Draft Environmental Assessment for Installation Development

McConnell Air Force Base, Kansas

September 2020

U.S. AIR FORCE

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DRAFT ENVIRONMENTAL ASSESSMENT
FOR
INSTALLATION DEVELOPMENT AT
MCCONNELL AIR FORCE BASE, KANSAS

PREPARED FOR:

Department of the Air Force

September 2020

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Letters or other written comments provided may be published in the Final Environmental Assessment. As required by law, substantive comments will be addressed in the Final Environmental Assessment and made available to the public. Any personal information provided will be kept confidential. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final Environmental Assessment. However, only the names of the individuals making comments and their specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final Environmental Assessment.

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COVER SHEET
ENVIRONMENTAL ASSESSMENT FOR INSTALLATION DEVELOPMENT AT MCCONNELL AIR FORCE BASE, KANSAS

a. Lead Agency: Department of the Air Force

b. Proposed Actions: Construct and operate ten projects programmed as approved near-term installation development priorities (Fiscal Year 2021 through Fiscal Year 2023) at McConnell Air Force Base (AFB).

c. Written Comments and inquiries regarding this document should be directed to: Ms. Kristi Draney, 22 CES/CEIE, 57830 Pittsburg Street, McConnell AFB, KS 67221

d. Designation: Environmental Assessment (EA)

e. Abstract: This EA evaluates the potential environmental impacts that may arise from the implementation of the ten projects programmed as approved near-term installation development priorities (Fiscal Year 2021 through Fiscal Year 2023) at McConnell AFB. This document treats each project as a discrete Proposed Action, and evaluates each project and its alternatives separately and examines the cumulative effects of the Proposed Action when combined with past, present, and any future proposals. The ten projects were categorized within the following planning districts at McConnell AFB: Core District (C), Flightline District (F), Outdoor Recreational District (OR), and Multi-District (M). Each of the ten projects are identified below.

C01:	Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks
C02:	Construct Consolidated Support Center
C03:	Construct New Base Civil Engineering Complex
C04:	Disposition of Buildings 750, 732 and 810
F01:	Disposition of Hangar 1166
F02:	Disposition of Aboveground Storage Tank 30003
OR01:	Construct Krueger Recreation Area Running Trail South of Fam Camp
OR02:	Construct New Fam Camp Addition
M01:	Stream Restoration
M02:	Repair Multiple Culverts and Bridges Basewide

Potential alternatives to the Proposed Actions were each evaluated based on selection standards established by the U.S. Air Force (USAF). Alternatives that met all established selection standards were considered reasonable and retained for consideration in this EA. Alternatives that did not meet one or more of the standards were considered unreasonable and are not retained for consideration in the EA. Based on the results of this evaluation, only the USAF preferred alternative for each project, and the No-Action Alternative, were carried forward for detailed analysis in the EA.

The EA identifies and discloses potential impacts to the following environmental resources: air quality and climate; noise; cultural resources; biological and natural resources; water resources, including surface water, groundwater and floodplains; hazardous materials and hazardous waste; land use; infrastructure and utilities; earth resources; safety and occupational health; and socioeconomics and environmental justice.

Through the EA process, the USAF has determined that no significant impacts due to the Proposed Actions would occur. However the USAF has proposed a variety of mitigation measures to further offset or reduce any impacts that would be incurred. A summary of the mitigation measures proposed is provided below.

Biological Resources

- All vegetation removal, trimming, and grading of vegetated areas would occur outside of peak breeding season of migratory birds listed by the U.S. Fish and Wildlife Service (USFWS) to the maximum extent practicable.
- When project activities cannot occur outside the nesting season, surveys would be conducted no more than five days prior to scheduled activity to determine the presence/absence of active nests. Any nesting locations found during surveys would be buffered pursuant to USFWS guidance, as necessary.
- Wetland impacts would be minimized/avoided through site plan reconfigurations, installation of buffers along wetland perimeters, and/or implementation of erosion/sedimentation controls. Unavoidable wetland impacts would be mitigated in accordance to Compensatory Mitigation for Losses of Aquatic Resources, Final Rule (33 Code of Federal Regulations Part 332).
- To avoid/minimize impacts to fish species, bank and instream activity would be minimized during the general fish spawning season (March 1 – August 31).
- Disturbed riparian or upland habitat would be revegetated with native plants following construction.

Water Resources

- Surface water impacts would be prevented through implementation of best management practices (BMPs), an Erosion and Sediment Control Plan (ESCP), and measures outlined in the McConnell AFB Stormwater Pollution Prevention Plan (SWPPP).
- To minimize the risk of a spill, all fuels and other potentially hazardous materials would be contained, stored, used, and disposed of appropriately. In the unlikely event that a spill or leak of contaminants occur, procedures identified in the installation's Spill Prevention, Control and Countermeasures Plan would be followed.
- Prior to construction activities in areas of possible contamination, groundwater would be sampled to determine the extent of contamination for areas not already sampled, and remediated to the extent required by Federal, state, and installation regulations. Any

groundwater monitoring wells that have been installed around an Environmental Restoration Program (ERP) site would be protected from damage during construction and demolition activities. Construction BMPs would be implemented to retain runoff and promote recharge of groundwater.

- Impacts to floodplains would be minimized through implementation of an approved ESCP, BMPs, and other appropriate environmental protection measures and through adherence to the National Pollutant Discharge Elimination System permit and SWPPP.
- Impacts to stormwater would be minimized through design, siting, and proper implementation of environmental protection measures.

Hazardous Materials and Hazardous Waste Management

- Hazardous materials encountered during construction activities would be managed in accordance with the McConnell AFB Hazardous Materials Management Plan.
- To minimize hazardous waste impacts, demolition of buildings would conform to procedures detailed in the McConnell AFB Asbestos Management and Operating Plan and the Lead-Based Paint Management Plan for McConnell AFB.
- To minimize impacts on ERP sites, Institutional Controls would be implemented at each ERP site at McConnell AFB.

Safety and Occupational Health

- All contractors would be required to follow and implement safety standards pursuant to Air Force Occupational Safety and Health and Occupational Safety and Health Administration to establish and maintain safety procedures.
- To avoid potential impacts on construction workers and the installation mission from explosion risks, projects occurring in the southern portion of the installation would be coordinated with the installation Safety Office to ensure that no handling or transportation of explosive materials would occur within explosives safety quantity-distance arcs while workers are within these areas. Prior to any trenching or other ground-disturbing work, the project areas should be surveyed for potential unexploded ordnance.

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FINDING OF NO SIGNIFICANT IMPACT AND FINDING OF NO PRACTICABLE ALTERNATIVE
For
INSTALLATION DEVELOPMENT AT MCCONNELL AIR FORCE BASE, KANSAS

Pursuant to the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act of 1969 (NEPA), Title 40 of the Code of Federal Regulations (CFR) Parts 1500-1508 and the Air Force Environmental Impact Analysis Process Regulations (32 CFR Part 989), the U.S. Air Force (USAF) has prepared this Environmental Assessment (EA) to evaluate the potential impacts on the natural and human environment associated with proposed installation development at McConnell Air Force Base (AFB), Kansas.

Purpose and Need

The purpose of implementing installation development projects at McConnell AFB is to provide infrastructure and functionality improvements necessary to support the mission of the 22 Air Refueling Wing (22 ARW) and tenant units. Installation development is needed at McConnell AFB to address deficiencies of function and capability in the facilities and infrastructure at the installation 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 is required to allow the 22 ARW and its tenant units to successfully complete their missions.

Description of Proposed Actions

The Proposed Action involves the implementation of ten projects programmed as approved near-term installation development priorities (Fiscal Year 2021 through Fiscal Year 2023) at McConnell AFB, including demolition of obsolete facilities and infrastructure, construction of new facilities and infrastructure, and on-base stream restoration. The EA treats each project as a discrete Proposed Action and evaluates each project and its alternatives separately and presents a Preferred Alternative for each project based on its ability to meet both universal selection standards and project-specific selection standards. The selected installation development projects were grouped into four categories based on location within planning districts on McConnell AFB: Core District (C), Flightline District (F), Outdoor Recreational District (OR), and Multi-District (M). The installation development projects include the following:

Core District Projects

- C01. Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks
- C02. Construct Consolidated Support Center
- C03. Construct New Base Civil Engineering Complex
- C04. Disposition of Buildings 750, 732 and 810

Flightline District Projects

- F01. Disposition of Hangar 1166
- F02. Disposition of Aboveground Storage Tank 30003

Outdoor Recreational District Projects

- OR01. Construct Krueger Recreation Area Running Trail South of Fam Camp
- OR02. Construct New Fam Camp Addition

Multi-Distract Projects

- M01. Stream Restoration
- M02. Repair Multiple Culverts and Bridges Basewide

The Proposed Action of implementing these ten selected projects has been reviewed in accordance with NEPA as implemented by the regulations of the CEQ and USAF regulations in 32 CFR 989: Environmental Impact Analysis Process. The analyses focus on the following environmental resources: air quality and climate; noise; cultural resources; biological and natural resources; water resources, including surface water, groundwater and floodplains; hazardous materials and hazardous waste; land use; infrastructure and utilities; earth resources; safety and occupational health; socioeconomics; and environmental justice. The EA includes analyses of the cumulative impacts of the Proposed Action when considered with other past, present, and reasonably foreseeable future projects in the Region of Influence; and of the irreversible and irretrievable commitment of nonrenewable resources associated with implementing the Proposed Action. Details of the potential environmental consequences are presented in the attached EA.

Alternatives

Action Alternatives for projects in each of the planning areas were evaluated against selection standards to determine which alternatives would be carried forward for detailed environmental impact analysis. Multiple Action Alternatives were evaluated against selection standard criteria for each project, with the exception of Projects M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide). These two projects are constrained to their proposed scopes and locations due to their purpose and need to restore environmental, water conveyance, and infrastructure features throughout the installation.

The No-Action Alternative would not allow demolition of obsolescent facilities, construction of new facilities and infrastructure, remediation of asbestos containing materials and lead-based paint, or stream restoration. Under this alternative, McConnell AFB would not be able to meet its evolving mission needs, as obsolescent facilities would remain in place, either limiting or precluding future development required for mission support. Complimentary support functions would continue to be located across multiple locations, operating within temporary structures that are currently well past their intended lifecycles. Obsolescent facilities would further deteriorate and possibly increase health and safety hazards, as well as increase repair, maintenance and operational costs. Stream sedimentation and flood hazards on the installation would continue and potentially worsen. In addition, damaged or inadequate bridges and culverts

would continue to incur additional maintenance costs and increase the likelihood of safety incidents and property damage.

Environmental Consequences

Negligible to minor impacts would occur on air quality and climate, ambient noise levels, biological and natural resources, water resources (including floodplains), hazardous materials and hazardous waste management, land use, infrastructure and utilities, earth resources, safety and occupational health as a result of the Proposed Actions. No federally listed species or designated critical habitat are known to occur at McConnell AFB and habitat availability is minimal; therefore, no impacts to federally listed species would occur from the Proposed Actions. No major long-term impacts on demographics or social services and conditions would be expected, including demand for housing, education, law enforcement, fire protection, emergency medical services, and medical services. Disproportionate impacts on minority or low-income populations would not be expected. The Proposed Actions would have no effect on airspace. No impacts to known historic or cultural resources within or adjacent to the project areas, as defined by 54 United States Code 300308, are expected.

Mitigation Measures and Permit Requirements

Compensatory wetland mitigation will be required to offset impacts on state and/or federally jurisdictional wetlands and other surface waters that cannot be avoided. The mitigation requirements will be identified through the state and Federal permitting process. In addition, a National Pollutant Discharge Elimination (NPDES) General Construction Permit will be required for all construction sites, including development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). Specific mitigation measures per environmental resource area studied in the EA are summarized below:

Biological Resources

- All vegetation removal, trimming, and grading of vegetated areas would occur outside of peak breeding season of migratory birds listed by the USFWS to the maximum extent practicable.
- When project activities cannot occur outside the nesting season, surveys would be conducted no more than five days prior to scheduled activity to determine the presence/absence of active nests. Any nesting locations found during surveys would be buffered pursuant to USFWS guidance, as necessary.
- Wetland impacts would be minimized/avoided through site plan reconfigurations, installation of buffers along wetland perimeters, and/or implementation of erosion/sedimentation controls. Unavoidable wetland impacts would be mitigated in accordance to Compensatory Mitigation for Losses of Aquatic Resources, Final Rule (33 CFR Part 332).
- To avoid/minimize impacts to fish species, bank and instream activity would be minimized during the general fish spawning season (March 1 – August 31).

- Disturbed riparian or upland habitat would be revegetated with native plants following construction.

Water Resources

- Surface water impacts would be prevented through implementation of best management practices (BMPs), an Erosion and Sediment Control Plan (ESCP), and measures outlined in the McConnell AFB SWPPP.
- To minimize the risk of a spill, all fuels and other potentially hazardous materials would be contained, stored, used, and disposed of appropriately. In the unlikely event that a spill or leak of contaminants occur, procedures identified in the installation's Spill Prevention, Control and Countermeasures Plan would be followed.
- Prior to construction activities in areas of possible contamination, groundwater would be sampled to determine the extent of contamination for areas not already sampled, and remediated to the extent required by Federal, state, and installation regulations. Any groundwater monitoring wells that have been installed around an Environmental Restoration Program (ERP) site would be protected from damage during construction and demolition activities. Construction BMPs would be implemented to retain runoff and promote recharge of groundwater.
- Impacts to floodplains would be minimized through implementation of an approved ESCP, BMPs, and other appropriate environmental protection measures and through adherence to the National Pollutant Discharge Elimination System permit and SWPPP.
- Impacts to stormwater would be minimized through design, siting, and proper implementation of environmental protection measures.

Hazardous Materials and Hazardous Waste Management

- Hazardous materials encountered during construction activities would be managed in accordance with the McConnell AFB Hazardous Materials Management Plan.
- To minimize hazardous waste impacts, demolition of buildings would conform to procedures detailed in the McConnell AFB Asbestos Management and Operating Plan and the Lead-Based Paint Management Plan for McConnell AFB.
- To minimize impacts on ERP sites, Institutional Controls would be implemented at each ERP site at McConnell AFB.

Safety and Occupational Health

- All contractors would be required to follow and implement safety standards pursuant to Air Force Occupational Safety and Health and Occupational Safety and Health Administration to establish and maintain safety procedures.
- To avoid potential impacts on construction workers and the installation mission from explosion risks, projects occurring in the southern portion of the installation would be

coordinated with the installation Safety Office to ensure that no handling or transportation of explosive materials would occur within explosives safety quantity-distance arcs while workers are within these areas. Prior to any trenching or other ground-disturbing work, the project areas should be surveyed for potential unexploded ordnance.

Public Review and Stakeholder Coordination

Coordination letters were submitted to numerous public stakeholders, including the Kansas Department of Health and Environment, Division of Environment; Kansas Historical Society (SHPO); Kansas Department of Wildlife, Parks, and Tourism; U.S. Environmental Protection Agency; USFWS; and Native American Tribes claiming cultural affinity to the area. An early notification of impacts on wetlands and floodplains was published in the *Wichita Eagle* on March 02, 2020. Copies of the notice and coordination letters are included in Appendix A of the EA. The Draft EA was released for public review for 30 days. A Notice of Availability of the Draft EA was published in the *Wichita Eagle*.

Finding of No Significant Impact.

The attached EA was conducted in accordance with the requirements of NEPA, the CEQ regulations implementing NEPA, and the USAF regulations implementing NEPA as set forth in 32 CFR 989, as amended. Based on the information and analysis presented in the EA, and after a review of the agency comments submitted during the 30-day public comment period, I conclude that implementation of the Proposed Actions will not result in significant impacts on the quality of the human or natural environment. For these reasons, a Finding of No Significant Impact (FONSI) is approved and preparation of an Environmental Impact Statement is not warranted. This decision has been made after taking into account all submitted information and considering a full range of practicable alternatives that will meet project requirements and are within the legal authority of the USAF.

Finding of No Practicable Alternative

Executive Order (EO) 11990, Protection of Wetlands, (24 May 1977) directs agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. 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 associated with development in 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. In accordance with EO 11990 and 32 CFR Part 989, a Finding of No Practicable Alternative (FONPA) must accompany the FONSI stating why there are no practicable alternatives to development within or affecting wetland areas.

Similarly, EO 11988, Floodplain Management (May 24, 1977), requires Federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. If it is found that there is no practicable alternative, the agency must minimize

potential harm to the floodplain and circulate a notice explaining why the action is to be located in the floodplain prior to taking action. Finally, new construction in a floodplain must apply accepted flood proofing and flood protection to include elevating structures above the base flood level rather than filling in land. In accordance with EO 11988, a FONPA must accompany the FONSI stating why there are no practicable alternatives to development within or affecting floodplains.

The Proposed Actions would result in impacts to both wetlands and floodplains. The following FONPA is therefore presented with the FONSI, pursuant to EO 11990 and EO 11988.

Wetlands: No significant impacts to wetlands would be incurred by the Proposed Actions. However, Projects M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide) have the potential for temporary minor, direct, adverse impacts on wetlands. M01 (Stream Restoration) includes vegetative debris and trash removal, bank stabilization, and installation of necessary vegetative buffers to remedy existing deterioration along McConnell Creek and associated waterways. M02 (Repair Multiple Culverts and Bridges Basewide) involves installing larger-sized culverts, replacing eroding piping to better handle storm flows after large storm events, and performing bridge repairs as needed to improve existing structural condition and to accommodate new culvert and piping installation. As discussed in the attached EA, long-term beneficial impacts to wetlands are expected to result from these projects by reducing ongoing existing sedimentation of affected and adjacent wetlands.

Wetland impacts would be reduced to the maximum extent possible through project design and implementation of environmental protection measures. Pursuant to Section 404(b)(1) of the Clean Water Act, wetland impacts must be avoided to the greatest extent practicable. During the design and permitting phase of the Proposed Actions, jurisdictional wetlands would need to be delineated in accordance with the U.S. Army Corps of Engineers' 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region.* Any necessary agency coordination and required permits would be acquired prior to commencing any ground-breaking activities associated with construction. Measures to minimize wetland impacts may include site plan reconfiguration, installation of buffer areas along the perimeter of wetlands, or erosion controls to prevent sedimentation in adjacent wetlands. Construction activities associated with these projects would be conducted in accordance with a NPDES permit and its associated procedures as detailed in ESCP; SWPPP; and Spill Prevention, Control, and Countermeasures Plans.

As noted in the attached EA, there are no practicable alternatives to Projects M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide) that would avoid all temporary impacts or further minimize temporary impacts to wetlands because the objectives sought by these projects preclude the selection of any practicable alternatives, given the nature and purpose of the projects to restore streams and stabilize stream banks, and provide adequate flood control infrastructure.

Floodplains: No significant impacts to floodplains would occur from the Proposed Actions. However, a small portion of the southwest corner of the Project C02 (Construct Consolidated Support Center) footprint would occur within the 100-year floodplain. Some temporary construction activity associated with Project M01 would occur within the 100-year floodplain. Impacts to floodplains in general would be minimized through implementation of an approved ESCP, construction BMPs, and other appropriate environmental protection measures and through adherence to the NPDES permit and SWPPP. Projects C02 and M01

would also be required to obtain a Floodplain Development Permit through the Kansas Department of Agriculture's Division of Water Resources. Implementing requirements to comply with the permit would further reduce adverse impacts to floodplains from construction and development activities.

Long-term impacts to floodplains from Projects C02 (Construct Consolidated Support Center) and M01 (Stream Restoration) would be minimized by implementing guidelines provided in EO 11988 for construction in a floodplain to the extent practicable, including site grading so that structures are elevated to at least one foot above the base flood level and providing compensatory storage within the floodplain. In the long term, once vegetation is reestablished Project M01 could provide a beneficial impact to floodplains by decreasing runoff velocities and by stabilizing soils, thus decreasing erosion in the floodplain.

Practicable alternatives are not available for these projects because the projects are constrained to their proposed locations in order to meet mission needs (C02 [Construct Consolidated Support Center]) and due to the nature and intent of the Proposed Action (M01 [Stream Restoration]). As noted in the attached EA, early planning and development for the document focused on identifying alternatives that would meet mission needs and avoid environmental constraints, such as floodplains, to the extent practicable. Alternatives that would not impact floodplains were developed for all but two of the individual Proposed Actions. Of the alternatives considered for Project C02, no parcel of land was identified that would both meet mission needs and would entirely avoid floodplains. Furthermore, the selected alternative was the only one that was found to meet all mission needs. Minor impacts to floodplains from construction activities associated with M01 would not be avoidable, given the nature and purpose of the work to restore and stabilize stream banks.

Finding: Pursuant to EO 11990, Protection of Wetlands; EO 11988, Floodplain Management; and the authority delegated by Secretary of the Air Force Order 791.1, Environment; and taking the above information into account, I find that there are no practicable alternatives to Projects C02 (Construct Consolidated Support Center), M01 (Stream Restoration), and M02 (Repair Multiple Culverts and Bridges Basewide) and that these projects include all practicable measures to minimize harm to the environment.

RANDY L. BOSWELL, COLONEL, USAF

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LIST OF ACRONYMS AND ABBREVIATIONS

22 ARW	22nd Air Refueling Wing
22 CES	22nd Civil Engineer Squadron
ACAM	Air Conformity Applicability Model
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-containing Material
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFOSH	Air Force Occupational Safety and Health
AFPD	Air Force Policy Directive
AICUZ	Air Installation Compatible Use Zone
AMC	Air Mobility Command
APE	Area of Potential Effect
AST	Aboveground Storage Tanks
BCC	Birds of Conservation Concern
BTEX	Benzene, toluene, ethylbenzene and xylene
BMP	Best Management Practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CES	Civil Engineer Squadron
CFR	Code of Federal Regulations
CH_4	Methane
cis-1, 2-DCE	Dichloroethylene
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted Decibel
DNL	Day/Night Sound Level
DoD	Department of Defense
DoDI	Department of Defense Instruction
DOPAA	Description of Proposed Action Alternatives
EA	Environmental Assessment

EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
EOD	Explosive Ordnance Disposal
ERP	Environmental Restoration Program
ESA	Endangered Species Act
ESCP	Erosion and Sediment Control Plan
ESQD	Explosives Safety Quantity-Distance
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Floodplain Insurance Rate Map
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GB	Gigabyte
GHG	Greenhouse Gas
HAP	Hazardous Air Pollutant
HAZWOPER	Hazardous Waste, Operations, and Emergency Response
HFC	Hydrofluorocarbon
HMMP	Hazardous Materials Management Program
HQ	Headquarters
HRH	High-Range Hydrocarbons for carbon range ≥C19 - ≤C35
HVAC	Heating, Ventilation, and Air Conditioning
HWMP	Hazardous Waste Management Plan
IC	Institutional Control
ICIP	Institutional Control Implementation Plan
ICRMP	Integrated Cultural Resource Management Plan
IDP	Installation Development Plan
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Consultation
IRP	Installation Restoration Program
ISWMP	Integrated Solid Waste Management Plan
KDHE	Kansas Department of Health and Environment
KDWPT	Kansas Department of Wildlife, Parks and Tourism
KGS	Kansas Geological Society
LBP	Lead-Based Paint
L_{max}	Maximum Sound Level
LRH	Low-Range Hydrocarbons for carbon range ≥C5 - <C9

MBTA	Migratory Bird Treaty Act
MILCON	Military Construction
MRH	Mid-Range Hydrocarbons for carbon range ≥C9 - <C19
MSA	Munitions Storage Area
MSL	Mean Sea Level
MTBE	Methyl tert-butyl ether
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NOA	Notice of Availability
NO_x	Nitrogen Oxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSS	Noise Sensitive Site
O_3	Ozone
OSHA	Occupational Safety and Health Administration
OWS	Oil-Water Separator
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethylene
PFC	Perfluorocarbon
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
$PM_{2.5}$	Particulate Matter less than 2.5 micrometers in diameter
PM_{10}	Particulate Matter less than ten micrometers in diameter
ppb	Parts Per Billion
PPE	Personal Protective Equipment
ppm	Parts Per Million
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
RSK	Risk-Based Standards for Kansas
RSL	Regional Screening Level
SAP	Satellite Accumulation Points
SF_6	Sulfur Hexafluoride
SHPO	State Historic Preservation Office
SINC	Species in Need of Conservation

SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxide
SWMU	Solid Waste Management Unit
SWPPP	Stormwater Pollution Prevention Plan
TCE	Trichloroethylene
TCP	Traditional Cultural Property
TPH	Total Petroleum Hydrocarbons
tpy	Tons Per Year
U.S.C.	United States Code
UFC	Unified Facilities Criteria
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
UXO	Unexploded Ordnance
µg/L	Micrograms Per Liter
$\mu g/m^3$	Micrograms Per Cubic Meter
WNS	White-nose Syndrome
ZVI	Zero Valent Iron

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CHAPTER 1 PURPOSE AND NEED

1.1 INTRODUCTION

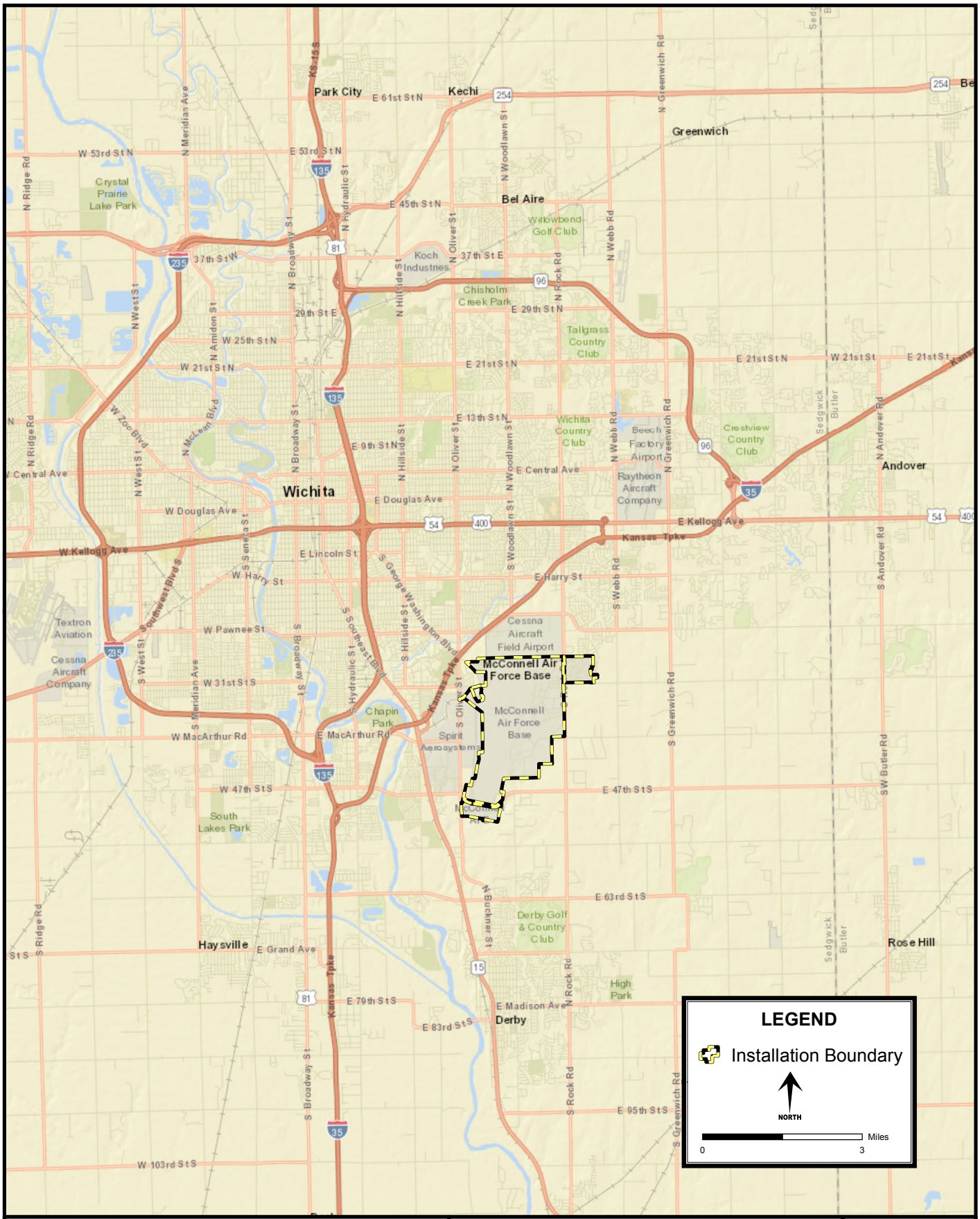
The 22nd Air Refueling Wing (22 ARW) at McConnell Air Force Base (AFB), Kansas, in conjunction with Headquarters Air Mobility Command (HQ AMC), has identified and programmed near-term priorities for installation development projects and proposes to implement them (Fiscal Year 2021 – Fiscal Year 2023). This Environmental Assessment (EA) was prepared to evaluate the potential environmental impacts of these projects in compliance with: the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [U.S.C.] 4331 et seq.); the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations (CFR) 1500-1508); the U.S. Air Force (USAF) Environmental Impact Analysis Process (EIAP) Regulations at 32 CFR Part 989; and Air Force Instruction (AFI) 32-7061, *Environmental Impact Analysis Process* (Secretary of the Air Force, 2003).

McConnell AFB is located in Sedgwick County, Kansas, approximately four miles southeast of Wichita, and occupies approximately 2,650 acres of land (**Figure 1.1-1**). It was established in 1951 after the USAF acquired Wichita Municipal Airport and has hosted a variety of missions and aircraft types throughout its history. McConnell AFB is home to the 22 ARW, the 931st Air Refueling Wing, and the Kansas Air National Guard's 184th Intelligence Wing. To date, the installation has operated and maintained up to 37 KC-135 aircraft supporting aerial refueling and airlift operations, and has recently begun to serve as the nation's first KC-46A operating base.

The intent of the 22 ARW and HQ AMC is to streamline NEPA compliance and facilitate the installation development process by evaluating in one integrated document the potential impacts on the human environment of the projects proposed for execution at McConnell AFB. These projects are presented in **Section 1.4**.

The information presented in this document will serve as the basis for deciding whether the Proposed Actions would result in a significant impact to 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 the execution of any of the Proposed Actions would involve "construction" in a wetland as defined in Executive Order (EO) 11990, *Protection of Wetlands*, or "action" in a floodplain under EO 11988, *Floodplain Management*, a Finding of No Practicable Alternative (FONPA) would be prepared in conjunction with the FONSI.

This document does not take the place of, or eliminate the need for project-specific environmental considerations, such as obtaining and complying with appropriate permits (e.g. wetland, construction, and floodplain development permits) and implementing erosion control measures during construction. Each individual project analyzed in this EA will be required to satisfy project-specific environmental regulatory and permitting requirements as dictated by local, state, and federal statutes, codes, and regulations.



McConnell Air Force Base, Wichita, KS

INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

Location Map

Figure 1.1-1

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1.2 BACKGROUND

Installation development at McConnell AFB is accomplished in accordance with the USAF Comprehensive Planning Program established in AFI 32-1015, *Integrated Installation Planning*. Comprehensive Planning establishes a systematic framework for informing decision-making on the physical development of USAF installations and their environment. The objective of the Comprehensive Planning Process is to synthesize data and information to enable commanders to make effective development decisions affecting their installation and the surrounding community.

As a part of the Comprehensive Planning Process, installations are divided into identifiable Planning Districts based on geographical features, land use patterns, building types, and/or transportation networks. 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.

1.3 PURPOSE AND NEED

The purpose of implementing installation development projects at McConnell AFB is to provide infrastructure and functionality improvements necessary to support the mission of the 22 ARW and tenant units.

Installation development is needed at McConnell AFB to address deficiencies of function and capability in the facilities and infrastructure at the installation 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 is required to allow the 22 ARW and its tenant units to successfully complete their missions. Installation development projects must be developed in a manner that:

- Supports the USAF mission requirements and quality of life of units and Airmen hosted by the installation;
- Meets all applicable U.S. 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 (CAA), Resource Conservation and Recovery Act (RCRA), and Migratory Bird Treaty Act (MBTA). More detailed information regarding resource-specific laws and regulations is provided in the specific resource sections of this EA;
- Aligns with the 2011 USAF Civil Engineering Strategic Plan (USAF, 2011);
- Provides reliable utilities and an efficient transportation system to support McConnell AFB and meets current USAF requirements for functional space, consistent with Air Force Manual (AFMAN) 32-1084, *Standard Facility Requirements*;
- Meets applicable DoD antiterrorism/force protection criteria, consistent with Unified Facilities Criteria (UFC) 4-010-01, *Department of Defense Minimum Antiterrorism Standards for Buildings* and the USAF Installation Force Protection Guide;

- Reduces the consumption of fuel, energy, water, and other resources; maximizes the use of existing facilities; and reduces the footprint of unnecessary or redundant facilities and infrastructure; and
- Supports and enhances the morale and welfare of personnel assigned to the installation, their families, and civilian staff, consistent with Department of Defense Instruction (DoDI) 1015.10, *Military Morale, Welfare, and Recreation Programs* (6 July 2009).

1.4 PROJECTS IDENTIFIED FOR INSTALLATION DEVELOPMENT

McConnell AFB has identified and programmed eight individual projects in three planning districts throughout the installation. Two additional projects have been identified which cover more than one planning district, hereinafter referred to as "multi-district projects". The projects are principally related to space or mission optimization and/or consolidation, as well as restoration and repair of natural and infrastructural features. **Figure 1.4-1** graphically depicts all of the projects identified for this EA and these projects are also identified in **Table 1.4-4**.

1.5 ENVIRONMENTAL ANALYSIS APPROACH

To effectively manage the complexity and volume of installation development projects needed on McConnell AFB, the USAF plans to use this EA as a basis of comparison to adjudge potential environmental impacts for future projects that are similar in scope to those analyzed in this EA. Any additional projects or future activities proposed on areas associated with the installation must be evaluated on their own merit under the USAF EIAP guidelines to determine their environmental impacts and appropriate level of NEPA analysis required.

1.6 PURPOSE AND NEED FOR INDIVIDUAL PROPOSED ACTIONS

Each of the Proposed Actions included in this EA has a specific purpose and need as presented in **Table 1.6-1**.

1.7 INTERAGENCY/INTERGOVERNMENTAL COORDINATION AND CONSULTATIONS

1.7.1 Interagency Coordination and Consultations

Scoping is an early and open process for developing the breadth of issues to be addressed in the EA and for identifying significant concerns related to a Proposed Action. Per the requirements of Intergovernmental Cooperation Act of 1968 (42 U.S.C. 4231(a)) and EO 12372, *Intergovernmental Review of Federal Programs*, Federal, state, and local agencies with jurisdiction that could be affected by the Proposed Actions are being notified during the development of this EA.

Appendix A contains the list of agencies consulted during this analysis and copies of correspondence.

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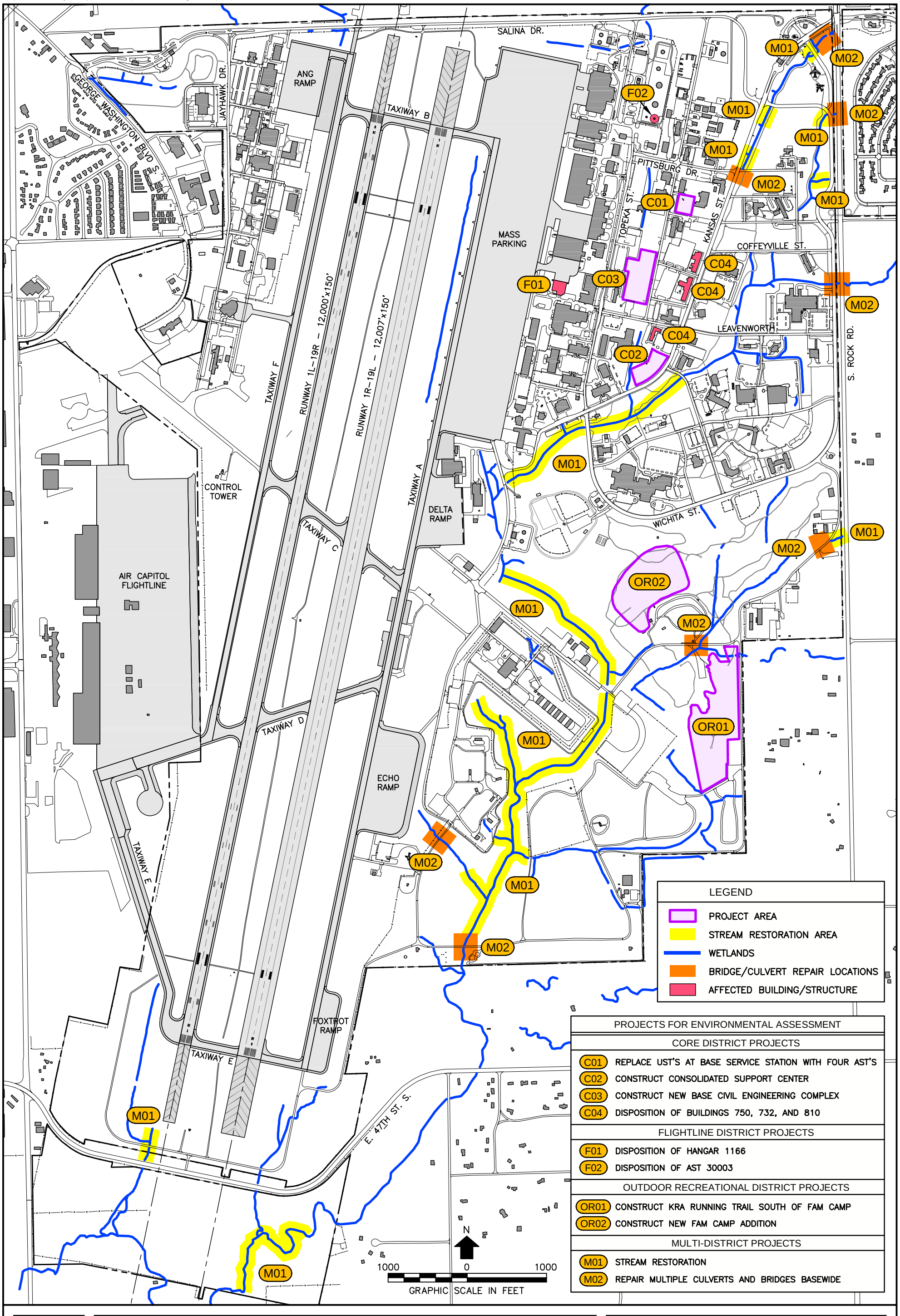

FIGURE 1.4-1

INSTALLATION DEVELOPMENT PROJECTS

McConnell Air Force Base, Wichita KS

INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

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TABLE 1.4-1 INSTALLATION DEVELOPMENT PROJECTS

Project ID	Project Name	Description of Project	Fiscal Year
Core District			
C01	Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks	Replace existing motor gasoline underground storage tank (UST) #30021 (10,000-gallon capacity) and vehicular diesel UST #30020 (10,000-gallon capacity) with four aboveground storage tanks (AST) providing equivalent capacity.	2023
C02	Construct Consolidated Support Center	Construct a two-story building to provide a facility to consolidate and house a variety of Federal, USAF, Wing and Group agencies, whose missions and in/out-processing actions interface on a daily basis.	2023
C03	Construct New Base Civil Engineering Complex	Construct singular complex to consolidate civil engineering maintenance, storage, facilities operations, equipment and administrative functions.	By 2023
C04	Disposition of Buildings 750, 732 and 810	Decide the ultimate disposition of obsolescent Buildings 750, 732 and 810 whose functionality will be replaced by Project C02 (Construct Consolidated Support Center). During a 2007 fire damage repair of Building 750, non-friable asbestos-containing floor tiles were removed, indicating a potential need for additional asbestos remediation in these buildings. Based on age, lead-based paint (LBP) remediation may also be required as part of demolishing these structures.	2021
Flightline District			
F01	Disposition of Hangar 1166	Decide the ultimate disposition of Hangar 1166 which is currently underutilized and no longer meets current mission requirements. The hangar will continue to be used in the short term to continue support of the KC-135 mission, after which point it would be demolished. In 2007, asbestos abatement was performed in the hangar's heating, ventilation and air conditioning systems, mechanical rooms and piping. Additional abatement, as well as potential LBP remediation due to building age, would need to be accomplished as part of the project.	No earlier than 2021
F02	Disposition of Aboveground Storage Tank 30003	Decide the ultimate disposition of abandoned fuel tank #30003.	2022
Outdoor Recreational District			
OR01	Construct Krueger Recreation Area Running Trail South of Fam Camp	Expand running trail (with rubberized surface) by at least one mile to add a longer running/walking option to the existing amenities.	2021
OR02	Construct New Fam Camp Addition	Provide additional recreational camping vehicle parking positions and hook-ups adjacent to existing Fam Camp facilities north of Russell Road.	2022
Multi-District Projects			
M01	Stream Restoration	Restore over one mile of streams basewide, by removing trash and vegetative debris caused by flash-flood washout events. Perform bank stabilization activities to combat stream bed erosion and sedimentation.	2021
M02	Repair Multiple Culverts and Bridges Basewide	Demolish/rebuild existing bridges, pipes and concrete structures, and perform ditch widening where necessary, to reduce flooding and re-establish longer culvert lifespans across the installation.	2021

TABLE 1.6-1 PURPOSE AND NEED FOR EACH PROPOSED ACTION

Project ID	Project Name	Purpose	Need
Core District			
C01	Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks	Provide continued capabilities for government-owned vehicles to fuel up on-installation, and maintain sufficient fueling capacity and adjacency to support logistics readiness requirements.	Existing tanks have currently been in service for 29 years compared to a 25-year useful life. Tanks have been out of service periodically due to deterioration and age, and out-of-service times are expected to grow in the future if existing tanks are left in operation.
C02	Construct Consolidated Support Center	Provide an adequately-sized facility to consolidate and house the following Federal, USAF, Wing and Group agencies: Federal Investigative Services; USAF Office of Special Investigations; USAF Area Audit Office; and Squadron Comptroller, Equal Opportunity, Inspector General, Staff Judge Advocate, Sexual Assault Prevention and Response, and Force Support functions.	The existing support functions are provided by three separate buildings (Buildings 732, 750 and 810), totaling approximately 73,076 square feet in size. The existing size has been determined to be substandard with respect to ongoing mission requirements. These buildings were constructed between 1952 and 1954, were designed as semi-permanent facilities, and have a design life of between ten and 25 years. Under current conditions, agency customers must stop at two or more of these agencies and many are required to stop at all of these agencies for permanent change of station, in- and out-processing, separations, retirements and temporary duty assignments. Continued geographic separation of these agencies will hinder the overall supervision, coordination and processing actions of these agencies. With implementation of Project C02, all three legacy buildings would be demolished. See Project C04 for demolition details.
C03	Construct New Base Civil Engineering Complex	Provide a functionally adequate facility to house the Civil Engineer Squadron (CES) in order to improve the span of control and flow of administrative matters, and to reduce total operating and maintenance costs. Adequate facilities will serve ongoing civil engineering functions in terms of constructing, maintaining and operating facilities on McConnell AFB, providing emergency services, and enhancing the environment.	CES functions such as pavements and grounds, power production, covered storage, storage sheds, and hazardous materials storage are housed in multiple separate structures built as early as 1952, which were intended as semi-permanent facilities with design life of between ten and 25 years. Existing facilities are not large enough to allow storage for all

Project ID	Project Name	Purpose	Need
			materials requiring protection from the elements, which will result in continued unacceptable losses of materials and supplies. Administrative and industrial civil engineering functions are currently not collocated. Continued separation of administrative and industrial base civil engineering functions hinders supervision, communication and interoffice coordination. Once the Base Civil Engineering Complex is operationally capable, it is expected that existing facilities would be demolished.
C04	Disposition of Buildings 750, 732 and 810	Support re-assignment of existing functions to Consolidated Support Center (Project C02).	Buildings 750, 732 and 810 were constructed in the 1950s as semi-permanent facilities, which have a design life of between ten and 25 years. The structures have inadequate heating and cooling systems, are poorly insulated and require constant maintenance and repair. Specifically, Building 750 has had persistent problems with a leaking roof and water infiltration which has resulted in mold and mildew deposition and offensive odors. It has been determined that the water intrusion problem cannot be cost-effectively repaired.
Flightline District			
F01	Disposition of Hangar 1166	Decide the ultimate disposition of Hangar 1166 which is currently underutilized and no longer meets current mission requirements.	To support beddown of the KC-46 mission, new hangars with six hangar bays were installed to replace the function of legacy Hangars 1166, 1176 and 1107. Financially, operating and maintenance costs to retain all three legacy hangars are too extensive and a decision was made to retrofit only 1176 and 1107 as these two hangars could be meaningfully re-purposed to meet other mission needs. Retaining the additional functionality provided by the third Hangar 1166 would be redundant based on current requirements, and its size is insufficient to accommodate tail height clearance requirements for

Project ID	Project Name	Purpose	Need
			the KC-46. Therefore, it cannot be meaningfully re-purposed or retrofitted.
F02	Disposition of Aboveground Storage Tank 30003	Economize bulk storage capacity and encourage the removal of abandoned/unneeded refueling infrastructure.	Tank 30003 is currently abandoned in place, is past its useful life, and has not been utilized for some time. State environmental agencies have recommended that the infrastructure be torn down. All other bulk storage tanks are operational and there are no known logistics readiness issues with respect to losing the storage capacity of Tank 30003.
Outdoor Recreational District			
OR01	Construct Krueger Recreation Area Running Trail South of Fam Camp	Enhance morale, welfare and readiness of airmen and installation personnel by promoting increased use of fitness amenities in the Krueger Recreation Area.	Current recreation and fitness facilities at McConnell AFB are not fully meeting the needs of the on-base community. Per AFI 34-101, *Air Force Morale, Welfare and Recreation Programs and Use Eligibility*, fitness and camping are both considered core activities that provide mission support by fostering family and individual well-being, unit and community cohesion, and physical fitness. Support for these activities is to be provided at every installation where it is geographically appropriate to do so. These activities form the foundation for the outdoor recreation program at McConnell AFB, which units use as part of team building and maintaining resiliency and readiness.
OR02	Construct New Fam Camp Addition	Enhance morale, welfare and readiness of airmen and installation personnel by promoting increased use of Fam Camp. Providing the amenities to non-installation personnel can also generate additional revenue to morale, welfare and readiness programs on-installation by providing additional pay-for-use recreational camping vehicle parking positions and hook-ups.	
Multi-District Projects			
M01	Stream Restoration	Comply with Integrated Natural Resources Management Plan (INRMP) objective to restore and enhance aquatic environments on-installation.	Currently, McConnell Creek and many associated streams and drainages have erosion and sedimentation problems, which can lead to costly infrastructure damage. Erosion issues are primarily due to the lack of vegetated buffers and alterations to the runoff profile that have been caused by increased impervious surface area and insufficiently sized stormwater catchments over time. Vegetative debris and trash removal, bank stabilization, and

Project ID	Project Name	Purpose	Need
			installation of necessary buffers (minimum of 100 feet) are recommended to remedy existing deterioration along McConnell Creek and associated waterways.
M02	Repair Multiple Culverts and Bridges Basewide	Maintain adequate stormwater management infrastructure and drainage flow to minimize roadway closures and damages due to periodic flooding. New culverts will increase drainage capabilities, so water is able to flow better after large storm events, lessening the chance of flood-related damage and roadway shutdowns.	Due to failing concrete and existing erosion problems, lifespans of existing culverts are deteriorating. Existing culverts are undersized to handle storm flows and pipes are eroding.

