversely affect the Indiana bat and northern long-eared bat.

Therefore, the Air Force has determined the Proposed Action of installation development at Scott AFB *may affect, but is not likely to adversely affect*, federally listed species on Scott AFB. We request written concurrence with our determination as part of the informal consultation process. If you have any questions or concerns, please contact me by sending correspondence to my address provided above, by phone at 618-256-9441, or by email at keith.brumley@us.af.mil. Thank you in advance for your assistance in this effort.

5/7/2019

X Keith Brumley

Keith Brumley
Natural Resources Manager
Signed by: BRUMLEY.KEITH.JAMES.1091945793

Attachments:
1. Maps of the Installation Development Projects
2. USFWS IPaC Species List (Consultation Code: 03E18000-2019-SLI-0393)

Concurrence from the USFWS for the Proposed Action of Installation Development

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Southern Illinois Sub-Office (ES)
8588 Route 148
Marion, Illinois 62959

FWS/SISO

June 6, 2019

Mr. Keith Brumley, USAF
Natural Resources Manager
701 Hangar Road
Building 531
Scott AFB, Illinois 62225-5035

Dear Mr. Brumley:

Thank you for your letter dated May 7, 2019, requesting review of the 15 proposed installation development projects at Scott Air Force Base (AFB), St. Clair County, Illinois. These comments are provided under the authority of and in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*); and, the National Environmental Policy Act (83 Stat. 852, as amended P.L. 91-190, 42 U.S.C. 4321 et seq.).

Threatened and Endangered Species

To facilitate compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, Federal agencies are required to obtain from the Fish and Wildlife Service (Service) information concerning any species, listed or proposed to be listed, which may be present in the area of the proposed project. The list for the proposed project area includes the endangered Indiana bat (*Myotis sodalis*), endangered least tern (*Sterna antillarum*), endangered Illinois cave amphipod (*Gammarus acherondytes*), endangered pallid sturgeon (*Scaphirhynchus albus*), threatened decurrent false aster (*Boltonia decurrens*), threatened eastern prairie fringed orchid (*Platanthera leucophaea*), and threatened northern long-eared bat (*Myotis septentrionalis*). There is no designated critical habitat in the project area at this time.

Information in your letter indicates that suitable habitat does not exist in the project area for the Illinois cave amphipod, least tern and pallid sturgeon and that the decurrent false aster and eastern prairie fringed orchid are not known to occur within the project area. Based on the information provided, the Service concurs that the proposed project is not likely to adversely affect any of these species. Information in your letter indicates that eleven of the proposed projects are located in highly developed or disturbed areas and that only four of the projects may impact potential habitat for listed species. The four projects M3, N1, N2, and N3 are located in forested habitat and tree clearing may be required. Any necessary tree clearing would occur

between October 1 and March 31 to avoid direct impacts to the Indiana bat and northern long-eared bat. In addition, any trees removed would be replaced during future projects. Based on the minimal amount of habitat proposed to be impacted and proposed tree clearing dates, the Service concurs that the proposed project is not likely to adversely affect the Indiana bat and northern long-eared bat. Should this project be modified or new information indicate listed or proposed species may be affected, consultation or additional coordination with this office, as appropriate, should be initiated.

Fish and Wildlife Resources

The Service recommends that an invasive species control plan be developed for project areas where vegetation disturbance is being proposed.

Thank you for the opportunity to review and comment on the proposed projects. For additional coordination, please contact me at 618-998-5945.

Sincerely,

/s/ Matthew T. Mangan

Matthew T. Mangan
Fish and Wildlife Biologist

Letter to the USFWS and Concurrence for Project N1

DEPARTMENT OF THE AIR FORCE
375TH CIVIL ENGINEER SQUADRON (AMC)
SCOTT AIR FORCE BASE, ILLINOIS 62225-5035

27 Sep 2017

Keith Brumley
SAFB Environmental Section
Bldg 531, 701 Hangar Road
Scott Air Force Base, IL 62225

Matthew Mangan
U.S. Fish and Wildlife Service
Marion Illinois Sub-Office
8588 Route 148
Marion, Illinois 62959

Mr. Mangan,

Requesting U.S. Fish and Wildlife Service concurrence that the proposed removal and cutback of habitat trees within fifteen feet of paved portions of the Family Recreation Camp is not likely to impact overall habitat of the Indiana bat, Myotis sodalis or Northern Long-eared Bat Myotis septenrionalis.. The Family Recreation Camp is adjacent to the jurisdictional wetlands containing roost tree locations at Scott AFB, St. Clair County, Illinois.