1.7.2 Government to Government Consultations

The NHPA Section 106, codified at 54 U.S.C. 306108, its implementing regulations at 36 CFR Part 800, and EO 13175, *Consultation and Coordination with Indian Tribal Governments* directs Federal agencies to coordinate and consult with Native American tribal governments whose interests might be directly and substantially affected by activities on federally administered lands.

Consistent with EO 13175, DoDI 4710.02, *Interactions with Federally-Recognized Tribes*, and AFI 90-2002, *Air Force Interaction with Federally-recognized Tribes*, federally-recognized tribes that are historically affiliated with the McConnell AFB geographic region were invited to consult on the Proposed Action, which has a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation or the interagency coordination processes, and it requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The McConnell AFB point-of-contact for Native American tribes is the 931st Wing Commander, who serves as the Installation Tribal Liaison Officer.

The Native American tribal governments that were coordinated or consulted with regarding these actions are listed in **Appendix A**.

Government to Government consultation was initiated for this EA on 20 February 2020. On 4 March 2020, the Wichita and Affiliated Tribes formally requested consulting party status on any proposed projects that the USAF undertakes in the state of Kansas, Oklahoma, Texas, Arkansas, Missouri, Colorado and New Mexico. On 3 June 2020, the Comanche Nation indicated that "No Properties" were identified within the location of the projects.

1.7.3 Other Agency Consultations

Per the requirements of Section 106 of the NHPA and implementing regulations (36 CFR Part 800), Section 7 of the ESA and implementing regulations, and the MBTA, findings of effect and request for concurrence were transmitted to the Kansas State Historic Preservation Office (SHPO) and the U.S. Fish and Wildlife Service (USFWS).

On 20 March 2020, the SHPO concurred that the projects included in the EA would not have any adverse effects on cultural resources. On 27 March 2020, the USFWS concurred that the Proposed Action would have no adverse effect on endangered species and that no further coordination is required.

The U.S. Environmental Protection Agency (USEPA) submitted comments on 12 March 2020 regarding the Proposed Actions. For demolition activities, the USEPA recommended testing for the presence of hexavalent chromium or other Occupational Safety and Health Administration (OSHA)-regulated toxic and hazardous substances in compliance with OSHA regulations 1910.1026 and Federal and state RCRA regulations for disposal if encountered in numbers above the permissible exposure limit.

On 17 March 2020, the Kansas Department of Health and Environment (KDHE) Bureau of Remediation submitted comments regarding Installation Restoration Program (IRP) site boundaries. KDHE listed the projects potentially impacted or located within the vicinity of IRPs. For these sites, KDHE recommends implementing the requirements of the Institutional Control Implementation Plan (ICIP) and McConnell AFB's ERP. Any impacts to IRPs are to be reported to the USEPA and KDHE

The Kansas Department of Wildlife, Parks and Tourism (KDWPT) also reviewed the projects for potential impacts on crucial wildlife habitats, current state listed threatened and endangered species and species in need of conservation (SINC), and KDWPT managed areas. On 16-17 March 2020, KDWPT submitted the results of their review stating that there will be no significant impacts to crucial wildlife habitats; therefore, no special mitigation measures are recommended. The project will not impact any public recreational areas, or any currently-listed threatened or endangered species or SINC. No KDWPT permits or special authorizations will be needed if construction is started within one year, and no design changes are made in the project plans. Correspondence regarding the findings and concurrence and resolution of any adverse effect is included in **Appendix A**.

1.8 PUBLIC AND AGENCY REVIEW OF THE ENVIRONMENTAL ASSESSMENT

Because the Proposed Action area coincides with wetlands and/or floodplains, it is subject to the requirements and objectives of EO 11990 and EO 11988. The USAF published early notice (i.e., at least 30 days prior to the release of the Draft EA) that the Proposed Action would occur in a floodplain/wetland in the *Wichita Eagle* on 02 March 2020. The notice identified state and Federal regulatory agencies with special expertise that had been contacted and solicited public comment on the Proposed Action and any practicable alternatives. The comment period for public and agency input on these projects ended on DAY MONTH YEAR.

A Notice of Availability (NOA) of the Draft EA was published in the *Wichita Eagle*, announcing the availability of the EA for review. The NOA invited the public to review and comment on the Draft EA. The NOA and public and agency comments will be provided in **Appendix A** of the Final EA.

Copies of the Draft EA were also made available for review at the following locations:

Linwood Park Branch Library
1901 S Kansas St
Wichita, KS 67211

Rockwell Branch Library
5939 E 9th St N
Wichita, KS 67208

Alford Branch Library
3447 S Meridian Ave
Wichita, KS 67217

McConnell Air Force Base Library
53476 Wichita Street, Building 412
McConnell AFB, KS 67221

1.9 DECISION TO BE MADE

This EA is a planning and decision-making tool that will be used to guide McConnell AFB in implementing the Proposed Action in a manner consistent with USAF standards for environmental stewardship. The EA evaluates whether any of the Proposed Actions would result in significant impacts on the human and natural environment. If significant impacts are identified, McConnell AFB would undertake mitigation to reduce impacts to below the level of significance, prepare an EIS addressing the Proposed Action(s), or abandon the Proposed Action(s). The USAF has discretionary authority to implement any or all of the Proposed Actions studied in this EA so long as requirements of the NEPA and any special purpose regulations are satisfied.

CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

This EA evaluates the potential environmental impacts that may arise from the implementation of the ten projects programmed as approved near-term installation development priorities (Fiscal Year 2021 through Fiscal Year 2023) at McConnell AFB. This document treats each project as a discrete Proposed Action, and evaluates each project and its alternatives separately. These projects are categorized within the applicable planning districts outlined in the Comprehensive Planning Process.

2.2 SELECTION STANDARDS FOR PROJECT ALTERNATIVES

The scope and location of each Proposed Action and, where applicable, their alternatives, have undergone extensive review by the 22 ARW CES personnel, local government agencies, and supporting installation and USAF staff specialists. Developing the Proposed Action and potential alternatives is a critical component of the planning process. The NEPA requires consideration of various alternatives to minimize adverse impacts on the environment. Evaluation of multiple options in the planning process allows the viable alternatives to be carried forward. Planners review functional and spatial relationship concepts, current facility locations, environmental conditions, and the existing on-base environment. This analysis supports the NEPA process by considering several alternatives and evaluating their viability.

Potential alternatives to the Proposed Actions were each evaluated based on three universal selection standards, which were applied to all alternatives. Each project description, beginning in **Section 2.3**, provides details regarding how these universal selection standards apply to specific project requirements. Project-specific selection standards, which are aligned with and support the universal standards described above, are listed and described in **Section 2.3** for each of the Proposed Actions and alternatives.

Standard 1: ***Planning Constraints*** – Planning constraints are man-made or natural elements that can create significant limitations to the operation or construction 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 standard addresses compatibility with installation operational aspects, natural and built resources, and land use compatibility, and largely dictate the location/placement of a proposed facility.

- *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 activity. At McConnell AFB, operational constraints include, but are not limited to, airfield clearance and safety zones, noise contours, explosives safety quantity-distance (ESQD) zones, and antiterrorism force protection.

- *Natural* – Natural constraints include environmental and cultural resources at McConnell AFB. These provide positive aesthetic, social, cultural, and recreational attributes that substantially contribute to the overall quality of life on base.
- *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, etc.) on the installation and ensuring that planning considerations account for compatibility between proposed and existing land uses (e.g., recreational use may not be compatible with the airfield). Consistency with the Air Installation Compatible Use Zone (AICUZ) must also be considered.

Standard 2: ***Installation Capacity Opportunities*** – This refers to the capabilities of the installation's existing facilities/infrastructure to meet existing and future mission needs. This standard largely drives the scope of the facility/infrastructure development and/or improvement and requires that proposed facility/infrastructure development and improvements support the following aspects:

- Mission operations, mission support, built infrastructure, and quality of life.

Standard 3: ***Sustainability Development Indicators*** – This refers to the ability to operate into the future without a decline in the mission (i.e., mission sustainment), but also minimizing impacts on the natural and man-made systems that support it (i.e., environmental sustainability). Sustainability is a holistic approach to asset management that seeks to minimize the negative impacts of the USAF's mission and operations on the environment. This standard also generally drives the scope of the facility/infrastructure development and/or improvement and supports sustainability of the installation through consideration of the following:

- Energy, water, wastewater, air quality, facilities space optimization, encroachment, airfields, natural/cultural resources.

2.3 PROPOSED ACTIONS AND ALTERNATIVES

The NEPA and the CEQ regulations mandate the consideration of reasonable alternatives to the Proposed Actions. "Reasonable alternatives" are those that also could be utilized to meet the purpose of and need for each Proposed Action.

The NEPA process is intended to support flexible, informed decision-making; the analysis provided by this EA and feedback from the public and other agencies will inform decisions made about whether, when and how to execute the Proposed Actions. Among the alternatives evaluated for each project is a No-Action Alternative. The No-Action Alternative will substantively analyze the consequences of not undertaking the Proposed Action, not simply conclude no impact, and will serve to establish a comparative baseline for analysis.

The scope, location, and objectives of the Proposed Actions are described here, grouped by planning district. This section also presents reasonable and practicable alternatives for projects where multiple viable courses of action exist. Those alternatives are assessed relative to the universal selection standards where

applicable. Alternatives that fully achieved all three selection standards were considered reasonable and retained for consideration in this EA. Alternatives that did not meet one or more of the standards were not retained for consideration in the EA.

2.3.1 Core District Projects

Core district projects defined in **Sections 1.4** and **1.6** of this EA are shown in greater detail on **Figure 2.3-1**. Adjacent planning constraints (i.e., natural resources, institutional controls [IC] boundaries) are shown where present. Each project is described in further detail in the following sections, including an assessment of whether or not each project (and any alternatives considered) conforms to applicable selection standards.

Project C01: Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks

The Proposed Action is to replace existing motor gasoline UST #708U002 (10,000-gallon capacity) and vehicular diesel UST #708U001 (10,000-gallon capacity). As established on **Table 1.6-1**, the Proposed Action will provide continued capabilities for government-owned vehicles to fuel up on-installation, and maintain sufficient fueling capacity and adjacency to support logistics readiness requirements.

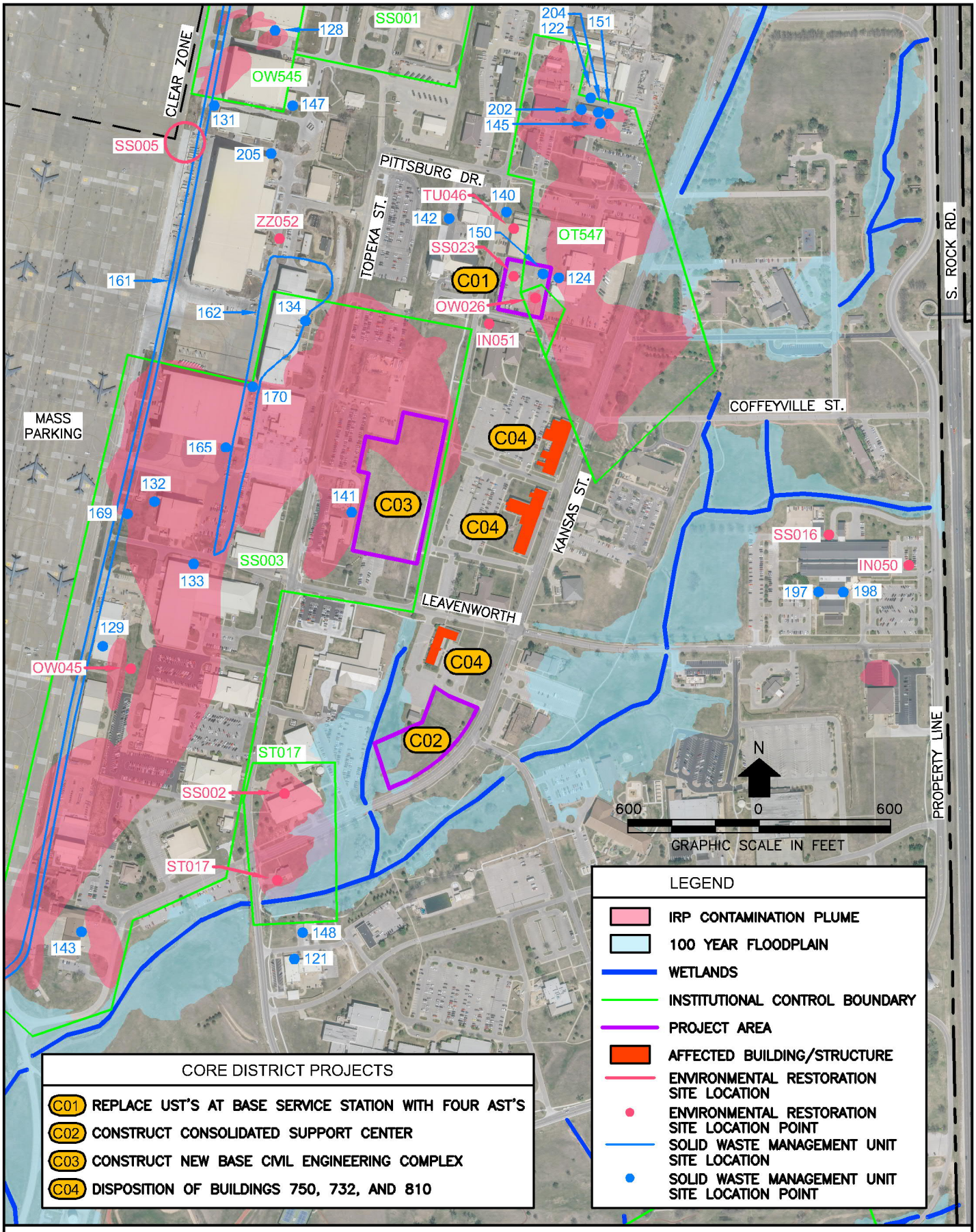
Alternatives Considered for this Project:

- ***Alternative C01 (Preferred Alternative):*** Replace the existing tanks with four ASTs of equivalent capacity, that are of improved technology and within their useful lives. Soil remediation would be performed as needed during tank removal.
- ***Alternative C01-1:*** Perform a replacement-in-kind of the existing tanks with new USTs that are of improved technology and within their useful lives. Soil remediation would be performed as needed during tank removal.
- ***No-Action Alternative***: Leave existing tanks as-is and continue normal operations.

Project Selection Standards

The following project selection standards support and supplement the universal standards described in **Section 2.2**.

1. Avoids/minimizes operational and environmental constraints (e.g., wetlands, floodplains, cultural resources, known contamination sites, clear zones, accident potential zones, explosives safety setbacks).
2. Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness.



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McConnell Air Force Base, Wichita KS
INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

CORE DISTRICT PROJECTS

FIGURE 2.3-1

Selection Standards Evaluation:

The results of the selection standards evaluation of the Proposed Action and alternatives is summarized on **Table 2.3-1** below. The No-Action Alternative does not meet the established purpose and need and is therefore not shown in this evaluation, but is nevertheless carried forward for analysis in the EA.

As shown, both alternatives would avoid interaction with known installation constraints. However, UST installation associated with Alternative C01-1 is generally more expensive than ASTs to install, more expensive to operate (due to required leak test systems and frequent inspections), and more likely to result in soil/groundwater contamination. Therefore, Alternative C01 (replacing the USTs with ASTs) imposes less overall cost and less risk of environmental degradation and is retained for further analysis in the EA. Alternative C01-1 is eliminated from further consideration.

TABLE 2.3-1 SELECTION STANDARDS EVALUATION: PROJECT C01

Standard	Evaluation	
	Alternative C01: Replace with Aboveground Storage Tanks of Equivalent Capacity	**Alternative C01-1: Replacement-in-kind with New Underground Storage Tanks**
Avoids/minimizes operational and environmental constraints	Remediation: the alternatives are located in areas within or adjacent to IRP sites: • Site OT-547: although the project area boundary shown on **Figure 2.3-1** overlaps the IC boundary and plume area, the actual tanks do not coincide with the known boundaries of these features. Per the ICIP (USAF, 2019e), groundwater monitoring is ongoing at OT-547. Groundwater injection of Zero Valent Iron (ZVI) has been implemented to control chlorinated contaminants and oxidant injections have been implemented for total petroleum hydrocarbon (TPH) contamination. The site is not restricted and site identification placards are present. • Site OW026: the site is located within the project footprint; however, 37 tons of contaminated soil were removed in 2015 and Oxidant Injection has been implemented as an interim measure. The site is not restricted and placards are not present. Solid Waste Management Unit (SWMU) 150 is the mud pit for closed-top oil-water separator (OWS) with no history of release to the environment, and is located within the project footprint. • Site SS023: the site is located within the project footprint and is the site of former USTs that were removed along with surrounding soil in 1990. One soil sample displayed hydrocarbon contamination above KDHE action levels for UST sites. No further action is recommended for the site.	
Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness.	Installation of new infrastructure as proposed would comply with this selection standard. ASTs are generally considered a more cost effective option in terms of installation, operation and maintenance compared to USTs. Leaks and malfunctions can be more easily and cost-effectively detected and rectified, compared to USTs.	Although installation of new infrastructure as proposed would comply with this selection standard, USTs would be costlier to install, monitor and maintain. Further, the risk for leak and malfunction is comparatively less cost-effective to monitor and manage compared to ASTs.

Project C02: Construct Consolidated Support Center

The Proposed Action is to provide an optimally-sized, centralized facility to consolidate operations of numerous agencies at McConnell AFB, including Federal Investigative Services; USAF Office of Special Investigations; USAF Area Audit Office; and Squadron Comptroller, Equal Opportunity, Inspector

General, Staff Judge Advocate, Sexual Assault Prevention and Response, and Force Support functions. Military construction (MILCON) programming documentation prepared to date estimates that the existing 74,045 square feet of area provided by Buildings 732, 750 and 810 is substandard based on current mission requirements. A mission requirement size of 214,094 square feet has been identified. The Proposed Action constructs the deficiency of 45,747 square feet to obtain the mission requirement of 214,094 square feet.

Alternatives Considered for this Project:

- ***Alternative C02 (Preferred Alternative):*** Construct a 45,747-square foot two-story building that, together with the overall 168,347 square feet currently available, fully satisfies the 214,094-square foot sizing requirement. The construction would include reinforced concrete foundation and floor slabs, insulated exterior brick walls, standing seam metal roof, utilities, communication support, fire detection/prevention, pavements, landscaping and site improvements. The facility shall be designed as permanent construction per DoD UFC 1-200-01, *DoD Building Code (General Building Requirements)*. Existing Buildings 750, 732 and 810 would be demolished and are evaluated separately under Project C04.
- ***Alternative C02-1:*** Renovate existing Buildings 732, 750 and 810 to maintain existing capabilities of providing 74,045 square feet of functional space (to maintain the overall 168,347 square feet of existing space available), and prevent further structural deterioration. Perform asbestos-abatement and LBP abatement as warranted for each building. Renovated facilities shall achieve permanent construction design standards per UFC 1-200-01 to the maximum extent practicable.
- ***No-Action Alternative:*** Leave existing legacy buildings in place and continue to perform support functions in discrete and geographically separated locations.

Project Selection Standards

The following project selection standards support and supplement the universal standards described in **Section 2.2**.

1. Avoids/minimizes operational and environmental constraints (e.g., wetlands, floodplains, cultural resources, known contamination sites, clear zones, accident potential zones, explosives safety setbacks).
2. Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness.
3. Promotes operational efficiency and mission adjacency.
4. Fulfills overall facility sizing requirement of 214,094 square feet (existing available space plus newly-constructed space).

Selection Standards Evaluation:

The results of the selection standards evaluation of the Proposed Action and alternatives is summarized on **Table 2.3-2** below. The No-Action Alternative does not meet the established purpose and need and is therefore not shown in this evaluation, but is nevertheless carried forward for analysis in the EA.

Differences between Alternatives C02 and C02-1 would be environmentally insignificant. However, renovations to the existing facilities are expected to cost more than construction of a new facility and a renovation will not eliminate the operational inefficiencies that exist with the status quo. Further Alternative C02 (preferred Alternative) meets the overall space requirement of 214,094 square feet identified for mission operations, by adding 45,747 square feet of constructed building space to the 168,347 square feet of available space for these functions. In comparison, Alternative C02-1 does not fulfill this space requirement.

Therefore, Alternative C02 is carried forward for further analysis in the EA, whereas Alternative C02-1 is eliminated from further consideration.

TABLE 2.3-2 SELECTION STANDARDS EVALUATION: PROJECT C02

Standard	Evaluation	
	Alternative C02: New Construction	**Alternative C02-1: Renovate Existing Facilities**
Avoids/minimizes operational and environmental constraints	Natural: the proposed development footprint (**Figure 2.3-1**) for this alternative intersects 100-year floodplain on its southwestern edge; however, it is expected that this impact could be avoided using design measures and construction best management practices (BMPs).	With this alternative, there would be no net change in the interface between the existing infrastructure of Buildings 732, 750 and 810 and existing base constraints.
Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness	Enables demolition of 74,045 square feet of 1950's era semi-permanent structures which are well past their intended useful lives. By adopting new construction, the installation can integrate sustainable principles into the design, development and construction of the Proposed Action in accordance with 10 U.S.C. 2802(c) and other applicable laws and orders.	On grounds of cost effectiveness, it is not practicable to sufficiently renovate the 74,045 square feet of building area provided by existing Buildings 732, 750 and 810 to achieve this selection standard. Although renovations to existing Buildings 732, 750 and 810 could partially succeed in infrastructure modernization and reducing life-cycle costs, the capital outlay associated with implementing this alternative is not as cost effective as other available alternatives based on preliminary economic analysis.
Promotes operational efficiency and mission adjacency	Consolidates agencies whose missions interface on a daily basis, enabling customers the benefit of being able to accomplish the majority of in- and out-processing actions in one location.	Continues the existing condition where agencies will have to continue to operate inefficiently. Customers will continue to spend time traveling between facilities, hindering their processing actions. There is potential for decreased morale and personnel retention due to continued work in inadequately sized facilities.
Fulfills overall facility sizing requirement of 214,094 square	Adds 45,747 square feet of constructed building space to the 168,347 square feet of available space for these functions, for	Retaining only 168,347 square feet of functional space has been determined to be substandard in relation to current requirements.

Standard	Evaluation	
	Alternative C02: New Construction	Alternative C02-1: Renovate Existing Facilities
feet (existing available space plus newly-constructed space).	a total area that fulfills the sizing requirement of 214,094 square feet.	

Project C03: Construct New Base Civil Engineering Complex

The Proposed Action is to optimize civil engineering maintenance, storage, facilities operations, equipment and administrative functions. As indicated on **Table 1.6-1**, squadron functions such as pavements and grounds, power production, covered storage, storage sheds, and hazardous materials storage are housed in multiple separate structures built as early as 1952, which were intended as semi-permanent facilities with design life of between ten and 25 years. Existing facilities are not large enough to allow storage of all materials requiring protection from the elements, which will result in continued unacceptable losses of materials and supplies. Continued separation of administrative and industrial base civil engineering functions hinders supervision, communication and interoffice coordination.

Alternatives Considered for this Project:

- ***Alternative C03 (Preferred Alternative):*** Consolidate civil engineering functions via new construction in multiple phases. Phase I would construct approximately 48,500 square feet of building and storage space to include a maintenance shop, covered storage, pavements and grounds, hazardous materials storage and a new equipment yard. This construction would enable the demolition of the existing buildings and structures that serve these functions, totaling approximately 23,570 square feet. Subsequent phase(s) would demolish the remaining 48,990 square feet of other civil engineering buildings (e.g., administration, readiness, customer services, water and electrical shops) and provide equivalent area for these functions. The facilities shall be designed as permanent construction per DoD UCF 1-200-01. The proposed construction would be sited within Parcel 4II as identified in the Installation Development Plan (IDP).
- ***Alternative C03-1:*** This alternative would be the same as Alternative C03; however, the proposed construction would instead be sited within Parcel 4L as identified in IDP.
- ***Alternative C03-2:*** Renovate existing civil engineering storage/maintenance buildings to maintain existing capabilities, provide approximately 23,570 square feet of functional space, and prevent further structural deterioration. Renovated facilities shall achieve permanent construction design standards per UCF 1-200-01 to the maximum extent practicable.
- ***No-Action Alternative:*** Leave existing legacy buildings in place and continue to perform base civil engineering functions in these buildings.

Project Selection Standards

The following project selection standards support and supplement the universal standards described in **Section 2.2**.

1. Avoids/minimizes operational and environmental constraints (e.g., wetlands, floodplains, cultural resources, known contamination sites, clear zones, accident potential zones, explosives safety setbacks).
2. Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness.
3. Promotes operational efficiency and mission adjacency.
4. Reduces total facility square footage of obsolete or unused facilities through divestment, demolition, and/or consolidation.
5. Fulfills ultimate facility sizing requirement of 97,490 square feet total space.

Selection Standards Evaluation:

The results of the selection standards evaluation of the Proposed Action and alternatives is summarized on **Table 2.3-3** below. Alternative locations described in the Table are shown on **Figure 2.3-1a**. The No-Action Alternative does not meet the established purpose and need and is therefore not shown in this evaluation, but is nevertheless carried forward for analysis in the EA.

As shown, Alternative C03-2 does not achieve multiple selection standards in that it involves renovating undersized and obsolete existing structures. Renovations to the existing facilities are expected to cost more than construction of a new facility and a renovation will not eliminate the operational inefficiencies that exist with the status quo.

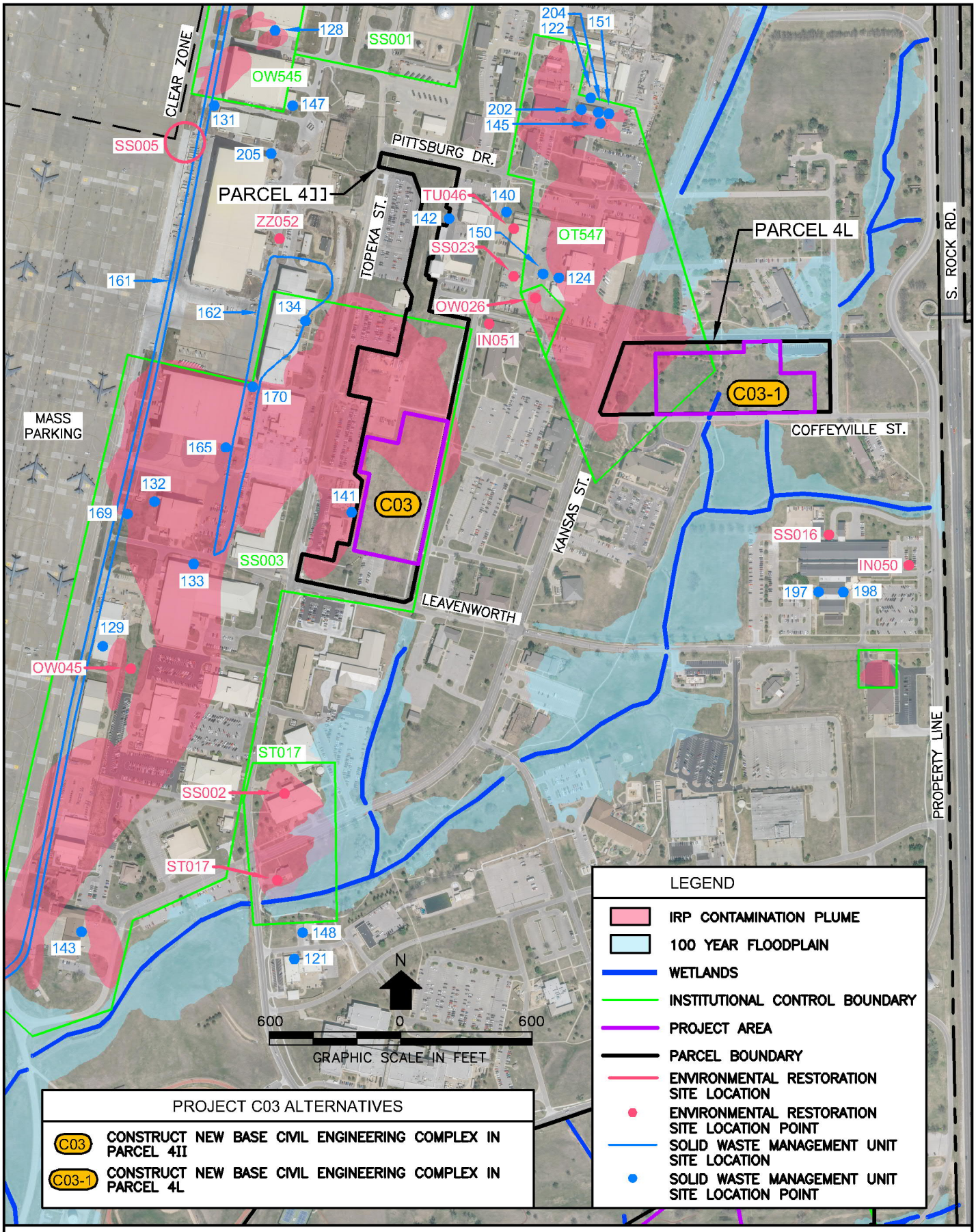
Alternatives C03 and C03-1 both align with selection standards in terms of meeting mission requirements, facility sizing requirements, and furthering infrastructure modernization objectives. Both Alternatives C03 and C03-1 are therefore reasonable and feasible to construct. In terms of natural resources constraints, both alternatives are comparable. However, Alternative C03-1 would be situated in wetland and floodplain areas, whereas Alternative C03 would not. It is possible that wetland/floodplain involvement could be mitigated under Alternative C03-1 by applying BMP and design elements. In comparison, Alternative C03 is a practicable alternative that avoids the wetlands and floodplains altogether. In accordance with EO 11988 and 11990, the USAF is required to evaluate whether practicable alternatives exist to avoid wetlands and floodplains, and if they do exist, the USAF complies with the EOs by implementing these avoidance alternatives. Accordingly, Alternative C03 is carried forward for further evaluation because it avoids these resources, whereas Alternative C03-1 is discounted from further analysis in this EA.

TABLE 2.3-3 SELECTION STANDARDS EVALUATION: PROJECT C03

Standard	Evaluation		
	Alternative C03: New Construction in Parcel 4II	Alternative C03-1: New Construction in Parcel 4L	Alternative C03-2: Renovate Existing Facilities
Avoids/minimizes operational and	Remediation: The proposed development footprint	Remediation: The proposed development footprint	With this alternative, there would be no net change in the

Standard	Evaluation		
	Alternative C03: New Construction in Parcel 4II	**Alternative C03-1: New Construction in Parcel 4L**	**Alternative C03-2: Renovate Existing Facilities**
environmental constraints	(**Figure 2.3-1a**) is located within boundary of IRP site SS-003. Per the ICIP, groundwater monitoring is ongoing at SS-003. Contaminants of concern include chlorinated solvents and TPH. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and an oxygen infusion system has been installed near Building 1104 for TPH contamination. The site is partially restricted and site identification placards are present. No other known operational or environmental constraints are present.	(**Figure 2.3-1a**) is located within the boundary of IRP site OT-547. Per the ICIP, groundwater monitoring is ongoing at OT-547. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and oxidant injections have been implemented for TPH contamination. The site is not restricted and site identification placards are present. Natural: The development footprint also intersects with known wetland and floodplain areas, but it is possible that impacts to these natural resources could be avoided or minimized using design measures and construction BMPs.	interface between the existing infrastructure civil engineering buildings with existing base constraints.
Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness.	By adopting new construction, the installation can integrate sustainable principles into the design, development and construction of the Proposed Action in accordance with 10 U.S.C. 2802(c) and other applicable laws and orders.		On grounds of cost effectiveness, it is not practicable to sufficiently renovate the building areas in order to achieve this selection standard. Although renovations to existing buildings could partially succeed in infrastructure modernization and reducing life-cycle costs, the capital outlay associated with implementing this alternative is not as cost effective as other available alternatives based on preliminary economic analysis.
Promotes operational efficiency and mission adjacency.	Both alternatives bring together squadron functions such as pavements and grounds, power production, covered storage, storage sheds, and hazardous materials storage. Co-locates administrative and industrial base civil engineering functions. This would maximize efficient supervision, communication and interoffice coordination.		Continued separation of administrative and industrial base civil engineering functions hinders supervision, communication and interoffice coordination.
Reduces total facility square footage of	In Phase I of the project construction alone, enables demolition of approximately 23,570 square feet of 1950's era semi-permanent structures, constituting maintenance, covered		The obsolete and undersized 1950's era semi-permanent facilities would remain intact,

Standard	Evaluation		
	Alternative C03: New Construction in Parcel 4II	Alternative C03-1: New Construction in Parcel 4L	Alternative C03-2: Renovate Existing Facilities
obsolete or unused facilities through divestment, demolition, and/or consolidation.	storage, pavements and grounds, hazardous materials storage and equipment yard functions. All of these structures are well past their intended useful lives. Eventual demolition of the remaining 48,990 square feet of other civil engineering buildings (e.g., administration, readiness, customer services, water and electrical shops) would contribute to the achievement of this selection standard.		which would not achieve the selection standard.
Fulfills ultimate facility sizing requirement of 97,490 square feet total space.	A total of approximately 48,500 square feet is required under the first phase of construction. The footprint provided by these alternatives would achieve this requirement, as well as afford additional space to accommodate the approximate 48,990 square feet of other civil engineering buildings upon project completion.		Phase I project sizing requirements have determined that the existing 23,570 square feet of space is substandard for existing facilities, and not large enough to allow storage of all materials requiring protection from the elements, which will result in continued unacceptable losses of materials and supplies.



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McConnell Air Force Base, Wichita KS
INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

PROJECT C03 ALTERNATIVE LOCATIONS

FIGURE 2.3-1A

Project C04: Disposition of Buildings 750, 732 and 810

The Proposed Action is to decide the ultimate disposition of obsolescent Buildings 750, 732 and 810 whose functionality will be replaced by Project C02 (Construct Consolidated Support Center). As referenced on **Table 1.6-1**, the buildings were constructed in the 1950s as semi-permanent facilities, which have a design life of between ten and 25 years. Specifically, Building 750 has had persistent problems with a leaking roof and water infiltration which has resulted in mold and mildew deposition and offensive odors. It has been determined that the water intrusion problem cannot be cost-effectively repaired.

Alternatives Considered for this Project:

- ***Alternative C04 (Preferred Alternative):*** Demolish Building 750, 732 and 810, and transfer associated mission functions into newly-constructed Consolidated Support Center (Project C02). Perform asbestos abatement and LBP abatement/disposal as required.
- ***Alternative C04-1:*** Perform facility renovations to restore functional capability to existing Building 750, including replacing existing heating and cooling systems and performing structural repairs to roof and walls to eliminate water intrusion problems. Renovated facilities shall achieve permanent construction design standards per UFC 1-200-01 to the maximum extent practicable. Perform asbestos abatement and LBP abatement as required.
- ***No-Action Alternative:*** Leave legacy buildings in place.

Project Selection Standards

The following project selection standards support and supplement the universal standards described in **Section 2.2**.

1. Avoids/minimizes operational and environmental constraints (e.g., wetlands, floodplains, cultural resources, known contamination sites, clear zones, accident potential zones, explosives safety setbacks).
2. Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness.
3. Promotes operational efficiency and mission adjacency.
4. Reduces total facility square footage of obsolete or unused facilities through divestment, demolition, and/or consolidation.

Selection Standards Evaluation:

The results of the selection standards evaluation of the foregoing project alternatives is summarized on **Table 2.3-4** below. The No-Action Alternative does not meet the established purpose and need and is therefore not shown in this evaluation, but is nevertheless carried forward for analysis in the EA.

As shown, no environmentally significant impacts would occur under either alternative under consideration. However, renovating the existing buildings under Alternative C04-1 would not improve operational

efficiency and mission adjacency. In addition, it was determined that renovations and repairs necessary to maintain functionality of the existing obsolete buildings could not be cost effectively implemented. Therefore, Alternative C04 is retained for evaluation in the EA whereas Alternative C04-1 is not.

TABLE 2.3-4 SELECTION STANDARDS EVALUATION: PROJECT C04

Standard	Evaluation	
	Alternative C04: Demolish Existing Structure	Alternative C04-1: Renovate Existing Facilities
Avoids/minimizes operational and environmental constraints	Remediation: The IC boundary of OT-547 intersects a small portion of the northeast corner proposed building demolition, although the known contaminated groundwater plume would not be impacted (**Figure 2.3-1**). Per the ICIP, groundwater monitoring is ongoing at OT-547. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and oxidant injections have been implemented for TPH contamination. The site is not restricted and site identification placards are present.	
Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness	By demolishing Building 750, 732 and 810 and transferring functions into new construction (i.e., the Consolidated Support Center, Project C02), the installation can integrate sustainable principles into the design, development and construction of the Proposed Action in accordance with 10 U.S.C. 2802 (c) and other applicable laws and orders.	Although renovations to existing buildings could partially succeed in infrastructure modernization and reducing life-cycle costs, the capital outlay associated with implementing this alternative is not as cost effective as other available alternatives based on preliminary economic analysis.
Promotes operational efficiency and mission adjacency	Integrating Building 750, 732 and 810 functions into the Consolidated Support Center consolidates agencies whose missions interface on a daily basis in one location (see Project C02 [Construct Consolidated Support Center]).	Retaining Buildings 750, 732 and 810 in their current locations, especially when all other related agencies would be relocated to the Consolidated Support Center once constructed, would not promote efficiency in mission in- and out-processing actions. Further, the resulting geographic separation between the legacy buildings and the Consolidated Support Center would not maximize mission adjacency.
Reduces total facility square footage of obsolete or unused facilities through divestment, demolition, and/or consolidation	Demolishes approximately 74,045 square feet of 1950's era semi-permanent structures which are well past their intended useful lives.	The obsolete and undersized 1950's era semi-permanent facilities would remain intact, which would not achieve the selection standard.

2.3.2 Flightline District Projects

Flightline district projects defined in **Sections 1.4** and **1.6** of this EA are shown in greater detail on **Figure 2.3-2.** Adjacent planning constraints (i.e., natural resources, IC boundaries) are shown where present. Each project is described in further detail in the following sections, including an assessment of whether or not each project (and any alternatives considered) conforms to applicable selection standards.

Project F01: Disposition of Hangar 1166

The Proposed Action is to decide the ultimate disposition of Hangar 1166, which is a legacy hangar that is currently underutilized and no longer meets current or projected mission requirements.

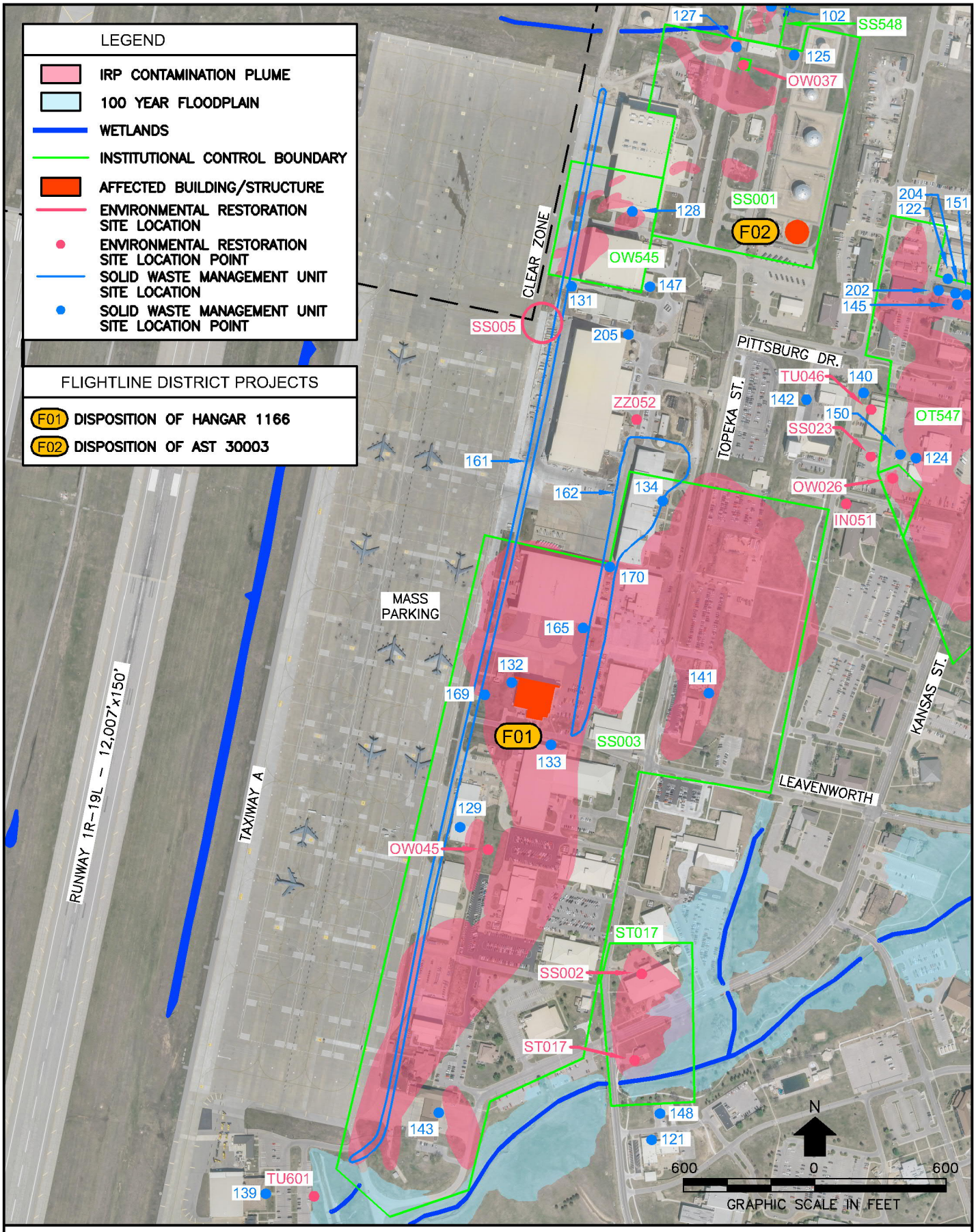
Alternatives Considered for this Project:

- ***Alternative F01 (Preferred Alternative):*** Demolish Hangar 1166 and restore its footprint to open space land use, which could later be used as developable space on the Flightline when needed. Perform asbestos abatement and LBP abatement/disposal as required.
- ***Alternative F01-1:*** Retain Hangar 1166 and repurpose/reconstruct it to serve another ongoing or upcoming mission function. Perform asbestos abatement and LBP abatement.
- ***No-Action Alternative:*** Leave legacy hangar in place to be left unutilized.

Project Selection Standards

The following project selection standards support and supplement the universal standards described in **Section 2.2**.

1. Avoids/minimizes operational and environmental constraints (e.g., wetlands, floodplains, cultural resources, known contamination sites, clear zones, accident potential zones, explosives safety setbacks).
2. Reduces total facility square footage of obsolete or unused facilities through divestment, demolition, and/or consolidation.



McConnell Air Force Base, Wichita KS
INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

FLIGHTLINE DISTRICT PROJECTS

FIGURE 2.3-2

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Selection Standards Evaluation:

The results of the selection standards evaluation of the Proposed Action and alternatives is summarized on **Table 2.3-5** below. The No-Action Alternative does not meet the established purpose and need and is therefore not shown in this evaluation, but is nevertheless carried forward for analysis in the EA.

Alternative F01-1 is not retained for further analysis in this EA, because it does not achieve objectives to drive down life-cycle costs of modernizing and recapitalizing existing infrastructure. As indicated on the table, operating and maintenance costs associated with repurposing the hangar, in addition to costs already incurred to repurpose other legacy hangars to maintain flexibility for current/future missions, were not considered reasonable. Conversely, Alternative F01 achieves all applicable selection standards, and therefore is retained for further evaluation in this EA.

TABLE 2.3-5 SELECTION STANDARDS EVALUATION: PROJECT F01

Standard	Evaluation	
	Alternative F01: Demolish Existing Hangar	**Alternative F01-1: Repurpose Hangar for Other Mission Functions**
Avoids/minimizes operational and environmental constraints	Remediation: Hangar 1166 is located within the boundary of IRP site SS-003 (**Figure 2.3-2**). Per the ICIP, groundwater monitoring is ongoing at SS-003. Contaminants of concern include chlorinated solvents and TPH. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and an oxygen infusion system has been installed near Building 1104 for TPH contamination. The site is partially restricted and site identification placards are present.	
Reduces total facility square footage of obsolete or unused facilities through divestment, demolition, and/or consolidation	Enables demolition of 26,390 square feet of underutilized hangar space that cannot effectively support ongoing and new missions at the installation. Demolition would avoid incurring life-cycle and modernization costs associated with either repurposing it (Alternative F01-1) or performing new construction.	Converting this Hangar to another mission function could satisfy the selection standard; however, no current or planned mission needs exist that would legitimize this decision. Retaining Hangar 1166 would be redundant based on current requirements, and its size is insufficient to accommodate tail height clearance requirements for the KC-46. Therefore, it cannot be meaningfully re-purposed or retrofitted, which has already been accomplished for other legacy hangars (1176 and 1107). Operating and maintenance costs associated with repurposing Hangar 1166, in addition to costs already incurred to repurpose other legacy Hangars 1176 and 1107, are not considered to be reasonable.

Project F02: Disposition of Aboveground Storage Tank 30003

The Proposed Action is to decide the ultimate disposition of AST 30003, which is currently abandoned in place, is past its useful life, and has not been utilized for 15 years.

Alternatives Considered for this Project:

- ***Alternative F02 (Preferred Alternative):*** Demolish the tank and rely on remaining bulk storage tanks to service the capacity and logistics readiness requirements for the

installation. Soil remediation would be performed as required during tank demolition and removal procedures.

- ***Alternative F02-1:*** Replace the tank with a newer technology equivalent that is within its useful life.
- ***No-Action Alternative:*** Leave the tank in place and unutilized.

Project Selection Standards

The following project selection standards support and supplement the universal standards described in **Section 2.2**.

1. Avoids/minimizes operational and environmental constraints (e.g., wetlands, floodplains, cultural resources, known contamination sites, clear zones, accident potential zones, explosives safety setbacks).
2. Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness.
3. Eliminates excess infrastructure that is not currently required to fulfill bulk storage capacity needs.

Selection Standards Evaluation:

The results of the selection standards evaluation of the Proposed Action and alternatives is summarized on **Table 2.3-6** below. The No-Action Alternative does not meet the established purpose and need and is therefore not shown in this evaluation, but is nevertheless carried forward for analysis in the EA.

Comparatively, demolishing the existing tank would eliminate unused infrastructure on base that is no longer needed to fulfill bulk storage capacity needs, whereas Alternative F02-01 would not. Therefore, Alternative F02 is retained for evaluation in this EA over Alternative F02-01.

TABLE 2.3-6 SELECTION STANDARDS EVALUATION: PROJECT F02

Standard	Evaluation	
	Alternative F02: Demolish	Alternative F02-1: Replace
Avoids/minimizes operational and environmental constraints	Remediation: the site of the existing tank is within the IC boundary of IRP site SS001, but does not intersect known active groundwater plume boundaries. Per the ICIP, groundwater contaminants of concern at this site are chlorinated solvents, vinyl chloride and benzene. A combination of air sparging, air stripping, soil-vapor extraction and bioremediation are being applied to control these contaminants. Groundwater injection of ZVI has also been implemented to control chlorinated contaminants and oxidant injections have been implemented to control benzene. Access to the site is restricted and site identification placards are present.	

Standard	Evaluation	
	Alternative F02: Demolish	Alternative F02-1: Replace
Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness	Demolition would avoid incurring life-cycle and modernization costs associated with replacing the tank.	Life-cycle and modernization costs associated with replacing the tank would be incurred.
Eliminates excess infrastructure that is not currently required to fulfill bulk storage capacity needs	Enables demolition of out-of-service bulk storage capacity that is otherwise served by remaining bulk storage tanks.	Bulk storage capacity of this tank is not currently used or needed, nor is it projected to be used or needed. This tank has been out of service for 15 years, and other bulk storage tanks are currently adequate to accommodate capacity and logistics readiness requirements at the installation.

2.3.3 Outdoor Recreational District Projects

Outdoor Recreational district projects defined in **Sections 1.4** and **1.6** of this EA are shown in greater detail on **Figure 2.3-3.** Adjacent planning constraints (i.e., natural resources, IC boundaries) are shown where present. Each project is described in further detail in the following sections, including an assessment of whether or not each project (and any alternatives considered) conforms to applicable selection standards.

Project OR01: Construct New Krueger Recreational Area Running Trail South of Fam Camp

The Proposed Action is to provide at least one mile of additional rubberized surface running trail in order to provide a longer running/walking option on base. The purpose of the action is to enhance morale, welfare and readiness of airmen and installation personnel by promoting increased use of fitness amenities in the Krueger Recreation Area.

Alternatives Considered for this Project:

- ***Alternative OR01 (Preferred Alternative):*** Construct at least one mile of additional trail within the development footprint shown on **Figure 2.3-3**, coinciding with the land area identified as Parcel 5E in the IDP. Some areas within the footprint shown on **Figure 2.3-3**

are reserved for Military Working Dog Kennel use, so the running trail would need to be constructed in the remaining unobligated space.

- ***Alternative OR01-1:*** Construct at least one mile of additional trail within the development footprint shown on **Figure 2.3-3**, coinciding with the land area identified as Parcel 5D in the IDP.
- ***No-Action Alternative:*** Continue to use existing trail amenities with no expansions or improvements.

Project Selection Standards

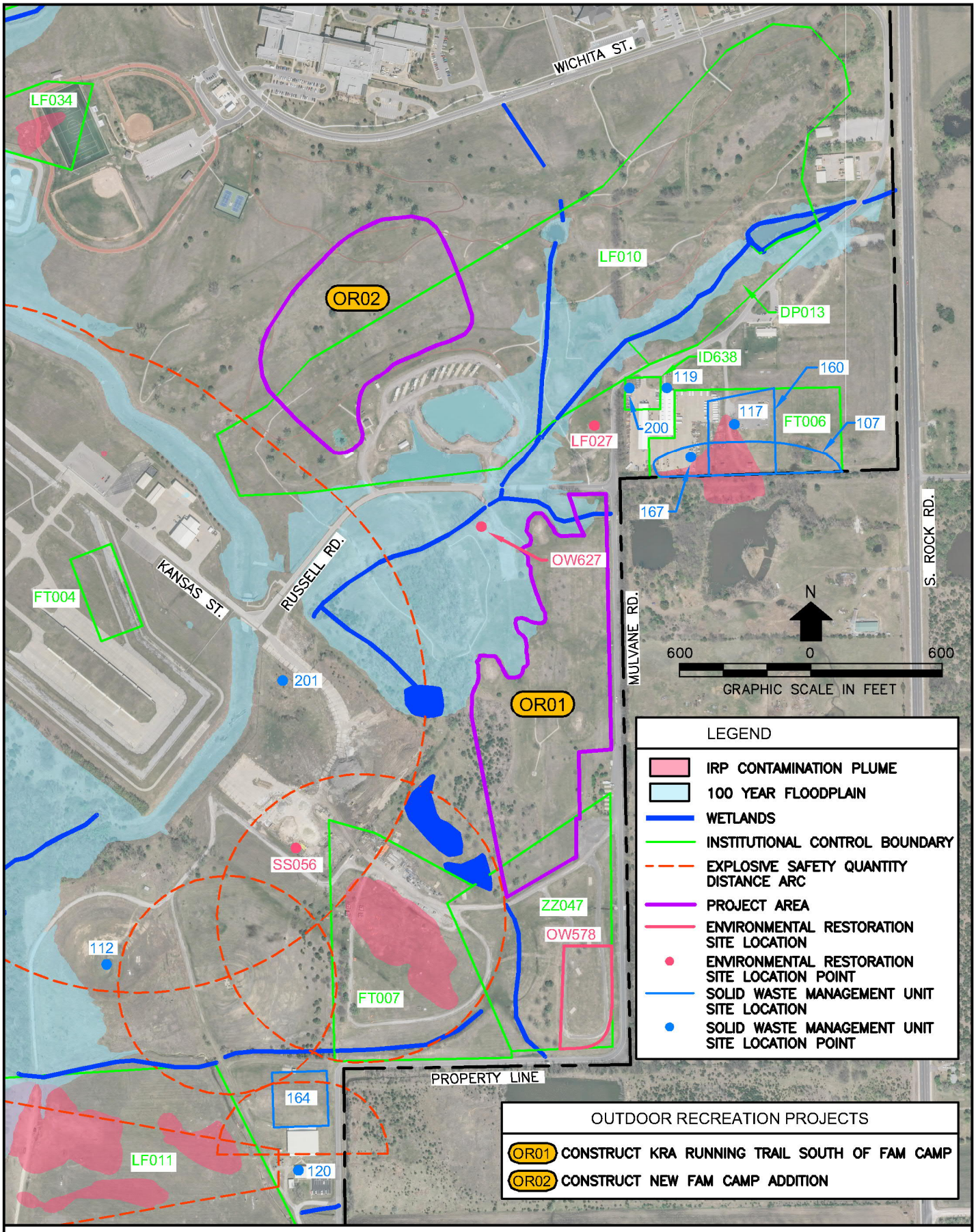
The following project selection standards support and supplement the universal standards described in **Section 2.2**.

1. Avoids/minimizes operational and environmental constraints (e.g., wetlands, floodplains, cultural resources, known contamination sites, clear zones, accident potential zones, explosives safety setbacks).
2. Promotes/enhances Morale, Welfare and Readiness programs and objectives.

Selection Standards Evaluation:

The results of the selection standards evaluation of the Proposed Action and alternatives is summarized on **Table 2.3-7** below. Alternative locations described on the Table are shown on **Figure 2.3-3a**. The No-Action Alternative does not meet the established purpose and need and is therefore not shown in this evaluation, but is nevertheless carried forward for analysis in the EA.

As shown, both alternatives satisfy selection standards related to Morale, Welfare and Readiness objectives as well as IDP objectives. However, Alternative OR01-1 would be situated in wetland and floodplain areas and could adversely impact these resources. In comparison, Alternative OR01 is a practicable alternative that avoids the wetlands and floodplains altogether. In accordance with EO 11988 and 11990, the USAF is required to evaluate whether practicable alternatives exist to avoid wetlands and floodplains, and if they do exist, the USAF complies with the EOs by implementing these avoidance alternatives. Therefore, Alternative OR01-1 is discounted from further analysis.



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ENVIRONMENTAL ASSESSMENT

OUTDOOR RECREATIONAL DISTRICT PROJECTS

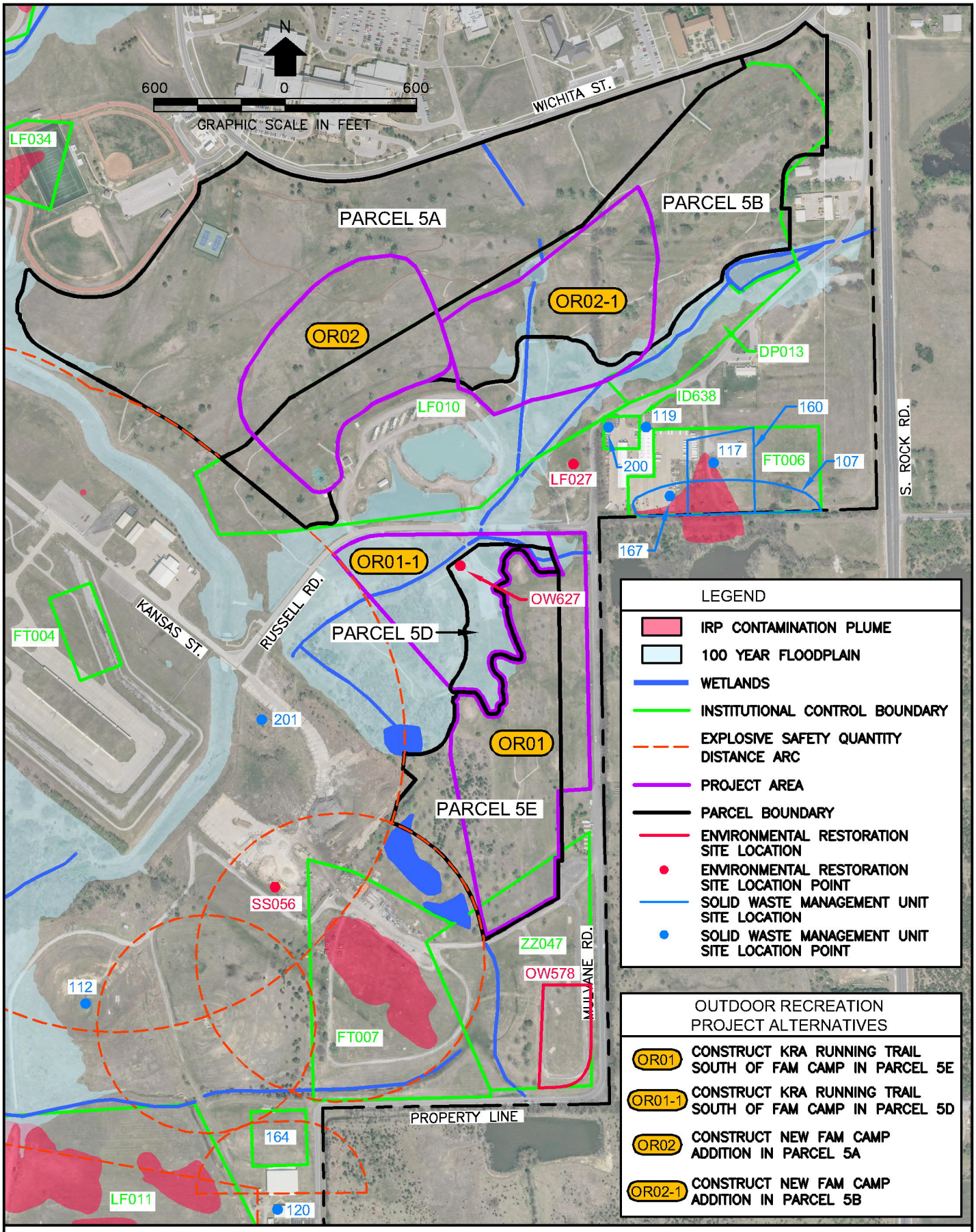
FIGURE 2.3-3

TABLE 2.3-7 SELECTION STANDARDS EVALUATION: PROJECT OR01

Standard	Evaluation	
	Alternative OR01: Construct in Parcel 5E	Alternative OR01-1: Construct in Parcel 5D
Avoids/minimizes operational and environmental constraints s	Remediation: the portion of the development footprint shown on **Figure 2.3-3a** for this alternative, which overlaps with Parcel 5E, is sufficiently large to meet the purpose and need of the Proposed Action. The extreme southern portion of the Proposed Action footprint overlaps the IC boundaries of IRP Site ZZ047. Arsenic is present in soils within the IRP site. Per the ICIP, a final remedy decision document was prepared indicating that the selected site remedy is landfill cap inspection and maintenance and ICs. Access to the site is not restricted, and placards are not present (USAF, 2019e). Natural: there is sufficient space within the Parcel 5E portion of this footprint to completely avoid wetlands, floodplains, explosives safety setbacks and other operational and environmental constraints.	Natural: The portion of the development footprint shown on **Figure 2.3-3a** for this alternative, which overlaps with Parcel 5D, is sufficiently large enough to meet the purpose and need of the Proposed Action. However, the Parcel 5D portion of this footprint coincides with wetland and floodplain areas to a degree that cannot likely be avoided or minimized using design measures.
Promotes/enhances Morale, Welfare and Readiness programs and objectives	Providing additional outdoor exercise and fitness amenities complies with AFI 34-101. Providing additional outdoor exercise and fitness amenities promotes health and wellness of airmen and base personnel, and therefore promotes mission sustainment.	

Project OR02: Construct New Fam Camp Addition

Per **Section 1.6**, the Proposed Action includes improving Fam Camp in order to enhance morale, welfare and readiness of airmen and installation personnel. Based on current use, the enhancement would be accomplished by providing additional pay-for-use recreational camping vehicle parking positions and hook-ups. However, the provisioned space could also be utilized for alternate methods such as tent camping.



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McConnell Air Force Base, Wichita KS
INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

PROJECT OR01 AND OR02 ALTERNATIVE LOCATIONS

FIGURE 2.3-3A

Alternatives Considered for this Project:

- ***Alternative OR02 (Preferred Alternative):*** Construct additional camping space in Parcel 5A as identified in the IDP, which is located in open space immediately north of the existing Fam Camp trailer parking spaces located off Russell Road. The existing running trail within the footprint would need to be realigned around the additional camping space.
- ***Alternative OR02-1:*** Construct additional camping space in Parcel 5B as identified in the IDP, which is directly adjacent to existing amenities north of Russell Road. Existing walking paths and running trail within this footprint would need to be realigned around the additional camping space.
- ***No-Action Alternative:*** Utilize existing Fam Camp facilities with no expansions or improvements.

Project Selection Standards

The following project selection standards support and supplement the universal standards described in **Section 2.2**.

1. Avoids/minimizes operational and environmental constraints (e.g., wetlands, floodplains, cultural resources, known contamination sites, clear zones, accident potential zones, explosives safety setbacks).
2. Promotes/enhances Morale, Welfare and Readiness programs and objectives.

Selection Standards Evaluation:

The results of the selection standards evaluation of the Proposed Action and alternatives is summarized on **Table 2.3-8** below. Alternative locations described on the Table are shown on **Figure 2.3-3a**. The No-Action Alternative does not meet the established purpose and need and is therefore not shown in this evaluation, but is nevertheless carried forward for analysis in the EA.

As shown, both alternatives satisfy selection standards related to Morale, Welfare and Readiness objectives as well as IDP objectives. However, Alternative OR02-1 would be situated in wetland and floodplain areas and could adversely impact these resources. In comparison, Alternative OR02 is a practicable alternative that avoids the wetlands and floodplains altogether. In accordance with EO 11988 and 11990, the USAF is required to evaluate whether practicable alternatives exist to avoid wetlands and floodplains, and if they do exist, the USAF complies with the EOs by implementing these avoidance alternatives. Therefore, Alternative OR02-1 is discounted from further analysis

TABLE 2.3-8 SELECTION STANDARDS EVALUATION: PROJECT OR02

Standard	Evaluation	
	Alternative OR02: Construct in Parcel 5A	Alternative OR02-1: Construct in Parcel 5B
Avoids/minimizes operational and environmental constraints	Remediation: the IC boundaries of IRP Site LF-010 overlap the southern boundary of this alternative's footprint. (**Figure 2.3-3**). Natural: this alternative completely avoids all known installation environmental constraints.	Remediation: this alternative is situated within the IC boundary of IRP site LF-010. Natural: this alternative is situated within 100-year floodplain areas, adjacent to wetlands.
Promotes/enhances Morale, Welfare and Readiness programs and objectives	Providing additional outdoor exercise and fitness amenities complies with AFI-34-101. Providing additional outdoor exercise and fitness amenities promotes health and wellness of airmen and base personnel, and therefore promotes mission sustainment.	

2.3.4 Multi-District Projects

Refer to **Figure 2.3-4** for locations of this project spanning multiple planning districts. Each project is described in further detail in the following sections, including an assessment of whether or not each project conforms to applicable universal selection standards.

Project M01: Stream Restoration

The Proposed Action is to comply with the INRMP by performing stream restoration activities in areas where bank erosion and vegetative debris accumulation are impairing hydrologic function and drainage.

Alternatives Considered for this Project:

- ***Alternative M01 (Preferred Alternative):*** Perform vegetative debris and trash removal, bank stabilization, and installation of necessary buffers (minimum of 100 feet) to remedy existing deterioration along McConnell Creek and associated waterways. Of the specific stream reaches where these debris removal, stabilization and buffer installation activities would occur, the installation has identified a priority area located south of 47th Street, along the line of Taxiway Alpha.

- ***No-Action Alternative:*** Leave existing stream reaches as is, which would exacerbate debris accumulation, bank erosion, deterioration of hydrologic qualities, and risk to installation infrastructure.

Of note, the USAF has not evaluated other alternatives for stream restoration at McConnell AFB and only the USAF's preferred alternative is evaluated in this EA. The overarching purpose and need is to perform stream restoration to improve the quality of natural aquatic systems on base while improving hydrologic conditions. There are no other reasonable and tenable alternatives that would satisfy this purpose and need.

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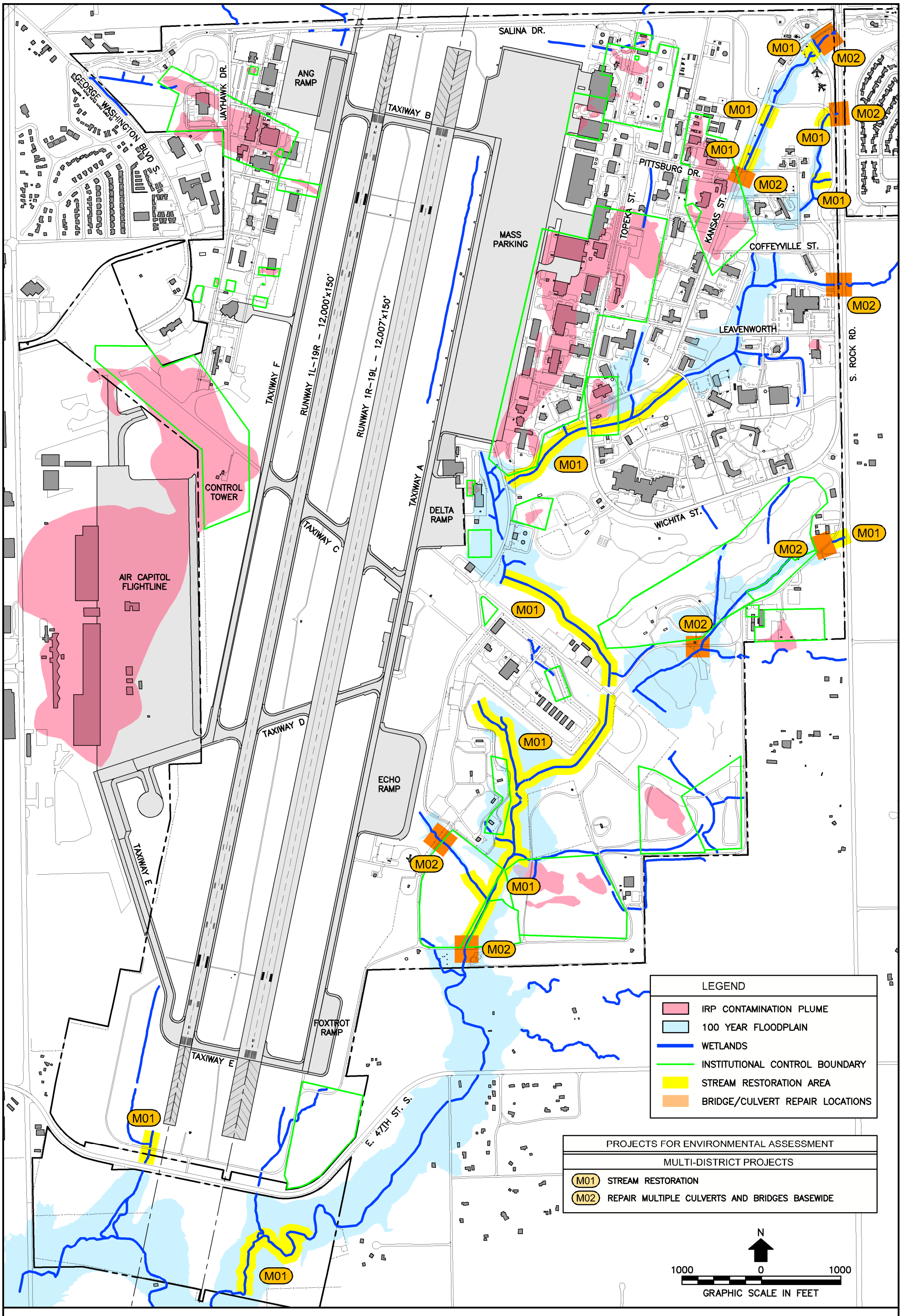

FIGURE 2.3-4

MULTI-DISTRICT PROJECTS

McConnell Air Force Base, Wichita KS
INSTALLATION DEVELOPMENT PLAN
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Project Selection Standards

The following project selection standards support and supplement the universal standards described in **Section 2.2**.

1. Avoids/minimizes operational and environmental constraints (e.g., wetlands, floodplains, cultural resources, known contamination sites, clear zones, accident potential zones, explosives safety setbacks).
2. Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness.

Selection Standards Evaluation:

Overall, stream restoration activities minimize flood-related damage, closures and delays. Doing so also drives down life-cycle costs of repairing the transportation infrastructure as flood-related damage continues to be incurred. Of note, the No-Action Alternative does not meet the established purpose and need and is therefore not included in this evaluation, but is nevertheless carried forward for analysis in the EA.

In terms of natural resources constraints, stream restoration activities would occur along areas that could be considered either wetlands or waters of the U.S., and restoration activities might cause minor construction-related impacts to these resources. Any impacts could be minimized using construction BMPs and any permitting requirements with Federal, state and local agencies would be addressed prior to construction. The restoration activities in some areas may coincide with the 100-year floodplain, but not to a degree where impacts to natural or beneficial floodplain values would be incurred. Overall, in its end state, the Proposed Action would improve ecosystem function, hydrologic conditions and flood storage efficiency for areas across the installation. As stated above, due to the nature of the project and its purpose and need, there are no other practicable alternatives available that avoid these resources.

The footprint of stream restoration activities would overlap the boundaries of numerous IRP sites as follows, but would not intersect any known groundwater contamination plumes (**Figure 2.3-4**):

- IRP Site ZZ049 is not restricted, and site identification placards are not present. The site's contaminant of concern is arsenic in soils 1.5 feet below ground surface. A proposed final remedy of existing vegetated soil cover and IC is pending regulatory review (USAF, 2019b).
- IRP site ST017 is not restricted, and site identification placards are present. Site contaminants are methyl tert-butyl ether, benzene, TPH, and naphthalene in groundwater; and benzene, TPH, and naphthalene in soil. Oxidant Injection has been implemented as an interim measure and groundwater monitoring is ongoing (USAF, 2019e).
- IRP Site LF011 is restricted and site identification placards are present. Site contaminants include trichloroethylene, vinyl chloride, cis-1,2- dichloroethylene in groundwater; and trichloroethylene, vinyl chloride, cis-1,2- dichloroethylene, other non- chlorinated volatile organic compounds, and metals in soil. A groundwater capture and treatment system was

installed in 1996. Remediation wells utilizing a combination of air sparging, air stripping, soil-vapor extraction, and enhanced bioremediation were installed in 2009. Both systems have been shut off and partially abandoned. Injection of ZVI in source areas as well as an injected ZVI treatment wall has been implemented as interim measures. Groundwater monitoring is ongoing (USAF, 2019e).

- IRP Site LF033 is restricted and site identification placards are present. Site contaminants include perchloroethylene, trichloroethylene, manganese, and arsenic in groundwater; and naphthalene, perchloroethylene, trichloroethylene, and antimony in soil. Site monitoring wells were sampled in 2015 and all volatile organic compounds were below screening criteria. Arsenic and manganese were detected above screening criteria. The proposed final remedy of existing vegetated soil cover, ICs, and long-term monitoring is pending regulatory review.
- IRP Site SS-003 is restricted and site identification placards are present. Contaminants of concern include chlorinated solvents and TPH. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and an oxygen infusion system has been installed near Building 1104 for TPH contamination.

Any impacts to IRP sites would be addressed and mitigated by implementing installation control requirements for work within IRP IC boundaries identified in IRP decision documents and the ICIP (USAF, 2019e).

Project M02: Repair Multiple Culverts and Bridges Basewide

The Proposed Action is to prevent further flood-related transportation infrastructure deterioration, as well as to prevent transportation network delays and inefficiencies, by improving the efficacy by which existing drainage structures on installation can accommodate peak drainage flows during large storm events.

Alternatives Considered for this Project:

- ***Alternative M02 (Preferred Alternative):*** Provide larger-sized culverts and replace eroding piping to better handle storm flows after large storm events. Perform bridge repairs as needed to improve existing structural condition as well as to accommodate new culvert and piping installation. Specific bridges and culverts repairs included in this EA comprise:
  - Location 1 – Under Wichita Street northeast of the clinic (Building 250);
  - Location 2 – South end of Base under Udall Street (McConnell Creek at Outfall 001);
  - Location 3 – Liberal Street north of the fire training area (Outfall 020);
  - Location 4 – Russell Street east of the lakes at the Fam Camp;
  - Location 5 – Under Pittsburg Street east of the Pittsburg Street/Kansas Street intersection;
  - Location 6 – Under Wichita Street south of the static displays;
  - Location 7 – Under Mulvane Street northeast of the dog training facility; and

  - Location 8 – Along and to the south of Kansas Street across the street and on the other side of fence from the Visitor's Center Walkway Bridge North of Building 250.

- ***No-Action Alternative:*** Do not perform infrastructural repairs, which would exacerbate the risk of infrastructure damage and flooding on the installation.

Of note, the USAF has not evaluated other alternatives for proposed bridge and culvert repairs at McConnell AFB and only the USAF preferred alternative is evaluated in this EA. The overarching purpose and need is to perform these infrastructure repairs in order to improve hydrologic conditions basewide and maintain readiness of existing infrastructure. There are no other reasonable and tenable alternatives that would satisfy this purpose and need.

Project Selection Standards

The following project selection standards support and supplement the universal standards described in **Section 2.2**.

1. Avoids/minimizes operational and environmental constraints (e.g., wetlands, floodplains, cultural resources, known contamination sites, clear zones, accident potential zones, explosives safety setbacks).
2. Cost-effectively modernizes infrastructure by driving down life-cycle costs of recapitalization and improving infrastructure readiness.

Selection Standards Evaluation:

Overall, adequately-sized culverts improve the readiness of transportation infrastructure basewide by minimizing flood-related damage, closures and delays. Doing so also drives down life-cycle costs of repairing the transportation infrastructure as flood-related damage continues to be incurred. Of note, the No-Action Alternative does not meet the established purpose and need and is therefore not included in this evaluation, but is nevertheless carried forward for analysis in the EA.

With respect to natural resource constraints, repair projects would occur along areas that could be considered either wetlands or waters of the U.S., and restoration activities might cause minor construction-related impacts to these resources. Any impacts could be minimized using construction BMPs and any permitting requirements with Federal, state and local agencies would be addressed prior to construction. The restoration activities in some areas may coincide with the 100-year floodplain, but not to a degree where negative impacts to natural or beneficial floodplain values would be incurred. As stated above, due to the nature of the project and its purpose and need, there are no other practicable alternatives available that avoid these resources.

The footprint of several repair activities would overlap the IC boundaries of IRP Sites ZZ048, DP-013, LF-010, ZZ049, and OT-547, but would not intersect any known groundwater contamination plumes (**Figure 2.3-4**). Sites ZZ048, DP-013, and LF-010 have no contaminants above screening or acceptable risk levels. The sites are not restricted, and site identification placards are not present. A final remedy decision

document was prepared for IRP Site ZZ048, indicating that the selected site remedy is landfill cap inspection and maintenance and ICs (USAF, 2019a). A proposed final remedy of existing vegetated soil cover and ICs for IRP Sites DP-013 and LF-010 is pending regulatory review (USAF, 2019e).

The contaminant of concern at IRP Site ZZ049 is arsenic located in soils 1.5 feet below ground surface. A proposed final remedy of existing vegetated soil cover and ICs is pending regulatory review. The site is not restricted, and site identification placards are not present (USAF, 2019b).

Per the ICIP, groundwater monitoring is ongoing at OT-547. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and oxidant injections have been implemented for TPH contamination. The site is not restricted and site identification placards are present (USAF, 2019e).

Any impacts to IRP sites would be addressed and mitigated by implementing installation control requirements for work within IRP IC boundaries identified in IRP decision documents and the ICIP (USAF, 2019e).

CHAPTER 3 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This chapter describes the existing environmental conditions at McConnell AFB, including the natural and human environment, with an emphasis on the locations of the Proposed Actions described in Chapters 1 and 2. The information presented in this chapter serves as a baseline against which potential environmental consequences of the Proposed Actions studied in this EA can be evaluated and compared.

3.2 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

For each environmental resource category included in this EA, a Region of Influence (ROI) has been established for the purposes of evaluating the Proposed Actions. To a large degree, the ROI determines the geographical area to be presented as the affected environment.

Pursuant to NEPA regulations, the scope of analysis for this EA is defined by the potential range of environmental impacts that could occur as a result of the Proposed Actions or No-Action Alternatives within the established ROI. At its discretion, the USAF can identify and eliminate from detailed study any issues that are not likely to be relevant or have otherwise been covered during prior NEPA review. Collectively, the resources analyzed by the USAF throughout this process include: airspace; air quality and climate; noise; cultural resources; biological and natural resources; water resources, including surface water, groundwater and floodplains; hazardous materials and hazardous waste; land use; infrastructure and utilities; earth resources; safety and occupational health; socioeconomics; and environmental justice.

3.2.1 Resource Areas Eliminated from Further Analysis

Through the decision-making process, the USAF determined that out of the categories analyzed, the only area where reasonably foreseeable impacts are not expected whatsoever is airspace. No change to McConnell AFB airspace would be needed due to the Proposed Actions included in this EA, and all applicable airspace regulations and procedures would be adhered to. Therefore, airspace is not included in the EA assessment of affected environment and environmental consequences. For all other areas, there is potential for at least some reasonably foreseeable impact to occur, and therefore, all other areas are retained for further evaluation in this EA.

3.3 AIR QUALITY AND CLIMATE

Air quality impacts can range from localized effects to the dispersal and transport of air pollutants across large geographic areas. For the purposes of the air quality impact assessment, potential air emissions associated with the Proposed Actions are quantified and disclosed, compared against any applicable thresholds, and discussed in the context of the airshed and air quality control framework applicable to Sedgwick County. For this EA, the applicable ROI is the airshed with which Sedgwick County resides. However, the nature and magnitude of the Proposed Actions are expected to create only localized impacts to the area surrounding McConnell AFB within this airshed.

3.3.1 National Ambient Air Quality Standards

Pursuant to the CAA and its amendments, the USEPA identifies air pollutants that cause or contribute to the endangerment of human health and or environmental welfare and establishes air quality "criteria" that guide the establishment of air quality standards to regulate these pollutants (42 U.S.C. Sections [§§] 7408-7409). To date, the USEPA has established such criteria for six air pollutants: carbon monoxide (CO), lead, nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), particulate matter less than ten micrometers in diameter (PM_{10}), and sulfur dioxide (SO_2), and has subsequently promulgated National Ambient Air Quality Standards (NAAQS) meant to safeguard public health (i.e., primary NAAQS) and environmental welfare (i.e., secondary NAAQS). Current NAAQS are presented in **Table 3.3-1**.

Areas where monitored outdoor air concentrations are within an applicable NAAQS are considered in *attainment* of that NAAQS. If sufficient ambient air monitoring data are not available to make a determination, the area is instead deemed *attainment/unclassifiable*. Areas where monitored outdoor air concentrations exceed the NAAQS are designated by the USEPA as *nonattainment* areas. *Nonattainment* designations for some pollutants (e.g., O_3) can be further classified based on the severity of the NAAQS exceedances. Lastly, areas that have historically exceeded the NAAQS, but have since instituted controls and programs that have successfully remedied these exceedances are known as *maintenance* areas. Currently, Sedgwick County is considered attainment of all NAAQS.

All states are required to develop a State Implementation Plan (SIP) that includes strategies and measures to maintain or achieve compliance with the NAAQS by a USEPA-prescribed deadline. SIPs are also devised to maintain compliance with a NAAQS once attainment is achieved. The Kansas SIP is identified by USEPA at 40 CFR Part 52, Subpart R (40 CFR §§ 52.869-.884).

TABLE 3.3-1 NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Level	Form
CO	8-hour	9 ppm	Not to be exceeded more than once per year
	1-hour	35 ppm	
Lead	Rolling 3-month average	0.15 µg/m^3	Not to be exceeded
NO_2	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, 3-year average
	Annual	53 ppb	Annual mean
O_3	8-hour	0.070 ppm	Annual fourth-highest daily maximum 8-hr concentration, 3-year average
PM	$PM_{2.5}$ Annual (primary)	12 µg/m^3	Annual mean, 3-year average
	$PM_{2.5}$ Annual (secondary)	15 µg/m^3	Annual mean, 3-year average
	$PM_{2.5}$ 24-hour	35 µg/m^3	98th percentile, 3-year average
	PM_{10} 24-hour	150 µg/m^3	Not to be exceeded more than once per year, 3-year average
SO_2	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, 3-year average
	3-hour	0.5 ppm	Not to be exceeded more than once per year

Notes: ppb = parts per billion; ppm = parts per million; µg/m^3 = micrograms per cubic meter of air.
Source: USEPA, 2019a.

To gauge compliance with the NAAQS and pursuant to USEPA requirements, the KDHE has established and maintains a permanent network of ambient air monitors across the state, including areas within and surrounding Sedgwick County. Two monitoring stations are located within five miles of McConnell AFB. **Table 3.3-2** summarizes data collected over the period of 2016 to 2018 at each station and for each pollutant.

The monitoring data demonstrate that concentrations of NO_2, O_3, $PM_{2.5}$, and PM_{10} in the area surrounding McConnell AFB are well below applicable NAAQS. No violations of the NAAQS are registered for any pollutants measured.

TABLE 3.3-2 AIR MONITORING DATA SUMMARY

NAAQS				USEPA Monitor ID# (Distance and Direction from McConnell AFB)	
Pollutant	Primary/ Secondary	Averaging Time	Level	20-173-0009 (4.2 miles west)	20-173-0010 (4.4 miles north)
$PM_{2.5}$	Primary	1 year	12 µg/m^3	7.8	6.8
	Secondary		15 µg/m^3	7.8	6.8
	Primary and Secondary	24 hours	35 µg/m^3	18.8	16.7
PM_{10}	Primary and Secondary	24 hours	150 µg/m^3	No exceedances	--
NO_2	Primary	1 hour	100 ppb	--	28.7
	Primary and Secondary	1 year	53 ppb	--	16.7
O_3	Primary and Secondary	8 hours	0.070 ppb	--	0.006

Source: USEPA, 2019b.
-- = not monitored

3.3.2 EXISTING AIR QUALITY CONDITIONS

3.3.2.1 Clean Air Act Conformity

The General Conformity Rule of the Federal CAA mandates that the Federal government not engage, support or provide financial assistance for licensing or permitting, or approve any activity not conforming to an approved SIP. This rule applies to all Federal actions except highway and transit actions which are instead regulated by the Transportation Conformity Rule. The rule takes into account air pollutant emissions associated with actions that are federally funded, licensed, permitted, or approved, and ensures that such emissions do not cause or contribute to air quality degradation, thus preventing the achievement of state and Federal air quality goals.

Air Force Policy Directive (AFPD) 32-70, *Environmental Considerations in Air Force Programs and Activities,* mandates that the USAF comply with all Federal, state and local environmental laws and standards. In accordance with AFPD 32-70, AFI 32-7040*, Air Quality Compliance and Resource Management*, explains responsibilities and specifics on how to assess, attain and sustain compliance with the CAA and other Federal, state and local air quality regulations. This AFI provides further and more

specific instruction on the requirements of the USAF's EIAP for air quality promulgated at 32 CFR 989.30, which mandates that EIAP documents such as this EA address General Conformity.

Because Sedgwick County and the surrounding area meets all NAAQS, the region is considered in attainment for all pollutants. As a result, the General Conformity Rule does not apply to the Proposed Actions.

3.3.2.2 Hazardous Air Pollutants

In addition to the criteria pollutants discussed above, non-criteria toxic pollutants, called hazardous air pollutants (HAPs), are also regulated under the CAA. The USEPA has identified a total 187 HAPs that are known or suspected to cause health effects in small doses. HAPs are emitted by a wide range of man-made and naturally occurring sources including combustion mobile and stationary sources. However, unlike the NAAQS for criteria pollutants, Federal ambient air quality standards do not exist for non-criteria pollutants.

3.3.2.3 Stationary and Mobile Source Emissions

No new major stationary sources are associated with the Proposed Actions at McConnell AFB. New major stationary sources are subject to Prevention of Significant Deterioration and/or New Source Review programs to ensure that these sources are constructed without significant deterioration of the air in the area. The USEPA oversees programs for stationary source operating permits (Title V) and for new or modified major stationary source construction and operation. Mobile sources are regulated under the CAA Title II through enforcing emissions standards on sources manufactured.

McConnell AFB has a Class II Permit-By-Rule Operating Permit, under Kansas Administrative Regulations 28-19-564. This permit requires actual stationary point source emissions from McConnell AFB to be less than 50 percent of the major source thresholds, which is 50 tons per year (tpy) for each pollutant. Stationary point sources at the installation consist of diesel emergency power generators and natural gas-fired external combustion equipment (i.e., boilers/heaters) (KDHE, 2004). **Table 3.3-3** summarizes McConnell AFB's calendar year 2017 stationary source air emissions inventory (McConnell AFB, 2017e).

TABLE 3.3-3 BASEWIDE EMISSIONS SUMMARY – MCCONNELL AFB 2017

Criteria Pollutant Actual Emissions (tpy)								
Source Category	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**NO_x**	**SO_x**	**VOC**	**HAPs**
Aircraft Engine Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
External Combustion	0.68	0.68	0.68	7.41	8.94	0.05	0.49	0.17
Stationary Internal Combustion	0.23	0.23	0.23	0.71	3.31	0.22	0.27	0.00
Totals (Title V): *	0.91	0.91	0.91	8.12	12.26	0.27	0.76	0.17
Title V Thresholds:	100	100	100	100	100	100	100	25
Actual/Title V Percentage:	0.01	0.01	0.01	0.08	0.12	0.00	0.01	0.01

Notes: VOC = volatile organic compounds, NOx = nitrogen oxide; SOx = sulfur oxide
Source: McConnell AFB, 2017e.

3.3.2.4 Greenhouse Gas Emissions

Greenhouse gases (GHGs) are compounds that contribute to the greenhouse effect. The greenhouse effect is a natural phenomenon where gases trap heat within the lowest portion of the earth's atmosphere, causing heating at the surface of the earth. The primary long-lived GHGs directly emitted by human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

The heating effect from these gases is considered the probable cause of the global warming observed over the last 50 years (USEPA, 2009a). Global warming and climate change can affect many aspects of the environment. The USEPA has recognized potential risks to public health or welfare and signed an endangerment finding regarding GHGs under Section 202(a) of the CAA (USEPA, 2009b), which finds that the current and projected concentrations of the six key well-mixed GHGs – CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 – in the atmosphere threaten the public health and welfare of current and future generations. Emissions of GHGs estimated for the Proposed Actions are discussed in **Section 4.2.1** of this EA.

3.4 NOISE

Sound is defined as a particular auditory impact produced by a given source (e.g., the sound of rain on a rooftop). Noise and sound share the same physical aspects, but noise is considered a disturbance while sound is considered an auditory impact. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Noise can be intermittent or continuous, steady or impulsive, and can involve any number of sources and frequencies. Noise can be readily identifiable or generally nondescript. Human response to increased sound levels varies according to the source type, characteristics of the sound source, distance between the source and receptor, receptor sensitivity, and time of day. Affected receptors are specific (e.g., residential areas, schools, churches, or hospitals) or broad (e.g., nature preserves or designated districts) areas in which occasional or persistent sensitivity or noise above ambient levels exists. These are generally referred to as sensitive noise receptors.

Sound levels vary with time. For example, the sound increases as an aircraft approaches, then falls and blends into the ambient, or background, as the aircraft recedes into the distance. Because of this variation, it is often convenient to describe a particular noise "event" by its highest or maximum sound level (L_{max}). It should be noted that L_{max} describes only one dimension of an event; it provides no information on the cumulative noise exposure generated by a sound source. In fact, two events with identical L_{max} levels may produce very different total noise exposures. One may be of very short duration, while the other may last much longer.

Human response to noise varies, as do the metrics used to quantify it. Generally, sound can be calculated with instruments that record instantaneous sound levels in decibels (dB). A-weighted decibel (dBA) is the unit used to characterize sound levels that can be sensed by the human ear. "A-weighted" denotes the adjustment of the frequency range to what the average human ear can sense when experiencing an audible event. The threshold of audibility is generally within the range of ten to 25 dBA for normal hearing. The threshold of pain occurs at the upper boundary of audibility, which is normally in the region of 135 dBA

(U.S. Department of Transportation [USDOT], 2006). **Table 3.4-1** compares common sounds and shows how they rank in terms of auditory impacts. As shown, a whisper is normally 30 dBA and considered to be very quiet while an air conditioning unit 20 feet away is considered an intrusive noise at 60 dBA. Noise levels can become annoying at 80 dBA and very annoying at 90 dBA. To the human ear, each ten-dBA increase seems twice as loud (USDOT, 2006).

TABLE 3.4-1 SOUND LEVELS AND HUMAN RESPONSE

Noise Level (dBA)	Common Sounds	Effect
10	Just audible	Negligible
30	Soft whisper (15 feet)	Very quiet
50	Light auto traffic (100 feet)	Quiet
60	Air conditioning unit (20 feet)	Intrusive
70	Noisy restaurant or freeway traffic	Telephone use difficult
80	Alarm clock (two feet)	Annoying
90	Heavy truck (50 feet) or city traffic	Very annoying; Hearing damage (eight hours)
100	Garbage truck	Very annoying
110	Pile drivers	Strained vocal effort
120	Jet takeoff (200 feet) or auto horn (three feet)	Maximum vocal effort
140	Carrier deck jet operation	Painfully loud

Source: USDOT, 2006.

Under the Noise Control Act of 1972, the OSHA established workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 dBA over an eight-hour period. The highest allowable sound level to which workers can be constantly exposed to is 115 dBA, and exposure to this level must not exceed 15 minutes within an eight-hour period. These standards limit instantaneous exposure, such as impact noise, to 140 dBA. If noise levels exceed these standards, employers are required to provide hearing protection equipment that will reduce sound levels to acceptable limits.

The average day/night sound level (DNL) metric is a measure of the total community noise environment. DNL is the average A-weighted sound level over a 24-hour period with a ten-dBA adjustment penalty added to the nighttime levels (between 10:00 PM and 7:00 AM). This penalty adjustment is an effort to account for increased human sensitivity to nighttime noise events. DNL was endorsed by the USEPA for use by Federal agencies and was adopted by the U.S. Department of Housing and Urban Development. DNL is an accepted unit for quantifying annoyance to humans from general environmental noise, including aviation and construction noise. Land use compatibility and incompatibility are determined by comparing the predicted DNL at a site with the recommended land uses. Noise levels occurring at night generally produce a greater annoyance than those of the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being more disruptive than those occurring during the day, at least in terms of its potential for causing community annoyance.

Due to the DNL descriptor's close correlation with the degree of community annoyance from aircraft noise, most Federal agencies have formally adopted DNL for measuring and evaluating aircraft noise for land use planning and noise impact assessment. Federal committees such as the Federal Interagency Committee on Urban Noise and the Federal Interagency Committee on Noise, which include the USEPA, the Federal Aviation Administration (FAA), DoD, Department of Housing and Urban Development, and the Veterans

Administration, found DNL to be the best metric for land use planning. They also found no new cumulative sound descriptors or metrics of sufficient scientific standing to substitute for DNL.

DNL accounts for the noise levels in terms of sound exposure level of all individual aircraft events, the number of times those events occur, and the period day/night in which they occur. Values of DNL can be measured with standard monitoring equipment or predicted with computer models such as NOISEMAP.

AFI 32-7063, *Air Installation Compatible Use Zone Program,* requires plotting DNL contours of 65, 70, 75, and 80 dB for use in analyzing land use compatibility for both the current mission and the projected mission in the five to ten-year range. Air Force Handbook 32-7084, *AICUZ Program Manager's Guide,* requires the use of NOISEMAP to produce these noise contours and to analyze noise levels at noise-sensitive areas except at major commercial airports where the NEPA noise requirement is met by using the FAA methodology and noise model.