The proposed project is to remove/trim trees with fifteen feet of paved trailer pads and access roads. Dead and overgrown trees are a safety hazard to campers and can damage campers. Project work would be done between 01 Oct and 01 Apr.

The Indiana Bat and the Northern Long-eared Bat have been identified as potentially present in the project area. The project location is outside any designated critical habitat for these species. Suitable summer roosting and/or foraging habitat may exist in or near the project area, but since work will take place between Oct 1 and April 30, the work is considered not likely to adversely affect either species. Noise disturbance of roosting bats is unlikely to occur due to the timing of the work.

There is no suitable habitat in the project area for the Least Tern, Sterna antillarum, Pallid Sturgeon, Scaphirhynchus albus, Illinois Cave Amphipod, Gammarus acherondytes, Decurrent False Aster, Boltonia decurrens, Eastern Prairie Fringed Orchid, Platanthera leucophaea.

The project is not likely to adversely affect the Indiana Bat or Northern Long-eared Bat at Scott AFB. Your concurrence is requested.

CONNECT - ENGAGE - SUPPORT

3/27/2017

X Keith Brumley

Keith Brumley
Natural Resources Manager
Signed by: BKUMLEY.KEITH.JAMES.1091945793

Concurrence Provided
U.S. Fish and Wildlife Service
Marion, Illinois

10/5/17

Fish and Wildlife Biologist **Date**

[[Preparer's Note: Consultations with the Illinois State Historic Preservation Officer and Native American tribes are underway. This appendix will be updated to reflect the results of these consultations.]]

Section 106 of the National Historic Preservation Act Consultation

The USAF consulted with the Illinois Historical Preservation Officer (SHPO) to request concurrence that the Proposed Action of installation development at Scott AFB would have no adverse effect on historic properties under Section 106 of the National Historic Preservation Act. The SHPO's concurrence of the USAF's determination of no adverse effect is pending. Separate consultation was completed for Projects C3 and C4, and the SHPO concurred on 18 April 2019 that the demolition of Buildings 533 and 9020 would have no adverse effect on historic properties. A copy of the consultation letters are on the following pages. Attachments to the letters are saved in the project's Administrative Record. The address for the SHPO office is:

Illinois Historic Preservation Office
Illinois Department of Natural Resources
ATTN: Review and Compliance, Mr. Robert Appleman
1 Old State Capital Plaza
Springfield, Illinois 62701-1512

Letter to the Illinois SHPO for the Proposed Action of Installation Development

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 375TH AIR MOBILITY WING (AMC)

28 June 2019

Mr. Mark E. McCoy, USAF
P2/Cultural Resources Manager
701 Hangar Road
Building 531
Scott AFB, IL 62225-5035

State Historic Preservation Office
Illinois Dept. of Natural Resources
Attn: Review and Compliance
Mr. Robert Appleman
1 Old State Capital Plaza
Springfield, IL 62701-1512

Dear Mr. Appleman,

The United States Air Force (Air Force) has identified and programmed 15 installation development projects for the next 3 years (i.e., 2019 to 2021) at Scott Air Force Base (AFB), Illinois. To take into account various environmental concerns, the Air Force is engaging early with the appropriate resource and regulatory agencies as it formulates the undertaking. The Air Force is also preparing an Environmental Assessment (EA) under the National Environmental Policy Act to evaluate potential environmental impacts associated with the 15 installation development projects.

In accordance with Section 306108 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, Scott AFB is advising you that the 15 proposed installation development projects constitute an Air Force undertaking with the potential to affect historic properties. The undertaking would require construction, repair, maintenance, and removal of infrastructure and facilities to support the Scott AFB mission. **Attachment 1** provides information about each installation development project included in the undertaking. The projects occur throughout the installation, and one programmatic project to remove trees that obstruct airfield visibility or safety (Project M3) could occur anywhere on the installation. The Area of Potential Effects (APE) for this undertaking is therefore defined as the Scott AFB installation boundary (**Attachment 2**). Please note that Scott AFB recently consulted with your office regarding two of these projects that would demolish Buildings 533 and 9020, resulting in a determination of no objection of the undertaking proceeding as planned (SHPO Log #s 016032019 and 015032019, respectively).