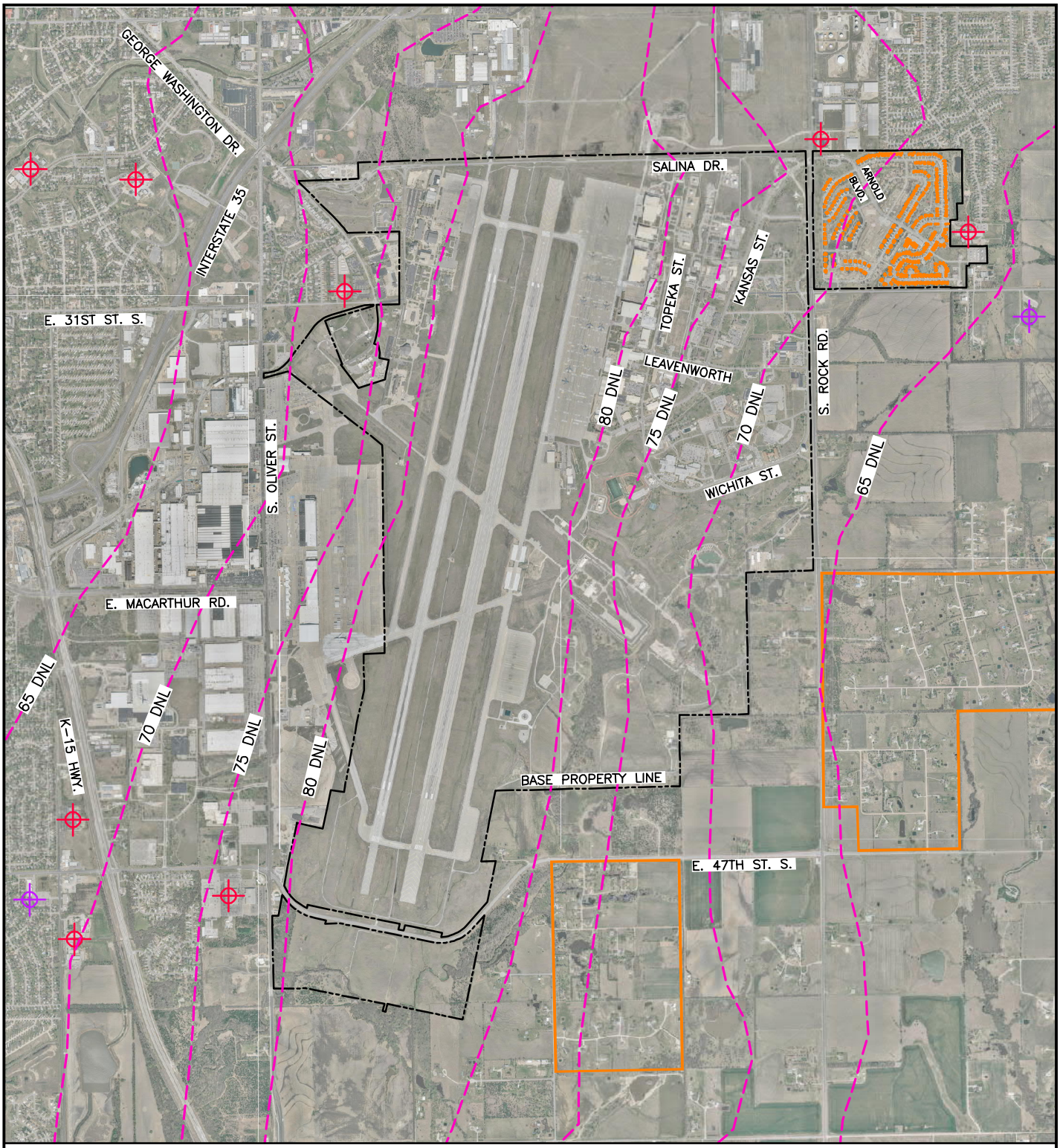
3.4.1 Existing Noise Conditions

The ambient noise environment at McConnell AFB is dominated by USAF aircraft operations and military vehicles, with some civilian aircraft supporting the Boeing and Cessna manufacturing facilities located at McConnell AFB. The most recent noise analysis was completed at McConnell AFB in 2011 in support of the AICUZ Study. The 2011 AICUZ explains that previous AICUZ efforts in 1994 and 2004 included aircraft operations with the B-1, C-12, and F-16 aircraft, as well as the use of KC-135 aircraft that were assigned in 2002. For planning purposes, the IDP utilizes the "maximum mission" contours reflecting the operation of all of these aircraft types. Therefore, the ROI for the assessment of noise impacts in this EA corresponds to the noise sensitive land use areas within the DNL 65 dB or higher noise contour based on the IDP contours, focusing on areas in the vicinity of the base.

Noise Sensitive Sites (NSS) adjoining the installation are shown in **Figure 3.4-1.** NSS near McConnell AFB include Youthville, Oaklawn Elementary School, Early Head Start, ELF Children's Center, Wineteer Elementary School, Heritage College, Lighthouse Community Church, Cedar Point Baptist Church, Bethel House, Mount Union Methodist Church, Country Side Christian Church, Church of the Latter Day Saints, and Faith Chapel Wichita. In addition, there is a combination base and private house area on the east side of McConnell AFB, parallel to the Runway 01 end and a low-density residential area also to the east of McConnell AFB parallel to the Runway 19 end.

3.5 CULTURAL RESOURCES

Cultural resources are prehistoric and historic archaeological sites, structures, buildings, artifacts, districts, and any other physical evidence of human activity considered important to a culture or community for scientific, traditional, religious, or other reasons. This definition includes Native American sacred sites and Traditional Cultural Properties (TCPs) as well as archaeological and architectural resources. Under Section 106 of the NHPA (54 U.S.C. 300101 et seq.), Federal agencies must consider effects to "historic properties" from an action or undertaking.



LEGEND

- NOISE SENSITIVE SITE ON BASE
- NOISE SENSITIVE AREA (LOW DENSITY RESIDENTIAL)
- DNL NOISE CONTOUR
- SCHOOLS
- PLACE OF WORSHIP

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GRAPHIC SCALE IN FEET

McConnell Air Force Base, Wichita KS

INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

NOISE SENSITIVE AREAS

FIGURE 3.4-1

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Historic properties are defined (54 U.S.C. 300308) as cultural resources that are either listed, or eligible for listing, on the National Register of Historic Places (NRHP). Under NHPA Section 106, McConnell AFB is required to consider the effects of its actions on historic properties.

The regulatory compliance process of Section 106 consists of four primary stages. These include: (1) initiation of the Section 106 process (36 CFR Part 800.3); (2) identification of historic properties (36 CFR Part 800.4), which includes identifying historic properties potentially affected by undertakings; (3) assessment of adverse effects (36 CFR Part 800.5), which determines whether the undertaking will affect historic properties and if effects to those properties might be adverse; and (4) resolution of adverse effects (36 CFR Part 800.6) as agreed upon between consulting parties.

McConnell AFB coordinates NEPA compliance with their NHPA responsibilities to ensure that historic properties and cultural resources are given adequate consideration during the preparation of environmental documents such as this EA. As per AFI 32-7065, *Cultural Resources Management,* and 36 CFR Part 800.8, McConnell AFB incorporates NHPA Section 106 review into the NEPA process or substitutes the NEPA process for a separate NHPA Section 106 review of alternatives.

Federally recognized Native American tribes are consulted in accordance with EO 13175 to establish ongoing relationships between the tribe and the U.S. government. In addition, as per Sections 110 and 106 of the NHPA, NEPA, and other authorities, the USAF also consults with federally recognized Indian tribes on a project-specific basis during the planning for an undertaking and to consider the impacts on the human environment.

As defined under 36 Part 800.16(d), "the Area of Potential Effect" (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking. For the purposes of this EA, the term APE is synonymous with ROI for cultural resources.

The USAF has defined the APE for direct effects to historic properties as the specific footprints of the Proposed Actions' ten individual projects, which are located on the main base area and described in **Section 2** (as shown in **Figures 1.4-1, 2.3-1, 2.3-2**, and **2.3-3**).

The APE for indirect effects is defined as a 1,000-foot buffer around the Proposed Actions' individual project areas. Given the auditory and visual environment of an active USAF base, this buffer should capture all locations from which individual project construction or demolition activity may be visible or audible.

As discussed below, there are no known NRHP-eligible archaeological or sacred sites or locations of traditional cultural importance located on McConnell AFB. There are four structures that have been determined by the USAF, with concurrence from the Kansas SHPO, to be NRHP-eligible: Buildings 9, 1107, 1218, and 1219. The Flightline paved runways and Buildings 1111 and 1129 are treated as eligible, although their final NRHP eligibility status determination remains pending. Additional structures on the base, consisting of officer family housing units, unaccompanied personnel housing, and the ammunition storage buildings have been determined eligible; Section 106 requirements for impacts to these resources

have been fulfilled by Advisory Council on Historic Preservation (ACHP) Program Comments, per 36 CFR Part 800.14(d).

3.5.1 Prehistoric and Historic Archaeological Resources

There are no known NRHP-eligible archaeological sites on McConnell AFB. Three archaeological surveys have been conducted on McConnell AFB since 1978 (DeVore and Ruhl, 1995; McConnell AFB, 2018a; Padget, 1984). The entire base has been surveyed for archaeological resources and it was found to have low probability for intact prehistoric archaeology due to heavy development and extensive ground disturbance (DeVore and Ruhl, 1984; Padget, 1984). The 1995 survey did identify eight historic archaeological sites associated with late 19th and early 20th Century homesteading, all of which were found not eligible for the NRHP (McConnell AFB, 2018a).

3.5.2 Historic Buildings and Structures

McConnell AFB has conducted several installation-wide historic architecture surveys. All buildings and structures with NRHP eligibility potential have been evaluated (McConnell AFB, 2018a). In 1995, all buildings constructed prior to 1956 were evaluated (DeVore and Ruhl, 1995). In 1996, the buildings on the base constructed between 1945 and 1989 were evaluated as part of a larger Cold War study that evaluated 27 bases and associated ranges around the country (USAF, 2014a). Additional architectural reviews have occurred during periodic Integrated Cultural Resource Management Plan (ICRMP) updates (McConnell AFB, 2018a). In 2011, McConnell AFB conducted a Section 110 inventory that examined 81 buildings and structures (Rosin Preservation, LLC, 2011). In 2015, the installation completed an evaluation of ten buildings built between 1953 and 1985 (Blackwell and Plimpton, 2015).

Four buildings that have been found individually eligible for the NRHP, with SHPO concurrence, are located on McConnell AFB and include:

- Building 9 – a hangar built in 1929, and completely reconstructed in 1931, and which still displays a high degree of integrity. It was found eligible for the NRHP under Criteria A and C for its direct association with the growth and development of aviation in Wichita and the state of Kansas.
- Building 1107 – A 98,993-square-foot medium bomber aircraft hangar built in 1954. It served multiple functions throughout the Cold War and was found NRHP eligible under Criteria A and C for its role in the development of McConnell AFB and the newly designed B-47 bomber.
- Building 1218 – A Kansas National Guard Armory and hangar, built in 1942 and found eligible for the NRHP under Criteria A and C for associations with the development of the Wichita Municipal Airport during World War II.
- Building 1219 – Also a Kansas National Guard Armory and hangar, built in 1942 and found eligible for the NRHP under Criteria A and C for associations with the development of the Wichita Municipal Airport during World War II.

In addition, the Flightline paved runways and Buildings 1111 and 1129 are treated as eligible, although their final NRHP eligibility status determination remains pending. Buildings 1111 and 1129 are both aircraft maintenance docks built in 1966. McConnell AFB determined both buildings to be individually ineligible for the NRHP, and also not eligible as contributing elements to an historic district (Blackwell and Plimpton, 2015). The Kansas SHPO, however, has not yet concurred. Consequently, McConnell AFB treats these structures as eligible until consultation on their NRHP eligibility status can be completed. The paved runway at the Flightline was recommended as eligible during the 2011 evaluation (Blackwell and Plimpton, 2011) under Criterion A. McConnell AFB, however, has yet to consult with the Kansas SHPO on this determination. In the interim, the paved runway is treated as NRHP-eligible.

Several built resources at McConnell AFB are covered under ACHP Program Comments. For DoD actions involving the resource types identified in the specific Program Comment, DoD's compliance with Section 106 of the NHPA has been achieved through the mitigation actions completed under the specific Program Comment. Three Program Comments apply to McConnell AFB. The ACHP Program Comment Capehart-Wherry Era Housing and Associated Structures and Landscape Features applies to family residences (Building 181 to 185, which have been demolished). The 2008 ACHP Program Comment regarding Cold War era Unaccompanied Personnel Housing (1946 to 1974) applies to dormitory and apartment-style visiting officers' quarters (Building 202); and the 2008 ACHP Program Comment regarding Cold War era (1939 to 1974) Ammunition Storage Facilities applies to Cold War era storage igloos (Buildings 1401, 1403, 1413, 1414, and 1418). McConnell AFB has followed the Program Comments; no further Section 106 consultation or coordination is required for these resources (McConnell AFB, 2018a).

The remainder of the buildings and structures within the APE are not historic properties (McConnell AFB, 2018a).

3.5.3 Traditional Cultural Resources

A total of five federally-recognized Tribes regularly consult with McConnell AFB as part of the NEPA and Section 106 process: (1) the Cheyenne and Arapaho Tribes of Oklahoma; (2) the Comanche Nation; (3) the Kaw Nation; (4) the Osage Nation; and (5) Wichita and Affiliated Tribes of Oklahoma (McConnell AFB, 2018a). McConnell AFB has consulted with these Tribes on the Proposed Actions (see **Section 1.7**). No tribal sacred sites or properties of traditional religious or cultural importance have been identified on McConnell AFB during tribal consultations. Based on the location of the Proposed Actions, the previous archaeological surveys, and lack of issues raised by the consulted Tribes, the USAF has determined that the Proposed Actions' APEs contain no identified archaeological sites eligible for listing on the NRHP, historic districts, cemeteries, sacred sites, TCPs, or other tribal resources.

3.6 BIOLOGICAL AND NATURAL RESOURCES

Biological resources include plants and animals as well as their habitats. Biological resources on McConnell AFB are protected by the ESA (16 U.S.C. Parts 1531–1544), the MBTA (16 U.S.C. Part 703 et seq.), and the Bald and Golden Eagle Protection Act (16 U.S.C. Part 668a-668d). The ESA requires that all Federal agencies undertake programs for the conservation of endangered and threatened species and prohibits Federal agencies from authorizing, funding, or carrying out any action that would jeopardize a

listed species or destroy or modify its critical habitat as designated in 50 CFR Parts 17 and 424. Projects that would otherwise jeopardize a federally listed species or impact its critical habitat must contain conservation measures or habitat mitigation that removes the jeopardy. The MBTA specifically prohibits take of migratory birds, including nests and eggs, as well as possession of eggs, nests, or any part of a covered species. The Bald and Golden Eagle Protection Act specifically prohibits taking bald and golden eagles including nests and eggs of these species.

An animal or plant species may be classified as "endangered" when it is in danger of extinction within the foreseeable future throughout all or a significant portion of its range. A "threatened" classification is provided to those species likely to become endangered within the foreseeable future throughout all or a significant part of their ranges. The USFWS also maintains a list of species considered to be "candidates" for possible listing under the ESA. Although "candidate species" receive no statutory protection under the ESA, the USFWS has attempted to advise government agencies, industry, and the public that these species are at risk and might warrant protection under the ESA. State and federally listed species in Kansas are protected by the Kansas Nongame and Endangered Species Conservation Act of 1975 (Chapter 32-957, Kansas Statutes Annotated). Pursuant to the act, all federally listed species also are state listed and the KDWPT are responsible for identifying and implementing appropriate conservation measures for listed species. In addition to listing species as endangered or threatened in Kansas, KDWPT designates species as a SINC for any nongame species requiring conservation measures to avoid becoming endangered or threatened. Special action permits are required for activities affecting listed species in Kansas. Information on biological resources was collected from McConnell AFB, USFWS, and KDWPT. The ROI for direct effects to biological and natural resources correspond to the specific footprints of the Proposed Actions' ten individual projects, which are located on the main base area and described in **Chapter 2** (as shown in **Figures 1.4-1, 2.3-1, 2.3-2**, and **2.3-3**).

3.6.1 Vegetation

Most of the vegetated areas on McConnell AFB consist of mowed and maintained grasses with select tree and shrub landscaping. Dominant grass species comprising the majority of McConnell AFB (i.e., airfield, former golf course area, the cantonment area, base house, and the perimeters of major roadways) include tall fescue (*Festuca arundinacea*), smooth brome (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*), and Bermuda grass (*Cynodon dactylon*) (McConnell AFB, 2017a).

Forested areas present on McConnell AFB extend along the intermittent stream at the south end of the base from the former golf course area south to the base boundary. These canopy species in the forested areas predominantly consist of cottonwood (*Populus deltoides var. monilifera*), green ash (*Fraxinus pennsylvanica*), hackberry, and Osage orange (*Maclura pomifera*). The shrub layer and groundcover within the forested areas consist of coralberry (*Symphoricarpos orbiculatus*), smooth sumac, poison ivy (*Toxicodendron radicans*), woodland sedge (*Carex blanda*), great ragweed (*Ambrosia trifida*), Kentucky bluegrass, pale dock (*Rumex altissimus*), and wingstem (*Verbesina alternifolia*) (McConnell AFB, 2017a).

3.6.2 Wildlife

Natural habitat is limited on the base due to existing development, and on-going maintenance and operations. Mammals commonly present on McConnell AFB include eastern cottontail (*Sylvilagus*

floridanus), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), American beaver (*Castor canadensis*) and coyote (*Canis latrans*). Fish species present within the streams located on base include green sunfish (*Lepomis cyanellus*), central stoneroller (*Campostoma anomalum*), sand shiner (*Notropis stramineus*), and yellow bullhead (*Ameiurus natalis*) (McConnell AFB, 2017a). The impoundments on base also include recreational fish species including bluegill (*Lepomis macrochirus*), large-mouthed bass (*Micropterus salmoides*), black and white crappie (*Pomoxis nigromaculatus* and *P. annularis*), and channel catfish (*Ictaluras punctatus*) (McConnell AFB, 2012). Other common wildlife species present on McConnell AFB include various turtles, frogs, and birds.

Migratory birds, along with their eggs and nests, are protected by the MBTA and the Bald and Golden Eagle Protection Act. McConnell AFB is located in the middle of the Central Flyway, an important route for migratory birds; therefore, several migratory bird species have the potential to breed at McConnell AFB within suitable habitat. Migratory bird species listed by the USFWS Information for Planning and Consultation (IPaC) in a letter dated September 17, 2019 (**Appendix A**) as having the potential to breed or be present within suitable habitat within the ROI include the bald eagle (*Haliaeetus leucocephalus*), Harris's sparrow (*Zonotrichia querula*), and the red-headed woodpecker (*Melanerpes erythrocephalus*) (USFWS, 2019a) (see **Table 3.6-1**). These three bird species are considered by the USFWS to be birds of particular concern that either occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention within the ROI. BCCs are migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the highest conservation priorities. Two of the migratory birds listed in **Table 3.6-1**are identified as BCCs by the USFWS. The USFWS also provided the breeding schedule of the migratory bird species potentially occurring within the ROI for guidance on when to schedule activities or implement avoidance and/or minimization measures to reduce impacts to these birds. **Table 3.6-1** summarizes the breeding seasons and appropriate regulations applicable to each migratory bird species identified by USFWS as potentially occurring within the ROI.

TABLE 3.6-1 MIGRATORY BIRD SPECIES WITH POTENTIAL TO OCCUR AT MCCONNELL AFB

Common Name (*Scientific Name*)	Regulatory Protections	Breeding Season
Bald eagle (*Haliaeetus leucocephalus*)	MBTA; Bald and Golden Eagle Protection Act	October 15 to July 31
Harris's sparrow (*Zonotrichia querula*)	MBTA, BCC	Breeds elsewhere
Red-headed woodpecker (*Melanerpes erythrocephalus*)	MBTA, BCC	May 10 to September 10

Source: USFWS, 2019a.

3.6.3 Threatened and Endangered Species

Data sources reviewed for information on the potential presence of threatened and endangered species at McConnell AFB include the 2017 INRMP (McConnell AFB, 2017a), USFWS IPaC system (USFWS, 2019a), and the KDWPT website. **Table 3.6-2** provides the federally and state listed species having the potential to occur in or in the vicinity of the ROI. Based on the INRMP, no federally or state listed species have been observed on McConnell AFB (McConnell AFB, 2017a).

The Arkansas darter is a small fish in the perch family native to portions of the Arkansas River basin. This fish prefers shallow, clear, and cool water; sand or silt bottom streams with spring-fed pools; and abundant

rooted aquatic vegetation (USFWS, 2019d). Marginally suitable habitat for the darter may occur within the ROI within the streams; however, this species has not been documented on McConnell AFB.

The least tern is federally and state listed as endangered and the species are summer residents in Kansas. Least terns nest near water in gravel and sand pits, tidal flats, sandbars along rivers, shores of large impoundments, and occasionally gravel rooftops (KDWPT, 2019b). Suitable nesting habitat for the least tern does not occur on McConnell AFB and no nests or individuals have been documented on base; therefore, the least tern is not likely to occur within the ROI.

TABLE 3.6-2 FEDERALLY LISTED SPECIES WITH THE POTENTIAL TO OCCUR IN THE ROI

Common Name (*Scientific Name*)	Federal Status	State Status
Fish		
Arkansas darter (*Etheostoma cragini*)	NL	T
Birds		
Least tern (*Stern antillarum*)	E	E
Whooping crane (*Grus americana*)	E	E
Mammals		
Eastern spotted skunk (*Spilogale putorius*)	NL	T
Northern long-eared bat (*Myotis septentrionalis*)	T	SINC

E = Endangered, T = Threatened, NL = Not Listed; SINC = Species in Need of Conservation
Sources: USFWS, 2019a; McConnell AFB, 2017a; KDWPT, 2019a.

The whooping crane is federally and state listed as endangered and are spring and fall transients in Kansas. Nesting typically occurs within wetlands consisting of low, sparse vegetation away from human activity (KDWPT, 2019c). Suitable nesting habitat for the whooping crane does not occur on McConnell AFB and no nests or individuals have been documented on base; therefore, the whooping crane is not likely to occur within the ROI.

The eastern spotted skunk occurs along riparian areas and fence rows around upland prairies with shrubs or rock out-crops. Suitable habitat for this species occurs throughout the ROI. Though no individuals have been observed on McConnell AFB, this species has been observed within the vicinity of McConnell AFB and could potentially occur within the ROI (McConnell AFB, 2017a).

The northern long-eared bat is federally listed as threatened and considered a SINC in Kansas. This species is known to roost in cavities, underneath bark, or in crevices of trees (live and dead). This bat also roosts in structures on rare occasions. Hibernation typically occurs in large caves and mines, also known as hibernacula (USFWS, 2019b). Though, marginally suitable foraging habitat occurs within riparian forested areas on McConnell AFB, no hibernacula areas, roosts, or individuals have been documented on base. In February 2016, the USFWS implemented the 4(d) rule for the northern long-eared bat for areas affected by white-nose syndrome (WNS). Section 4(d) of the ESA directs the USFWS to issue regulations deemed "necessary and advisable to provide for the conservation of threatened species." It allows the USFWS to implement special rules for species listed as threatened (not endangered) that provide flexibility in implementing the ESA. Due to the rapid decline of the bat population within areas affected by WNS, the 4(d) rule prohibits all incidental take within the WNS zone that occurs within hibernacula where hibernation

is a particularly critical and vulnerable time. Sedgwick County is considered by the USFWS to be within the WNS zone. For areas considered to be affected by WNS, incidental take is prohibited under the following circumstances:

- If it occurs within a hibernaculum.
- If it results from tree removal activities and
  - the activity occurs within 0.25 mile of a known hibernaculum; or,
  - the activity cuts or destroys a known, occupied maternity roost tree or other trees within a 150-foot radius from the maternity roost tree during the pup season from June 1 through July 31 (USFWS, 2019e).

On rare occasions, northern long-eared bats have roosted in human-made structures including buildings, barns, pavilions, sheds and cabins. However, the USFWS considers removal of northern long-eared bats from these structures to not adversely affect the species' conservation or recovery. However, during ESA Section 7 consultation, USFWS has requested that if northern long-eared bats must be removed from structures, that the activity be coordinated with the USFWS Kansas Ecological Services Field Office. Though the ROI consists of stable tree species along the portions of the intermittent streams within the ROI, tree removal activities are not anticipated as part of the Proposed Actions.

3.6.4 Sensitive Habitats

Sensitive habitats are areas protected due their ecological value and include wetlands, federally designated critical habitat, plant communities of limited or unusual distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, summer/wintering habitats). Within the ROI, sensitive habitats include wetlands.

Wetlands are regulated under Section 404 of the CWA and EO 11990.

The U.S. Army Corps of Engineers' (USACE) regulations define wetlands as:

> *"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." (33 CFR 328.3(b))*

The USACE uses three characteristics of wetlands when making wetland determinations; vegetation, soil, and hydrology. Unless an area has been altered or is a rare natural situation, wetland indicators of all three characteristics must be present during some portion of the growing season for an area to be defined as a wetland.

A 2014 wetlands assessment conducted at McConnell AFB identified several intermittent streams (tributaries of the Arkansas River) throughout the eastern portion of the base, including the McConnell Creek (not officially named) which flows from the northeast corner of the base diagonally to the southwest, east of Runway 1R-19L. These areas are identified on **Figure 3.6-1**. Currently, the majority of the

intermittent streams on base, including McConnell Creek, show signs of bank erosion resulting from lack of vegetative buffers and surface water runoff. Several intermittent depressional wetlands are also present on base that pond for greater than 30 days per year (McConnell AFB, 2017a).

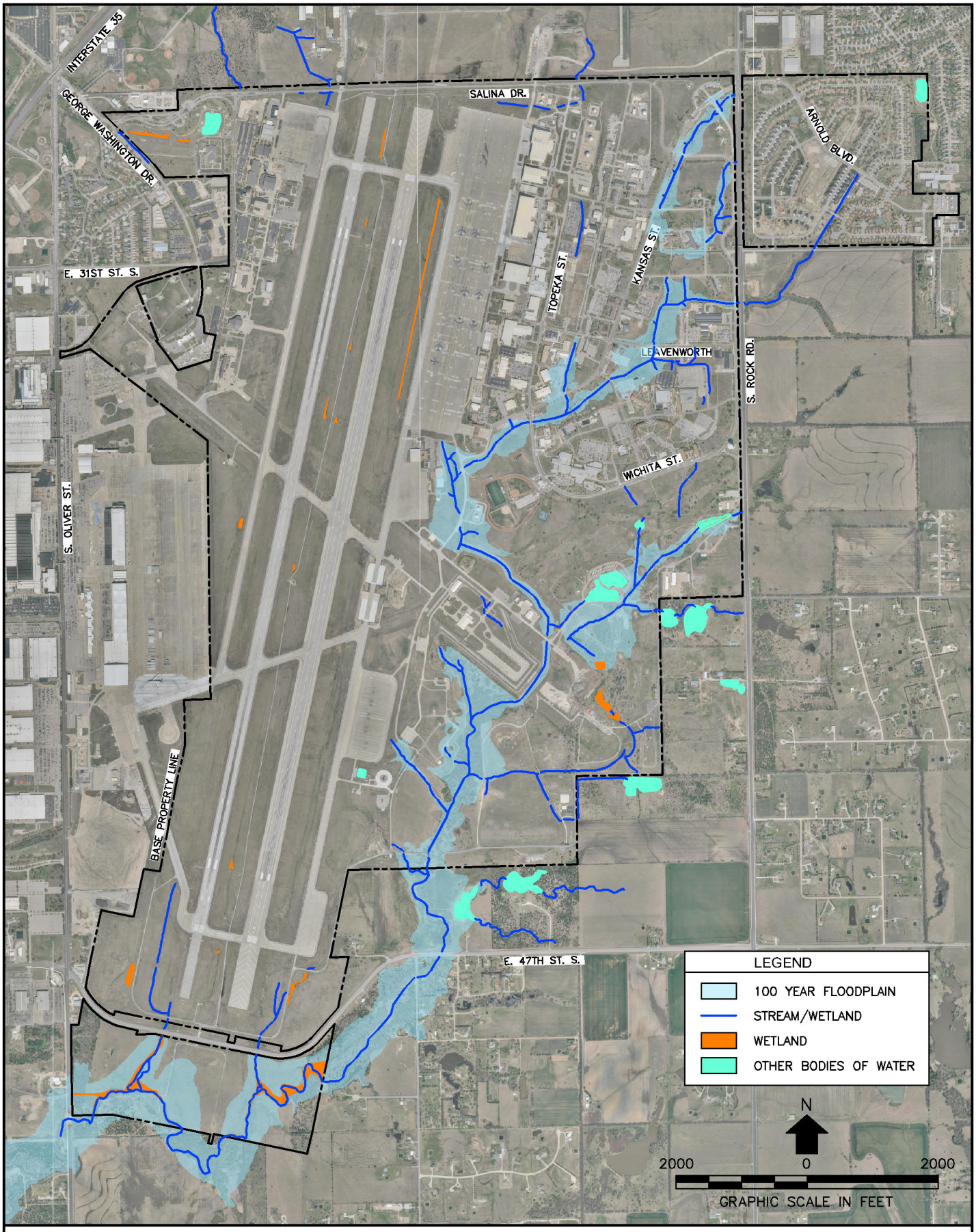
3.7 WATER RESOURCES

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. Evaluation of water resources examines the quantity and quality of the resource and its demand for various purposes, and it includes surface water, groundwater, and floodplains. For the purposes of the water impact assessment, activities that could affect surface water, groundwater, and floodplains are identified and compared against any applicable thresholds. The ROI for water resources includes McConnell AFB with a focus on areas within or adjacent to footprints of the Proposed Actions.

3.7.1 Surface Water

Surface water resources generally consist of lakes, rivers, and streams. Surface water features on McConnell AFB include several small ponds and a tributary of the Arkansas River with multiple feeders. The natural drainage pattern across the majority of McConnell AFB runs from the northeast to the southwest. The most prominent tributary, locally known as McConnell Creek (not officially named), flows from the northeastern corner of the installation diagonally across to the southern boundary of McConnell AFB. McConnell Creek receives the majority of the drainage on the installation and joins the Arkansas River approximately three miles southwest of the McConnell AFB boundary. The McConnell Creek watershed is entirely within Sedgwick County and southeast of the City of Wichita. The watershed drains about 6.6 square miles above where the creek flows under Oliver Street, the lower limits of the installation area, and about 3.9 stream miles above where the creek empties into the Arkansas River. The northwestern quarter of McConnell AFB drains into multiple drainage channels that convey runoff to the west and northwest. Runoff from this portion of McConnell AFB combines with urban runoff from adjacent residential and commercial areas and flows to Gypsum Creek, also a tributary of the Arkansas River (McConnell AFB, 2017a).

McConnell AFB is within the Lower Arkansas River Watershed. The Arkansas River originates in central Colorado, where it flows southeast into and across southern Kansas. The Lower Arkansas Basin begins where Rattlesnake Creek joins the Arkansas River in southwestern Rice County. This basin covers 11,500 square miles of south-central Kansas. Major tributaries entering the Arkansas River along its course through the basin are Rattlesnake Creek, Cow Creek, Little Arkansas River, Ninnescah River and Slate Creek. The Arkansas River at Wichita is on the CWA 303(d) List of Impaired Waters as being impaired due to its elevated chloride, E. Coli, biology, and total phosphorus levels (KDHE, 2018). There are no designated National Wild and Scenic Rivers within either McConnell AFB or the state of Kansas.



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McConnell Air Force Base, Wichita KS
INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

NATURAL RESOURCES

FIGURE
3.6-1

Waters of the U.S. are defined within the CWA, as amended, and jurisdiction is addressed by the USEPA and the USACE. Encroachment into waters of the U.S. requires a permit from the state and the Federal government. The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The CWA establishes Federal limits, through the National Pollutant Discharge Elimination System (NPDES) program, for the allowable amounts of specific pollutants that can be discharged to surface waters, in order to restore and maintain the chemical, physical, and biological integrity of the water.

The NPDES program is regulated by the USEPA; within Kansas, the program is administered by the Bureau of Water within the KDHE. All new construction sites must adhere to the requirements of the applicable NPDES storm water permit. In addition, construction site owners and operators that disturb one or more acres of land are required to use BMPs to ensure that soil disturbed during construction activities does not pollute nearby waterbodies. Construction activities disturbing 20 or more acres must comply with the numeric effluent limitation for turbidity in addition to the non-numeric effluent limitations. Additionally, as of February 2, 2014, construction site owners and operators that disturb ten or more acres of land are required to monitor discharges to ensure compliance with effluent limitations as specified by the permitting authority.

3.7.2 Groundwater

Groundwater consists of subsurface hydrologic resources and includes underground streams and aquifers. It is an essential resource that functions to recharge surface water and is used for drinking, irrigation, and industrial processes. Groundwater features include depth from the surface, aquifer or well capacity, quality, recharge rate, and surrounding geologic formations. Groundwater quality and quantity are regulated under several different programs, including the Federal Underground Injection Control and the Federal Sole Source Aquifer regulations, both authorized under the Safe Drinking Water Act.

The source for groundwater in Sedgwick County is the unconsolidated deposits underlying the Arkansas Valley. Groundwater quality in the Arkansas Valley is characterized by moderate hardness and, locally, could contain undesirable amounts of salt and iron. McConnell AFB has a shallow hydrogeologic setting with two water-bearing zones. The upper zone is a shallow, unconfined aquifer within unconsolidated Pleistocene deposits and weathered Permian bedrock. The deeper water-bearing zone is within calcareous shales of the Wellington Formation. Groundwater flow follows the local topography toward local surface water drainage features (McConnell AFB, 2017a).

Groundwater at McConnell AFB is not used as a potable source, and there are no groundwater extraction wells on the installation. The shallow unconfined water-bearing units yield small quantities (generally less than two gallons per minute) of hard, mineralized water. Water level data indicates that depth to groundwater in the shallow unit ranges up to 16 feet below ground surface. The direction of groundwater flow in this unit is generally toward local surface water drainage features such as McConnell Creek. Drinking water is supplied to the base by the City of Wichita municipal water supply system. Wichita water comes from the Cheney Reservoir and the Equus Beds.

3.7.3 Floodplains

Floodplains are areas of low-level ground present along rivers, stream channels, or coastal waters. Floodplain ecosystem functions include natural moderation of floods, flood storage and conveyance, groundwater recharge, nutrient cycling, water quality maintenance, and diversification of plants and animals. Floodplain storage reduces flood peaks and velocities and the potential for erosion. Floodplains are subject to periodic or infrequent inundation due to rain or melting snow. 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 evaluated by the Federal Emergency Management Agency (FEMA), which defines the 100-year floodplain. The 100-year floodplain is an area that has a one percent chance of inundation by a flood event in a given year. Certain facilities inherently pose too great a risk to be situated in either the 100- or 500-year floodplain, such as hospitals, schools, or storage buildings for irreplaceable records. Federal, state, and local regulations often limit floodplain development to passive uses such as recreational and preservation activities to reduce the risks to human health and safety. It is USAF policy to avoid construction of new facilities within the 100-year floodplain (AFI 32-1021, *Integrated Natural Resources Management* and EO 11988), where practicable. In accordance with EO 11988, a FONPA must be prepared and approved for all projects impacting floodplain areas.

FEMA updated the Floodplain Insurance Rate Map (FIRM) for the Wichita, Kansas area in 2016. While McConnell AFB has floodplains, they are not on the FEMA map, as the purpose of the map is flood insurance and McConnell AFB is outside the scope of FIRM mapping responsibilities (McConnell AFB, 2017a).

Therefore, McConnell AFB has performed modeling to determine the extent of floodplains on the installation. Preliminary mapping indicates that 246 acres of the installation are within the 100-year floodplain. The floodplain is primarily associated with the length of McConnell Creek and several of its intermittent tributaries (see **Figure 3.6-1**).

3.8 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

For purposes of this analysis, hazardous materials and hazardous waste are those substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601-9675), the Toxic Substances Control Act (15 U.S.C. 2601-2671), and the Solid Waste Disposal Act as amended by the RCRA (42 U.S.C. 6901-6992). In addition, hazardous materials are regulated by the Emergency Planning and Community Right-to-Know Act (42 U.S.C. 11001-11050).

Hazardous substances are defined in 42 U.S.C. 9601, Paragraph 14, and by reference to additional Federal regulations therein, as:

- Any substance designated pursuant to Section 311(b)(2)(A) of the Federal Water Pollution Control Act [33 U.S.C. 1321(b)(2)(A)], which includes substances which present an imminent and substantial danger to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, shorelines, and beaches;

- Such elements, compounds mixtures, solution, and substances which, when released into the environment may present substantial danger to the public health or welfare of the environment;
- Any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act [42 U.S.C. 6921] (but not including any waste the regulation of which under the Solid Waste Disposal Act [42 U.S.C. 6901 et seq.] has been suspended by Act of Congress);
- Any toxic pollutant listed under Section 307(a) of the Federal Water Pollution Control Act [33 U.S.C. 1317(a)];
- Any HAP listed under Section 112 of the CAA [42 U.S.C. 7412]; and
- Any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to Section 7 of the Toxic Substances Control Act [15 U.S.C. 2606].
- The term "Hazardous Substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as hazardous in 42 U.S.C. 9601, Paragraph 14. The term also does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

Hazardous wastes are defined in paragraph 5 of 42 U.S.C. 6903 as a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. As noted previously, the hazardous waste designation does not apply to wastes that are regulated under the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.). 40 CFR part 261, subpart C further lists the four characteristics of hazardous waste as ignitibility, corrosivity, reactivity, and toxicity.

Various maintenance and other activities on McConnell AFB generate hazardous wastes, and as such, the base is regulated as a Large Quantity Hazardous Waste Generator under Subtitle C of the RCRA and its amendments. The base has chosen not to maintain hazardous waste on-site beyond the 90-day period which would require the base to secure a Hazardous Waste Storage Permit. Additionally, McConnell AFB does not engage in the treatment or disposal of hazardous waste on-site and does not hold treatment or disposal permits. However, as a hazardous waste generator, the base must properly identify its hazardous waste streams, collect and temporarily store hazardous waste in compliance with RCRA rules, ensure hazardous waste is taken off-site by haulers licensed to transport hazardous waste pursuant to 49 U.S.C. 5101 et seq., and that hazardous waste is taken to a permitted treatment or disposal facility.

In addition to the hazardous wastes, universal wastes, or wastes that would otherwise be considered hazardous wastes if not recycled, are generated by maintenance operations. 40 CFR 273 defines and identifies universal waste, which includes:

- Batteries, excluding spent lead-acid batteries managed under 40 CFR part 266; batteries that are not yet wastes (i.e., used or unused batteries that have not been discarded); and other batteries identified as Hazardous Waste due to exhibiting one or more characteristics of ignitibility, corrosivity, reactivity, or toxicity, as defined in 40 CFR part 261, subpart C.
- Pesticides that are recalled, either under mandatory or voluntary recall under the Federal Insecticide, Fungicide, and Rodenticide Act; stocks of other unused pesticide products that are collected and managed as part of a waste pesticide collection program. Pesticides are not considered a universal waste if they are a hazardous waste due to listing in 40 CFR part 261, subpart D or because they exhibit one or more characteristics of ignitibility, corrosivity, reactivity, or toxicity, as defined in 40 CFR part 261, subpart C; if the pesticide can be managed under a management option that, under 40 CFR 261.2, does not cause the pesticide to be a solid waste (i.e., the selected option is use [other than use constituting disposal] or reuse [other than burning for energy recovery], or reclamation); or if the pesticide is not yet a waste (i.e. the generator of unused pesticides has decided not to discard them [e.g., burn for energy recovery]).
- Mercury-containing equipment, excluding such equipment that is not yet a waste (i.e. used or unused equipment that has not been discarded); equipment identified as hazardous waste due to exhibiting one or more characteristics of ignitibility, corrosivity, reactivity, or toxicity, as defined in 40 CFR part 261, subpart C; and equipment and devices from which the mercury-containing components have been removed.
- Lamps, excluding those that are not yet considered a waste (i.e., used or unused lamps that have not been discarded); and other lamps identified as hazardous waste due to exhibiting one or more characteristics of ignitibility, corrosivity, reactivity, or toxicity, as defined in 40 CFR part 261, subpart C.

Universal waste that is not recycled reverts back to hazardous waste status.

Solid wastes are those substances defined in 40 CFR 261.2. Pursuant to Subtitle D of RCRA and its amendments, Federal regulations and guidance address solid waste collection and storage and its subsequent burning, use as a fuel, or landfilling. AFI 32-7042, *Waste Management*, provides guidance for USAF installations to develop solid waste management plans that ensure regulatory compliance.

In accordance with DoDI 4715.07, *Defense Environmental Restoration Program,* McConnell AFB has initiated and maintains an Environmental Restoration Program (ERP) to reduce risk to human health and environment attributable to past activities related to release of hazardous substances or environmental contamination.

3.8.1 Hazardous Materials Management

Solvents, cleaners, paints, fuels, and other potentially hazardous materials related to normal operations and maintenance activities at McConnell AFB are stored on-site. Materials transported within the boundaries of the base are not regulated as hazardous materials as defined by the USDOT. Each of the Proposed Actions

considered in this EA are located within the physical boundary of McConnell AFB and transportation on publicly or commercially accessible roads is not required.

McConnell AFB is required to follow AFI 32-7086, *Hazardous Materials Management*, which establishes procedures and standards governing identification, authorization, and tracking of hazardous materials at USAF installations. The McConnell AFB 2018 Hazardous Materials Management Program (HMMP) (McConnell AFB, 2018e) provides a specific framework to manage the procurement, use, and minimization of hazardous materials at McConnell AFB. Only approved hazardous materials are allowed to be brought onto the base and disposition of the products is tracked using the Enterprise Environmental Safety & Occupational Health Management Information System, including disposal of spent and past shelf-life materials.

3.8.2 Hazardous Waste Management

Hazardous waste is generated by numerous industrial shops at McConnell AFB. It mostly consists of waste petroleum products, spent solvents and spilled or outdated chemicals. All hazardous waste generated on base is managed in accordance with the USAF 2016 Hazardous Waste Management Plan (HWMP) for McConnell AFB (McConnell AFB, 2016). Large waste streams are accumulated in 55-gallon drums at designated Satellite Accumulation Points (SAP) prior to being moved to Building 1096 for storage and disposal. Primary waste-producing processes include aircraft parts cleaning, fluid changes for routine aircraft and vehicle maintenance, aircraft corrosion control, and facility and infrastructure maintenance. Waste is generated in shops and transferred to Building 1096 for up to 90 days before being transported off base (McConnell AFB, 2016). **Table 3.8-1** identifies hazardous materials accumulated at SAPs on McConnell AFB.

All hazardous waste containers are managed in accordance with the HWMP. Incompatible wastes require segregation using either separate containers or separate containment areas by means of separately diked areas or sloped containment to separate sumps. Different types of hazardous waste must be accumulated in the appropriate containers and non-hazardous waste must not be mixed with hazardous waste. Incompatible wastes or materials must not be placed in the same container. In addition, hazardous waste must not be placed in a container that previously held an incompatible waste or material. Containers must be appropriately labeled and must not be stored or handled in a manner that may result in a rupture or leaks (McConnell AFB, 2016).

TABLE 3.8-1 HAZARDOUS WASTE SATELLITE ACCUMULATION POINTS (CURRENT AS OF APRIL 15, 2015)

Name	Building
22 MXS Corrosion Control	B. 1176, 1124
22 AMXS ATLAS Support	B. 1107
22 MXS Structural Repair	B. 1128
22 LRS POL Fuels	B. 971, 952, 1270, 955
22 CES Power Pro	B. 938
22 MXS AGE	B. 1171
22 MDG Hospital-Pharmacy, Laboratory, Dental	B. 250
22 LRS Refueling Maintenance	B. 952
22 MXS Isochronical Inspection	B. 10, 1125
22 MXS Wheel & Tire	B. 1170

Name	Building
22 OSS Communications	B. 739
22 MXS Non-Destructive Inspection	B. 1219
22 MXS Peudraulics	B. 1176
22 MXS Fuel Cell	B. 1166, 1124
22 MXS Electro-Environmental	B. 10
22 LRS Allied Trades	B. 710
22 FSS Outdoor Recreation	B. 1349
22 MDG Bioenvironmental	B. 412
22 LRS Hazmart Pharmacy	B. 1169
22 CES Heavy Equipment Repair Shop/Snow	B. 692, 1218
134 Vehicle Maintenance	B. 33
22 SFS Small Arms Range	B. 1541
22 FSS House Keeping (AirCapInn)	B. 188
22 FSS Auto Craft Center	B. 424
22 LRS Vehicle Operations Equipment Support	B. 706
22 CES HVAC/Locksmith	B. 691
22 CES Pest Management	B. 1290
184 Vehicle Maintenance	B. 33
134 AGE	B. 41
Aircraft Wash	B. H10

Notes: 22 CES = 22nd Civil Engineer Squadron; HVAC = heating, ventilation, and air conditioning
Source: McConnell AFB, 2016.

McConnell AFB has incorporated the Federal Universal Waste management standards defined by USEPA per 40 CFR Part 273.9. These wastes include batteries, pesticides, thermostats, lamps, nickel hydride and alkaline wastes. There are approximately 35 collection points for the accumulation of universal waste located across the base. All universal waste is stored in Building 1096, Bay 1 until their final disposition or shipment to a USEPA-approved universal waste handler (McConnell AFB, 2016).

3.8.3 Solid Waste Management

Solid waste generated at McConnell AFB consists of conventional trash generated by McConnell AFB personnel, maintenance activities, office staff activities such as meal preparation, and typical office waste. Other solid waste streams occurring at the installation include non-hazardous containers generated by maintenance activities and metal and other debris generated from maintenance, construction, and other similar activities on McConnell AFB. Consistent with the McConnell AFB Integrated Solid Waste Management Plan (ISWMP), McConnell AFB strives to minimize solid waste generated on the base and operates a Qualified Recycling Program that recycled or reused approximately 95 percent of solid waste generated on-site between 2011 and 2015 (McConnell AFB, 2018b).

3.8.4 Asbestos and Lead Paint Management

McConnell AFB has developed an asbestos management plan in accordance with AFI 32-1052, *Facility Asbestos Management* (USAF, 2014f). Under the plan, a permanent record of the status and condition of asbestos-containing materials (ACM) in installation facilities and of ACM management efforts is maintained. Non-friable asbestos-containing floor tiles were removed from Building 750 following a 2007 fire. Also in 2007, asbestos abatement was performed in the heating, ventilation, and air conditioning systems, mechanical rooms, and piping in Hangar 1166. It is possible that additional ACM exist in these

buildings. Pre-1980 buildings are generally assumed to contain ACM in a variety of building materials. Given their age (1950s era), it is possible that additional ACM exist in Buildings 732 and 810. The McConnell AFB Asbestos Management and Operating Plan (McConnell AFB, 2010a) specifies procedures for testing, safe removal, and management of suspected ACM.

The Federal government banned the use of most LBP in 1978. Buildings constructed prior to this date, including Buildings 732, 750, and 810 and Hangar 1166, are generally assumed to contain LBP. The LBP Management Plan for McConnell AFB (McConnell AFB, 2010b) provides direction to address safety and regulatory requirements for construction, renovation, and demolition activities that affect LBP.

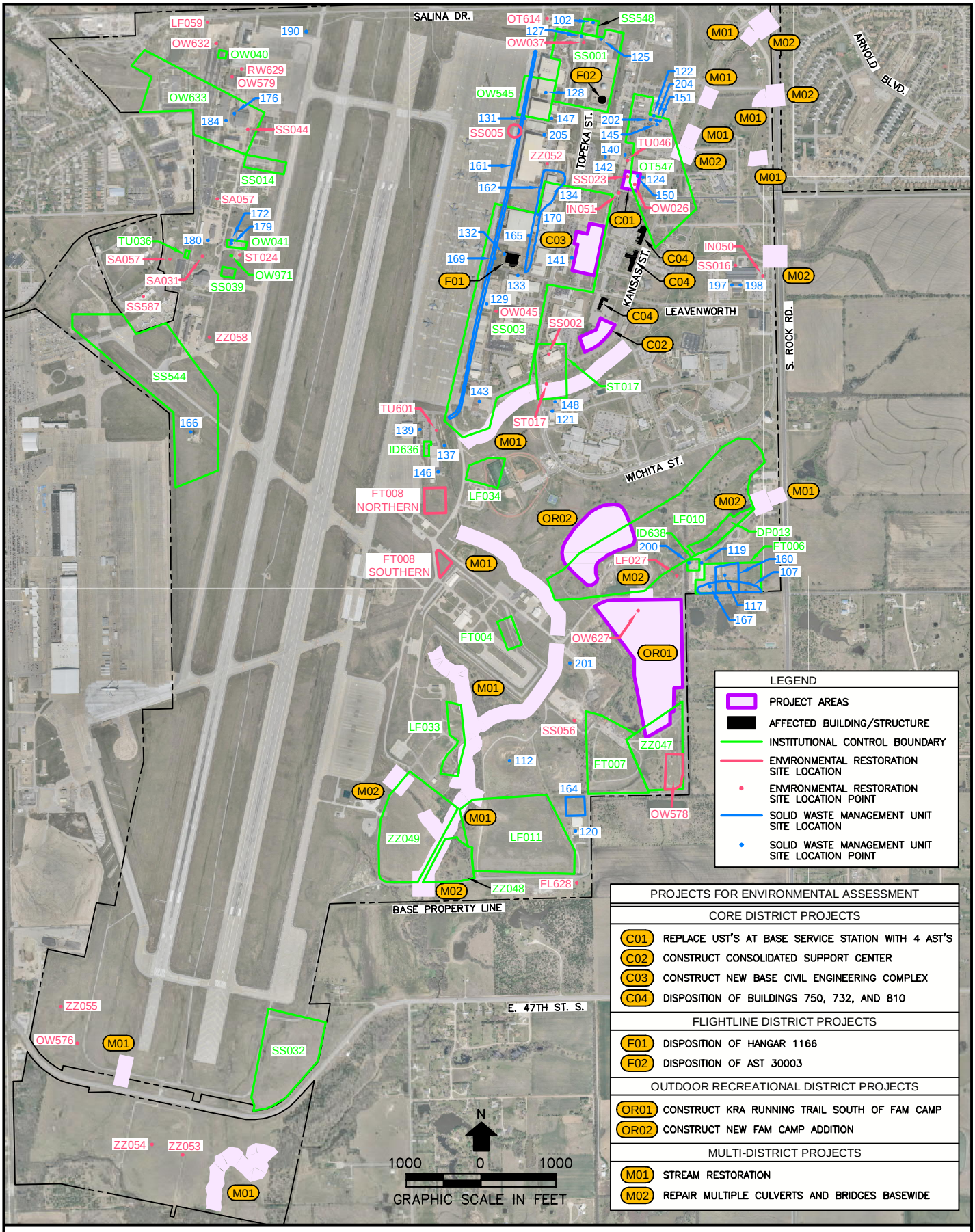
3.8.5 Environmental Restoration Program Sites

McConnell AFB has established an ERP which identifies known areas of environmental impact that are being addressed through investigation, monitoring, remediation, or other measures. The ERP documents and tracks the nature of impact, investigation, and remedial efforts and status of each site. Documents associated with each IRP location are maintained at McConnell AFB and critical documents of regulatory significance are available through the KDHE electronic database (KDHE, 2019). The base contains 63 active ERP sites over a total of 146 acres basewide. ERP investigation and cleanup activity areas include spill sites, former fire training areas, former landfills, storage tank sites, an equipment washout area, areas where munitions were used, and SWMUs. Sites are at varying stages of investigation, cleanup, and closeout. **Table 3.8-2** provide a brief summary of active sites in the vicinity of the Proposed Actions evaluated in this EA. The ERP sites are also depicted on **Figure 3.8-1.**

TABLE 3.8-2 ERP SITES ASSOCIATED WITH THE PROPOSED ACTIONS

Project Number	Project Name	Associated ERP Sites
C01	Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks	OT-547, OW026, SS023, SWMU 150
C02	Construct Consolidated Support Center	None
C03	Construct New Base Civil Engineering Complex	SS-003
C04	Disposition of Buildings 750, 732 and 810	OT-547*
F01	Disposition of Hangar 1166	SS-003
F02	Disposition of Aboveground Storage Tank 30003	SS-001
OR01	Construct Krueger Recreation Area Running Trail South of Fam Camp	ZZ047
OR02	Construct New Fam Camp Addition	LF-010
M01	Stream Restoration	ZZ049, LF011, LF033, SS-003, ST017
M02	Repair Multiple Culverts and Bridges Basewide	ZZ048, ZZ049, LF-010, DP-013, OT-547

Source: KDHE, 2019.
Note: * Site OT-547 only impacts Building 732.



McConnell Air Force Base, Wichita KS
INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

ENVIRONMENTAL RESTORATION PROGRAM SITES

FIGURE 3.8-1

C:\Civil 3D Projects\McConnell\FIG 3.8-1.dwg 08/19/2020 15:18

3.9 LAND USE

The term land use refers to 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. However, there is no nationally recognized convention or uniform terminology for describing land use categories. Land use compatibility is largely dictated by compliance or consistency with applicable land use or zoning regulations or guidelines for the project and adjacent sites.

For the USAF, the term "land use" refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. USAF land use planning commonly uses 12 general land use classifications: Airfield, Aircraft Operations and Maintenance, Industrial, Administrative, Community (Commercial), Community (Service), Medical, Housing (Accompanied), Housing (Unaccompanied), Outdoor Recreation, Open Space, and Water. As a part of the Comprehensive Planning Process, installations are divided into identifiable Planning Districts based on geographical features, land use patterns, building types, and/or transportation networks. The ROI for land use is the entirety of McConnell AFB, which occupies approximately 2,665 acres; however, the proposed installation development projects are located on the eastern side of the installation (McConnell AFB, 2019).

3.9.1 Existing Land Use

There are 12 distinct land use categories and three geographically defined land use subareas on McConnell AFB. The land use categories include Administrative, Aircraft Operations and Maintenance, Airfield, Airfield Pavement, Community Commercial, Community Service, Housing-Accompanied, Housing-Unaccompanied, Industrial, Medical/Dental, Open Space/Buffer Zone and Outdoor Recreation. The three land use subareas are the Air National Guard campus located to the west of the airfield, the main base area located between the airfield and the eastern installation boundary and privatized family housing located east of the main base. Existing land use compliments the established planning districts with minimal adjacent incompatible land uses (McConnell AFB, 2019). The proposed installation development projects are located within the main base land use subarea, no projects are proposed for the Air National Guard complex or the privatized family house area.

Existing land uses within the Core, Flightline and Outdoor Recreation District Proposed Actions include Aircraft Operations and Maintenance, Industrial, Administrative and Outdoor Recreation. The existing land uses of the Multi-District Proposed Actions are primarily Open Space/Buffer Zone.

3.9.2 Planning Districts

Land use on McConnell AFB is governed by a land use plan which provides direction for siting future improvement projects on the installation. The McConnell AFB IDP results from a comprehensive planning process that describes the installation's past, present and future physical state and serves as the guidance document for all future facility programming decisions. The McConnell AFB IDP was last updated in 2019 and was created in accordance with AFI 32-1015 with principles from UFC 2-100-01, *Installation Master Planning*.

The eight planning districts identified for McConnell AFB IDA are National Guard, Airfield, Flightline, Core, Outdoor Recreation, Munitions, Field Training, and Housing, and are briefly described below (McConnell AFB, 2019).

National Guard. The National Guard District totals approximately 140 acres. The Guard converted from a flying mission to an intelligence mission in 2005. Groups include cyber operations, intelligence, mission support, medical, and regional support. Most of the Guard missions are computer related. The Guard also responds to state emergency situations. No installation development projects are proposed for this planning district.

Airfield. The Airfield District is approximately 1,217 acres in size and consists of all the airfield pavements (runways, ramps, aprons, taxiways) and the associated clear zones. There are no buildings located within this district, other than the air traffic control tower. The airfield at McConnell AFB includes two parallel runways (Runway 01L/19R and Runway 01R/19L). Both runways are oriented in a northeast/southwest direction. Both runways are 12,000 feet long, and the east runway (Runway 01R/19L) is 150 feet wide and the west runway (Runway 01L/19R) is 200 feet wide. One of the Proposed Actions, M01 (Stream Restoration), is partially located within this planning district.

Flightline. The Flightline District totals approximately 205 acres and is east of the Airfield District and adjacent to the Core and Munitions Districts. It is comprised of facilities and functions which primarily support aircraft operations, such as hangars, maintenance shops, and the passenger terminal. Maintenance and operations activities are found immediately adjacent to the Flightline, which serves to maximize the efficiency of aircraft maintenance and the operation based and transient aircraft. Two of the Proposed Actions are proposed for this planning district, F01 (Disposition of Hangar 1166) and F02 (Disposition of Aboveground Storage Tank 30003).

Core. The Core District totals approximately 387 acres and comprises the main cantonment area of the base. It sits to the east of the Flightline District and north of the Outdoor Recreation District. This district includes community support (commercial and service), accompanied/unaccompanied housing, administrative, medical/dental, industrial (primarily civil engineering, supply and transportation), and open space land uses. Community support facilities include the Base Exchange, commissary, clubs, and dining facilities, along with services such as the post office, chapel, library, religious education center, childcare center, youth center, education center, and indoor recreation. A pedestrian/bicycle path system links many of the facilities and areas of the district together. There are several individual Proposed Actions proposed for this district, C01 (Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks), C02 (Construct Consolidated Support Center), C03 (Construct New Base Civil Engineering Complex), C04 (Disposition of Buildings 750, 732, and 810), M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide).

Outdoor Recreation. The Outdoor Recreation District consists of approximately 230 acres in the southern portion of the installation, primarily encompassing the former 18-hole golf course, now known as the Krueger Recreation Area. Facilities in the district include parks, trails, multipurpose fields, and the family campground (FAM Camp). There are several individual Proposed Actions proposed for this district, OR01 (Construct New Krueger Recreational Area Running Trail South of Fam Camp), OR02 (Construct New

Fam Camp Addition), M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide).

Munitions. The Munitions District contains nearly 65 acres and is comprised of facilities and functions which are directly related to the munitions storage area (MSA). Most of the land in this district is encompassed by ESQD arcs. Permitted uses in the Munitions District are munitions storage and open space. Facilities located in this district are predominantly bunkers for munition storage. One individual Proposed Action (Project M01 [Stream Restoration]) is included within this planning district.

Field Training. The Field Training District encompasses approximately 236 acres along the far southern boundary of the installation. Most of the land in this district is open space. This district is used for explosive ordnance disposal (EOD) activities, urban warfare training, dummy grenade range training, and fire training. There are significant floodplain and explosive safety constraints within the district. Project M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide) are partially located within this planning district.

Housing. The Housing District encompasses 170 acres and is located east of the main base at the northeast boundary of the installation. Military family housing is privatized and owned by Corvias Military Living, which is responsible for maintaining, repairing, constructing, and managing the community. The housing requirement is 381 units, made up of 16 2-bedroom unit homes, 294 3-bedroom homes and 71 4-bedroom homes. No installation development projects are proposed for this planning district.

Implementation of the proposed installation development projects would be primarily constructed in the Core, Flightline and Outdoor Recreation planning districts. The existing land use and development are consistent within each planning districts.

3.9.3 Land Use Constraints

Land use constraints are elements of the natural or built environment that create limitations on the operation of the base's buildings, roadways, utility systems, airfields, training ranges and other infrastructure. Development constraints are categorized as operational, environmental or built and approximately 1,740 acres are constrained on McConnell AFB. Development constraints are briefly discussed below and throughout this EA.

Operational. Operational planning constraints are generally related to flight operations and maintenance of aircraft. These constraints include munitions, potentially hazardous cargo, training, ranges and similar operational requirements that can limit future development activity. Identified operational constraints at McConnell AFB are associated with airfield clearances and explosive clear zones, both limiting development potential. The proposed installation development projects are located within the 65-80 dB DNL noise contours as presented in the 2011 McConnell AFB AICUZ Study.

Environmental. Environmental constraints include cultural and natural resources, ERP sites and hazardous/non-hazardous waste and material which can constrain development and restrict the location of mission activities. There are no historic districts or historical archaeological sites on McConnell AFB. A

number of buildings are eligible for the NRHP. Identified environmental constraints at McConnell AFB include floodplains, ERP sites, and historic resources.

Built. Built constraints are related to the condition, functionality and effectiveness of infrastructure systems, facilities and other man-made improvements. Existing development at McConnell AFB can create significant limitations to current and future missions. Identified built constraints at McConnell AFB include Electromagnetic Radiation sources, antiterrorism/force protection standoffs, ESQD arcs, hazardous waste site restrictions, and fuel storage tanks. Two Proposed Actions are within or adjacent to ESQD arcs, M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide). Land use controls associated with safety arcs are discussed in **Section 3.12** Safety and Occupational Health.

These land use constraints are located throughout McConnell AFB, spanning all eight planning districts and are a consideration when planning for future development. Developable areas and areas of potential redevelopment at McConnell AFB include approximately 470 acres that are potentially available for new development or redevelopment (McConnell AFB, 2019). The DoD and USAF have prescribed development principles and best practices for more efficient land use and resource conservation. These practices encourage infill development and other more efficient land development techniques to maximize resources before considering land acquisition or development on previously undeveloped land.

3.10 INFRASTRUCTURE AND UTILITIES

Infrastructure consists of the systems and physical structures that enable a population in a given area to function. Infrastructure encompasses the fundamental systems that provide water, sewer, electrical and heating/cooling capability, as well as roads, parking, paths and the built environment. 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 include utilities, solid waste management, and the transportation system. Utilities include the installation’s communication system, electrical supply, heating and cooling, liquid fuel supply, natural gas supply, sanitary sewer system, and stormwater drainage system. 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, parking areas, and installation access gates to support vehicular movements. The ROI delineated for infrastructure resources includes the entire McConnell AFB. Much of the infrastructure maintenance at McConnell AFB is supervised by the 22nd Civil Engineer Squadron (22 CES), while the communication system is the responsibility of the 22nd Communications Squadron, and liquid fuel supply is under the 22nd Logistics and Readiness Squadron. The infrastructure information contained in this section provides a brief overview of each infrastructure component and comments on its general condition.

3.10.1 Communication System

The communication system at McConnell AFB, which is the responsibility of the 22nd Communications Squadron, is capable of supporting voice, data, video, wireless, land mobile radio, aircraft communications, and security systems. The communication system was updated in 2009 with fiber and copper to nearly every

facility with wireless in every building on base. Duct capacity is adequate for future needs. Avaya network systems are all power-over-ethernet switches. There are two diverse redundant paths for communications, with inbound/outbound fiber on opposite ends of the base. Giant Voice was integrated March 2018 with 911 systems and command, control, and emergency response centers (McConnell AFB, 2019a).

The existing communications infrastructure is in adequate condition. There is sufficient bandwidth and capacity. The Defense Information Systems Agency throttles based on mission usage, has 45 gigabytes (GB) available and not all is utilized. The ten-GB backbone is running at 20 GB in some instances and/or locations. The Point of Presence, located in Building 739 and Building 515, is a critical communications hub with the server farm (McConnell AFB, 2019a).

3.10.2 Electrical Supply

Electricity at McConnell AFB is purchased from Westar Energy. The bulk of the electricity is coal-sourced, with 32 percent from wind. Westar Energy's 64th Street Substation, located approximately one-half mile north of the installation on Rock Road, is the primary service feeder to the installation at 12.47 kilovolts through two parallel circuits. Two circuits feed the main switchgears that provide electricity through aboveground and belowground distribution. One switch feeds underground electricity to the airfield and water plant while another switch supplies aboveground electricity to housing areas and the remaining portions of the installation. New construction on-installation is being serviced by underground electrical lines (McConnell AFB, 2012). The current electrical system at McConnell AFB is operating at 50 percent of overall capacity. Key facilities have stand-alone generator backup (McConnell AFB, 2019a).

3.10.3 Heating and Cooling

Heating and cooling are performed within each facility, with most on-installation buildings having stand-alone heating and cooling systems. One remote building (1560) uses propane for heating. McConnell AFB has 7,055 tons of air conditioning and 2,587 horsepower of boiler capabilities (McConnell AFB, 2012). Continual repair and modifications of existing buildings along with the addition of new structures has helped keep the heating, ventilation, and air conditioning (HVAC) system up-to-date and adequate. Programmed improvement projects include modernizing the HVAC system at 60 facilities (McConnell AFB, 2019a).

3.10.4 Liquid Fuel Supply

McConnell AFB uses jet fuel, unleaded gasoline, diesel fuel, and propane. Liquid fuels are the responsibility of the 22nd Logistics and Readiness Squadron. Jet fuel is piped onto the base from a commercial vendor located north of the base. The pipeline enters the base on the north and runs to the bulk storage tanks where two ASTs have the capacity to store 1.9 million gallons of jet fuel (nearly one million gallons in each tank). In addition, there are capabilities to off-load six fuel trucks at a time to the bulk storage tanks. Underground pipelines distribute jet fuel from the bulk storage to the hydrant systems on the runway apron. McConnell AFB has three hydrant refueling systems: (1) East, with two ASTs with a total capacity of 19,856 barrels serving 13 refueling pits; (2) West with two ASTs with a total capacity of 20,000 barrels serving 14 refueling pits; and (3) South, with two ASTs with a total capacity of 20,000 barrels serving 10 refueling pits. McConnell AFB's liquid fuel system is rated as adequate (McConnell AFB, 2019a).

3.10.5 Natural Gas

Natural gas is the primary heating fuel at McConnell AFB. A commercial vendor provides natural gas through an 18-inch high-pressure line that crosses beneath the northwest corner of the installation. The distribution system, owned by Southern Star Central Gas Pipeline, is constructed entirely of polyethylene. Pipe sizes range from ¾ inch to six inches in diameter. The system is looped, giving equalized pressure and flows. There is no on-base storage facility for natural gas. McConnell AFB has made advances in replacing old gas meters that are susceptible to leaks. Service has been well-maintained with no reported interruptions of service from the supplier. The natural gas system at McConnell AFB is rated as adequate, providing sufficient supplies and distribution to meet requirements of existing and future facilities, with all components in good condition (McConnell AFB, 2019a).

3.10.6 Sanitary Sewer System

The sanitary sewer system at McConnell AFB consists of collection only. Wastewater is pumped to the City of Wichita's system for treatment and disposal. The southeast corner of the base is not tied into the remainder of the sanitary sewer collection system, and facilities in this area have septic and holding tanks. The Combat Arms Training and Maintenance Range, Building 1501, and Building 1560 have septic systems. The portion of the FAM Camp located on Mulvane Road has a holding tank which is pumped out on a regular basis. The City of Wichita provides secondary treatment of its wastewater before releasing the effluent into the Arkansas River. Solids from the treatment process are either land-applied by the Wichita Parks Department or placed in a landfill. The on-installation system consists almost entirely of gravity mains. Construction of a new main lift station was completed in 2006 to address leakage of wet wells and outdated pumps on the old lift station. There are five other small lift stations on-installation that are in good condition. The sewer lines on the main installation consist primarily of polyvinyl chloride pipes. The southeastern corner of the installation is not part of the main sewer system. Rather, this area has several septic and holding tanks. (McConnell AFB, 2019a).

The maximum wastewater discharge capacity of the installation's sanitary sewer system is 2.16 million gallons per day. In 2018, daily discharges from the installation averaged 0.17 million gallons per day and peaked at 0.21 million gallons per day. The average daily discharge was 7.8 percent of the installation system capacity and 9.7 percent of the capacity at peak daily discharge. The overall condition of the sanitary sewer system is rated as adequate and there are no current water quality concerns (McConnell AFB, 2019a).

3.10.7 Solid Waste Management

McConnell AFB generates 170,858 tpy of solid construction waste and 817.6 tpy of municipal, non-hazardous solid waste (McConnell AFB, 2019a). Solid waste at McConnell AFB is managed via an ISWMP (McConnell AFB, 2018b) in accordance with AFI 32-7042. The Solid Waste Management and Recycling Program includes off-installation solid waste disposal and collection points for recyclables around the installation. McConnell AFB does not operate a landfill. Non-hazardous solid waste management consists of contract collection and disposal. Solid wastes generated by the base and family housing, as well as construction debris, are collected and hauled by qualified contractors to off-base landfills. Municipal solid waste is hauled off to either Plumb Thicket or Red Carpet Landfills. With a disposal area of approximately 960 acres, Plumb Thicket is expected to provide more than 50 years of disposal capacity for the Greater

Wichita and South-Central Kansas area (USAF, 2014a). The Red Carpet Landfill is approximately 406 acres and has a remaining projected life of more than 20 years. Construction and demolition waste is sent to either Brooks Landfill or Construction, Demolition, and Recycle Landfill. Medical and infectious wastes are transported off base for incineration. Recyclables are collected on a voluntary basis using recycling trailers parked around the base. Solid waste management at McConnell AFB is considered adequate to meet current mission requirements (McConnell AFB, 2019a).

3.10.8 Stormwater Drainage System

McConnell AFB is within the Lower Arkansas River watershed. Two tributaries of the Arkansas River – McConnell Creek and Gypsum Creek – cross the base and are its primary drainages. Additional surface water features on base include small feeder tributaries of the Arkansas River and several small ponds, which are used for irrigation or stormwater control. The majority of surface drainage on the base flows into McConnell Creek, which runs across the base in a northeast to southwest direction and discharges into the Arkansas River, roughly three miles southwest of the base. The remaining drainage is captured by Gypsum Creek, which also discharges to the Arkansas River (McConnell AFB, 2017a; USAF, 2014a). The main base area and Flightline are contained within a single basin that drains in a general southward into McConnell Creek. The family housing area in the northeast corner of the base has an enclosed drainage system but drains into an open channel that crosses Rock Road into the main base area and flows south into McConnell Creek. The northwest side of the base discharges into Gypsum Creek via multiple drainage channels.

The stormwater and surface drainage system at McConnell AFB consists of a series of underground pipes, culverts, and natural channels. Water runoff and other surface drainage waters are managed by a series of underground pipes, culverts, and natural channels. Pipe systems throughout the base vary in size from 12 inches to 60 inches in diameter. The gates of the main McConnell Creek channel and bypass control structures near Sedgwick Street can be closed in the event of a spill. There are two downstream containment gates, one at Sedgwick and McPherson and the other at McPherson and Russell. There is also a containment gate for the East and West Tank Farms located South of Tank 30012. There is a stormwater retention basin on the northwest corner of the Kansas Air National Guard cantonment area. There are no stormwater detention/retention basins on the main base. Most stormwater conveyance structures are rated as being in good condition, with little or no corrective action needed. Six structures are recommended to be replaced due to structural concerns (McConnell AFB, 2019a). Most storm channels are in good condition; however, there are some segments that show above-average levels of erosion and damage due to high velocity flows. It is recommended to complete widening and channel depth improvements to address low flow flood damage, channel bank instability, and ponding concerns There is ponding on the south end of the airfield between the runways that needs to be addressed (McConnell AFB, 2019a).

The stormwater drainage system at McConnell AFB is managed in accordance with the installations Stormwater Pollution Prevention Plan (SWPPP) (McConnell AFB, 2015a) and KDHE requirements. To manage stormwater runoff and to protect the quality of surface waters on base and in the vicinity of the base, McConnell AFB has been issued two different stormwater permits. The base housing area is covered under a municipal storm sewer permit – Municipal Separate Storm Sewer Systems (MS4) Permit No. F-AR94-SU01— which addresses drainage in the base housing area east of Rock Road. The remainder of the

base is covered by an industrial NPDES Stormwater Runoff from Industrial Activity General Permit (Permit Nos. F-AE94-PO25 [state] and KS-0086452 [Federal]). The NPDES permit authorizes McConnell AFB to discharge storm water from its property to waters of the state (McConnell AFB, 2015a; McConnell AFB, 2019a).

3.10.9 Transportation

McConnell AFB's roadway network includes paved public roads and administrative roads, (McConnell AFB, 2019a). Salina Drive is the primary connector between the west side of the installation where the Kansas Air National Guard facilities are located, and the rest of McConnell AFB, passing north of the airfield. Wichita Street is a looping road along the eastern boundary providing access to the southern portion of the installation, the Krueger Recreation Area, and the Robert J. Dole Community Center. Kansas Street provides access to the administrative and support facilities on the installation with secondary roads providing access off Kansas Street. The roadways are generally considered to be in good condition and efficiently maintained. Per the 2018 Pavement Condition Index Survey, 69.7 percent of the road and parking pavements are in good condition, 16.5 percent are in fair condition, and 13.8 percent are in poor condition. The overall average Pavement Condition Index rating for the base is 77 - Satisfactory. Hot summer weather has caused some "blowups" whereby excessive heat causes the pavement to expand. Despite the good rating of roadway and parking lot conditions at McConnell AFB continual efforts are undertaken to make improvements and maintain adequate conditions of the transportation network (McConnell AFB, 2019a).

The off-installation transportation network at McConnell AFB consists of four local arterial roadways that serve the installation. These roadways include South Rock Road, Arnold Boulevard, 31st Street, and George Washington Boulevard. Interstate 35 provides highway access to McConnell AFB and operates in a north-to-south direction (McConnell AFB, 2019a).

Vehicle access to the installation is provided through two primary gates: the main gate on the northeast boundary of the base, and the West Gate at the northwestern corner of the base. The Main Gate is accessed via Rock Road, which turns into Kansas Street once inside the gate. This gate is manned and operated at all times. The Visitor Center is located at the Main Gate. Commercial traffic enters the base through the West Gate, as well as traffic accessing the National Guard complex. This gate is accessed off of George Washington Boulevard and provides all commercial vehicle inspection. It is manned by 22 ARW active duty personnel and is operated from 0600 to 1800 Monday through Friday, and on Unit Training Assembly weekends (McConnell AFB, 2019a).

Transit service to the installation is provided by Wichita Transit, which operates buses and wheelchair lift vans on fixed routes. There are no on-installation shuttle bus services (McConnell AFB, 2011a). Pedestrian walking paths are provided in the community area of the installation but are lacking in the industrial area. Pedestrian paths are provided from most entrances of buildings to adjacent parking lots or connect with the Memorial Walk Wichita Mid-Continent Airport is approximately 14 miles west of McConnell AFB. Sedgwick County is serviced by both Class I and short-line railroads (McConnell AFB, 2019a).

3.10.10 Water Supply

Potable water for McConnell AFB is purchased from the City of Wichita, which draws its water from two main sources: the Cheney Reservoir, located 30 miles northwest of the installation, and from the Equus Beds, a municipal well system located five to 15 miles northwest of the installation (McConnell AFB, 2019a). Wichita draws approximately 60 percent of its potable water from the Equus Beds, which contains an underlying aquifer that is about one million acre-feet in size. The 933-square-mile Cheney Reservoir provides the remaining 40 percent of water for Wichita. The City of Wichita has implemented an Integrated Local Water Supply Plan to meet projected population increases in the region, which includes greater use of the Cheney Reservoir, use of an Aquifer Storage and Recovery system in the Equus Beds Aquifer, and redevelopment of the Bentley Wellfield (McConnell AFB, 2012).

McConnell AFB's water is supplied to Building 670 where it is sampled and treated by 22 CES personnel. Water is fluoridated and chlorinated daily.

McConnell AFB's water distribution system has over 80 miles of water mains of various sizes, primarily consisting of polyvinyl chloride pipe. The system is looped to eliminate dead end mains, increasing flows and pressures throughout the system. Additional pressure and flow are provided by three pumps, each with pumping capacity of 1,000 gallons per minute. Storage consists of a ground storage tank at Building 670 and an elevated storage tank. Each tank has storage capacity of one million gallons. Daily water usage averages 263,419 gallons per day, representing 8.8 percent of the installation system capacity. The water supply system at McConnell AFB provides adequate water supply and storage to meet domestic consumption and duration, flow rate, and pressure requirements for fire protection and is not a limiting factor (McConnell AFB, 2019a).

3.11 EARTH RESOURCES

Earth resources consist of the Earth's surface and subsurface materials. Within a given physiographic province, these resources typically are described in terms of topography, physiography, geology, soils, and, where applicable, geologic hazards. The ROI for earth resources evaluation in this EA corresponds to the physical footprint of McConnell AFB.

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. 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.

Geologic hazards are defined as a natural geologic event that can endanger human lives and threaten property. Examples of geologic hazards include earthquakes, landslides, rock falls, ground subsidence, and avalanches.

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

their abilities to support certain applications or uses. In appropriate cases, soil properties must be examined for their compatibility with construction activities or types of land use.

Prime farmland is protected under the Farmland Protection Policy Act (FPPA) of 1981 (7 U.S.C. 4201) 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 the U.S. Department of Agriculture (USDA) 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 could 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. Farmlands 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, 2019a).

USDA NRCS soil surveys provide general information about the suitability of mapped soil types for construction uses, such as those associated with the Proposed Actions. Although on-site evaluation of site conditions is necessary, this information can be helpful in determining whether there are limitations associated with a particular soil map unit. For each specified use, a soil map unit is identified as not limited, somewhat limited, or very limited for a particular use (e.g., construction of small buildings, roads, streets, and utilities) (USDA NRCS, 2017). A site may be limited by factors such as slope, depth to hard bedrock, flooding, ponding, subsidence, and depth to saturated zone.

3.11.1 Geology

3.11.1.1 Topography and Physiography

McConnell AFB lies in the Osage Plains section of the Central Lowland physiographic province of the Interior Plains division of the U.S. (McConnell AFB, 2017a). The Osage Plains are characterized as a flat alluvial plain comprised of stream-deposited silts, sands, and gravels. McConnell AFB is situated on a rolling plain to the east of the Arkansas River that generally slopes from east to west-southwest. Elevations range from approximately 1,390 feet above mean sea level (MSL) in the eastern portion of the base to approximately 1,290 feet MSL in the southwestern portion of the base. Changes of relief are seldom more than ten feet. The natural topography at McConnell AFB was modified to create level areas for extensions to runways and construction of support buildings (McConnell AFB, 2017a).

3.11.1.2 Regional Geology

Geologic formations underlying the Osage Plain and McConnell AFB include bedrock comprised of the Wellington Formation and surface deposits of wind-deposited glacial silt called “loess”. The Wellington Formation dates to the Permian period, roughly 290 to 250 million years ago, and consists of gray to blue shale with thin beds of maroon shale, impure limestone, gypsum, and anhydrite. This unit is approximately 500 feet thick beneath McConnell AFB. Salt deposits are present in the Wellington Formation in the western half of Sedgwick County, and may range up to 300 feet thick. Surface loess deposits date to the Quaternary

(i.e., Ice Age) period, roughly the last 1.8 million years, when alternating periods of glaciation and glacial erosion produced a huge amount of silt that was then deposited by wind across the plains. The loess is generally characterized as tan to pinkish calcareous silt, containing zones of caliche nodules and some sand lenses (McConnell AFB, 2017a).

3.11.1.3 Geologic Hazards

The risk of geologic hazards such as landslides, rock falls, and avalanches are considered negligible at McConnell AFB due to the low topographic relief on the installation. The nature of the generally level, gently rolling landscape does not lend itself to hazards associated with steep slopes. The risk of earthquakes in the region is generally considered low (Kansas Geological Society [KGS], 1996); however, small earthquakes have increased in frequency in south-central Kansas since 2013 (KGS, 2014). Further, smaller earthquakes that cannot be felt in Kansas – earthquakes with magnitudes up to 2.0 on the Richter scale – have been associated with the Nemaha Ridge and Humboldt Fault. The Nemaha Ridge is a buried granite mountain range that extends from roughly Omaha, Nebraska, to Oklahoma City, Oklahoma, and runs east of Wichita and McConnell AFB. This mountain range was formed about 300 million years ago, and the faults that bound it are still slightly active today, especially the Humboldt fault zone that forms the eastern boundary of the Nemaha Ridge, passing near El Dorado, east of the Wichita area. By combining historical earthquake data with that obtained between 1977 and 1989, seismologists previously estimated that a large earthquake (magnitude 6.0 on the Richter scale) could occur in Kansas about every 2,000 years (KGS, 1996).

3.11.2 Soils

The native soils at McConnell AFB are extensively disturbed and intermixed with urbanized land features and plow zones. Soils underlying the majority of the base are highly disturbed due to construction of the runway system, roads, buildings, other structures, landfills, and stream channel modifications occurring between the 1920s and the present. The majority of the base's soils have been highly disturbed from construction activities to the point that they are no longer mapped separately from Urban Land. The USDA defines Urban Land as area that has been altered or obscured by urban works and structures to the point that identification of the original soils is impossible. Therefore, the soils are classified as complex, as the soil profile is highly modified. Two main soil complexes are present at McConnell AFB: (1) the Urban Land-Irwin complex; and (2) the Urban Land-Tabler complex. The majority of the airfield area is Urban Land-Tabler Complex followed by the Urban Land-Irwin complex. Smaller portions of base include the Urban Land-Farnum complex as well as the Elandco series (McConnell AFB, 2017a).

Neither the Urban Land-Elandco complex nor the Urban Land-Tabler complex are considered prime farmland. The Urban Land-Irwin complex is farmland of statewide importance (USDA NRCS, 2019a); however, all land within McConnell AFB used for military mission purposes has been previously disturbed and modified due to development and is not currently available for agricultural use. According to Section 1540(c) (1) of the FPPA, "farmland" does not include land already in or committed to urban development or water storage. McConnell AFB is identified as an urbanized area on the 2010 Census Urbanized Area Reference Map for Wichita, Kansas; therefore, soils within the proposed facility construction, demolition,

and renovation areas are not considered "farmland" and are not subject to the FPPA (U.S. Census Bureau, 2010a).

All soils present on McConnell AFB are either not rated for suitability and limitations for use, or have some limitations, whether due to slow permeability, high shrink-swell characteristics, insufficient strength and stability, alkalinity, drought, or perched water tables in low lying areas, among other limitations (McConnell AFB, 2017a).

3.12 SAFETY AND OCCUPATIONAL HEALTH

A safe environment is one in which there is little to no potential for serious bodily injury or illness, death, or property damage, or the potential risk has been reduced to the maximum extent possible. Safety addresses the well-being, safety, and health of members of the public, contractors, and USAF personnel during project implementation, including demolition and construction, and also during subsequent operations and maintenance.

Safety and accident hazards can often be identified and reduced or eliminated. Necessary elements for an accident-prone situation include the presence of the hazard itself, together with the exposed and susceptible population. The degree of exposure depends primarily on the proximity of the hazard to the population. Hazardous activities can include construction, demolition, transportation, maintenance and repair activities, the creation of noisy environments, and certain military activities. The proper operation, maintenance, and repair of vehicles and equipment carry important safety implications. Any facility or human-use area with potential explosive or other rapid oxidation process creates unsafe environments for nearby populations. Extremely noisy environments can also mask verbal or mechanical warning signals such as sirens, bells, or horns. This analysis addresses the safety implications from construction, demolition, and other activities associated with the Proposed Actions. The safety-related ROI for this EA corresponds to the footprints of the individual Proposed Actions where construction, demolition and operational activities would occur.

3.12.1 Construction and Mission Safety

All contractors performing construction and demolition activities on USAF installations are responsible for following Federal OSHA regulations, as well as Air Force Occupational Safety and Health (AFOSH) standards set forth in AFI 91-202, *The USAF Mishap Prevention Program,* and AFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards*. AFOSH standards follow OSHA regulations and are required to conduct work activities in a manner that does not increase risk to workers or the public. The 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. Examples of activities that can be hazardous include transportation, maintenance and repair activities, and the creation of extremely noisy environments. The regulations are designed to control these hazards by eliminating exposure to the hazards via administrative or engineering controls, substitution, use of personal protective equipment (PPE), and availability of Safety Data Sheets.

Occupational health and safety are 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.

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 implements AFPD 91-2, *Safety Programs*, and provides guidance for implementing the safety program for all activities that occur on USAF installations.

McConnell AFB is a secure military installation with access limited to military personnel, civilian 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 AFOSH requirements. Adherence to industrial-type safety procedures and directives ensures safe working conditions.

Safety constraints such as ESQD arcs and unexploded ordnance (UXO) probability areas (known munitions test/training areas) partially determine the suitability of areas for various land uses and, therefore, minimize safety hazards associated with mission activities. Although exposure of susceptible populations to safety hazards outside the safety constraints is unlikely, these constraints do not guarantee an absolute absence of risk. ESQD arcs are buffers around facilities that contain high-explosive munitions or flammable elements. The size and shape of an ESQD arc depends on the facility and the net explosive weight of the munitions being housed. Separations set by ESQD arcs establish the minimum distances necessary to prevent the exposure of USAF personnel and the public to potential safety hazards. USAF protects personnel from the risks associated with UXO by controlling access to areas of concern; managing programs to remove UXO; and maintaining records of expenditures, range clearance operations, EOD incidents, and areas of known or suspected UXO.

3.12.1.1 Construction Safety

Construction contractors at McConnell AFB follow OSHA and AFOSH standards. For activities during which there is the potential for construction workers to encounter contamination from IRP sites, it is recommended that a health and safety plan be prepared in accordance with OSHA requirements prior to commencement of construction activities. Workers performing soil-removal activities within IRP sites are required to have OSHA 40-hour Hazardous Waste, Operations, and Emergency Response (HAZWOPER) training. In addition to this training, supervisors are required to have an OSHA Site Supervisor certification. Should contamination be encountered, the handling, storage, transportation, and disposal activities would be conducted in accordance with applicable Federal, state, and local regulations; AFIs; and McConnell AFB programs and procedures. HAZWOPER regulations that protect workers and the public at or near a hazardous waste cleanup site are discussed in 29 CFR 1910.120 and 29 CFR 1926.

3.12.1.2 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 implements AFPD 91-2, *Safety Programs*, and provides guidance for implementing the safety program for all activities that occur on USAF installations.

McConnell AFB is a secure military installation with access limited to military personnel, civilian 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 AFOSH requirements. Adherence to industrial-type safety procedures and directives ensures safe working conditions.

Safety constraints such as ESQD arcs and UXO probability areas (known munitions test/training areas) partially determine the suitability of areas for various land uses and, therefore, minimize safety hazards associated with mission activities. Although exposure of susceptible populations to safety hazards outside the safety constraints is unlikely, these constraints do not guarantee an absolute absence of risk. ESQD arcs are buffers around facilities that contain high-explosive munitions or flammable elements. The size and shape of an ESQD arc depends on the facility and the net explosive weight of the munitions being housed. Separations set by ESQD arcs establish the minimum distances necessary to prevent the exposure of USAF personnel and the public to potential safety hazards. USAF protects personnel from the risks associated with UXO by controlling access to areas of concern; managing programs to remove UXO; and maintaining records of expenditures, range clearance operations, EOD incidents, and areas of known or suspected UXO. McConnell AFB aggressively manages its development program to ensure that it meets explosive safety requirements (McConnell AFB, 2019a). ESQD arcs cover a well-defined and consolidated area of the installation.

Range sites on McConnell AFB contain various munitions and UXO. Although most surface occurrences have been removed, munitions and UXO can still be found below the ground surface.

The 22 CES 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 McConnell AFB.

3.13 SOCIOECONOMICS

Socioeconomics analyses involve economies and social elements such as population levels and workforce and consumer activities. Factors that characterize the socioeconomic environment represent a composite of several interrelated and nonrelated attributes. Indicators of economic conditions for a geographic area can include demographics, median household income, unemployment rates, employment, and housing data. Data on employment identify employment by industry or trade and unemployment trends. Data on personal income in a region are used to compare the before and after effects of any jobs created or lost as a result of a Proposed Action. Data on industrial, commercial, and other sectors of the economy provide baseline information about the economic health of a region. Changes in demographic and economic conditions are typically accompanied by changes in other community components, such as housing availability, education, and the provision of installation and public services, which are also discussed in this section.

The ROI for socioeconomics is defined as the geographical area within which the principal direct and secondary socioeconomic effects of actions associated with the Proposed Actions would likely occur and

where most consequences for local jurisdictions would be expected. McConnell AFB is located within the city of Wichita, in Sedgwick County, Kanas. The ROI for the analysis of socioeconomic impacts for the Proposed Actions is the census tracts including and surrounding McConnell AFB, which are tracts 58, 59, 61, 64, 65, 66, 67, 68, 70, 71.01, 72.02, 72.03, 72.04, 100.03, and 100.04. This ROI illustrates socioeconomic characteristics for the area nearest to McConnell AFB and the geographic area where most impacts from the Proposed Actions would be expected to occur. Additionally, data for Sedgwick County, Wichita Metropolitan Statistical Area, and the State of Kansas are provided for further information and areas of comparison.

3.13.1 Population

Based on data from the U.S. Census Bureau, the estimated population of the ROI in 2017 was 62,231, which represents a 13.3 percent increase since 2000. The population of Sedgwick County and the Wichita Metropolitan Statistical Area had a nearly identical increase (13.4 percent and 13.2 respectively), while the state of Kansas increased at a lower percentage (8.3 percent) (U.S. Census Bureau, 2000; U.S. Census Bureau, 2010b; U.S. Census Bureau, 2017a). **Table 3.13-1** shows the total populations for 2000 and 2010, and total population estimates for 2017 for these geographic areas.

TABLE 3.13-1 TOTAL POPULATION IN VICINITY OF MCCONNELL AFB

Geographic Area	2000	2010	2017[a]	Percentage Change 2000-2017
ROI	55,813	60,476	63,231	13.3
Sedgwick County	452,869	498,365	513,607	13.4
Wichita Metropolitan Statistical Area	571,166	623,061	646,542	13.2
Kansas	2,688,418	2,853,118	2,911,505	8.3

Sources: U.S. Census Bureau, 2000; U.S. Census Bureau, 2010b; U.S. Census Bureau, 2017a.
Notes: The 2017 total population data are estimates from the 2017 American Community Survey 5-Year Population Estimate.

The workforce population of McConnell AFB in 2018 was 6,345, including military and civilian personnel and dependents. Total employment at McConnell AFB consisted of 5,734 personnel, including 2,838 active duty military personnel, 2,104 part-time Guardsmen, 490 government civilian personnel, and 311 other installation personnel (McConnell AFB, 2019a; McConnell AFB, 2019b).

3.13.2 Economic Activity (Employment and Earnings)

Table 3.13-2 shows the regional employment by industry in the ROI and comparative regions around McConnell AFB. The total number of employed people in the civilian labor force in ROI in 2017 was 29,871. The industry employing the highest percentage of the civilian labor force in in Sedgwick County, Wichita Metropolitan Statistical Area, and Kansas was the educational services and health care and social assistance industry. This industry employed a statistically similar proportion of the labor force in Sedgwick County, the Wichita Metropolitan Statistical Area, and Kansas, but a slightly smaller proportion of the labor force in ROI (U.S. Census Bureau, 2017b). In the ROI, the education, health and social service industry tied with manufacturing for highest percentage of civilian labor force (20.7 percent each industry). The top

private employers in the greater Wichita area are Spirit Aerosystems and Textron Aviation. The top public employers are McConnell AFB, Wichita Publics, and the State of Kanas (Wichita Business Journal, 2019).

The total economic impact of McConnell AFB during Fiscal Year 2018 was approximately $711 million. This includes payroll for military and civilian personnel of more than $574 million, creation of 2,469 jobs with an estimated value of approximately $114 million, and local expenditures of approximately $136 million (McConnell AFB, 2019b).

Per capita income in the ROI is $20,863. It is relatively higher in the comparative regions. Per capita income in the Wichita Metropolitan Statistical Area, Sedgwick County, and Kansas was $27,582, $27,583, and $29,600, respectively. (U.S. Census Bureau, 2017b).

As of March 2019, the unemployment rate in Sedgwick County (not seasonally adjusted), the Wichita Metropolitan Statistical Area (not seasonally adjusted), and Kansas (seasonally adjusted) was 4.3 percent, 3.9 percent, and 3.5 percent, respectively (Bureau of Labor Statistics, 2019). Unemployment in Kansas generally matches the national rate of 3.6 percent. The greater Wichita area and Sedgwick county, however, have a higher unemployment rate.

TABLE 3.13-2 EMPLOYMENT BY INDUSTRY

Category	ROI	Sedgwick County	Wichita Metropolitan Statistical Area	Kansas
Population 16 years and over in the labor force	33,244	261,373	327,027	1,509,484
Percent of labor force in the Armed Forces	3.4	0.5	0.4	0.8
Population of employed persons in the civilian labor force	29,871	244,954	307,693	1,420,045
Percent Employed Persons in Civilian Labor Force (by Industry)				
Agriculture, forestry, fishing and hunting, and mining	0.8	1.0	1.5	3.4
Construction	7.0	6.7	6.9	6.3
Manufacturing	20.7	18.2	18.2	12.6
Wholesale Trade	1.8	2.6	2.6	2.8
Retail Trade	13.4	11.5	11.0	10.8
Transportation and warehousing, and utilities	3.4	3.9	4.1	4.8
Information	1.2	1.8	1.6	2.0
Finance and insurance, and real estate and rental and leasing	3.5	4.9	4.9	6.1
Professional, scientific, and management, and administrative and waste management services	8.3	8.9	8.3	9.4
Educational services, and health care and social assistance	20.7	23.6	24.1	24.8
Arts, entertainment, and recreation, and accommodation and food services	11.1	9.2	8.7	8.1
Other services, except public administration	4.1	4.7	4.7	4.5
Public administration	3.9	3.2	3.4	4.4

Source: U.S. Census Bureau, 2017b
Note: The data presented in this table are estimates from the 2012–2017 American Community Survey.