Scott AFB has conducted both archaeological and architectural surveys within the APE and has identified two historic properties: the Scott Field Historic District and Building 3200, which is a snow barn. The Scott Field Historic District contains the largest concentration of buildings constructed before 1946 on the installation. The district contains 102 contributing features (mainly buildings) and 10 non-contributing features. Previous archaeological studies on the installation have identified 15 archaeological sites on or partially on the installation, of which 13 have been evaluated as not eligible for listing in the National Register of Historic Places and 2, which are primarily outside the installation boundary, have not been evaluated. An archaeological assessment conducted by the National Park Service in 1992 concluded that three areas (Survey Units 3, 4, and 10) have low to moderate potential for archaeological sites whereas the remainder of the installation was determined not to contain intact archaeological properties due to extensive previous

disturbance associated with base construction and historic development. The Illinois SHPO concurred with these conclusions in a letter dated March 23, 1993 (IHPA Log #9030111011c-S).

Scott AFB has reviewed the Criteria of Adverse Effect and has determined that none apply to the activities that would be carried out in this undertaking. Although three projects (i.e., Projects C1, M1-4, and M3) would occur in or adjacent to the Scott Field Historic District, it was determined that none of these projects would alter the district's character defining features such that they would diminish the integrity of the district or its contributing resources. Scott AFB would ensure that projects within the district would adhere to its Historic Buildings Maintenance Plan. All of the projects except Projects M3 and N2 would occur in developed or previously disturbed areas that do not have potential for intact archaeological properties. Project M3 could occur anywhere in the installation and would involve ground disturbance to remove tree stumps; however, hazard trees in areas with low to medium archaeological potential would be cut at the ground level and no ground disturbance would occur. Project N2 would remove log jams in Silver Creek and could involve limited ground disturbance in and along the creek's banks. The Silver Creek floodplain, constituting Survey Unit 10, was determined to have low potential for intact archaeological properties. Previous surveys along the creek have not identified sites within this project's potential disturbance areas. Scott AFB would adhere to its standard operating procedures for inadvertent discoveries in the event of such a discovery. More detail about Scott AFB's application of Scott AFB's assessment of effects is provided in **Attachment 3**.

Scott AFB has determined the installation development undertaking would have no adverse effect on historic properties provided that the following conditions are met: 1) adherence to the Scott AFB Historic Building Maintenance Plan; 2) avoidance of ground disturbance when removing hazard trees in areas of low to medium archaeological potential (Survey Units 3, 4, and 10); and 3) adherence to Scott AFB's standard operating procedures for inadvertent discoveries. The Air Force remains responsible for ensuring successful implementation of the required conditions.

We request your comment and/or concurrence on the finding of *No Adverse Effect*. If we do not receive your comments and/or concurrence within the required 30 days we will assume concurrence and proceed with the undertaking as described. Please contact me by sending correspondence to my address provided above, by phone at 618-256-9441, or by email at mark.mccoy.1@us.af.mil if you have any questions.

Sincerely,

MARK MCCOY, USAF
P2/Cultural Resources Manager

Attachments:
1. Description of the Installation Development Undertaking
2. Area of Potential Effects
3. Assessment of Effects

Letter to the Illinois SHPO for Project C3

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 375TH AIR MOBILITY WING (AMC)

Department of the Air Force
375 CES/CEIEC
701 Hangar Road, Bldg. 531
Scott AFB, IL 62225-5035

15 March 2019

Illinois Historic Preservation Office
Illinois Department of Natural Resources
ATTN: Review and Compliance
Mr. Robert Appleman
1 Old State Capital Plaza
Springfield, IL 62701

RE: Demolition of Building 9020

Dear Ms. Leibowitz:

The 375th Civil Engineer Squadron (375 CES) request consultation regarding proposed federal undertaking demolition of Building 9020, Electrical Substation in accordance with 36 CFR 800. Bldg. 9020 is a one-story brick, rectangular plan building. The buiding has a gable roof of slate, concrete foundation, and exterior of five-course common brick. The building has original steel and wire glass windows and circa 1970 steel doors. In the gabled fields are louvered vent windows.

Building 9020 was completed in 1941 to serve as an electrical substation for the base. The building is located adjacent to a fenced area of transformers and electrical equipment. The building was completed 25 January 1941 at a cost of $20,000.00 as part of the base expansion program. The building continues to be used as an electrical substation for the base. Bldg. 9020 is located outside of the Scott Field Historic District in the northern section of the base.

In accordance with the *Inventory and Evaluation of Historic Buildings and Structures on Scott Air Force Base, Illinois*, dated June 1992, the building does not posess architectural or historical significance and is located approximately 1,500 feet north from a facility with any historical significance (Bldg. 160). Scott AFB is intending to demolish the facility and return the area to green space.

The federal undertaking will consist of remediating the facility of any known or unknown asbestos and lead based paint prior to the demolition effort.

ENABLING COMBAT POWER

We feel the proposed effort will not have an adverse effect to any historic facility and will not have any adverse effect on the overall historic district. If you should have any questions concerning this proposed request, please feel free to call me at (618) 256-9441.

Sincerely,

Mark E. McCoy, P.G.
Conservation Management

Attachment:
Pictures (5)

Concurrence from the Illinois SHPO for Project C3

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Illinois Department of **Natural Resources**

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov Mailing Address: 1 Old State Capitol Plaza, Springfield, IL 62701

JB Pritzker, Governor
Colleen Callahan, Director

FAX (217) 524-7525

St. Clair County
Scott Air Force Base
Demolition
Building 9020
SHPO Log #015032019

April 18, 2019

Mark McCoy
Department of the Air Force
375 CES/CEIEC
701 Hangar Road - Bldg. 531
Scott AFB, IL 62225-5035

Dear Mr. McCoy:

We have reviewed the documentation submitted for the referenced project in accordance with 36 CFR Part 800.4. Based upon the information provided, no historic properties are affected. We, therefore, have no objection to the undertaking proceeding as planned.

Please retain this letter in your files as evidence of compliance with section 106 of the National Historic Preservation Act of 1966, as amended. This clearance remains in effect for two years from date of issuance. It does not pertain to any discovery during construction, nor is it a clearance for purposes of the Illinois Human Skeletal Remains Protection Act (20 ILCS 3440).

If you have any further questions, please call 217/782-4836.

Sincerely,

Robert F. Appleman
Deputy State Historic
Preservation Officer

Letter to the Illinois SHPO for Project C4

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 375TH AIR MOBILITY WING (AMC)

Department of the Air Force
375 CES/CEIEC
701 Hangar Road, Bldg. 531
Scott AFB, IL 62225-5035

15 March 2019

Illinois Historic Preservation Office
Illinois Department of Natural Resources
ATTN: Review and Compliance
Mr. Robert Appleman
1 Old State Capital Plaza
Springfield, IL 62701

RE: Demolition of Building 533

Dear Ms. Leibowitz:

The 375th Civil Engineer Squadron (375 CES) request consultation regarding proposed federal undertaking demolition of Building 533, Airman's Attic, in accordance with 36 CFR 800. Bldg. 533, constructed in 1942, is a one-story, gabled frame structure on concrete piers clad in painted, insulated, corrugated, metal siding. The wooden floor is raised, and entrances have both concrete or wooden steps and platforms in front. The roofing is asphalt shingles covered by a rolled roofing material. There is a shed-roofed addition with a separate entrance at grade on the south elevation. The north face of the building hass the mail entrance at right (wooden placement door) and three windows openings to the left. The east elevation has one entrance and two loading bays arranged irregularly. The window openings retain wooden casements and single wooden, double-hung, one-over one sash behind anodized aluminum storm windows.

Building 533 was completed on 3 September 1942 at a cost of $18,411.00. This was one of several semi-permanent office and administrative buildings built in the cantonment south of the core of the base durning World War II base expansion. The building was built as a warehouse and has remained in continuous use. The original cement asbestos tile was replaced with painted, insulated metal siding, and architectural integrity is lost. In accordance with the *National Register of Historic Places Evaluation of Historic Buildings, Structures, And Cemeteries at Scott Air Force Base, Illinois*, dated December 2011, the building does not posess architectural or historical significance and is located approximately 260 feet southeast from a facility with any historical significance (Bldg. 670). Building 533 is not located within the Scott Air Force Base Historic District, St. Clair County, IL, and is currently being used for storage, office space, and clothing resale. Scott AFB is intending to demolish the facility and return the area to green space.