3.14 ENVIRONMENTAL JUSTICE

Analysis of environmental justice evaluates impacts on environmental justice populations (i.e., minority and low-income populations) and is directed by EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The USAF *Guide for Environmental Justice Analysis under the EIAP* (USAF, 2014b) also provides guidance on how to fulfill the requirement for environmental justice analysis. EO 12898 was created to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no groups of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, tribal, and local programs and policies. EO 12898 requires each Federal agency to identify and address whether their Proposed Action results in disproportionately high and adverse environmental and health impacts on low-income or minority populations.

The ROI for environmental justice analyses is the same as for socioeconomics.

Demographic information on minority and low-income populations in the ROI and comparative regions is presented in **Table 3.13-3**. Minority population levels within the ROI are greater than Sedgwick County, the Wichita Metropolitan area, and Kansas, but are less than those found throughout the U.S. Within the ROI, the population reporting to be a race other than white was 34.7 percent of the total, which is substantially higher than the 18.4 percent for the Wichita area, and 13.5 percent for Kansas, but is slightly less than the 38.5 percent for the U.S. (U.S. Census Bureau, 2017a). The Hispanic or Latino population in the ROI (17.8 percent) is substantially higher than the population in the Wichita area (12.6 percent), Sedgwick County (14.1 percent) and Kansas (11.9 percent) but is statistically identical to that of the U.S. (17.6). The Asian population (11.5 percent) in the ROI is significantly higher than that of the Wichita area (3.6 percent), Sedgwick County (4.4 percent), Kansas (3.1 percent) and the U.S. (5.3 percent). The percentage of individuals below the poverty level in the ROI (20.4 percent) is significantly higher than that of the Wichita area (13.9 percent), Sedgwick County (14.7 percent), Kansas (11.9 percent) and the U.S. (14.6 percent). The frequency of families below the poverty level in the ROI is 17.4 percent, which is significantly higher than that of the Wichita area (10.1 percent), Sedgwick County (10.8 percent), Kansas (8.5 percent) and the U.S. (10.5 percent). This trend is also reflected in the lower per capita income and median household income in the ROI relative to the Wichita area, Sedgwick County, Kansas and the U.S. as a whole (U.S. Census Bureau, 2017b).

TABLE 3.13-3 MINORITY, LOW-INCOME, AND POVERTY STATUS

Demographic	ROI	Sedgwick County	Wichita Metropolitan Statistical Area	Kansas	U.S.
Total Population	62,231	513,607	646,542	2,911,505	321,923,363
Percent White	65.3	79.1	81.6	86.5	61.5
Percent Minority	35.8	32.2	18.4	24.3	39.6
Percent Black or African American	15.2	9	7.6	6.2	12.3
Percent American Indian, Alaska Native	0.9	0.9	0.9	1.2	0.7
Percent Asian	11.5	4.4	3.6	3.1	5.3
Percent Native Hawaiian and Other Pacific Islander	0.0	0.0	0.04	0.1	0.2
Percent Some Other Race	3.8	2.6	2.2	--	0.2
Percent Reporting 2 or more races	5.1	3.9	3.6	3.0	2.3
Percent Hispanic or Latino	17.8	14.1	12.6	11.9	17.6
Percent of Individuals Below Poverty	20.4	14.7	13.9	11.9	14.6
Percent of Families Below Poverty	17.4	10.8	10.1	8.5	10.5

Sources: U.S. Census Bureau, 2017a; U.S. Census Bureau, 2017b.
Note: The data presented in this table are estimates from the 2012–2017 American Community Survey.

CHAPTER 4 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter identifies and discloses potential environmental impacts associated with the construction and operation of the Proposed Actions at McConnell AFB, inclusive of the No-Action Alternative. The potential for significant impacts was evaluated with respect to context (e.g., short term versus long term) and intensity (e.g., beneficial or adverse, minor or considerable). The potential for cumulatively significant impacts is also addressed in this EA (**Chapter 5**).

4.2 AIR QUALITY AND CLIMATE

This section identifies and discloses potential air quality impacts from criteria pollutant and GHG emissions associated with the Proposed Actions. The air quality impact analysis follows the EIAP Air Quality Guidelines (Solutio Environmental, 2017) for criteria pollutants, and GHG emissions. Impacts to air quality would be considered significant if the Proposed Actions were to:

- Cause pollutant concentrations to exceed one or more of the NAAQS for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.

The majority of air emissions associated with the Proposed Actions would be temporary in nature (limited to the duration of demolition and construction activities) and would be caused by construction equipment and vehicle operation, asphalt paving, and dust generated from demolition and disturbance on unpaved areas. Long-term operations emissions related to the Proposed Actions are expected to be small and not represent an increase from the current conditions.

The USAF's Air Conformity Applicability Model (ACAM) was used to analyze the potential air quality impacts associated with the Proposed Actions, as described above, in accordance with the AFMAN 32-7002, the EIAP, and the General Conformity Rule (40 CFR 93 Subpart B).

The Proposed Actions would not result in significant impacts to air quality. The following subsections describe the non-significant effects on air quality that would result from the Proposed Actions.

4.2.1 Proposed Actions

4.2.1.1 Operational Activities

The Proposed Actions would not result in any new operational activities (i.e., new missions) or increased operational levels (i.e., additional personnel). Fuel tanks installed as part of the Proposed Actions would replace existing fuel tanks in terms of size, fuels handled, and annual throughput. New heating equipment and emergency generators installed in the new buildings would replace demolished equipment of similar sizes and capacities, and therefore, emissions from these sources would be unlikely to increase.

4.2.1.2 Demolition and Construction Activities

Demolition and construction activities associated with the Proposed Actions would include demolishing existing buildings, structures, and utilities; site clearing and grading; trenching and excavation; paving; constructing new buildings and associated utilities; and application of architectural coatings. Construction period emissions depend on expected material quantities and equipment/vehicle utilization requirements for each project component.

Demolition and construction activities associated with the Proposed Actions would result in the following short-term air quality impacts:

- Fugitive dust would be generated by demolition and construction operations.
- Emissions of criteria pollutants (VOC and NO_x [nitrogen oxide] [as precursors of O_3], CO, PM_{10}, and $PM_{2.5}$ [including its precursor SO_2], and GHG emissions) would result from demolition and construction activities such as:

  - Use of diesel-powered and gas-powered demolition and construction equipment,
  - Evaporation of architectural coatings and paving asphalt, and
  - Construction workers' commutes and haul truck trips.

4.2.1.3 Emissions Results

As mentioned, the operational and construction emissions resulting from the Proposed Actions were calculated using ACAM. These emissions are "netted" on an annual basis. The impact analysis must consider the greatest annual emissions associated with the Proposed Actions. Since emissions from the Proposed Actions can vary from year-to-year depending on activity, the greatest annual net change in emissions for each pollutant forms the basis of the analysis. The individual pollutant worst-case emission value may occur in a different project year. The total annual emissions during the construction phase of the Proposed Actions are presented in **Tables 4.2-1** through **4.2-4** for each year until the action reaches "steady state" (i.e., once the action is fully implemented and operational with no further net change in emissions). For the purposes of air quality analysis, it is assumed that construction would commence in early 2021 and culminate in 2023, for a steady state year of 2024. See **Appendix B** for the Record of Air Analysis and ACAM detailed emissions reports generated for this analysis.

TABLE 4.2-1 2021 CONSTRUCTION PHASE EMISSIONS

Pollutant	Proposed Actions Emissions (ton/year)	Air Quality Indicator	
		Threshold (ton/year)	Exceedance (Yes or No)
Not in a Regulatory Area			
VOC	0.214	100	No
NO_x	1.410	100	No
CO	1.245	100	No
SO_x	0.003	100	No
PM_{10}	7.668	100	No
$PM_{2.5}$	0.061	100	No
Pb	0.000	25	No
NH_3	0.001	100	No
CO_2e	316.5	--	--

Source: ACAM, run on 23 July 2020
Note: CO_2e = carbon dioxide equivalent

TABLE 4.2-2 2022 CONSTRUCTION PHASE EMISSIONS

Pollutant	Proposed Actions Emissions (ton/year)	Air Quality Indicator	
		Threshold (ton/year)	Exceedance (Yes or No)
Not in a Regulatory Area			
VOC	0.018	100	No
NO_x	0.157	100	No
CO	0.126	100	No
SO_x	0.000	100	No
PM_{10}	0.148	100	No
$PM_{2.5}$	0.007	100	No
Pb	0.000	25	No
NH_3	0.000	100	No
CO_2e	35.2	--	--

Source: ACAM, run on 23 July 2020

TABLE 4.2-3 2023 CONSTRUCTION PHASE EMISSIONS

Pollutant	Proposed Actions Emissions (ton/year)	Air Quality Indicator	
		Threshold (ton/year)	Exceedance (Yes or No)
Not in a Regulatory Area			
VOC	3.648	100	No
NO_x	3.582	100	No
CO	3.417	100	No
SO_x	0.009	100	No
PM_{10}	1.943	100	No
$PM_{2.5}$	0.154	100	No
Pb	0.000	25	No
NH_3	0.006	100	No
CO_2e	867.7	--	--

Source: ACAM, run on 23 July 2020

TABLE 4.2-4 2024 STEADY STATE EMISSIONS

Pollutant	Proposed Actions Emissions (ton/year)	Air Quality Indicator	
		Threshold (ton/year)	Exceedance (Yes or No)
Not in a Regulatory Area			
VOC	0.151	100	No
NO_x	1.402	100	No
CO	1.169	100	No
SO_x	0.018	100	No
PM_{10}	0.113	100	No
$PM_{2.5}$	0.113	100	No
Pb	0.000	25	No
NH_3	0.000	100	No
CO_2e	1636.8	--	--

Source: ACAM, run on 23 July 2020

4.2.1.4 Clean Air Act General Conformity Rule Applicability

The General Conformity Rule does not apply to the Proposed Actions because McConnell AFB is located within an area designated in attainment with of all criteria pollutants.

4.2.1.5 Attainment Criteria Pollutant Emissions

Unlike nonattainment or maintenance criteria pollutants, General Conformity *de minimis* levels have not been established for attainment criteria pollutant emissions. However, as outlined in the EIAP Guide, the General Conformity *de minimis* thresholds are used as NEPA significance indicators for air quality in attainment areas. General Conformity *de minimis* threshold values are the maximum net change an action can acceptably emit in nonattainment and maintenance areas. These threshold values would also be a conservative indicator that an action's emissions within an attainment area would also be acceptable. In other words, if the threshold is acceptable in nonattainment areas, it will also be acceptable in attainment areas. For the Proposed Actions, all attainment criteria pollutants are below the significance indicators presented in **Tables 4.2-1** through **4.2-4**. Therefore, the potential air quality impact from all criteria pollutants is insignificant.

4.2.1.6 Greenhouse Gas Emissions and Climate Change

The estimated increase of GHG emissions associated with construction activities would produce about 868 metric tons of carbon dioxide equivalent (CO_2e) in the peak year of construction (2023). For the steady-state (or operational phase) of the Proposed Actions, the newly installed heating equipment and generators is expected to yield no net increase (i.e., 0 ton per year CO_2e) in GHGs. However, for a conservative analysis, assuming that the new equipment did not replace existing equipment, the annual net increase would be approximately 1,637 tons of CO_2e per year.

The change in climate conditions caused by GHGs resulting from the burning of fossil fuels from activities associated with the Proposed Actions is a global effect. Therefore, the disclosure of localized incremental emissions has no weight to impact climate change. Consequently, given the minimal increase predicted for temporary construction and steady state activities, the project would result in an insignificant impact on overall global or U.S. cumulative GHG emissions and global climate change.

McConnell AFB climate is warm during the summer with high temperatures in the 90s and cool during winter when low temperatures tend to be in the 20s. The annual average precipitation at McConnell AFB is approximately 33 inches with heaviest rainfall occurring during the summer months (National Oceanic and Atmospheric Administration, 2019). Proposed new building construction and demolition of obsolescent structures are not anticipated to be affected by global climate change and resulting warmer temperatures and possible sea level rise. Project components that would restore streams and replace bridges and culverts would help the installation's waterways and infrastructure better respond to such potential changes.

4.2.1.7 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.2.2 No-Action Alternative

Under the No-Action Alternative, construction activities and emissions associated with the Proposed Actions would not occur. The affected offices and their associated staff and functions would remain in their current locations, existing storage tanks, building heating equipment, and emergency generators would not be demolished and replaced. No construction or demolition activities would occur, and therefore no significant impacts to air quality would occur.

4.2.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.3 NOISE

4.3.1 Proposed Actions

The Proposed Actions will have no impact to the airfield or airspace operations; therefore, airfield and airspace were eliminated from further analysis.

4.3.1.1 Construction Activities

Construction and demolition activities associated with the Proposed Actions are expected to result in a short-term, negligible to minor, adverse impact on the noise environment at McConnell AFB. Construction activities would include, but are not limited to: land clearing, grading, and excavation; pavement construction, demolition, and removal; and building construction, demolition, and removal. These activities would involve the use of vehicles, heavy construction equipment, and machinery and would be conducted during the daytime hours of 7:00 AM to 5:00 PM. Construction activities would temporarily increase noise levels in the immediate vicinity of the Proposed Actions; however, because distance rapidly attenuates noise levels, the areas would experience only a minor increase in ambient noise conditions during construction hours. There are no sensitive sites near the footprints of the Proposed Actions. There are five stream restoration sites and four culvert and bridge repair sites within 500 feet of the base/private housing area, but all proposed construction and demolition sites are located more than 2,000 feet from NSS. **Table 4.3-1** presents measured noise levels of common construction equipment at 50 feet. **Table 4.3-1** also provides

the attenuation of these sound levels at 500, 1,000 and 1,500 feet. Based on these levels, in combination with the distances to the nearest NSS, implementation of the Proposed Actions would have an insignificant impact on the noise environment.

TABLE 4.3-1 CONSTRUCTION EQUIPMENT NOISE LEVELS

Construction Equipment	L_{max} at 50 feet	L_{max} at 500 feet	L_{max} at 1,000 feet	L_{max} at 1,500 feet
Cement and Mortar Mixers Composite	80	60.0	54.0	50.5
Concrete/Industrial Saws Composite	90	70	63.9794	60.45757
Cranes Composite	88	68	61.9794	58.45757
Excavators Composite	81	61	54.9794	51.45757
Forklifts Composite	85	65	58.9794	55.45757
Generator Sets Composite	81	61	54.9794	51.45757
Graders Composite	85	65	58.9794	55.45757
Other Construction Equipment Composite	85	65	58.9794	55.45757
Other General Industrial Equipment Composite	85	65	58.9794	55.45757
Pavers Composite	77	57	50.9794	47.45757
Paving Equipment Composite	77	57	50.9794	47.45757
Rollers Composite	80	60	53.9794	50.45757
Rubber Tired Dozers Composite	82	62	55.9794	52.45757
Scrapers Composite	85	65	58.9794	55.45757
Tractors/Loaders/Backhoes Composite	85	65	58.9794	55.45757
Welders Composite	73	53	46.9794	43.45757
Cement and Mortar Mixers Composite	80	60.0	54.0	50.5
Concrete/Industrial Saws Composite	90	70	63.9794	60.45757
Cranes Composite	88	68	61.9794	58.45757
Excavators Composite	81	61	54.9794	51.45757

Source: USDOT, 2006.

4.3.1.2 Operational Activities

Based on the information regarding the individual Proposed Actions, implementation of the Proposed Actions would not result in any aircraft or traffic noise related impacts on sensitive noise receptors in the vicinity of McConnell AFB. Therefore, a quantitative analysis of aircraft operational noise is not included in this EA.

4.3.1.3 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.3.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions and the associated construction activities would not occur, and existing conditions discussed in **Section 3.4** would continue. Implementation of the No-Action Alternative would not result in any new or additional impacts on the noise environment.

4.3.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.4 CULTURAL RESOURCES

This section addresses potential impacts and effects to cultural resources within or adjacent to Proposed Action APEs.

Impacts to cultural resources can occur by physically altering, damaging, or destroying a resource or by altering characteristics of the surrounding environment that contribute to the resource's significance. To evaluate impacts, historic properties are subject to the criteria of adverse effect found at 36 CFR Part 800.5. A significant impact or adverse effect to historic properties is when an undertaking or action alters, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP. Adverse effects or significant impact to historic properties can include: (1) physical destruction of or damage to all or part of the property; (2) alteration of a property, including restoration, rehabilitation, repair, maintenance, and stabilization; (3) removal of the property from its historic location; (4) change of character in the property's use or of physical features within the property's setting that contribute to its historic significance; and (5) introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features. If an undertaking directly or indirectly effects a property in a manner that does not permanently alter its integrity or NRHP eligibility, this effect is considered not adverse (i.e., not a significant impact). Direct impacts or effects are typically caused by physical changes to a historic property. Indirect effects usually occur through increased use or visual or noise effects.

4.4.1 Proposed Actions

No known cultural resources are within the direct effects APE for the Proposed Actions. No known historic properties will be adversely affected by any of the Proposed Actions. SHPO concurrence with this determination was received on 20 March 2020. In the case of inadvertent discoveries of cultural resources during ground-disturbing work associated with the Proposed Actions, work on-site would cease and the discovery immediately reported to the McConnell AFB cultural resources manager, who would initiate the Section 106 process and procedures detailed in the McConnell AFB ICRMP (McConnell AFB, 2018a). The archaeological discovery would initially be treated as potentially eligible for listing on the NRHP. If evaluation reveals the discovery to be a significant cultural resource eligible for listing on the NRHP, then treatment will be determined in consultation with the Kansas SHPO and other interested parties. If further evaluation reveals that the site is not eligible for NRHP listing with Kansas SHPO concurrence, then USAF activity can resume.

The following subsections describe the non-significant effects on cultural resources that would result from the Proposed Actions.

4.4.1.1 Prehistoric and Historic Archaeological Resources

McConnell AFB has been subjected to an intensive-level survey of areas with archaeological potential. The eight historic-age archaeological sites, which have been found not eligible for the NRHP, are outside of the Proposed Actions' direct and indirect APE. None of these sites, however, will be impacted by any of the Proposed Actions. If archaeological resources are discovered during implementation of the Proposed Actions, work would be temporarily halted, and the procedures outlined in the ICRMP would be followed.

4.4.1.2 Historic Buildings and Structures

Table 4.4-1 presents historic structures in the Proposed Action's direct and indirect APE. As described in **Section 3.5.2**, McConnell AFB has four structures that have been found individually eligible for the NRHP – Buildings 9, 1107, 1218, and 1219 – and two buildings that are treated as eligible – Buildings 1111, and 1129. None of these are in the direct effects APE of any of the Proposed Actions. Three of these NRHP-eligible structures are adjacent to the indirect effects APE for three of the Proposed Actions. Building 1129 is adjacent to the indirect effects APE for Project C01 (Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks). Building 1107 is adjacent to the indirect effects APEs for Project C03 (Construct New Base Civil Engineering Complex) and Project F01 (Disposition of Hangar 1166). Building 1111 is adjacent to the indirect effects APE for Project F01. While construction and demolition associated with these projects could be seen and heard from the historic properties, noise and visual impacts would be temporary, and would not permanently affect integrity or characteristics that make the buildings eligible for inclusion on the NRHP. The loss of Hangar 1166 would not impact either Building 1107's or Building 1111's integrity of significant historic features, change the character of either property's use or physical features that contribute to historic significance, or alter either building's setting, or ability to convey feeling or sense of historic importance. It would not permanently "diminish the integrity of the properties' significant historic features" (36 CFR § 800.5(a)(2)(v)). Likewise, the addition of the new base Civil Engineering Complex (C03) and four new ASTs at the Base Service Station (C01) would not significantly alter the viewshed from Building 1129 or Building 1107. The setting and feeling would remain consistent with that of an active military base and would not be an adverse impact that would affect integrity or characteristics that make either property eligible for the NRHP. Land use setting would remain consistent with their intended use on a military facility. Thus, while there might be minor, short-term, temporary indirect effects to historic structures at McConnell AFB from the Proposed Actions, these would not be considered significant.

The NRHP-eligible Cold War era storage igloos (Buildings 1401, 1403, 1413, 1414, and 1418) in the southern portion of the installation are located in the vicinity, but outside of the indirect effects APEs for Projects M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide). Additionally, the Cold War era Unaccompanied Personnel Housing Building 202 is within the indirect effects APE for several Project M01 locations in the north side of the base. As of the writing of this EA, the status of Building 202 is pending evaluation for NRHP eligibility, but is treated as eligible for the purposes of this EA. While noise and auditory effects may be present during project implementation, these would be minor, and temporary. Further, as discussed in **Section 3.5.2**, Section 106 considerations for base projects that may affect these historic properties have been addressed through ACHP Program Comments, which McConnell AFB is fulfilling. As potential effects to these historic properties have been mitigated per ACHP Program Comments, they are neither adverse nor significant.

None of the structures slated for demolition are historic properties. Building 1166 is slated for demolition under Project F01. Building 1166 was constructed in 1976 (USAF, 2014a). It does not meet the "exceptional importance" criteria specified by 35 CFR § 60.4(g) for properties younger than 50 years old to be eligible for the NRHP. Thus, it is not considered an NRHP-eligible historic property. AST 30003 is to be demolished under Project F02. Buildings 750, 732, and 810 are planned for demolition under Project C04. AST 30003 was constructed in 1953. Buildings 732 and 750 were constructed in 1954. Building 810 was constructed

in 1955. These three buildings and AST 30003 were evaluated for NRHP eligibility in 2010 and found to be not eligible (Rosin Preservation, LLC, 2011). SHPO concurrence with the eligibility findings was received by McConnell AFB on 15 August 2011 (McConnell AFB, 2018a). Therefore, none of these historic-aged structures are considered significant historic properties or cultural resources.

No historic properties eligible for NRHP are within the direct or indirect effects APE for Projects C02 (Construct Consolidated Support Center), OR01 (Construct Krueger Recreation Area Running Trail South of Fam Camp), or OR02 (Construct New Fam Camp Addition).

TABLE 4.4-1 HISTORIC BUILDINGS IN DIRECT AND INDIRECT APE

Building Designation	Date Constructed	Description	NRHP Eligibility	Project	Impact Recommendation	Recommended Action
Direct Impacts APE						
Building 732	1954	Field Training Facility / Flight Simulator Buildings	Not Eligible	C04	No Impacts - structure is not a historic property/cultural resource	None
Building 750	1954	Wing Headquarters / Academic Building	Not Eligible	C04	No Impacts - structure is not a historic property/cultural resource	None
Building 810	1955	Squadron Operations Building	Not Eligible	C04	No Impacts - structure is not a historic property/cultural resource	None
AST 30003	1953	Fuel Storage Tank	Not Eligible	F02	No Impacts - structure is not a historic property/cultural resource	None
Building 1166	1976	Maintenance Hangar	Not Eligible, <50 years old, no exceptional importance	F01	No Impacts - structure is not a historic property/cultural resource	None
Indirect Impacts APE						
Building 1107	1954	Aircraft Hangar	Eligible	F01, C03	Minor, temporary; no permanent impacts	None
Building 1111	1966	Dock Aircraft Maintenance	Treat as eligible	F01	Minor, temporary; no permanent impacts	None
Building 1129	1966	Dock Aircraft Maintenance	Treat as eligible	C01	Minor, temporary; no permanent impacts	None

Building Designation	Date Constructed	Description	NRHP Eligibility	Project	Impact Recommendation	Recommended Action
Building 1401	1952	Cold War Ammunition Storage	Eligible	M01, M02	Minor, temporary; no permanent impacts	None
Building 1403	1956	Cold War Ammunition Storage	Eligible	M01, M02	Minor, temporary; no permanent impacts	None
Building 1413	1963	Cold War Ammunition Storage	Eligible	M01, M02	Minor, temporary; no permanent impacts	None
Building 1414	1963	Cold War Ammunition Storage	Eligible	M01, M02	Minor, temporary; no permanent impacts	None
Building 1418	1965	Cold War Ammunition Storage	Eligible	M01, M02	Minor, temporary; no permanent impacts	None
Building 202	1959	Cold War Housing	Treat as Eligible	M01	Minor, temporary; no permanent impacts	None

Source: Brice, 2020.

4.4.1.3 Traditional Cultural Resources

McConnell AFB initiated government to government consultation regarding the Proposed Actions with Native American Tribes in February 2020. Letters were sent to the Osage Nation, Cheyenne and Arapaho Tribes of Oklahoma, Comanche Nation of Oklahoma, Kaw Nation, and Wichita and the Affiliated Tribes of Oklahoma. These tribes were also invited to comment on potential impacts to cultural resources from the Proposed Actions. None of the tribes have expressed any concerns related to the Proposed Actions (or detail other tribal input). All correspondence associated with tribal consultation is provided in **Appendix A**.

4.4.1.4 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.4.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not be implemented and, as a result, impacts to cultural resources would not be anticipated.

4.4.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.5 BIOLOGICAL AND NATURAL RESOURCES

This section discusses the potential effects of the Proposed Actions and the No-Action Alternative on biological resources on McConnell AFB.

Impacts to biological and natural resources would be considered significant if species or their habitats of concern are adversely affected over relatively large areas. Impacts would also be considered significant if disturbances result in reduced the population size or distribution of a species of concern. Habitat removal and damage or degradation of habitats might be adverse effects associated with ground-disturbing activities.

Wetland impacts would be considered significant if there is a loss in wetland acreage, function, and value. Impacts on wetland resources are considered significant if high-value wetlands would be adversely affected.

4.5.1 Proposed Actions

4.5.1.1 Vegetation

Short-term and long-term, minor, direct, adverse impacts on vegetation would be expected to result from disturbances due to demolition activities as well as construction-related land clearing/grading activities. Construction activities associated with the Proposed Actions may temporarily disturb unpaved grassed or landscaped areas on base. However, areas to be maintained as unpaved would be reseeded with appropriate native grass species. Project M01 (Stream Restoration) would involve the removal of fallen trees and debris from intermittent streams to improve water flow and provide space for bank stabilization. Removal of stable tree species along the intermittent streams are not anticipated. Therefore, impacts to vegetation as a result of the Proposed Actions are anticipated to be minimal. All required permits will be obtained prior to the implementation of Project M01.

4.5.1.2 Wildlife

Short-term minor, direct, adverse impacts on wildlife, including migratory birds would be expected to result from noise disturbance during demolition and construction activities. The areas of disturbance would be generally within developed areas where disturbances are common (e.g., mowing and landscaping, traffic, aircraft). Displacement of various wildlife species known to occur within the ROI is likely as a result of the Proposed Actions where the mowed and maintained grassed areas are proposed to be disturbed. However, due to the abundance of these species throughout the base property, impacts to wildlife and their habitat are anticipated to be minimal.

Migratory bird species protected under the MBTA also have the potential to occur within the ROI which is located in the middle of the Central flyway route for migratory birds (McConnell AFB, 2017a). **Section 4.5.1.5** discusses the avoidance and minimization measures that will be implemented to avoid/minimize impacts to migratory bird species.

4.5.1.3 Threatened and Endangered Species

No federally listed species or designated critical habitat are known to occur at McConnell AFB and habitat availability is minimal. Impacts to riparian forests located adjacent to the intermittent streams within the ROI are not anticipated. Sedgwick County is considered by the USFWS to be within the WNS zone for the northern long-eared bat; however, no hibernaculum has been documented at McConnell AFB and tree removal activities are not anticipated as part of the Proposed Actions. Per USFWS consultation and guidance, any removal of norther long-eared bats from manmade structures will be coordinated with the USFWS Kansas Ecological Services Field Office.

Based on this information, it has been determined that the Proposed Actions will have "no effect" on any federally listed species. On 27 March 2020, USFWS issued concurrence under ESA Section 7 that the Proposed Actions are not likely to adversely affect federally listed species.

4.5.1.4 Sensitive Habitats

Sensitive habitats occurring on McConnell AFB include the intermittent streams, including the McConnell Creek, which is considered to be a jurisdictional wetland. Potential impacts may occur as a result of Projects M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide). However, these activities would be conducted in accordance with a Construction Site NPDES permit and its associated SWPPP to avoid potential impacts to jurisdictional wetlands. During the design and permitting phase of the Proposed Actions, jurisdictional wetlands will need to be delineated in accordance to the USACE's 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region*. Projects involving vegetation removal or dredge and/or fill impacts to wetlands will require a Section 404 permit from the USACE. Kansas does not have specific wetlands permitting regulations. Applications for most projects involving wetlands are submitted directly to the USACE Kansas City District. However, the state must provide a water quality certification before any wetland permit is issued in Kansas. (McConnell AFB, 2017a).

4.5.1.5 Avoidance, Minimization and Mitigation Measures

In order to avoid and/or minimize adverse impacts to the migratory birds listed by the USFWS having the potential to occur within the ROI, all vegetation removal, trimming, and grading of vegetated areas should occur outside of their peak breeding season (see **Table 3.6-1**) to the maximum extent practicable. When project activities cannot occur outside the nesting season, surveys will be conducted no more than five days prior to scheduled activity to determine if active nests are present within the area of impact. Any nesting locations found during surveys will be buffered pursuant to USFWS guidance, as necessary. Additional measures may be required pursuant to regulatory guidance if active nests are identified (USFWS, 2019c).

Wetland impacts will be avoided to the greatest extent practicable pursuant to Section 404(b)(1) of the CWA. Minimization measures to minimize wetland impacts may include site plan reconfiguration, installation of buffer areas along the perimeter of wetlands, or erosion controls to prevent sedimentation in adjacent wetlands For unavoidable impacts to wetlands resulting from implementation of the Proposed Actions, mitigation would be provided in accordance with the Compensatory Mitigation for Losses of Aquatic Resources, Final Rule (33 CFR Part 332), released by the USEPA and the USACE in April 2008,

which establishes a standard for wetland replacement projects that are required to comply with the CWA. Currently, McConnell AFB is not involved in an off-site wetland mitigation banking program. Mitigation options for wetland impacts at McConnell AFB may include restoration of temporarily disturbed wetlands, creation of new wetlands, restoration of previously modified wetlands, or enhancement of degraded wetlands. Mitigation must be completed in a way that does not increase risk to Bird/Wildlife Aircraft Strike Hazards (McConnell AFB, 2017a). In order to avoid and/or minimize impacts to fish species, bank and instream activity should be minimized during the general fish spawning season (March 1- August 31).

Disturbance to any riparian habitat should be mitigated by revegetation of the disturbed area with native plants as soon as possible following construction. If any native upland habitat is disturbed, the area should be revegetated with native, perennial, warm season grasses after construction to prevent the succession of undesirable invasive plants. Due to the prevalence of invasive species and their associated damage to terrestrial and aquatic native ecosystems and habitat, strict measures should be employed to prevent their spread and introduction as a result of the Proposed Actions. Practices recommended by USFWS include thoroughly washing and removing excess dirt, seeds, and plant parts prior to transporting equipment to or from project sites.

4.5.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not be implemented and, as a result, impacts to biological resources would not be anticipated. However, without the implementation of Project M01 (Stream Restoration), the current erosion and sedimentation issues identified within the intermittent streams on base would not be addressed and could further impact water quality, existing natural habitat, and the value of wetland functions.

4.5.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.6 WATER RESOURCES

The potential effects of the Proposed Actions and the No-Action Alternative on water resources within the ROI are presented in this section. Evaluation criteria for effects on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. A Proposed Action could have a significant effect with respect to water resources if any of the following were to occur:

- Substantially reduce water availability or supply to existing users,
- Overdraw groundwater basins,
- Exceed safe annual yield of water supply sources,
- Substantially affect water quality adversely,
- Endanger public health by creating or worsening health hazard conditions,
- Threaten or damage unique hydrologic characteristics,

- Violate established laws or regulations adopted to protect water resources, or
- Occur in an area with a high probability of flooding.

4.6.1 Proposed Actions

4.6.1.1 Surface Water

No significant effects on surface water resources would occur from the Proposed Actions. Short- and long-term, minor, adverse effects on water resources would be expected to result from implementation of the Proposed Actions because the net amount of impervious surface at McConnell AFB would increase, soil would become compacted and alter natural drainage flows, and vegetation would be removed which could increase soil erosion and sedimentation.

Short-term, negligible, adverse effects could occur during demolition and construction activities as sedimentation from land disturbance and stormwater runoff volume and velocity might increase. Adverse effects would be minimized by implementing BMPs and following an approved Erosion and Sediment Control Plan (ESCP). Minimization measures are discussed further in **Section 4.6.5.1**. Under the CWA Final Rule, projects that would disturb more than one acre of land would be required to use BMPs to ensure that soil disturbed during construction activities does not pollute nearby water bodies. Projects disturbing more than ten and 20 acres, respectively, have additional requirements, as discussed in **Section 3.7.1**. The following Proposed Actions meet this criterion:

- C01 – Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks (less than one acre disturbance)
- C02 – Construct Consolidated Support Center (less than ten acres disturbance)
- C03 – Construct New Base Civil Engineering Complex (less than ten acres disturbance)
- C04 – Disposition of Buildings 750, 732 and 810 (less than ten acres disturbance)
- OR02 – Construct New Fam Camp Addition (less than ten acres disturbance)
- M01 – Stream Restoration (less than ten acres disturbance)

There is a risk that construction and demolition equipment could leak fuels or that hazardous materials or spills could occur during construction and demolition activities. **Section 4.6.5.1** discusses the measures to be implemented to minimize the risk of a spill.

Stream bank restoration included in Project M01 would provide a long-term beneficial impact to surface water once vegetation is reestablished. This project would provide improved drainage patterns and vegetated buffers which would help to slow overland water runoff velocity, resulting in decreased bank erosion, increased sediment retention within the buffer, increased groundwater recharge, and attenuated overland flow inputs to the streams during storm events.

4.6.1.2 Groundwater

No significant effects on groundwater resources would occur from the Proposed Actions. The Proposed Actions do not include any groundwater withdrawal. It is unlikely that project excavation activities would encounter groundwater, given the average depth of groundwater on the installation (16 feet below ground surface). However, any ground-disturbing activities in and around ERP sites have the potential to encounter contaminated soil or groundwater. Projects C01 (Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks), C03 (Construct New Base Civil Engineering Complex), F01 (Disposition of Hangar 1166), F02 (Disposition of Aboveground Storage Tank 30003), and M02 (Repair Multiple Culverts and Bridges Basewide) would occur on ERP sites. Measures to minimize impacts to groundwater resources are discussed in **Section 4.6.5.1**.

Short-term, minor beneficial impacts to groundwater would occur because an approved ESCP would be followed during construction, as discussed in **Section 4.6.5.1**. Additionally, long-term, minor, beneficial impacts would occur from the removal of the aged USTs and their associated inherent risk of leaks. Restoration of stream banks included in Project M01 (Stream Restoration) may also provide a long-term benefit by slowing overland flow and thus providing increased time and opportunity for groundwater recharge in the vicinity of the stream.

4.6.1.3 Floodplains

No significant impacts to floodplains would occur from the Proposed Actions. Early planning and development for this EA focused on identifying alternatives that would meet mission needs and avoid environmental constraints, such as floodplains, to the extent practicable. Alternatives that would not impact floodplains were developed for all but two of the individual Proposed Actions. Of the alternatives considered for Project C02 (Construct Consolidated Support Center), no parcel of land was identified that would both meet mission needs and would entirely avoid floodplains. Furthermore, the selected alternative was the only one that was found to meet all mission needs. A small portion of the southwest part of the footprints of the Proposed Actions overlaps the boundary of the 100-year floodplain. Portions of Project M01 (Stream Restoration) would also occur within the 100-year floodplain. Such overlap would not be avoidable, given the nature and purpose to the work to restore stream banks. Therefore, Projects C02 and M01 would require a FONPA, which is included in the FONSI associated with the EA..

Project C02 (Construct Consolidated Support Center) and M01 (Stream Restoration) would result in long-term impacts to floodplains and would be required to obtain a Floodplain Development Permit through the Kansas Department of Agriculture's Division of Water Resources. Measures to minimize these impacts are discussed in **Section 4.6.5.1**. In the long term, once vegetation is reestablished Project M01 could provide a beneficial impact to floodplains by decreasing runoff velocities and by stabilizing soils, thus decreasing erosion in the floodplain.

4.6.1.4 Stormwater

No significant effects on stormwater would occur from the Proposed Actions. Construction activities, including additions in impervious surfaces, could increase stormwater runoff and the potential for storm-related damage to infrastructure, facilities, and possibly human safety. However, removal of impervious

surfaces associated with building demolition (including demolition of excess pavement associated with parking lot and roadways) would largely offset newly constructed impervious surfaces. As discussed in **Section 3.10.8**, the existing stormwater system at McConnell AFB has adequate capacity to manage any potential increase in stormwater resulting from the Proposed Actions. **Section 3.10.8** also describes stormwater system components that allow for active management and isolation of stormwater within the system, in the event of a spill or other event or incident that could impact stormwater.

4.6.1.5 Avoidance, Minimization and Mitigation Measures

As previously mentioned, adverse effects to surface water resources would be minimized by implementing BMPs and following an approved ESCP. Additionally, implementation of environmental protection measures in accordance with the McConnell AFB SWPPP will be required to minimize the potential for exposed soils or other contaminants from construction activities to reach nearby surface waters. Such environmental protection measures could include the use of silt fences, covering of soil stockpiles, use of secondary containment for the temporary storage of hazardous liquids, detention/retention ponds, and establishment of buffer areas, as appropriate.

To minimize the risk of a spill, all fuels and other potentially hazardous materials would be contained, stored, used, and disposed of appropriately. In the unlikely event that a spill or leak of fuel or other contaminants were to occur, there could be adverse effects on the receiving water bodies. Procedures identified in the installation's Spill Prevention, Control and Countermeasures Plan would be followed to contain and clean up a spill quickly to minimize the potential for and extent of contamination (AGEISS Inc, 2015).

Prior to construction activities in areas of possible contamination, groundwater would be sampled to determine the extent of contamination for areas not already sampled, and remediated to the extent required by Federal, state, and installation regulations. Any groundwater monitoring wells that have been installed around ERP sites would need to be protected from damage during construction and demolition activities. Construction BMPs in accordance with the CWA Final Rule and Section 438 of the Energy Independence and Security Act would be implemented to retain runoff and promote recharge of groundwater.

Impacts to floodplains in general would be minimized through implementation of an approved ESCP, BMPs, and other appropriate environmental protection measures and through adherence to the NPDES permit and SWPPP. Implementing requirements to comply with the Floodplain Development Permit would further reduce adverse impacts to floodplains from construction and development activities. Long-term impacts to floodplains from Projects C02 (Construct Consolidated Support Center) and M01 (Stream Restoration) would be minimized by implementing guidelines provided in EO 11988 for construction in a floodplain to the extent practicable, including site grading so that structures are elevated to at least one foot above the base flood level and providing compensatory storage within the floodplain.

Impacts to stormwater would be minimized through design, siting, and proper implementation of environmental protection measures.

No other mitigation measures would be required.

4.6.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not be implemented and, as a result, impacts to water resources would not be anticipated. However, without the implementation of Project M01 (Stream Restoration), the current erosion and sedimentation issues identified within the intermittent streams on base would not be addressed and could further impact water quality.

4.6.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.7 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

4.7.1 Proposed Actions

4.7.1.1 Hazardous Materials Management

Construction activities associated with the Proposed Actions would result in minor, short-term increases in hazardous materials (i.e., solvents, paints, and adhesives) stored and used at McConnell AFB. The materials would be managed in accordance with the McConnell AFB HMMP (McConnell AFB, 2018e), as described in **Section 3.8.1**. The Proposed Actions would not result in any new processes or the use of new types or increased volumes of hazardous materials at McConnell AFB. No significant changes to the types and quantities of hazardous materials used and stored on-site are expected to result from the Proposed Actions.

4.7.1.2 Hazardous Waste Management

Demolition and construction activities associated with the Proposed Actions would result in minor, short-term increases in the volume of hazardous and solid waste generated on McConnell AFB. Structures that would be demolished under the Proposed Actions, including Buildings 732 and 750, Hangar 1166, and AST 30003, that were built before 1978 could potentially contain ACM and LBP. Building 750 and Hangar 1166 are known to contain ACM (ALM Removal LLC, 2007; Asbestos Removal & Management, Inc. 1993; Remediation Contractors, Inc. 2007); however, some ACM may remain, potentially alongside LBP. Hexavalent chromium has been used as an anti-corrosive agent in aircraft paints. Surfaces to be demolished in Hangar 1166 (Project F01) should be sampled for hexavalent chromium prior to demolition, in accordance with OSHA regulations 1910.1026. Federal and state RCRA regulations for disposal will be followed if hexavalent chromium is encountered in numbers above the permissible exposure limits. Additionally, KDHE should be consulted for state-specific RCRA compliance if deicing or chemical fire retardant systems are encountered during demolition. Removal of USTs (Project C01) will be coordinated with KDHE to ensure state permitting, compliance and demolition regulations are met. A summary of anticipated demolition solid waste by project component is provided in **Table 4.7-1**.

TABLE 4.7-1 ESTIMATED DEMOLITION DEBRIS FROM PROPOSED ACTIONS

Debris Type	Project ID (Cubic Yards)						Total
	C01	C03	C04	F01	F02	M02	
Concrete	0	13,632	13,727	46,219	-	1,202	74,780
Wood Products	0	6,162	6,205	900	0	0	13,267
Drywall and Plasters	0	2,175	2,190	300	0	0	4,665
Steel	2	718	949	1,126	5	0	2,800
Brick & Clay Tile	0	2,026	0	0	0	0	2,026
Built Up Roofing	0	2,164	-	81	0	0	2,245
Asphalt Concrete	735	868	0	0	6	576	2,185
Total	738	27,745	23,071	48,626	11	1,778	101,968

Note: Project components without demolition not included in this table.
Sources: USEPA, 2016; FEMA, 2010; McConnell AFB Staff Correspondence, 2020.

The Proposed Actions would not increase staffing levels or result in any new waste generating processes and would therefore not result in an increase in the types or quantities of hazardous and solid waste generated at McConnell AFB. Removal of existing ACM and LBP would result in a long-term beneficial impact on waste management, by removing regulated materials that could otherwise be impacted by ongoing repair and maintenance activities on the affected buildings.

4.7.1.3 Environmental Restoration Program Sites

Several of the Proposed Actions would occur within IC boundaries of ERP sites at McConnell AFB. The associated impacts would be limited to the duration of construction and demolition activities, none of which are expected to impact contaminated soils or groundwater associated with the affected ERP sites. **Table 3.8-2** discloses project components located within ERP IC boundaries.

In May 2019, McConnell AFB updated its Facility-Wide ICIP (USAF, 2019e), fulfilling the requirements defined in Permit Condition II.17.2 Final Hazardous and Solid Waste Amendment Part II RCRA Permit (Identification Number KS1571924140) (USEPA, 2007). The ICIP includes interim ICs that McConnell AFB has administratively imposed to protect human health and the environment until site risks are fully delineated and response actions can be taken. The interim ICs are required for all sites until such time that the concentrations of contaminants are documented to be below levels that pose an unacceptable risk to human health or the environment (USAF, 2019e). Of the ERP sites that could be impacted by the Proposed Actions, only site ZZ048 is subject to ICs that are required by a Decision Document (USAF, 2019a). USEPA is currently preparing a Statement of Basis for site ZZ049 which is expected to follow the recommended remedy for ZZ048 (USAF, 2019a). Although required by a Decision Document, the ICs for these sites are identical to the interim ICs required at other sites. The provisions implemented as ICs at each ERP site at McConnell AFB are listed in **Section 4.7.1.4**. **Table 4.7-1** discloses site and contaminant information for each ERP site potentially affected by the Proposed Actions.