The federal undertaking will consist of remediating the facility of any known or unknown asbestos and lead based paint prior to the demolition effort.

ENABLING COMBAT POWER

We feel the proposed effort will not have an adverse effect to any historic facility and will not have any adverse effect on the overall historic district. If you should have any questions concerning this proposed request, please feel free to call me at (618) 256-9441.

Sincerely,

Mark E. McCoy, P.G.
Conservation Management

Attachment:
Pictures (6)

Concurrence from the Illinois SHPO for Project C4

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov Mailing Address: 1 Old State Capitol Plaza, Springfield, IL 62701

JB Pritzker, Governor
Colleen Callahan, Director

FAX (217) 524-7525

St. Clair County
Scott Air Force Base
Demolition
Building 533
SHPO Log #016032019

April 18, 2019

Mark McCoy
Department of the Air Force
375 CES/CEIEC
701 Hangar Road - Bldg. 531
Scott AFB, IL 62225-5035

Dear Mr. McCoy:

We have reviewed the documentation submitted for the referenced project in accordance with 36 CFR Part 800.4. Based upon the information provided, no historic properties are affected. We, therefore, have no objection to the undertaking proceeding as planned.

Please retain this letter in your files as evidence of compliance with section 106 of the National Historic Preservation Act of 1966, as amended. This clearance remains in effect for two years from date of issuance. It does not pertain to any discovery during construction, nor is it a clearance for purposes of the Illinois Human Skeletal Remains Protection Act (20 ILCS 3440).

If you have any further questions, please call 217/782-4836.

Sincerely,

Robert F. Appleman
Deputy State Historic
Preservation Officer

Native American Tribal Consultation

The USAF contacted the following 19 Native American tribes identified as having historical affiliation with the Scott AFB geographic region in letters dated 28 June 2019.

- Citizen Potawatomi Nation of Oklahoma
- Eastern Shawnee Tribe of Oklahoma
- Kaw Nation
- Kickapoo Tribe of Indians in Kansas
- Kickapoo Tribe of Oklahoma
- Match-E-Be-Nash-She-Wish Band of Potawatomi Indians of Michigan
- Miami Tribe of Oklahoma
- Omaha Tribe of Nebraska
- Osage Nation of Oklahoma
- Ottawa Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Ponca Tribe of Nebraska
- Ponca Tribe of Oklahoma
- Prairie Band of Potawatomi Nation
- Quapaw Tribe of Indians
- Sac and Fox Nation of Missouri in Kansas and Nebraska
- Sac and Fox Nation of Oklahoma
- Sac and Fox Tribe of the Mississippi in Iowa.

The letters notified the tribes of the Proposed Action and invited them to consult and participate in the Section 106 process. An example letter sent by the USAF to the tribes is on the following pages. All of the letters and the attachments to the letters are saved in the project's Administrative Record. Responses provided by the tribes will be added to this appendix as they are received. The individuals and addresses contacted are as follows:

Mr. John Barrett, Chairman
Citizen Potawatomi Nation of Oklahoma
1601 S. Gordon Cooper Drive
Shawnee, Oklahoma 74801

Ms. Kelli Mosteller, THPO
Citizen Potawatomi Nation of Oklahoma
1601 S. Gordon Cooper Drive
Shawnee, Oklahoma 74801

Ms. Glenna J. Wallace, Chief
Eastern Shawnee Tribe of Oklahoma
P.O. Box 350
Seneca, Missouri 64865

Mr. Brett Barnes, THPO
Eastern Shawnee Tribe of Oklahoma
12705 E 705 Road
Wyandotte, Oklahoma 74370

Ms. Lynn Williams Dunson, Chairperson
Kaw Nation
P.O. Box 50
Kaw City, Oklahoma 74641-0050

Ms. Crystal Douglas, Director
Historic Preservation
Kaw Nation
P.O. Box 50
Kaw City, Oklahoma 74641-0050