TABLE 4.7-1 POTENTIALLY AFFECTED ERP SITE INFORMATION

Site ID (and aliases)	Site Description	Site Contaminants	Access Restricted	ICs Required by Decision Document
OT-547 (OT547, Building 692)	Civil Engineering Pavement and Grounds Shop. Two former OWSs (SWMUs 202 & 204), one former	Groundwater: TCE, PCE, TPH, metals. Soil: Metals	Not restricted	No

Site ID (and aliases)	Site Description	Site Contaminants	Access Restricted	ICs Required by Decision Document
	washout pit, and one active washout pit are associated with Building 692. The OWSs were used to collect spilled fluids during maintenance activities (small engine repair, tool cleaning). Injection of ZVI has been implemented as an interim measure for chlorinated contaminants and oxidant injections have been implemented for TPH contamination. Groundwater monitoring is ongoing.			
OW026 (OW-C533; OWS #K4; SWMU 123) Site is located within the IC boundary of OT547	Site of former OWS #4 (OWS #K4), a 550-gallon Highland Tank located approximately 60 feet southwest of Building 710. The OWS likely received liquid waste containing petroleum-based fuels, lubricants, and degreasing solvents produced in Building 710, an active vehicle maintenance shop. The OWS effluent was discharged into the sanitary sewer system. 37 tons of contaminated soil removed in 2015. Oxidant Injection has been implemented as an interim measure. Groundwater monitoring is ongoing.	Groundwater: multiple VOCs, polycyclic aromatic hydrocarbons, TPH Soil: benzene, benzo(a)anthracene, naphthalene, benzo(a)pyrene, cis-1,2-DCE, ethylbenzene	Not restricted	No
SS023	Located adjacent to Building 708 at site of former USTs. The USTs and surrounding soil were removed in September 1990. One soil sample from 15 feet below ground surface revealed actionable levels of contaminants for USTs. All other soil samples were non-detect or showed contaminant levels below actionable levels for UST sites. Groundwater sampling was either non-detect for contaminants or showed low levels of MTBE.	Total extractable and purgeable hydrocarbons	Not restricted	No
SWMU 150	Mud pit for closed-top OWS #5, located within the base service station. Similar units are located throughout the Installation. These units discharge to either the sanitary sewer system or to the storm sewer systems and are sampled and pumped out as necessary. The sludge is disposed of in accordance with applicable regulations. All units were	None identified	Not restricted	No

Site ID (and aliases)	Site Description	Site Contaminants	Access Restricted	ICs Required by Decision Document
	inspected and cleaned, removed, or replaced during the 1990s. During the inspection, no visible signs of release from the units were observed. A 1999 Solid Waste Management Unit Assessment Report recommended No Further Action while the unit is still active. However, a final regulatory decision has not been made regarding this site.			
SS-003 (SS003; MSS3)	Located within the Flight Maintenance Compound. Fuel pipelines are located in the subsurface. Solvent storage tanks and piping have been located in the area. Pipeline leaks were reported in the past. An oxygen infusion system installed near Building 1104 is in place as an interim measure. Injection of ZVI in source areas has been implemented as an interim measure. Groundwater monitoring is ongoing.	Groundwater: PCE, TCE, cis-1,2-DCE, vinyl chloride, TPH, PFOA, PFOS Soil: TCE, vinyl chloride, PFOA, PFOS	Partially restricted, placards present	No
SS-001 (SS001; MSS1)	Located in the bulk fuel storage area. Aviation fuel has been stored at this location since the 1950s and two large spills were reported in the past. Site buildings include an administrative office, pump house, and small maintenance equipment storage building. Remediation wells utilizing a combination of air sparging, air stripping, soil-vapor extraction, and enhanced bioremediation were installed in 2009. System has been shut off and partially abandoned. Injection of ZVI has been implemented as an interim measure for chlorinated contaminants and oxidant injections have been implemented for benzene contamination. Groundwater monitoring is ongoing.	Groundwater: TCE, cis-1,2-DCE, vinyl chloride, benzene Soil: BTEX, TCE, cis-1,2-DCE, vinyl chloride, trimethylbenzene	Restricted, placards present	No
ZZ047 (Hardfill Area 1; SWMU 104) SWMU 110 (OW578). Site is	Approximately 9-acre hardfill area used for the disposal of concrete rubble, asphalt pavement, brush, fill dirt, and other construction/demolition debris from	Soil: Arsenic	Not Restricted	Yes

Site ID (and aliases)	Site Description	Site Contaminants	Access Restricted	ICs Required by Decision Document
located within IC boundary	1955 to the 1970s. The depth to which the debris was buried is unknown. A final remedy decision document was prepared indicating that the selected site remedy is landfill cap inspection and maintenance and ICs.			
LF-010 (LF010; LF-10; Landfill No. 1; Golf Course Landfill; MLF1)	Approximately 40-acre site and former landfill used for general and miscellaneous wastes from 1953 until 1960. Approximately 355,000 cubic yards of waste was burned in trenches of varying length and about 10 to 15 feet deep. Waste disposed of at the landfill primarily consisted of office/general materials and small amounts of petroleum, oil, lubricants, paint, thinners, fuel filters, and bulk fuel sludge. A geophysical exploration was completed at the site and identified electro-magnetic anomalies that were considered likely to contain metal drums containing low-level radioactive material. Test excavations were completed, but no low-level radioactive material was located. Proposed final remedy of existing vegetated soil cover and ICs pending regulatory review.	None identified in exceedance of screening criteria	Not restricted	Proposed (pending regulatory review)
ZZ049 (Old Base Lake Hardfill Area; SWMU 108	Approximately 16-acre hardfill area that was permitted as a Kansas Construction and Debris landfill. The area was dredged between 1967 and 1968 to create a lake approximately five feet deep. The lake was drained between 1985 and 1987 and was subsequently used for the disposal of construction debris between 1987 and 1992. After a tornado destroyed several McConnell AFB buildings in 1991, much of the construction debris generated by the reconstruction efforts was disposed of at this site. The entire site was then covered with soil and regraded in 1992.	Arsenic in one to five-foot below ground surface sediment samples	Not restricted	No (Decision Document Pending)
LF011 (LF-11; Landfill 2; MLF2; Weapons	Grass-covered field located in the southeast portion of McConnell AFB, west of the small arms range and south of the EOD area. The site	Groundwater: TCE, vinyl chloride, cis-1,2-DCE Soil: TCE, vinyl	Restricted, placards present	No

Site ID (and aliases)	Site Description	Site Contaminants	Access Restricted	ICs Required by Decision Document
Range Landfill No. 2)	occupies approximately 32 acres and was operated as a trench, fill and burn landfill from 1960 to 1970. A groundwater capture and treatment system was installed in 1996. Remediation wells utilizing a combination of air sparging, air stripping, soil-vapor extraction, and enhanced bioremediation were installed in 2009. Both systems have been shut off and partially abandoned. Injection of ZVI in source areas as well as an injected ZVI treatment wall has been implemented as interim measures. Groundwater monitoring is ongoing.	chloride, cis-1,2-DCE, other non-chlorinated VOCs, and metals		
LF033 (Hardfill Area 3; LF-33; SWMU 106)	4.1- acre undeveloped grass covered field located near the southeastern corner of McConnell AFB. McConnell Creek forms the eastern site boundary. LF-33 was used from 1958 to 1965 as a construction landfill for debris. Site monitoring wells were sampled in 2015 and all VOCs were below screening criteria. Arsenic and manganese were detected above screening criteria. Proposed final remedy of existing vegetated soil cover, ICs, and long-term monitoring pending regulatory review.	Groundwater: PCE, TCE, manganese, arsenic Soil: Naphthalene, PCE, TCE, antimony	Restricted, placards present	Proposed (pending regulatory review)
ST017 (UST site 17; Building 430) Site SS002 is located within the IC boundary of this site.	Located at the corner of Kansas and Topeka Streets in the northeast portion of McConnell AFB. Building 430 is currently used as a thrift shop. A gasoline station formerly occupied the site and four USTs and associated piping were removed in September 1990. Oxidant Injection has been implemented as an interim measure. Groundwater monitoring is ongoing.	Groundwater: MTBE, benzene, TPH, naphthalene Soil: Benzene, TPH, naphthalene	Not restricted, placards present	No
ZZ048 (Hardfill Area 2; SWMU 105)	Approximately 11-acre hardfill area used for the disposal of concrete rubble, asphalt pavement, brush, fill dirt, and other construction/ demolition debris between 1965 and 1984, when the site was observed to be covered by soil and vegetation.	None exceeding acceptable risk range	Not restricted	Yes

Site ID (and aliases)	Site Description	Site Contaminants	Access Restricted	ICs Required by Decision Document
	The site was used for the disposal of demolition debris from Buildings 424 and 425 in the early 1970s. The depth to which the debris was buried is unknown. A final remedy decision document was prepared indicating that the selected site remedy is landfill cap inspection and maintenance and ICs.			
DP-013 (DP013; DP-13)	A suspected low-level radiation site approximately 0.25 acre in size located on the east-southeastern boundary of LF010. The site was used for the disposal of electronic tubes and other low-level radioactive material between 1965 and 1968. The site was converted to a golf course but is currently used for general fitness and recreation activities. A geophysical exploration was completed at the site and identified electro-magnetic anomalies that were considered likely to contain metal drums containing low-level radioactive material. Test excavations were completed, but no low-level radioactive material was located. Proposed final remedy of existing vegetated soil cover and ICs pending regulatory review.	None identified in exceedance of screening criteria	Not restricted	Proposed (pending regulatory review)

MTBE = methyl tert-butyl ether; TCE = Trichloroethylene; PCE = Tetrachloroethylene; cis-1, 2-DCE = Dichloroethylene; BTEX = Benzene, toluene, ethylbenzene and xylene; PFOA = Perfluorooctanoic acid; PFOS = Perfluorooctane sulfonate
Source: USAF 2019e.

Project C01 (Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks): The existing USTs are located in an area adjacent to an existing IC boundary of IRP Site OT-547 (**Figure 3.8-1**). The nearest monitoring well for this site is OT547-MW52. The September 2017 monitoring results for this well are shown in **Table 4.7-2**. The locations of the tanks do not coincide with the known boundaries of the August – September 2016 baseline plume boundary (USAF, 2018b). Per the ICIP, groundwater monitoring is ongoing at OT-547. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and oxidant injections have been implemented for TPH contamination. The site is not restricted, and site identification placards are present (USAF, 2019e). Site OW026 is located within the project footprint. However, due to contaminated soil removal performed at the site in 2015, it is unlikely that the Proposed Action would impact or encounter contaminated soils in the area. SWMU 150 is a mud pit for OWS #5, located in the base service center. Sludge in the pit is routinely sampled and disposed of in accordance with applicable regulations. The unit has no reports of releases to the environment. IRP site SS023 is located adjacent to building 708 and is the site of former USTs. The USTs and surrounding

soil were removed in September 1990. One soil sample from 15 feet below ground surface displayed total extractable and purgeable hydrocarbons above KDHE action levels for UST sites. No further action is recommended for the site (McConnell AFB, 1995). The Proposed Action does not include installation of domestic-type water wells. Construction and demolition activities would need to comply with the construction-related ICs discussed in **Section 4.7.1.4**.

TABLE 4.7-2 MONITORING WELL OT547-MW52
SEPTEMBER 2017 MONITORING RESULTS

Contaminant of Concern	Concentration (µg/L)	KDHE RSK (µg/L)
TCE	0.2	5
PCE	0.48*	5
TPH-LRH	Non-detect	350
TPH-MRH	Non-detect	150
TPH-HRH	Non-detect	1000

Notes: *Estimated Value.
RSK = Risk-Based Standards for Kansas; µg/L = micrograms per liter; TCE = Trichloroethylene; PCE = Tetrachloroethylene; LRH = Low-Range Hydrocarbons for carbon range ≥C5 - <C9; MRH = Mid-Range Hydrocarbons for carbon range ≥C9 - <C9; HRH = High-Range Hydrocarbons for carbon range ≥C19 - ≤C35
Source: USAF, 2018b.

Project C03 (Construct New Base Civil Engineering Complex): The proposed development footprint is located within the IC boundary of IRP site SS-003 (**Figure 3.8-1**) (URS, 2013a). Monitoring results from September 2012 for four monitoring wells in the project vicinity (**Table 4.7-3**) show exceedances of risk-based standards for Kansas (RSK) at three of the wells. Per the ICIP, groundwater monitoring is ongoing at SS-003. Contaminants of concern include chlorinated solvents and TPH. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and an oxygen infusion system has been installed near Building 1104 for TPH contamination. The site is partially restricted and site identification placards are present (USAF 2019e). The Proposed Action does not include installation of domestic-type water wells. Construction and demolition activities would need to comply with the construction-related ICs discussed in **Section 4.7.1.4**.

Project C04 (Disposition of Buildings 750, 732 and 810): A very small portion of the Proposed Action's footprint northwest corner of lies within the IC boundary of IRP Site OT-547 (**Figure 3.8-1**). The location of proposed building demolition does not coincide with the known boundaries of the August – September 2016 baseline plume boundary (USAF, 2018b). Per the ICIP, groundwater monitoring is ongoing at OT-547. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and oxidant injections have been implemented for TPH contamination. The site is not restricted, and site identification placards are present (USAF, 2019e). The Proposed Action does not include installation of domestic-type water wells. Construction and demolition activities would need to comply with the construction-related ICs discussed in **Section 4.7.1.4**.

TABLE 4.7-3 SS-003 MONITORING WELLS NEAR PROJECT C03

Well ID	Contaminant of Concern	Concentration (µg/L)	KDHE RSK (µg/L)
SS03-MW9	TCE	62	5
SS03-MW13	None	--	--
SS03-MW20	cis-1, 2-DCE	260	70
SS03-MW20	TCE	5100	5
SS03-MW24	TCE	84	5

Source: URS, 2013a.

Project F01 (Disposition of Hangar 1166): Hangar 1166 is located within the IC boundary of IRP site SS-003 (**Figure 3.8-1**). Monitoring results from September 2012 for one monitoring well in the project vicinity show an exceedance of RSK (**Table 4.7-4**). Per the ICIP, groundwater monitoring is ongoing at SS-003 (URS, 2013a). Contaminants of concern include chlorinated solvents and TPH. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and an oxygen infusion system has been installed near Building 1104 for TPH contamination. The site is partially restricted and site identification placards are present (USAF, 2019e). The Proposed Action does not include installation of domestic-type water wells. Construction and demolition activities would need to comply with the construction-related ICs discussed in **Section 4.7.1.4**.

TABLE 4.7-4 SS-003 MONITORING WELLS NEAR PROJECT F01

Well ID	Contaminant of Concern	Concentration (µg/L)	KDHE RSK (µg/L)
MW1104-1	Gasoline Range Organics	810	500

Source: URS, 2013a.

Project F02 (Disposition of Aboveground Storage Tank 30003): The site of the existing tank is within the IC boundary of IRP site SS-001, but does not intersect known active groundwater plume boundaries and recent sampling has not occurred in the vicinity of Project F02 (URS, 2013b). Per the ICIP, groundwater contaminants of concern at this site are chlorinated solvents, vinyl chloride and benzene. A combination of air sparging, air stripping, soil vapor extraction and bioremediation are being applied to control these contaminants. Groundwater injection of ZVI has also been implemented to control chlorinated contaminants and oxidant injections have been implemented to control benzene. The Proposed Action does not include installation of domestic-type water wells. Construction and demolition activities would need to comply with the construction-related ICs discussed in **Section 4.7.1.4**. Access to the site is restricted and site identification placards are present. No other known environmental constraints exist in the vicinity.

Project OR01 (Construct New Krueger Recreational Area Running Trail South of Fam Camp): The southern end of the Proposed Action overlaps the IC boundary of IRP site ZZ047, a former landfill used to dispose of construction and demolition debris between 1955 and the 1970s. In 2000 and 2001, ten soil samples were analyzed within the IRP site as part of a RCRA Facility Investigation. Every sample analyzed contained arsenic, with concentrations ranging from 10.5 to 46.4 milligrams per kilogram. Arsenic was present at all boring locations at concentrations above the current USEPA Regional Screening Level (RSL) of 3 mg/kg for industrial soil but below the KDHE non-residential soil RSK of 63.2 milligrams per kilogram. Arsenic was not identified during the investigation as a contaminant of potential concern. Three other metals detected (barium, chromium, and lead) exceeded their background values but were not detected above their respective USEPA industrial or KDHE non-residential screening levels. The primary known source is the buried construction debris (e.g., concrete, asphalt, brush, and fill dirt). The primary release mechanisms at this site are leaks, spills, and infiltration to environmental transport media. Potentially affected media include groundwater, surface water, surface soils, and subsurface soils. Direct contact is the potential release mechanism from surface and subsurface soils (USAF, 2019f). Site access is not restricted. The Proposed Action does not include installation of domestic-type water wells. Construction and demolition activities would need to comply with the construction-related ICs discussed in **Section 4.7.1.4**.

Project OR02 (Construct New Fam Camp Addition): The southeast border of the Proposed Action's footprint borders the IC boundary of ERP site LF-010. This IRP site is a former landfill used for

miscellaneous waste disposal from 1953 until 1960. The 2019 ICIP states that there are no contaminants of concern present above screening levels. Because the Proposed Action is located adjacent to the IRP site but does not overlap the IC boundaries, it is unlikely that OR02 would affect or be affected by the site, nor would construction-related ICs be required for this Proposed Action.

Project M01 (Stream Restoration): This Proposed Action is located at numerous sites throughout the installation, and is associated with several IRP sites, although known groundwater contamination plumes do not intersect Proposed Action boundaries. Associated IRP sites are LF011, SS003, ST017, LF033, and ZZ049. The IC boundary of IRP site LF011 overlaps a very small portion of the Proposed Action (**Figure 3.8-1).** The IRP site is a grass-covered field located in the southeast portion of McConnell AFB, west of the small arms range and south of the EOD area, and was operated as a trench, fill and burn landfill from 1960 to 1970. Site contaminants include TCE (trichloroethylene), vinyl chloride, cis-1,2-DCE in groundwater; and TCE, vinyl chloride, cis-1,2-DCE, other non-chlorinated VOCs, and metals in soil. A groundwater capture and treatment system was installed in 1996. Remediation wells utilizing a combination of air sparging, air stripping, soil-vapor extraction, and enhanced bioremediation were installed in 2009. Both systems have been shut off and partially abandoned. Injection of ZVI in source areas as well as an injected ZVI treatment wall has been implemented as interim measures. Groundwater monitoring is ongoing (USAF, 2019e).

A small segment of the Proposed Action overlaps the IC boundary of IRP site SS-033 (**Figure 3.8-1**). Per the ICIP, groundwater monitoring is ongoing at SS-003. Contaminants of concern include chlorinated solvents and TPH. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and an oxygen infusion system has been installed near Building 1104 for TPH contamination. The site is partially restricted and site identification placards are present (USAF, 2019e).

A portion the Proposed Action footprint intersects the IC boundary of IRP site ST017 (**Figure 3.8-1**). A gasoline station formerly occupied a portion of the IRP site and four underground storage tanks (USTs) and associated piping were removed in September 1990. Contaminants of concern include methyl tert-butyl ether (MTBE), benzene, TPH, naphthalene in groundwater, with benzene, TPH, naphthalene present in groundwater. Oxidant Injection has been implemented as an interim measure and groundwater monitoring is ongoing. Site access is not restricted and site identification placards are present (USAF, 2019e).

The IC boundary of LF033 overlaps a very small portion of stream restoration work (**Figure 3.8-1**). From 1958 to 1965, LF033 was used as a construction landfill receiving construction debris generated at McConnell AFB. Personnel from the adjacent EOD area reportedly dumped waste over the fence along the border of LF033. The amount and depth of waste deposited is unknown. Currently, LF033 is closed with a vegetated soil cover and is not used for any Installation activities. A RCRA Facility Investigation was conducted for LF033 between 2001 and 2003. In soil, arsenic was detected at concentrations above its USEPA industrial soil RSL of three milligrams per kilogram; only one sample result exceeded its background level of 13 milligrams per kilogram. VOCs were not detected in soil samples. No compounds were detected at concentrations greater than their respective KDHE non-residential soil RSKs. Chromium and mercury exceeded their background levels but did not exceed regulatory standards. A second RCRA Facility Investigation was conducted between 2006 and 2009. The second investigation included a Human Health Risk Assessment, which identified no individual or cumulative carcinogenic or non-carcinogenic

risk drivers in the soil or groundwater at LF033 for the adult non-resident (USAF, 2019g). Site access is restricted and site identification placards are present.

The IC boundary for IRP site ZZ049 overlaps a portion of the Proposed Action (**Figure 3.8-1**). ZZ049 was dredged from 1962 to 1963 to create a small lake, and waste was collected in the depression. In 1992 the site was covered with clean fill and regraded and both now support a vegetative cover. A 2006 site-specific human health risk analysis was conducted. Results of the risk assessment indicate there is no unacceptable risk posed by soil, groundwater, sediment, or surface water at ZZ049. In the 2019 Optimized Exit Strategy plan, hazard/risk targets for human health contaminants of potential concern in sediment and groundwater were not exceeded, and no contaminants of concern were identified. The plan's selected remedy for the site is the existing soil cover and ICs to restrict groundwater use, land use, and soil excavations (USAF, 2019b). The Proposed Action does not include installation of domestic-type water wells. Construction and demolition activities would need to comply with the construction-related ICs discussed in **Section 4.7.1.4**. Site access is not restricted (USAF, 2019e).

Project M02 (Repair Multiple Culverts and Bridges Basewide): The locations of infrastructure construction and replacement do not overlap with the IC boundaries of IRP sites OT-547, ZZ048, ZZ049, LF-010, DP-013. IRP Site OT-547 would be affected; however, the repair work location does not coincide with the known boundaries of the August – September 2016 baseline plume boundary (USAF, 2018b). Per the ICIP, groundwater monitoring is ongoing at OT-547. Groundwater injection of ZVI has been implemented to control chlorinated contaminants and oxidant injections have been implemented for TPH contamination. The site is not restricted, and site identification placards are present (USAF, 2019e). ZZ048 is a former SWMU used from the 1960s through 1980s to dispose of construction waste, including demolished concrete, concrete wash water, and land-clearing debris. It is likely that the site also received some demolition debris following a 1991 tornado that affected the Installation. IRP site ZZ048 was closed and covered with vegetation by 1984. A site-specific human health risk analysis conducted in 2006 indicated that there is no unacceptable risk posed by soil or groundwater at ZZ048. Although the site does not pose unacceptable risk, site closeout cannot be achieved unless all hardfill debris is removed. In 2017, the USEPA prepared a Statement of Basis for ZZ048 proposing a remedy including ICs and hardfill cap inspections and maintenance. Following a public comment period between July 17 and August 30, 2017, the USEPA issued a modification to the McConnell AFB *USEPA Hazardous Waste Management Permit – Part II* for the site (USAF, 2019a). Site access is not restricted (USAF, 2019e).

ZZ049 is a former SWMU used from the 1960s to the 1980s to dispose of construction waste, including demolished concrete, concrete wash water, and land-clearing debris. The site was dredged from 1962 to 1963 to create a small lake, and waste was collected in the depression. In 1992, the site was covered with clean fill and regraded and both now support a vegetative cover. A 2006 site-specific human health risk analysis was conducted. Results of the risk assessment indicate that there is no unacceptable risk posed by soil, groundwater, sediment, or surface water at ZZ049. In the 2019 Optimized Exit Strategy plan, hazard/risk targets for human health contaminants of potential concern in sediment and groundwater were not exceeded, and no contaminants of concern were identified. The plan's selected remedy for the site is the existing soil cover and ICs to restrict groundwater use, land use, and soil excavations (USAF, 2019b). Site access is not restricted (USAF, 2019e).

IRP site LF-010 is a former landfill used for miscellaneous waste disposal from 1953 until 1960. IRP site DP-013 is a smaller site located within the IC boundaries of IRP site LF-010. A geophysical exploration was completed at the sites and identified electro-magnetic anomalies that were considered likely to contain metal drums containing low-level radioactive material. Test excavations were completed, but no low-level radioactive material was located. Proposed final remedy of existing vegetated soil cover and ICs pending regulatory review. The 2019 ICIP states that there are no contaminants of concern present above screening levels. Site access is not restricted, and site identification placards are not present (USAF, 2019e). The Proposed Action does not include installation of domestic-type water wells. Construction and demolition activities would need to comply with the construction-related ICs discussed in **Section 4.7.1.4**.

Construction impacts to these sites would be insignificant if USAF and its contractors adhere to all established ICs and land use controls for these sites and manage and dispose of any encountered contaminated soils in accordance with applicable state and local regulations. None of the proposed buildings and structures would interfere with ongoing monitoring and remediation activities at the ERP sites; therefore, no operational impacts are anticipated.

4.7.1.4 Avoidance, Minimization and Mitigation Measures

Hazardous materials encountered during construction activities would be managed in accordance with the McConnell AFB HMMP (McConnell AFB, 2018e), as described in **Section 3.8.1**.

To minimize hazardous waste impacts, demolition of buildings would conform to procedures detailed in the McConnell AFB Asbestos Management and Operating Plan (McConnell AFB, 2010a) and the LBP Management Plan (McConnell AFB, 2010b) for McConnell AFB, in order to ensure that ACM and LBP are characterized, handled, managed, and disposed of in accordance with applicable laws, regulations, and guidelines.

To minimize impacts on ERP sites, the following provisions are implemented as ICs at each ERP site at McConnell AFB:

- A restriction to industrial land use
- A prohibition on digging or excavation below six inches within the IC area without approval by Air Force Civil Engineer Center (AFCEC) Environmental Operations Midwest Region Branch
- A prohibition on the installation of domestic-type water wells intended to provide groundwater for human needs as it relates to health, fire control, and sanitation or for domestic livestock
- Annual visual inspections to verify that no domestic wells have been installed at the site and that site use has not changed

No other mitigation measures would be required.

4.7.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not be implemented and, as a result, no impacts to hazardous materials management, hazardous waste management, solid waste management, or ERP sites would be anticipated. ACM and LBP potentially found in Buildings 732, 750, and 810, Hangar 1166, and AST 30003 could continue to be occasionally impacted by routine maintenance and repair activities, thus resulting in an ongoing risk to the environment and human health.

4.7.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.8 LAND USE

An action could have a significant effect on land use if it were to preclude the viability of a land use or the continued use or occupation of the area, be incompatible with adjacent land use to the extent that public health and safety is threatened, conflict with planning criteria established to ensure the safety and protection of human life and property, or result in noncompliance with laws, regulations, or orders applicable to land use.

Other relevant factors considered when evaluating potential impacts on land use include the existing and future land use designations both on and adjacent to the project site, the proximity of adjacent land use parcels to the project site, the duration of the proposed activity, and its permanence.

4.8.1 Proposed Actions

Construction and implementation of the Proposed Actions would occur in the main base area of McConnell AFB. Future development on McConnell AFB should be consistent with the McConnell AFB IDP and the planning goals established in the future land use plan. The future land use plan for McConnell AFB considers land use compatibility, facility consolidation, mission sustainability, quality of life, safety and security. A major emphasis of the installation's long-range facility development plan is to consolidate land uses and collocate similar functions. Generally, the future land use pattern will resemble the installation's existing land use pattern.

Construction and operation of the Proposed Actions would not result in any significant impact on land use. Each of the individual Proposed Actions are consistent with current and future land uses as determined by McConnell AFB and documented in installation planning documents and supports the installations long-range facility development plan (McConnell AFB, 2019).

The Proposed Actions in the Core District are compatible with future land use plans. The existing and future land use where Project C01 (Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks) is proposed is Industrial, which includes liquid fuel systems. This use is permitted with restrictions in the Core District. The existing and future land use of the site for the proposed Project C02 (Construct Consolidated Support Center) is Administrative, which is compatible with the proposed activities supported by the facility and permitted in the Core District. The applicable restrictions

pertain to placement of industrial structures (i.e. warehouses and maintenance buildings) in areas that do not impede or interfere with existing mission operations. The existing and future land use of the site for Project C03 (Construct New Base Civil Engineering Complex) is Industrial, which is compatible with the proposed activities supported by the facility and is permitted with restrictions in the Core District. The existing and future land use of the locations where Buildings 750, 732, and 810 would be demolished is Administrative; however, the land use would be converted to Open Space, which is permitted in the Core District, and would create the potential for future compatible development.

The Proposed Actions in the Flightline District are compatible with future land use plans. The existing and future land use of Project F01 (Disposition of Hangar 1166), is within the Airfield Operations and Maintenance land use classification. The existing and future land use of Project F02 (Disposition of Aboveground Storage Tank 30003), is within the Industrial land use classification. The result of the demolition activities would be open space, which is permitted in Flightline District and would create the potential for future compatible development of these parcels.

The Proposed Actions within the Outdoor Recreational District are compatible with future land use plans. The existing and future land use of Project OR01 (Construct Krueger Recreation Area Running Trail South of Fam Camp) and Project OR02 (Construct New Fam Camp Addition) is within the Outdoor Recreation land use classification and compatible with the proposed facilities and associated activities.

Project M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide) are within multiple planning districts and primarily within the Open Space existing and future land use classification. Implementation of these projects would result in improved existing conditions and would be compatible with Open Space land use classification and permitted in all planning districts.

4.8.1.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.8.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated impact to land use. Implementation of the No-Action Alternative would cause neither significant positive nor significant adverse effects on land use on or near McConnell AFB because implementation the proposed installation development projects would not be constructed or otherwise realized. Deficiencies of function and capability in the facilities and infrastructure at the installation that result from obsolescence, deterioration, and evolving mission needs would continue. No land use impacts would be expected.

4.8.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.9 INFRASTRUCTURE AND UTILITIES

Analyzing impacts on infrastructure involves determining if Proposed Actions would exceed capacity or place unreasonable demand on a specific utility or public service. Effects are evaluated based on the potential for the Proposed Actions to increase the demand on existing utilities and public services.

4.9.1 Proposed Actions

4.9.1.1 Communication System

Short-term, negligible to minor, adverse, and long-term, beneficial impacts would be expected from construction and implementation of the Proposed Actions. Short-term interruptions of communications systems (e.g., copper and fiber cable used for voice, data, and video communications) could be experienced when facilities are disconnected from or connected to the communications system on the installation. However, the discontinuation of communications would be temporary and coordinated with area users. Long-term, beneficial impacts would occur in association with communication systems installed in new or remodeled buildings. No significant short- or long-term adverse impacts to the communications system at the installation from the Proposed Actions are anticipated.

4.9.1.2 Electrical Supply

Short-term, negligible, adverse impacts on the electrical distribution system would occur during Proposed Actions that involved construction or demolition of buildings. Electrical service interruptions could occur should aboveground or underground electrical lines need to be rerouted, and when new or renovated facilities are connected to the installation's electrical distribution system. It is assumed that construction contractors would be informed on utility locations prior to any ground-disturbing activities that would result in unintended utility disruptions or human safety hazards. Long-term, beneficial impacts on electrical systems would be expected from the demolition of aged facilities with outdated electrical systems (e.g., Projects C04 [Disposition of Buildings 750, 732 and 810] and F01 [Disposition of Hangar 1166]) and construction of new facilities with updated, energy-efficient electrical systems (e.g., Projects C02 [Construct Consolidated Support Center] and C03 [Construct New Base Civil Engineering Complex]). Because the installation is supplied with adequate electric power and the distribution system adequately serves existing mission needs and has additional capacity to meet the needs of the Proposed Actions during construction and operation, the Proposed Actions would not have significant impacts on the electrical supply system.

4.9.1.3 Heating and Cooling

Short-term and long-term, negligible, adverse effects would be expected to occur to the installation's heating and cooling systems. New buildings would have stand-alone heating and cooling systems, adding to the overall air conditioning and boiler capabilities of McConnell AFB. Routine maintenance on these systems will be required.

4.9.1.4 Liquid Fuel Supply

Only one of the Proposed Actions would involve the liquid fuel supply system at the installation. Project C01 (Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks) would have a long-term beneficial effect on the existing liquid fuel supply system by providing continued capabilities for government-owned vehicles to fuel up on the installation and maintaining sufficient fueling capacity to support logistics readiness requirements.

4.9.1.5 Natural Gas

Short-term, negligible to minor, adverse, and long-term, beneficial impacts on the natural gas system would be expected from construction and implementation of the Proposed Actions. Short-term natural gas interruptions could be experienced during construction, demolition, and renovation activities as facilities are disconnected from or connected to the natural gas supply system. However, the interruption of natural gas services would be temporary and coordinated with area users. Because the installation is supplied with adequate natural gas and the distribution system adequately serves existing mission needs and has additional capacity to meet the needs of the Proposed Actions during construction and operation, the Proposed Actions would not have significant impacts on the base's natural gas supply. Any long-term increases in natural gas demand upon completion of new construction would likely be small relative to the capacity of the existing natural gas supply system, and no significant short- or long-term adverse impacts from the Proposed Actions are anticipated.

4.9.1.6 Sanitary Sewer System

Short-term, negligible to minor, adverse, and long-term, beneficial impacts on the sanitary sewer and wastewater system would be expected from construction and implementation of the Proposed Actions. Short-term interruptions in sanitary sewer and wastewater treatment could be experienced when facilities are disconnected from or connected to the sanitary sewer wastewater systems on the installation. However, the discontinuation of sanitary sewer and wastewater treatment would be temporary and coordinated with area users. Long-term, beneficial impacts on the sanitary sewer and wastewater system would be expected from construction of new updated facilities. Any long-term increases in demand for sanitary sewer and wastewater treatment upon completion of new construction would be small relative to the capacity of the existing system. Given the condition and capacity of the existing sanitary sewer system is considered adequate for current mission requirements, and it has additional capacity to meet the needs of the Proposed Actions during construction and operation, the Proposed Actions would not have significant impacts on the sanitary sewer system.

4.9.1.7 Solid Waste Management

Short-term, minor, adverse impacts would be expected from increased construction and demolition debris generated as a result of the Proposed Actions. Solid waste generated from construction and demolition activities would include building materials such as solid pieces of concrete, metals (e.g., conduit, piping, and wiring), and lumber. Construction and demolition waste would be managed and disposed of in accordance with the ISWMP (McConnell AFB, 2018b) and AFI 32-7042. Contractors would be required to recycle construction and demolition debris to the maximum extent practicable in accordance with

installation policy, thereby diverting it from landfills. The contractor would dispose of non-recyclable construction and demolition debris at an offsite, permitted landfill facility, which would have a long-term, negligible, adverse effect on solid waste management by permanently using landfill capacity. Clean demolition and construction debris (e.g., concrete, asphalt) would be ground, recycled, and used for fill and roadwork rather than disposed of in a landfill, whenever possible. No significant adverse solid waste management impacts from the Proposed Actions are anticipated.

4.9.1.8 Stormwater Drainage System

Short-term, negligible, adverse effects would be expected from implementation of the Proposed Actions due to temporary disturbance of the stormwater systems during construction activities, as well as from vegetation removal and compaction of surrounding soils by construction equipment, which could result in increased soil erosion and transport of sediment in stormwater runoff during construction and demolition activities. Measures proposed to minimize these impacts are described in **Section 4.9.1.11**.

Long-term, minor, direct, adverse effects on the McConnell AFB stormwater system would be expected as a result of a net increase in impervious surfaces associated with the Proposed Actions. However, long-term, minor, direct, beneficial effects are expected because Project M01 (Stream Restoration) and Project M02 (Repair Multiple Culverts and Bridges Basewide) would improve stormwater management on the installation.

4.9.1.9 Transportation

No significant impacts to the transportation system would occur as a result of the Proposed Actions. The Proposed Actions would not degrade the existing transportation infrastructure by creating unacceptable long-term traffic or delays on existing roadways, excessive delays at installation access gates, or shortfalls in parking. Short-term, minor, adverse impacts on the transportation network would be expected, however, from implementation of the Proposed Actions. Potential impacts would be associated with increased traffic and parking requirements from construction vehicles and equipment. Construction and demolition activities would require the delivery of materials to, and removal of debris from project areas; however, construction traffic would comprise a small percentage of the total existing traffic on the installation and on public roadways. Trucks associated with these activities would access the installation via the West Gate. Construction crews would access the installation via the main gate or the West Gate. Many of the heavy construction vehicles would be driven to the project areas and kept on site for the duration of construction and demolition activities, resulting in relatively few additional trips. The Proposed Actions would occur over a span of five years at different locations on McConnell AFB, which would disperse construction traffic in time and space. Any potential increases in traffic volume associated with construction and demolition activities would be temporary.

Project M02 (Repair Multiple Culverts and Bridges Basewide) would result in temporary, minor impacts to traffic during bridge repair. Bridge repair may require limiting vehicular traffic during construction activities, possibly restricted to one-lane in areas of construction, and flaggers would be used to safely manage traffic through these areas, or with temporary road closures and detours. This project would, however, ultimately result in long-term, minor positive effects to base traffic networks as it would prevent further flood-related transportation infrastructure deterioration, as well as to prevent transportation network

delays and inefficiencies, by improving the efficacy by which existing drainage structures on installation can accommodate peak drainage flows during large storm events.

4.9.1.10 Water Supply

Short-term, negligible, adverse impacts on the water supply system would occur during the proposed construction, demolition, and renovations as existing water lines are connected to new buildings or capped as appropriate. Short-term interruptions could be experienced when buildings are disconnected from or connected to the McConnell AFB water supply system. Water necessary for construction would be obtained from the existing water supply system. Construction water needs would be limited and have little effect on the installation's water supply system. Any potential disruption of components of the water supply system would be temporary and coordinated with area users prior to starting the work. Because the water supply system currently provides an adequate supply of potable water to meet duration, flow rate, and pressure requirements, the Proposed Actions would not have significant short- or long-term adverse impacts on the water supply system.

4.9.1.11 Avoidance, Minimization and Mitigation Measures

To minimize impacts to stormwater drainage systems, all contractors would be required to comply with applicable statutes, standards, regulations, and procedures regarding stormwater management. Additionally, McConnell AFB would be required to incorporate design elements that maintain or restore predevelopment site hydrology to the maximum extent practical, with regard to rate, volume and duration of discharge from the site. A variety of stormwater controls and BMPs would be incorporated into construction plans, which would include planting native vegetation in disturbed areas as soon as possible following construction activities; constructing retention facilities; and implementing structural controls such as interceptor dikes, swales (excavated depressions), silt fences, straw bales, and other storm drain inlet protection, as necessary, to prevent sedimentation in inlet structures.

No other mitigation measures would be required.

4.9.2 No-Action Alternative

Under the No-Action Alternative, minor short-term disruptions to existing utilities and the local road network would not occur. Without the implementation of Project M02 (Repair Multiple Culverts and Bridges Basewide), however, the beneficial effects discussed in the preceding paragraphs would not be realized.

4.9.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.10 EARTH RESOURCES

This section discusses potential impacts to earth resources located within the areas of the Proposed Actions. The analysis considers exposure to potential geologic hazards and potential for soil erosion and soil

limitations. Generally, impacts can be avoided or minimized if proper construction techniques, erosion control measures, and structural engineering designs are incorporated into project development. The analysis also considers the suitability of mapped soil types for the Proposed Actions.

Impacts to soils can result from disturbances, such as grading during construction activities, that expose soil to wind or water erosion. Construction of new buildings and associated paving results in a long-term loss of soil function in the building footprint.

Impacts resulting from geologic hazards can occur where the potential for harm to persons, property, or the environment is high due to existing hazards.

Impacts would be considered significant if any of the following were to occur:

- Disruption of unique geologic resources.
- Substantial soil erosion or loss of topsoil.
- Construction of one or more structures in an area that is has unsuitable soil characteristics for the proposed use and would expose people or structures to an elevated risk of loss, injury, or death.
- Increased vulnerability to a geologic hazard and the probability that such an event could result in an injury.

4.10.1 Proposed Actions

As discussed below, the Proposed Actions would not result in significant impacts on geological resources. The following subsections describe the non-significant effects on geological resources that would result from implementation of the Proposed Actions.

4.10.1.1 Topography and Physiography

There would be long-term, negligible, adverse impacts on topography as a result of demolition, site preparation (i.e., grading, excavating, and recontouring), and construction activities associated with the Proposed Actions. Because McConnell AFB is level in elevation, impacts would not be considered significant. Excavated soils would be reused for a suitable use on site or hauled off-site for appropriate reuse or disposal and would not result in the creation of earthen mounds on base.

4.10.1.2 Geology

Geological resources would not be disturbed under any of the Proposed Actions, because excavation would be minimal and would not alter bedrock. Therefore, it is not anticipated that impacts to geology would occur.

4.10.1.3 Soils

Short- and long-term minor impacts on soils would be expected from the Proposed Actions. The primary impacts would include long-term loss of soil function and productivity in areas with new impervious surface, as well as soil compaction, disturbance, and erosion associated with construction activities. These impacts would be minor when considered in the context of the total land area of the installation. In areas that are not currently paved, there would be localized areas of compaction associated with construction. Soil productivity would likely decline in these areas, and loss of soil structure due to compaction from vehicle and foot traffic could result in changes to drainage patterns and increased erosion and sedimentation. However, most of the Proposed Actions are in the previously disturbed and developed portions of the base, where soils have already been disturbed and compacted during previous construction projects.

All of the Proposed Actions are located in the Urban Land-Irwin soil complex, which is suitable for development (USDA NRCS, 2019b). Site-specific soil testing would be conducted prior to commencement of proposed construction projects to determine whether limitations exist and identify appropriate environmental protection measures to be implemented to minimize adverse impacts. This soil complex is already committed to development and not considered farmland; therefore, impacts to prime farmland would not occur.

Replacement of USTs with ASTs under Project C01 (Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks) and demolishing the AST under Project F02 (Disposition of Aboveground Storage Tank 30003) could have a minor beneficial impact on soil by removing a source of potential soil contamination. Should contaminated soil be encountered during demolition Projects C04 (Disposition of Buildings 750, 732 and 810) or F01 (Disposition of Hangar 1166), subsequent remediation activities would have a localized beneficial impact, as the contaminated soils would be removed and disposed of in accordance with all applicable regulations. Project M01 (Stream Restoration) would have a beneficial impact to soils as it would decrease bank erosion.

Because soil loss and disturbance would occur in an already disturbed location and given the implementation of BMPs and environmental protection measures discussed in **Section 4.10.1.4** to reduce the risk of erosion, no significant impacts to soil resources would occur.

4.10.1.4 Avoidance, Minimization and Mitigation Measures

Implementation of environmental protection measures and BMPs, including erosion and sediment control measures, would minimize adverse impacts to soil. Because ground-disturbing activities would exceed one acre, a construction stormwater authorization, under the base's NPDES permit, would be required. Pursuant to the permit conditions, McConnell AFB would be required to implement BMPs as part of the SWPPP (McConnell AFB, 2015a) requirements at construction sites. Measures could include installing silt fencing and sediment traps, applying water to disturbed soil, de-compacting soils, and revegetating disturbed areas as soon as possible after the disturbance. These measures would reduce soil compaction and loss of soil productivity and would minimize the risk of erosion and sedimentation. Implementation of environmental protection measures would also minimize the potential for, and extent of contamination associated with any spills from construction equipment.

No other mitigation measures would be required.

4.10.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not be implemented and, as a result, would not result in any impacts to earth resources within the individual project areas. If the No-Action Alternative is selected for Project M01 (Stream Restoration) there would be potential negative impacts to earth resources. Without the bank stabilization, stream bank erosion and incision will continue unabated in McConnell and Gypsum Creeks.

4.10.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization and mitigation would be required.

4.11 SAFETY AND OCCUPATIONAL HEALTH

An increased risk for bodily injury, illness, death, or property damage from the Proposed Actions would be considered an adverse impact on safety. Impacts associated with health and safety would be considered significant if the Proposed Actions were to:

- Substantially increase risks associated with the safety of construction personnel, contractors, USAF personnel or the local community.
- Hinder the ability to respond to an emergency.
- Introduce a new health or safety risk for which the USAF is not prepared or does not have adequate management and response plans in place.

4.11.1 Proposed Actions

4.11.1.1 Construction Safety

Short-term, minor impacts on contractor health and safety could occur from implementation of the Proposed Actions. The short-term risk associated with work performed by demolition and construction contractors would slightly increase at McConnell AFB during the normal workday, as construction and demolition activity levels would increase. The Proposed Actions would not pose new or unacceptable safety risks to installation personnel or activities at the installation but would enable McConnell AFB to meet future mission objectives at the installation and conduct or meet mission requirements in a safe operating environment. No long-term impacts on safety would be expected.

Construction workers could encounter soil or groundwater contamination as a result of an IRP site or previously unknown soil or groundwater contamination. **Section 3.12.1** describes recommendations regarding workers and health and safety procedures. Structures that would be demolished under the Proposed Actions, including Building 750, Hangar 1166, and AST 30003, that were built before 1978 could potentially contain ACM, LBP, and polychlorinated biphenyls (PCB)-contaminated materials. Building 750 and Hangar 1166 are known to contain ACM (ALM Removal LLC, 2007; Asbestos Removal & Management, Inc., 1993; Remediation Contractors, Inc., 2007); however, some ACM may remain,

potentially alongside LBP and PCB-containing material. These materials require appropriate characterization, removal, handling, and disposal during demolition activities by qualified personnel; however, adherence to all Federal, state, local regulations, and McConnell AFB management plans would result in negligible impacts on safety during implementation of the Proposed Actions. Long-term, beneficial impacts on safety would be expected from the removal of ACM, LBP, and PCB-contaminated materials, which would reduce exposure to personnel. Surfaces to be demolished in Hangar 1166 should be sampled for hexavalent chromium prior to demolition, in accordance with OSHA regulations 1910.1026. All proposed construction and demolition activities would be conducted in accordance with Federal, state, and local regulations to minimize safety hazards associated with hazardous materials, wastes, and substances.

4.11.1.2 Explosives and Munitions Safety

Short-term, minor impacts could occur during construction and demolition activities that would take place within existing ESQD arcs. Stream bank restoration associated with Project M01 (Stream Restoration), and repair of bridges and culverts under Project M02 (Repair Multiple Culverts and Bridges Basewide) in the southern portion of the installation would occur within an ESQD arc. Contractors working on these projects could be exposed to an increased risk of potential explosions. Measures proposed to minimize these risks are discussed in **Section 4.11.1.4**. All of the project areas that are within established ESQD arcs would be mission-necessary and consistent with current land uses.

4.11.1.3 Mission Safety

Several of the Proposed Actions would improve mission safety at McConnell AFB. Project M02 (Repair Multiple Culverts and Bridges Basewide) would improve traffic safety by preventing further flood-related transportation infrastructure deterioration, as well as to reducing transportation network delays and inefficiencies by improving the efficacy by which existing drainage structures on installation can accommodate peak drainage flows during large storm events. Project C01 (Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks) could help prevent contamination risks as leaks and malfunctions can more easily be detected and rectified compared to USTs. Demolition projects C04 (Disposition of Buildings 750, 732 and 810), F01 (Disposition of Hangar 1166), and F02 (Disposition of Aboveground Storage Tank 30003) would remove deteriorating infrastructure and potential sources of contamination and risk from hazardous materials (e.g. ACM, LBP, and PCB-containing materials) within the structures. Together, these Proposed Actions would have a minor beneficial impact on mission safety.

Because there would be measures in place to protect worker safety during construction as discussed in **Section 4.11.1.4** and none of the Proposed Actions would hinder the ability to respond to an emergency or introduce a new health or safety risk to McConnell AFB, no significant impacts to safety or occupational health would occur.

4.11.1.4 Avoidance, Minimization and Mitigation Measures

All contractors, would be required to follow and implement AFOSH and OSHA safety standards to establish and maintain safety procedures, which would mitigate short-term risks.

To avoid potential impacts on construction workers and the installation mission from explosion risks, Multi-district projects occurring in the southern portion of the installation should be coordinated with the installation Safety Office to ensure that no handling or transportation of explosive materials would occur within ESQD arcs while workers are within these areas. This precaution would minimize explosive safety risks to workers. Prior to any trenching or other ground-disturbing work, the project areas should be surveyed for potential UXO.

No other mitigation measures would be required.

4.11.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated impact to human health or safety. No facility construction, demolition, or renovation would occur, and there would be no changes in operations. Without implementation of Projects C01 (Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks), C04 (Disposition of Buildings 750, 732 and 810), F01 (Disposition of Hangar 1166), and F02 (Disposition of Aboveground Storage Tank 30003), the beneficial impacts to human health and safety discussed in the preceding paragraph would not occur.

4.11.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.12 SOCIOECONOMICS

Socioeconomic impacts are assessed in terms of direct impacts on the local economy and related impacts on other socioeconomic resources (e.g., housing). The magnitude of potential impacts can vary greatly, depending on the location of a Proposed Action. A Proposed Action could have a significant impact with respect to the socioeconomic conditions if it were to result in at least one of the following:

- Substantial change in the local or regional economy, employment, or business volume.
- Substantial change in the local or regional population and in housing, education, installation services, or public services from the increased or decreased demands of the population change.

4.12.1 Proposed Actions

Short-term, minor, beneficial impacts on the local economy would occur from the proposed construction, demolition, and renovation projects at McConnell AFB. These activities would stimulate the local economy through the employment of construction workers and the purchase of construction-related materials and other goods and services, as well as secondary purchases of goods and services. Due to the short-term nature of construction, the economic benefits would be temporary.

The proposed construction and associated expenditures could generate additional jobs, most likely in the construction industry, that would generate additional indirect and induced income in Sedgwick County and the Wichita Metropolitan Statistical Area.

In 2017, the Wichita Metropolitan Statistical Area had a civilian labor force of 307,693 people of which 20,230 (6.9 percent) were employed in the construction industry (U.S. Census Bureau, 2017b). It is expected that the local labor force would be sufficient to meet the demand for new jobs in the construction and other industries without a migration of workers into the area. Therefore, no impacts on population would occur as a result of the Proposed Actions because it is expected that all construction workers would be from the local or regional area.

There would be no anticipated change to the number of personnel employed or stationed at McConnell AFB as a result of the Proposed Actions; therefore, no significant short- or long-term impacts on demographics or social services and conditions would be expected, including demand for housing, education, law enforcement, fire protection, emergency medical services, and medical services. Each project considered separately on its own, would have an even lesser potential impact on socioeconomics. When each project is considered on its own, socioeconomic impacts would be negligible.