Mr. Lester Randall, Chairman
Kickapoo Tribe of Indians in Kansas
824 111th Drive
Horton, Kansas 66439

Mr. Fred Thomas, Vice Chair
Kickapoo Tribe of Indians in Kansas
824 111th Drive
Horton, Kansas 66439

Mr. David Pacheco, Chairman
Kickapoo Tribe of Oklahoma
P.O. Box 70
Mcloud, Oklahoma 74851

Mr. Kent Collier, THPO
Kickapoo Tribe of Oklahoma
P.O. Box 70
Mcloud, Oklahoma 74851

Mr. Frank Barker, Language and Cultural Director
Match-E-Be-Nash-She-Wish Band of
Potawatomi Indians of Michigan
3556 26th Street
Hopkins, Michigan 49328

Mr. Scott Sprague, Chairperson
Match-E-Be-Nash-She-Wish Band of
Potawatomi Indians of Michigan
2872 Mission Drive
Shelbyville, Michigan 49344

Mr. Douglas Lankford, Chief
Miami Tribe of Oklahoma
P.O. Box 1326
Miami, Oklahoma 74355

Ms. Diane Hunter, THPO
Miami Tribe of Oklahoma
P.O. Box 1326
Miami, Oklahoma 74355

Mr. Michael Wolfe, Chairman
Omaha Tribe of Nebraska
P.O. Box 368
Macy, Nebraska 68039

Mr. Thomas Parker, THPO
Omaha Tribe of Nebraska
P.O. Box 368
Macy, Nebraska 68039

Mr. Geoffrey Standing Bear, Principal Chief
Osage Nation of Oklahoma
P.O. Box 779
Pawhuska, Oklahoma 74056

Ms. Andrea Hunter, Ph.D., THPO
Osage Nation of Oklahoma
627 Grandview Avenue
Pawhuska, Oklahoma 74056

Ms. Ethel E. Cook, Chief
Ottawa Tribe of Oklahoma
P.O. Box 110
Miami, Oklahoma 74354

Ms. Rhonda Hayworth, THPO
Ottawa Tribe of Oklahoma
13 S 69A
Miami, Oklahoma 74354

Mr. Craig Harper, Chief
Peoria Tribe of Indians of Oklahoma
P.O. Box 1527
Miami, Oklahoma 74355

Mr. Logan Pappenfort, THPO
Peoria Tribe of Indians of Oklahoma
P.O. Box 1527
Miami, Oklahoma 74355

Mr. Matthew Wesaw, Chairperson
Pokagon Band of Potawatomi Indians
P.O. Box 180
Dowagiac, Michigan 49047

Mr. Marcus Winchester
Director of Language & Culture
Pokagon Band of Potawatomi Indians
59291 Indian Lake Road
Dowagiac, Michigan 49047

Mr. Larry Wright Jr., Chairman
Ponca Tribe of Nebraska
P.O. Box 288
Niobrara, Nebraska 68760

Mr. Shannon Wright, THPO
Ponca Tribe of Nebraska
P.O. Box 288
Niobrara, Nebraska 68760

Mr. Douglas Rhodd, Chairman
Ponca Tribe of Oklahoma
20 White Eagle Drive
Ponca City, Oklahoma 74601

Mr. Halona Cabe, THPO
Ponca Tribe of Oklahoma
20 White Eagle Drive
Ponca City, Oklahoma 74601

Ms. Liana Onnen, Chairperson
Prairie Band of Potawatomi Nation
16281 Q Road
Mayetta, Kansas 66509

Mr. Thomas Wabnum, THPO
Prairie Band of Potawatomi Nation
16281 Q Road
Mayetta, Kansas 66509

Mr. John Berrey, Chairman
Quapaw Tribe of Indians
P.O. Box 765
Quapaw, Oklahoma 74364

Mr. Everett Bandy, THPO
Quapaw Tribe of Indians
P.O. Box 765
Quapaw, Oklahoma 74364

Ms. Tiauna Carnes, Chairperson
Sac and Fox Nation of Missouri in Kansas and Nebraska
305 N. Main Street
Reserve, Kansas 66434

Ms. Rita Bahr, Secretary
Sac and Fox Nation of Missouri in Kansas and Nebraska
305 N. Main Street
Reserve, Kansas 66434

Ms. Kay Rhoads, Chief
Sac and Fox Nation of Oklahoma
920883 S. Highway 99 Bldg. A
Stroud, Oklahoma 74079

Ms. Audrey Rose Lee, Second Chief
Sac and Fox Nation of Oklahoma
920883 S. Highway 99 Bldg. A
Stroud, Oklahoma 74079

Mr. Anthony Waseskuk, Chairperson
Sac and Fox Tribe of the Mississippi in Iowa
349 Meskwaki Road
Tama, Iowa 52339-9629

Mr. Johnathan L. Buffalo,
Historic Preservation Director
Sac and Fox Tribe of the Mississippi in Iowa
349 Meskwaki Road
Tama, Iowa 52339-9629

Example letter to a Native American tribe

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 375TH AIR MOBILITY WING (AMC)

28 June 2019

Mr. Mark E. McCoy, P.G.
P2/Cultural Resources Manager
701 Hangar Road
Building 531
Scott AFB, IL 62225-5035

Mr. John Barrett, Chairman
Citizen Potawatomi Nation of Oklahoma
1601 S Gordon Cooper Drive
Shawnee, OK 74801

Dear Chairman Barrett,

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act to evaluate potential environmental impacts associated with 15 installation development projects at Scott Air Force Base (AFB), Illinois. Per Section 306108 of the National Historic Preservation Act (NHPA) of 1966, as amended, and 36 CFR Part 800, *Protection of Historic Properties*, the USAF is engaging early with tribal governments as it formulates the undertaking.

As part of the proposed undertaking, the installation development undertaking would require construction, repair, maintenance, and removal of infrastructure and facilities to support the Scott AFB mission. **Attachment 1** provides information about each installation development project included in the undertaking. The projects occur throughout the installation, and one programmatic project to remove trees that obstruct airfield visibility or safety (Project M3) could occur anywhere on the installation. The Area of Potential Effects (APE) for this undertaking is therefore defined as the Scott AFB installation boundary (**Attachment 2**).

NHPA requires that federal agencies consult with tribes when an agency action might affect historic properties of religious and cultural significance to the tribes. Historic properties include archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural properties and landscapes, plant and animal communities, and buildings and structures with significant tribal association. Scott AFB does not know of any historic properties of religious and cultural significance to the Citizen Potawatomi Nation of Oklahoma on the installation. Nevertheless, to help us fulfill our obligation, I ask for your assistance in identifying any such properties of which we may be unaware, particularly those which may be affected by the proposed installation development undertaking. Previous archaeological surveys have identified seven sites on Scott AFB with pre-Contact Native American components. One of these, which is largely off of the installation, is unevaluated for listing in the National Register, whereas the rest have been evaluated as not eligible. None of these known sites occur near the proposed installation development projects. Scott AFB has also identified three areas of the installation with low to moderate potential for archaeological resources. The rest of the installation was determined to have had extensive disturbance associated with historic military construction and development and has extremely low potential for intact archaeological properties.

Please respond below whether you will be providing information or would like to consult on this undertaking. Your response applies only to providing information and consultation under the NHPA for

ENABLING RAPID GLOBAL MOBILITY

this undertaking. It will not affect the handling or disposition of human remains, funerary objects, sacred objects, or objects of cultural patrimony under the Native American Graves Protection and Repatriation Act. In the event such items are discovered, we will contact you regarding their handling and disposition.

If you have any questions, please contact me by sending correspondence to my address provided above, by phone at 618-256-9441, or by email at mark.mccoy.1@us.af.mil. Thank you in advance for your assistance in this effort.

Sincerely,

MARK MCCOY, P.G.
P2/Cultural Resources Manager

Attachments:
1. Description of the Installation Development Undertaking
2. Area of Potential Effects

The Citizen Potawatomi Nation of Oklahoma has determined that:

- ☐ Historic properties of religious and cultural significance to the Citizen Potawatomi Nation of Oklahoma are not present on Scott AFB or within the project's APE, and therefore consultation is not required at this time.
- ☐ Historic properties of religious and cultural significance to the Citizen Potawatomi Nation of Oklahoma are present on Scott AFB, but consultation is not required at this time because the properties will not be affected by the installation development projects.
- ☐ Historic properties of religious and cultural significance to the Citizen Potawatomi Nation of Oklahoma are present on Scott AFB or within the project's APE, and the tribe desires to consult on this project.

Other: _____

_____

_____

_____

Signature

_____

Position

Stakeholder Distribution List

The USAF distributed the Draft EA and Draft Finding of No Significant Impact/Finding of No Practicable Alternative (FONSI/FONPA) to relevant federal, state, and local government agencies for a 30-day review period. The list of federal, state, and local government agencies contacted as part of this distribution is below. The comments provided by these agencies will be considered and addressed, as appropriate, in the EA.

Federal Agency Contacts

U.S. Army Corps of Engineers
St. Louis District
Regional Planning and Environmental Division
1222 Spruce Street
St. Louis, Missouri 63103-2822

U.S. Environmental Protection Agency, Region 5
NEPA Implementation Section
Mr. Ken Westlake
77 W. Jackson Blvd.
Mail Code E-19J
Chicago, Illinois 60604

State Agency Contacts

Illinois Department of Natural Resources
Office of Realty and Environmental Planning
1 Natural Resources Way
Springfield, Illinois 62702-1271

Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

Local Agency Contacts

St. Clair County Building and Zoning Department
10 Public Square, 5th Floor
Belleville, Illinois 62220

St. Clair County Economic Development Department
Mr. Rick Stubblefield
10 Public Square, Room A-300
Belleville, Illinois 62220

Local Agency Contacts (continued)

St. Clair County Engineering Department
Mr. Norman Etling, P.E.
County Engineer
1415 North Belt West
Belleville, Illinois 62226-5999

City of Mascoutah
Economic Development Department
Mr. Mike Bolt
Assistant City Manager
3 West Main Street
Mascoutah, Illinois 62258

City of O'Fallon
Community Development Department
Mr. Ted K. Shekell, AICP
Community Development Director
255 South Lincoln, 2nd Floor
O'Fallon, Illinois 62269

City of Belleville
Economic Development, Planning & Zoning Department
Ms. Annissa McCaskill, A.I.C.P.
407 E. Lincoln
Belleville, Illinois 62220

Village of Shiloh
Mr. John Marquart
Village Administrator
1 Park Drive
Shiloh, Illinois 62269

Notice of Availability for the Draft EA

A notice of availability announcing the Draft EA and Draft FONSI/FONPA were available for a 30-day public comment period was published in the *Belleville News-Democrat* and Scott AFB's newspaper, *Command Post*. The notice is below. Any comments that are received will be considered and addressed, as appropriate, in the EA.

Notice of Availability

Draft Environmental Assessment (EA) for Installation Development at Scott Air Force Base (AFB), Illinois

The U.S. Air Force (USAF) announces the availability of, and invites public comments on, the Draft EA evaluating the implementation of 15 installation development projects for the next 3 years (i.e., 2019 to 2021) at Scott AFB, Illinois. These projects will provide the infrastructure and functionality improvements necessary to support the mission of 375th Air Mobility Wing (375 AMW) and tenant units.

The analysis contained in the Draft EA indicates the installation development projects would not have a significant impact on the environment and a Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) would be appropriate.

The USAF invites public participation through the solicitation of comments on the Draft EA and Draft FONSI/FONPA. Comments are invited and will be accepted for 30 days from the publication of this notice. The Draft EA and Draft FONSI/FONPA are available at www.scott.af.mil. Hard copies also are available at the following local libraries:

Scott AFB Library
510 Ward Drive
Building 1940
Scott AFB, IL 62225

Belleville Public Library
121 East Washington Street
Belleville, IL 62220

Please provide comments to 375 AMW Public Affairs Office, 901 South Drive, Building 700, Scott AFB, IL 62225. Comments are encouraged to be sent by email to 375AMW.PA@us.af.mil. The telephone number is (618) 256-4241.

The Draft EA and Draft FONSI/FONPA were made available to the public in hardcopy format at the following locations:

Belleville Public Library
121 East Washington Street
Belleville, Illinois 62220

Scott AFB Library
510 Ward Drive
Building 1940
Scott AFB, Illinois 62225

The Draft EA and Draft FONSI/FONPA also were made available to the public in electronic format on the following website: www.scott.af.mil

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