4.12.1.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.12.2 No-Action Alternative

The No-Action Alternative would not result in any additional socioeconomic impacts. The proposed construction, demolition, and renovation projects would not occur, and there would be no associated expenditures that would provide short-term construction employment or generate additional indirect and induced income beyond the scope of normal conditions and influences within the ROI, Sedgwick County, or the Wichita Metropolitan Statistical area.

4.12.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.13 ENVIRONMENTAL JUSTICE

Environmental justice effects are assessed in terms of direct impacts on low-income and minority populations. The magnitude of potential impacts can vary greatly, depending on population demographics and the location of a Proposed Action. A Proposed Action could have a significant impact with respect to the environmental justice if it were to result in disproportionate impacts on minority and low-income populations.

4.13.1 Proposed Actions

Implementation of the selected projects would occur entirely on McConnell AFB. Possible adverse effects from construction activities could include increased traffic and noise levels and decreased air quality and

infrastructure capacity, but these effects would be short-term, intermittent, and minor, and would likely impact on-installation residents more than off-installation populations. The ROI has a considerably higher percentage of residents of a racial minority and low-income residents than the state of Kansas (35.8 percent versus 24.3 percent and 20.4 percent versus 11.9 percent, respectively). The Proposed Actions might have short-term, negligible to minor, adverse effects on minority and low-income populations from construction noise and traffic, decreased air quality, and infrastructure capacity; however, as stated above these would occur primarily on the base. Therefore, disproportionate impacts on minority or low-income populations would not be expected. Significant impacts would not occur. Each project considered separately on its own, would have an even lesser potential impact on low-income or minority populations. When each project is considered on its own, impacts on minority or low-income populations would be negligible.

4.13.1.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

4.13.2 No-Action Alternative

The No-Action Alternative would not result in any additional impacts on minority or low-income populations. The proposed construction, demolition, and renovation projects would not occur, and there would be no associated expenditures that would provide short-term construction employment or generate additional indirect and induced income beyond the scope of normal conditions and influences within the ROI, Sedgwick County, or the Wichita Metropolitan Statistical area.

4.13.2.1 Avoidance, Minimization and Mitigation Measures

No avoidance, minimization or mitigation measures would be required.

CHAPTER 5 CUMULATIVE IMPACTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.1 CUMULATIVE ENVIRONMENTAL CONSEQUENCES

Cumulative impacts to environmental resources result from incremental effects of Proposed Actions when combined with other past, present, and reasonably foreseeable future projects in the ROI. The ROI for cumulative impacts is generally limited to McConnell AFB and the immediately adjacent property (defined in this analysis as a two-mile buffer around McConnell AFB property) because 1) there are no long-term operational changes anticipated due to the Proposed Actions, and 2) physical impacts related to the Proposed Action are largely confined to McConnell AFB. Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time by various agencies (Federal, state, and local) or individuals. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed (or anticipated over the foreseeable future) is required. This chapter focuses on the effects of the proposed installation development project in concert with any reasonably foreseeable actions that are separate from the Proposed Actions but are expected to occur concurrently and in the same geographic extent.

The assessment of cumulative effects begins with defining the scope of other project actions and the potential interrelationship with the Proposed Actions (CEQ, 1997). The scope of the analysis must consider other projects that coincide with the location and timetable of implementation of the Proposed Actions. Cumulative effects can arise from single or multiple actions and through additive or interactive processes acting individually or in combination with each other. Actions that are not part of the proposal, but that could be considered as actions connected in time or space (40 CFR 1508.25) (CEQ, 1997) could include projects that affect areas on or near the Proposed Actions. This EA analysis addresses three questions to identify cumulative effects:

1. Does a relationship exist such that elements of the Proposed Actions might interact with elements of past, present, or reasonably foreseeable actions?

2. If one or more of the elements of the Proposed Actions and another action could be expected to interact, would the Proposed Actions affect or be affected by impacts of the other action?

3. If such a relationship exists, does an assessment reveal any potentially significant impacts not identified when the Proposed Actions are considered alone?

For the scenarios under consideration to have a cumulatively significant impact on an environmental resource, two conditions must be met. First, the combined impacts of all identified past, present, and reasonably foreseeable projects, activities, and processes on a resource, including the impacts of the Proposed Actions must be significant. Second, the Proposed Actions must make a substantial contribution to that significant cumulative impact. Proposed Actions of limited scope do not typically require as comprehensive an assessment of cumulative impacts as Proposed Actions that have significant environmental impacts over a large area (CEQ, 2005).

Planning efforts in the ROI include the actions described within this EA, as well as those other projects that are ongoing or planned over the short-term and medium-term timeframes. The current IDP for McConnell AFB identifies a series of planned short-range (one to five years), medium-range (six to ten years) and long-range (11+ years) development projects slated for MILCON programming and subsequent implementation on McConnell AFB. Notably, the IDP identifies a total of 29 short-range projects and two medium-range projects (McConnell AFB, 2019a).

A detailed records search was performed to identify specific projects recently completed, currently underway, or planned within the next several years within the ROI by state, county, and local agencies and planning departments. Regional development plans with less specific information were also identified to provide a greater context for the types of development planned within the ROI outside of McConnell AFB. Searches included online databases and websites for the City of Wichita, Wichita-Sedgwick County Metropolitan Area Planning Department, Sedgwick County Public Works, and Kansas Department of Transportation.

Appendix C provides a table showing the past, present, and reasonably foreseeable actions on McConnell AFB and off-installation within the ROI that could interact with implementation of the Proposed Actions. The table briefly describes each identified action, presents the proponent or jurisdiction of the action and the timeframe (e.g., past, present, future), and indicates which resources potentially interact with the Proposed Actions. For the Cumulative Impacts Analysis, additional emphasis is placed on the short-range projects shown in **Appendix C** as these projects are potentially more "foreseeable" than those on the medium-range planning horizon or more conceptual in nature.

The following sections evaluate the cumulative effects from the past, present, and reasonably foreseeable future actions presented in **Appendix C**. **Table 5.1-1** provides a summary of the cumulative effects.

TABLE 5.1-1 SUMMARY OF CUMULATIVE EFFECTS

Resource Area	Proposed Actions	Past, Present, and Foreseeable Actions	Cumulative Effects
Air Quality	◘	◘	◘
Noise	◘	◘	◘
Cultural Resources	○	◘	○
Biological and Natural	◘	◘	◘
Water	◘	◘	◘
Hazardous Materials and Hazardous Waste Management	◘	◘	◘
Land Use	○	○	○
Infrastructure and Utilities	○	◘	○
Earth Resources	◘	◘	◘
Safety and Occupational Health	◘	◘	◘
Socioeconomics and Environmental Justice	○	◘	○

Notes: ○ – Not affected or beneficial impacts, ◘ - Affected but not significant, short to medium term, impacts that range from low to high intensity ● – Significant impacts, that are high in intensity or are long term.

5.1.1 Air Quality

5.1.1.1 Proposed Actions

As noted in **Section 4.2**, the Proposed Actions' air quality impacts would be largely constrained to the facilities construction period occurring between years 2020-2022, which roughly corresponds to the short-range time horizon of the IDP projects outlined in **Appendix C** and overlaps with some of the off-base transportation infrastructure projects and land development plans occurring in the ROI. Most projects have some degree of adverse effect on air quality; accordingly impacts of overlapping projects are anticipated. However, as presented in **Section 4.2**, operational and construction-related annual emissions associated with the Proposed Actions are well beneath the applicable CAA *de minimis* thresholds for all pollutants. Operational and construction-related emissions of other pollutants and GHGs are similarly within USAF significance thresholds. Overall, based on these emissions levels, significant cumulative impacts to air quality are not anticipated.

5.1.1.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated contribution to cumulative impacts to air quality.

5.1.2 Noise

5.1.2.1 Proposed Actions

Construction-related noise is temporary, while none of the projects considered will have any impact on operations-related noise activities. Cumulative noise levels are not expected to substantially change the noise contours currently experienced within the region of McConnell AFB. Therefore, the Proposed Actions, when combined with other past, present, and reasonably foreseeable projects would not contribute to adverse cumulative noise impacts on the noise environment.

5.1.2.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated contribution to cumulative impacts to noise.

5.1.3 Cultural Resources

5.1.3.1 Proposed Actions

Damage to the nature, integrity, and spatial context of cultural resources can have a cumulative impact if the initial act is compounded by other similar losses or impacts. The alteration or damage to historic properties may incrementally impact cultural resources in the region.

No impacts to cultural resources are anticipated from the Proposed Actions. Past actions have been conducted in accordance with Section 106 of the NHPA to mitigate adverse effects. Any present and/or future actions also require implementation and completion of the Section 106 process. If adverse effects to

cultural resources are anticipated from future actions, adherence to the NHPA Section 106 process, the regulations set forth at 36 CFR 800, procedures in AFI 32-7065 and standard operating procedures in the McConnell AFB ICRMP (McConnell AFB, 2018a) would be followed to mitigate these impacts. Similarly, if adverse effects are anticipated to occur to resources outside of McConnell AFB, and the Proposed Actions are considered a Federal undertaking, compliance with the Section 106 process in the NHPA would also be required, with the procedures codified at 36 CFR 800 to mitigate adverse impacts. If the Section 106 process is followed during the implementation of Proposed Actions, any effects would be resolved and, as a result, no adverse effects to cultural resources would be anticipated. As there are no identified impacts to cultural resources form the Proposed Actions and by adhering to the Section 106 process for other actions, no cumulative impacts would be expected for cultural resources.

5.1.3.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated contribution to cumulative impacts to cultural resources.

5.1.4 Biological and Natural Resources

5.1.4.1 Proposed Actions

Impacts to biological and natural resources resulting from development of the Proposed Actions are considered to be minimal. Implementation of Project M01 (Stream Restoration) may result in impacts to wetlands. Wetland impacts would be mitigated pursuant to the Federal compensatory mitigation rule (33 CFR Part 332). Appropriate mitigation strategies would be developed and implemented in accordance with Federal, state, and local requirements. Overall, the Proposed Actions when considered in combination with the past, present and reasonably foreseeable actions occurring on McConnell AFB would result in minor adverse cumulative effects, but not significant effects, to biological and natural resources.

No federally listed species or designated critical habitats were identified as potentially occurring at McConnell AFB. Based on the findings cited above, it is anticipated that the Proposed Actions, in conjunction with the cumulative projects listed in **Appendix C**, would not have a significant impact on federally listed species.

5.1.4.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated contribution to cumulative impacts to biological resources or federally listed species.

5.1.5 Water Resources

5.1.5.1 Proposed Actions

Impacts to water resources resulting from the construction and operation of the Proposed Actions would be minimal. Short-term adverse impacts to surface water and stormwater could occur during construction and demolition phases. However, these impacts would be minimized through adherence to the NPDES permit and implementation of required BMPs. Long-term beneficial impacts to surface water and groundwater

would be realized through stream and bank restoration, which would serve to slow runoff and reduce erosion and sedimentation and allow for more groundwater recharge. Adverse impacts to floodplains from Project C02 (Construct Consolidated Support Center) would be avoided in the short-term through implementation of appropriate erosion and sedimentation control plans and construction BMPs, and in the long-term through project design methods that protect both structures and floodplain values and functions. An increase in impervious surface would increase the quantity and velocity of water flow, which could increase storm water runoff and the potential for storm-related damage to infrastructure, facilities, and possibly human safety. However, removal of impervious surfaces associated with building demolition would largely offset newly constructed impervious surfaces. Impacts would be further minimized through design, siting, and proper implementation of environmental protection measures. The Proposed Actions when considered in combination with past, present and reasonably foreseeable actions would result in non-significant temporary minor adverse cumulative impacts, as well as minor long-term beneficial impacts to water resources.

5.1.5.2 No-Action Alternative

Under the No-Action Alternative the Proposed Actions would not occur and there would be no associated contribution to cumulative adverse or beneficial impacts to water resources

5.1.6 Hazardous Materials and Hazardous Waste Management

5.1.6.1 Proposed Actions

Construction of the Proposed Actions could result in a temporary increase in the quantity and types of construction-related hazardous materials (e.g., solvents, paints, adhesives, etc.) stored and used at McConnell AFB. Some short-term increases would be realized in terms of the quantity of fuel used during construction activities for these actions as well as those listed in **Appendix C**. Hazardous waste generation (e.g., used oil, used filters, oily rags, etc.) would continue to be managed in accordance with the installation's HWMP and all applicable Federal, state, and local regulations. In addition, any structures listed in **Appendix C** proposed for demolition would be inspected for ACM and LBP according to McConnell AFB's LBP and ACM operations manuals, prior to any renovation or demolition activities.

Implementation of the Proposed Actions would not change the maintenance and administrative functions increase personnel at McConnell AFB and no long-term change in the type or quantity of hazardous materials used or stored would result. No change in aircraft operations or use of motor vehicles at the installation would be expected, and therefore throughput of petroleum substances and hazardous waste streams would not increase. The Proposed Actions when considered in combination with the past, present and reasonably foreseeable actions occurring on McConnell AFB and within the ROI would result in temporary minor adverse cumulative effects, but not significant effects, to hazardous materials and hazardous waste management.

5.1.6.2 No-Action Alternative

Under the No-Action Alternative the Proposed Actions would not occur and there would be no associated contribution to cumulative construction-related impacts to hazardous material and hazardous waste management.

5.1.7 Land use

5.1.7.1 Proposed Actions

No significant impacts to land use are anticipated from the Proposed Actions. Implementation of the Proposed Actions would accomplish future development expectations for long-range planning and land use as described in McConnell AFB IDP. The Proposed Actions are consistent with the McConnell AFB IDP and the planning goals established in the future land use plan. The future land use plan for McConnell AFB considers land use compatibility, facility consolidation, mission sustainability, quality of life, safety and security. A major emphasis of the installation's long-range facility development plan is to consolidate land uses and collocate similar functions. Therefore, the Proposed Actions, when combined with other past, present, and reasonably foreseeable projects, would not contribute to adverse cumulative impacts on land use.

5.1.7.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated contribution to cumulative impacts to land use.

5.1.8 Infrastructure and Utilities

5.1.8.1 Proposed Actions

The Proposed Actions would cause some localized short-term disruptions to utilities on McConnell AFB, but as discussed in **Section 3.10**, would result in a negligible increase in consumption of utilities, with long-term beneficial impacts associated with construction of updated, more efficient facilities. Collectively, the actions proposed over the next 5 years would have short- and long-term impacts on utilities from increased consumption of electricity, water, and natural gas, and increased use of the sanitary sewer system, stormwater drainage system, communications system, and solid waste services during the construction and operations time frames. When the increased demands of all of these actions are considered together, it is anticipated that the existing utilities would have sufficient capacity to accommodate the projected increases. The cumulative increase in impervious surface on McConnell AFB associated with all planned projects could potentially increase amounts of stormwater runoff. Project M01 (Stream Restoration) and M02 (Repair Multiple Culverts and Bridges Basewide) would, however, have beneficial impacts in stormwater drainage. The Proposed Actions would not contribute to increased demand of liquid fuel but would help improve the efficiency of refueling operations by additional KC-46 aircraft.

Short- and long-term, negligible adverse impacts, and long-term, minor beneficial impacts on the transportation system would occur during implementation of the Proposed Actions and other planned actions that would occur on the installation over the next five years. These actions would include the

delivery of materials to and removal of construction and demolition debris from the project sites. Construction-related traffic would result in a small increase to the current traffic volume and would be cumulative for multiple projects occurring at the same time but would be short-term in duration. Intermittent traffic delays and temporary road closures associated with the Proposed Actions would be cumulative to those associated with other actions on the installation and could be exacerbated by overall increased traffic volumes associated with the stationing of KC-46s. These impacts would not be significant, as they could by minimized by scheduling truck deliveries outside the peak inbound traffic times. Heavy construction equipment would be driven to the work sites and kept on the installation for the duration of construction activities. Project M02 (Repair Multiple Culverts and Bridges Basewide) would have a long-term, minor beneficial impact on the base's transportation system.

After the completion of the KC-135 drawdown at McConnell AFB, stationing the KC-46s would result in a minor decrease in on base mission personnel of 77 persons (full-time military, DoD civilians, other base personnel) and decrease of approximately two percent in daily commuting traffic to and from the base. However, there would be a minor increase in military dependents and family members. It is assumed that all personnel and dependents live off base, work standard workdays, and drive individually to the base. This decrease in base mission personnel would have a negligible effect on congestion and queuing at base gates during the morning and evening rush hours. Regional access roads and the on-base road network have adequate existing capacity, and no impacts on traffic flow, circulation, or level of service would occur. Overall, cumulative impacts would not be significant, as projected levels of vehicle traffic at McConnell AFB would not be substantially different from past levels.

5.1.8.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated contribution to cumulative construction-related impacts to infrastructure, or to installation-wide increases in energy efficiency associated with the projects.

5.1.9 Earth Resources

5.1.9.1 Proposed Actions

The Proposed Actions and other planned projects on McConnell AFB would result in temporarily disturbed ground surfaces at construction sites and associated short- and long-term, minor, cumulative impacts from soil compaction, disturbance, and erosion caused by earth moving and other construction activities. Renovation or repair projects would have no to negligible impacts on earth resources because associated activities would involve minimal ground disturbance. Impacts to soil would not exceed individual project boundaries and would be minimized through the use of BMPs, erosion and sediment controls, and other measures. New structures and pavements would result in a long-term loss of soil function and productivity over the combined footprint area for all planned projects. These losses would largely occur in areas on McConnell AFB that are already developed, all though some undeveloped areas would be converted to other uses. These losses would not be considered significant in the context of past disturbance and soil alteration on the installation. Site-specific soil testing would be conducted to determine whether soil limitations exist at proposed building sites, and to identify appropriate environmental protection measures to be implemented to minimize adverse impacts.

5.1.9.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated contribution to cumulative impacts to earth resources.

5.1.10 Safety and Occupational Health

5.1.10.1 Proposed Actions

Short-term, negligible, adverse cumulative impacts on health and safety (e.g., slips, falls, heat exposure, exposure to mechanical, electrical, vision, chemical hazards) could occur from construction, demolition, maintenance, and repair activities associated with the Proposed Actions and other planned actions occurring at the installation. Construction workers could also encounter soil or groundwater contamination as a result of an IRP site or previously unknown soil or groundwater contamination. However, implementation of appropriate safety methods and following OSHA and AFOSH safety standards during these activities would minimize the potential for such impacts. For all planned projects occurring within the ESQD arcs and UXO probability areas, safety risks would be minimized through coordination with the installation Safety Office. With these protocols in place, health and safety risks from all planned projects, even when considered cumulatively, would be reduced to acceptable levels. The removal of ACM, LBP, and PCB-contaminated materials, and other planned actions that improve safety would result in a long-term, beneficial impact on safety and occupational health for personnel and residents at McConnell AFB, which would offset some health and safety risks associated with past and present actions on the installation. Therefore, no significant cumulative impacts to safety and occupational health are anticipated.

5.1.10.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated contribution to cumulative health and safety risks on McConnell AFB. However, projects being implemented to improve mission safety would also not occur and would not help offset cumulative adverse impacts.

5.1.11 Socioeconomics and Environmental Justice

5.1.11.1 Proposed Actions

Cumulatively, the Proposed Actions and other actions that would occur over the next five years would have short-term, minor to moderate, beneficial effects in the ROI, Sedgwick County and the Wichita Metropolitan Statistical Area through the increased demand for construction workers and the procurement of goods and services. Construction-related expenditures would not be expected to generate long-term cumulative socioeconomic benefits. Because the Proposed Actions would not result in an increase in the installation or regional population, they would not contribute to cumulative demographic impacts in the region. However, the new population associated with the addition of 36 KC-46 Pegasus aerial refueling aircraft would use many of the new facilities.

Because the Proposed Actions would not result in disproportionately high and adverse impacts on environmental justice populations, they would not contribute to cumulative environmental justice impacts in the region.

5.1.11.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Actions would not occur and there would be no associated contribution to cumulative socioeconomic or environmental justice impacts.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that environmental analysis include identification of any irreversible and irretrievable commitments of resources which would be involved in the Proposed Actions, should any be implemented. Irreversible and irretrievable resource commitments relate to the use of nonrenewable resources and the effects that these uses would have on future generations. Irreversible effects result from the use or destruction of specific resource(s) which cannot be replaced within a reasonable timeframe, for example energy usage or depletion of a precious commodity Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action, for instance, the loss of an endangered species.

For the Proposed Actions, most resource commitments are neither irreversible nor irretrievable. Most impacts disclosed in this EA are short-term and temporary, or longer lasting but negligible. Construction and operation of the Proposed Actions would require consumption of limited quantities or aggregate, steel, concrete and other construction materials. By and large, construction would occur on previously disturbed areas and would avoid known natural or cultural resources. Although site preparation activities would involve soil disturbance which would lead to soil loss, measures to localize and minimize any soil losses would be implemented.

There is potential for some limited loss of wetland and stream habitat, as well as 100-year floodplain area, associated with some aspects of the Proposed Actions. Through a combination of construction BMPs, project design measures, securing necessary development permits, and provision of compensatory storage as needed, floodplain impacts can be managed to a less-than-significant level. Proposed Actions would be implemented in accordance with a Construction Site NPDES permit and its associated SWPPP to avoid potential impacts to jurisdictional wetlands. Minimization measures to further minimize wetland impacts may include site plan reconfiguration, installation of buffer areas along the perimeter of wetlands, or erosion controls to prevent sedimentation in adjacent wetlands (McConnell AFB, 2017a).

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Years of Experience: 11
Role(s) on Project: Biological and Natural Resources

Sam Hartsfield, Aviation Environmental Planner, AECOM
M.S., 2009, Environmental Science and Management, Portland State University
B.S., 1999, Biology, California State Polytechnic University, Pomona
Years of Experience: 13
Role(s) on Project: Air Quality, Water Resources, Hazardous Materials/Hazardous Waste, Cumulative Impacts.

Steve Becker, CEP, Senior Project Manager, Brice Environmental Services

B.S., 1995, Natural Resources Management, M.S., 2015, Environmental Quality Science, University of Alaska Fairbanks
Years of Experience: 24
Role(s) on Project: Regulatory Specialist, QA/QC

CHAPTER 7 BIBLIOGRAPHY

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10 U.S. Code §2802 – *Military Construction Projects*

15 U.S. Code §§2601-2671 – *Toxic Substances Control Act*

16 U.S. Code §668 et seq. – *Bald and Golden Eagle Protection Act*

16 U.S. Code §§703-712 – *Migratory Bird Treaty Act*

16 U.S. Code §1531 et seq. – *Endangered Species Act of 1973, as amended*

29 U.S. Code §651 et seq. – *Occupational Safety and Health Act, as amended*

33 U.S. Code §1344 et seq. – *Clean Water Act (Section 404)*

42 U.S. Code § 4321 – *National Environmental Policy Act, as amended*

42 U.S. Code §4231 – *Intergovernmental Cooperation Act of 1968*

42 U.S. Code §4901 et seq. – *Noise Control Act*

42 U.S. Code §6901 et seq. – *Resource Conservation and Recovery Act, as amended*

42 U.S. Code §7401 et seq. – *Clean Air Act, as amended*

42 U.S. Code §7408 – *Air Quality Criteria and Control Techniques*

42 U.S. Code §7409 – *National Primary and Secondary Ambient Air Quality Standards*

42 U.S. Code §9601 et seq. – *Comprehensive Environmental Response, Compensation and Liability Act*

42 U.S. Code §§11001-11050 – *Emergency Planning and Community Right-to-Know-Act*

42 U.S. Code §17001 et seq. – *Energy Independence and Security Act*

49 U.S. Code §5101 et seq. – *Transportation of Hazardous Material*

54 U.S. Code §300101 et seq. – *National Historic Preservation Act, as amended*

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CHAPTER 8 DISTRIBUTION LIST

The following Federal, state and local agencies, and Native American Tribes, were contacted during the EA process. Copies of letter templates sent to these entities can be found in **Appendix A**:

Federal Agencies

U.S. Environmental Protection Agency, Region 7
NEPA Program Manager
Joshua Tapp
Office of Intergovernmental Affairs
11201 Renner Boulevard
Lenexa, KS 66219

U.S. Fish and Wildlife Service
Jason Luginbill
Kansas Field Supervisor
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State/Local Agencies

Kansas Department of Health and Environment
Division of Environment
Leo Henning
Deputy Secretary and Director of Environment
1000 SW Jackson, Suite 400
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Kansas Department of Wildlife, Parks, and Tourism
Ecological Services Section
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Pratt, KS 67124

Kansas Historical Society
Patrick Zollner
Deputy State Historic Preservation Officer
6425 SW 6th Avenue
Topeka, KS 66615-1099

Wichita Sedgwick County Planning
Dale Miller
Director of Planning
271 W. 3rd Street, Suite 201
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Native American Tribes

Cheyenne and Arapaho Tribes of Oklahoma
Teresa Dorsett
Executive Director of Administration
100 Red Moon Circle
Concho, OK 73022

Comanche Nation of Oklahoma
Martina Callahan
Tribal Historic Preservation Officer
P.O. Box 908
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Kaw Nation
Ida Williams
Chair Assistant
P.O. Box 50, 698 Grandview Drive
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Osage Nation
Geoffrey M. Standing Bear
Principle Chief
627 Grandview Avenue
Pawhuska, OK 74056

Wichita and Affiliated Tribes of Oklahoma
Terri Parton
President
P.O. Box 729
Anadarko, OK 73005

APPENDIX A Agency Notification and Public Involvement

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DEPARTMENT OF THE AIR FORCE
22D AIR REFUELING WING (AMC)
MCCONNELL AIR FORCE BASE KANSAS

20 February 2020

Colonel Richard C. Tanner
Commander, 22d Air Refueling Wing
22931 Kansas St. Suite 135
McConnell AFB, KS 67221-3504

Teresa Dorsett, Executive Director of Administration
Cheyenne and Arapaho Tribes of Oklahoma
100 Red Moon Circle
Concho, OK 73022

Dear Executive Director Dorsett,

The purpose of this letter is twofold: to give you an opportunity to review and comment on a Proposed Action at McConnell Air Force Base (AFB) in which your tribe may have an interest and to invite your tribe to participate in government-to-government consultation with McConnell AFB pursuant to Section 106 of the National Historic Preservation Act[1].

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the installation development projects proposed at McConnell AFB in Wichita, Kansas (see **Attachment 1** – Location Map). The EA is being prepared in accordance with the National Environmental Policy Act (NEPA), as amended (42 United States Code [U.S.C.] 4321, et seq.), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and USAF policy and procedures (32 CFR Part 989).

The Proposed Action involves eight (8) individual projects throughout three (3) planning districts throughout the installation. Two (2) additional projects have been identified which cover more than one (1) planning district, hereinafter referred to as "multi-district projects." The projects are principally related to space or mission optimization and/or consolidation, as well as restoration and repair of natural and infrastructural features. The table below lists all projects identified for the EA, and these projects are also depicted graphically on **Attachment 2**.

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There are no known traditional cultural resources at the project locations. The USAF is initiating consultations with representatives of Native American groups as required under the American Indian Religious Freedom Act (AIRFA). The purpose of these consultations is to determine AIRFA-related concerns such as access to sites of past cultural activity, landforms, and components of the natural environment that may occur at the project site and are important to traditional religious practices of Native American groups.

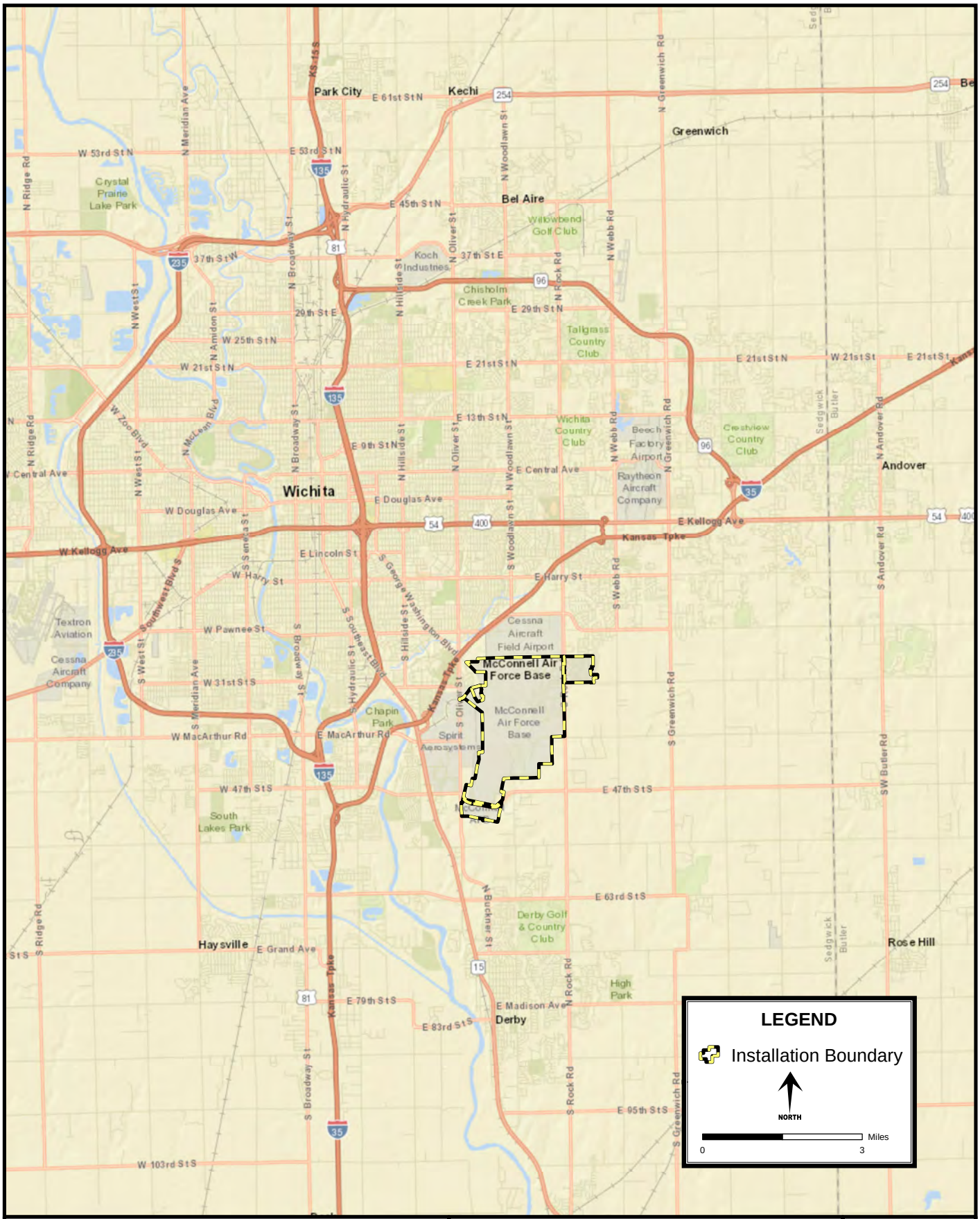
If the Cheyenne and Arapaho Tribes of Oklahoma wish to consult on this project, it would help us greatly if we knew whether there are historic areas of religious and cultural significance or traditional cultural properties within the Area of Potential Effect of the proposed undertaking. Regardless of whether the Tribe chooses to consult on this project, the USAF will fully comply with applicable laws and regulations in the event of an inadvertent discovery of archaeological or funerary object(s) and/or human remains.

My staff will be contacting your office by telephone to discuss the EA and any potential impacts. Please direct any questions to Mr. David Pettus, McConnell AFB Cultural Resources Manager via email at david.pettus@us.af.mil, or via telephone at (316) 759-4446; or Ms. Kristi Draney, Environmental Chief, at kristi.draney@us.af.mil or (316) 759-3884. I look forward to receiving any input you may have regarding this endeavor.

Sincerely,

RICHARD C. TANNER, Colonel, USAF
Commander

2 Attachments
1. Location Map
2. Installation Development Projects



McConnell Air Force Base, Wichita, KS

INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

Location Map

Figure 1.1-1

Path: S:\Projects\U\USACE\60590119_EAMcConAFB\900-Work\920 GIS\mxd\FIG 1.1-1.mxd , Date Saved: 7/3/2019 11:08:43 AM

S:\Projects\U\USACE\60590119_EAMcConAFB\900-Work\910 CAD\25-SKETCHES\Exhibits\Final Figures\FIG 1.4-1R.dwg 10/03/2019 10:41

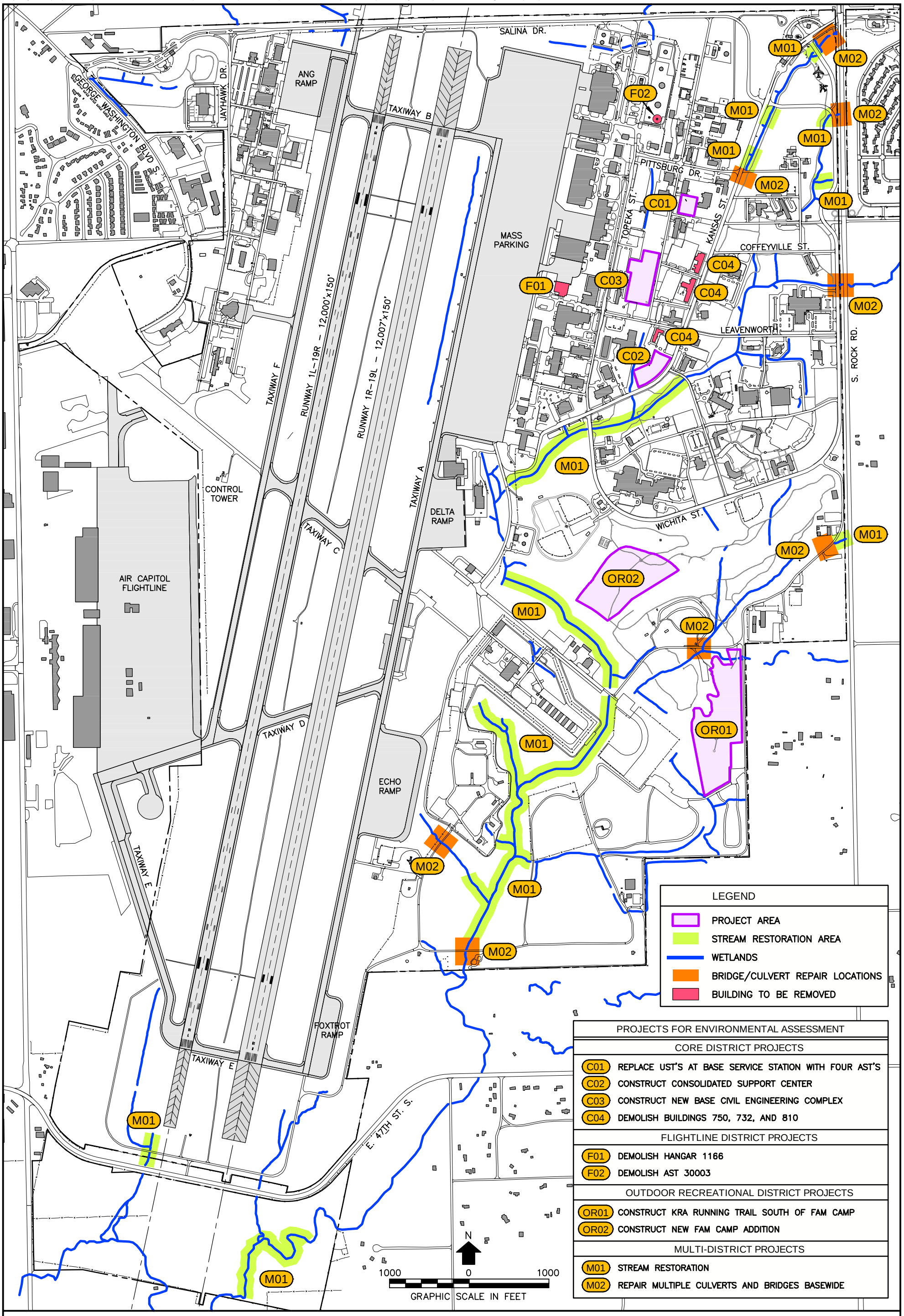


FIGURE 1.4-1

INSTALLATION DEVELOPMENT PROJECTS

McConnell Air Force Base, Wichita KS
INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

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DEPARTMENT OF THE AIR FORCE
22D AIR REFUELING WING (AMC)
MCCONNELL AIR FORCE BASE KANSAS

20 February 2020

Colonel Richard C. Tanner
Commander, 22d Air Refueling Wing
22931 Kansas Street, Suite 135
McConnell AFB, KS 67221-3504

Martina Callahan, Tribal Historic Preservation Officer
Comanche Nation of Oklahoma
P.O. Box 908
Lawton, OK 73502

Dear Officer Callahan,

The purpose of this letter is twofold: to give you an opportunity to review and comment on a Proposed Action at McConnell Air Force Base (AFB) in which your tribe may have an interest and to invite your tribe to participate in government-to-government consultation with McConnell AFB pursuant to Section 106 of the National Historic Preservation Act[1].

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the installation development projects proposed at McConnell AFB in Wichita, Kansas (see **Attachment 1** – Location Map). The EA is being prepared in accordance with the National Environmental Policy Act (NEPA), as amended (42 United States Code [U.S.C.] 4321, et seq.), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and USAF policy and procedures (32 CFR Part 989).

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There are no known traditional cultural resources at the project locations. The USAF is initiating consultations with representatives of Native American groups as required under the American Indian Religious Freedom Act (AIRFA). The purpose of these consultations is to determine AIRFA-related concerns such as access to sites of past cultural activity, landforms, and components of the natural environment that may occur at the project site and are important to traditional religious practices of Native American groups.

If the Comanche Nation of Oklahoma wishes to consult on this project, it would help us greatly if we knew whether there are historic areas of religious and cultural significance or traditional cultural properties within the Area of Potential Effect of the proposed undertaking. Regardless of whether the Tribe chooses to consult on this project, the USAF will fully comply with applicable laws and regulations in the event of an inadvertent discovery of archaeological or funerary object(s) and/or human remains.

My staff will be contacting your office by telephone to discuss the EA and any potential impacts. Please direct any questions to Mr. David Pettus, McConnell AFB Cultural Resources Manager via email at david.pettus@us.af.mil, or via telephone at (316) 759-4446; or Ms. Kristi Draney, Environmental Chief, at kristi.draney@us.af.mil or (316) 759-3884. I look forward to receiving any input you may have regarding this endeavor.

Sincerely,

RICHARD C. TANNER, Colonel, USAF
Commander

2 Attachments
1. Location Map
2. Installation Development Projects

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Norman, Tia

From: DRANEY, KRISTI L GS-12 USAF AMC 22 CES/CEIE <kristi.draney@us.af.mil>
Sent: Wednesday, June 10, 2020 3:57 PM
To: Sanford, Paul
Cc: 'Kosovich, Kyle K CIV USARMY CENWK (USA)'; REYNOLDS, JEAN A CIV USAF AFMC AFCEC/CZN; OWEN, RANDY L GS-12 USAF AMC 22 CES/CEIEC
Subject: [EXTERNAL] FW: Consult Response
Attachments: Installation Development Plan Environmental Assessment KS..docx
Signed By: kristi.draney@us.af.mil

Paul,
Here's another review for your records.

Thanks,
Kristi

Kristi Draney
Chief, Environmental
22 CES/CEIE
57830 Pittsburg Street, Suite 120
McConnell AFB, KS 67221
316-759-3884
DSN 743-3884

From: PETTUS, DAVID L GS-12 USAF AMC 22 CES/CEIEC <david.pettus@us.af.mil>
Sent: Wednesday, June 3, 2020 3:16 PM
To: DRANEY, KRISTI L GS-12 USAF AMC 22 CES/CEIE <kristi.draney@us.af.mil>
Subject: FW: Consult Response

From: Danna Key <Danna.Key@comanchenation.com>
Sent: Wednesday, June 3, 2020 2:45 PM
To: PETTUS, DAVID L GS-12 USAF AMC 22 CES/CEIEC <david.pettus@us.af.mil>
Subject: [Non-DoD Source] Consult Response

Consult response attached

Reply to ; theodore.villicana@comanchenation.com

Danna Key, B.S
THPO Assitant/Tribal Monitor Coord.
6 SW D Ave., Suite "C"
Lawton, Oklahoma 73502
Phone: (580)595-9960
Fax: (580)595-9733
Email: danna.key@comanchenation.com

COMANCHE NATION

22D Air Refueling Wing (AMC), McConnell Air Force Base Kansas
Attn: Mr. David Pettus
22931 Kansas Street, Suite 135
Kansas 67221-3504

June 3, 2020

Re: Installation Development Plan Environmental Assessment
McConnell Air Force Base, Wichita, KS.

Dear Mr. Pettus:

In response to your request, the above reference project has been reviewed by staff of this office to identify areas that may potentially contain prehistoric or historic archeological materials. The location of your project has been cross referenced with the Comanche Nation site files, where an indication of ***"No Properties"*** have been identified. (IAW 36 CFR 800.4(d)(1)).

Please contact this office at (580) 595-9960/9618) if you require additional information on this project.

This review is performed in order to identify and preserve the Comanche Nation and State cultural heritage, in conjunction with the State Historic Preservation Office.

Regards

Comanche Nation Historic Preservation Office
Theodore E. Villicana , Technician
#6 SW "D" Avenue, Suite C
Lawton, OK. 73502

DEPARTMENT OF THE AIR FORCE
22D AIR REFUELING WING (AMC)
MCCONNELL AIR FORCE BASE KANSAS

20 February 2020

Colonel Richard C. Tanner
Commander, 22d Air Refueling Wing
22931 Kansas Street, Suite 135
McConnell AFB, KS 67221-3504

Ida Williams, Chair Assistant
Kaw Nation
P.O Box 50
Kaw City, OK 74641

Dear Chair Assistant Williams,

The purpose of this letter is twofold: to give you an opportunity to review and comment on a Proposed Action at McConnell Air Force Base (AFB) in which your tribe may have an interest and to invite your tribe to participate in government-to-government consultation with McConnell AFB pursuant to Section 106 of the National Historic Preservation Act[1].

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If the Kaw Nation wishes to consult on this project, it would help us greatly if we knew whether there are historic areas of religious and cultural significance or traditional cultural properties within the Area of Potential Effect of the proposed undertaking. Regardless of whether the Tribe chooses to consult on this project, the USAF will fully comply with applicable laws and regulations in the event of an inadvertent discovery of archaeological or funerary object(s) and/or human remains.

My staff will be contacting your office by telephone to discuss the EA and any potential impacts. Please direct any questions to Mr. David Pettus, McConnell AFB Cultural Resources Manager via email at david.pettus@us.af.mil, or via telephone at (316) 759-4446; or Ms. Kristi Draney, Environmental Chief, at kristi.draney@us.af.mil or (316) 759-3884. I look forward to receiving any input you may have regarding this endeavor.

Sincerely,

RICHARD C. TANNER, Colonel, USAF
Commander

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1. Location Map
2. Installation Development Projects

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DEPARTMENT OF THE AIR FORCE
22D AIR REFUELING WING (AMC)
MCCONNELL AIR FORCE BASE KANSAS

20 February 2020

Colonel Richard C. Tanner
Commander, 22d Air Refueling Wing
22931 Kansas Street, Suite 135
McConnell AFB, KS 67221-3504

Matt Komalty, Chairman
Kiowa Tribe of Oklahoma
100 Kiowa Way
Carnegie, OK 73015

Dear Chairman Komalty,

The purpose of this letter is twofold: to give you an opportunity to review and comment on a Proposed Action at McConnell Air Force Base (AFB) in which your tribe may have an interest and to invite your tribe to participate in government-to-government consultation with McConnell AFB pursuant to Section 106 of the National Historic Preservation Act[1].

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If the Kiowa Tribe of Oklahoma wishes to consult on this project, it would help us greatly if we knew whether there are historic areas of religious and cultural significance or traditional cultural properties within the Area of Potential Effect of the proposed undertaking. Regardless of whether the Tribe chooses to consult on this project, the USAF will fully comply with applicable laws and regulations in the event of an inadvertent discovery of archaeological or funerary object(s) and/or human remains.

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Sincerely,

RICHARD C. TANNER, Colonel, USAF
Commander

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DEPARTMENT OF THE AIR FORCE
22D AIR REFUELING WING (AMC)
MCCONNELL AIR FORCE BASE KANSAS

20 February 2020

Colonel Richard C. Tanner
Commander, 22d Air Refueling Wing
22931 Kansas Street, Suite 135
McConnell AFB, KS 67221-3504

Geoffrey M. Standing Bear, Principal Chief
Osage Nation
627 Grandview Avenue
Pawhuska, OK 74056

Dear Principal Chief Standing Bear,

The purpose of this letter is twofold: to give you an opportunity to review and comment on a Proposed Action at McConnell Air Force Base (AFB) in which your tribe may have an interest and to invite your tribe to participate in government-to-government consultation with McConnell AFB pursuant to Section 106 of the National Historic Preservation Act[1].

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the installation development projects proposed at McConnell AFB in Wichita, Kansas (see **Attachment 1** – Location Map). McConnell AFB is located in Sedgwick County, Section 12, Township 28S, Range 1E, at UTM coordinates 652878.63 m E, 4165411.44 m N (Zone 14S).

The EA is being prepared in accordance with the National Environmental Policy Act (NEPA), as amended (42 United States Code [U.S.C.] 4321, et seq.), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and USAF policy and procedures (32 CFR Part 989).

The Proposed Action involves eight (8) individual projects throughout three (3) planning districts throughout the installation. Two (2) additional projects have been identified which cover more than one (1) planning district, hereinafter referred to as "multi-district projects". The projects are principally related to space or mission optimization and/or consolidation, as well as restoration and repair of natural and infrastructural features. The table below lists all projects identified for the EA, and these projects are also depicted graphically on **Attachment 2**.

[1] United States Code (U.S.C.) Section 306108, as implemented by 36 Code of Federal Regulation (CFR) Part 800.

Project ID	Project Name	Description of Project
Core District		
C01	Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks	Replace existing underground motor gasoline storage tank #30021 (10,000-gallon capacity) and vehicular diesel underground tank #30020 (10,000-gallon capacity) with four (4) aboveground storage tanks providing equivalent capacity.
C02	Construct Consolidated Support Center	Construct a two-story building to provide a facility to consolidate and house a variety of Federal, USAF, Wing and Group agencies, whose missions and in/out-processing actions interface on a daily basis.
C03	Construct New Base Civil Engineering Complex	Construct singular complex to consolidate civil engineering maintenance, storage, facilities operations, equipment and administrative functions.
C04	Demolish Buildings 750, 732, and 810	Demolish obsolescent Buildings 750, 732 and 810, whose functionality will be replaced by Project C02 (Construct Consolidated Support Center). During a 2007 fire damage repair of Building 750, non-friable asbestos-containing floor tiles were removed, indicating a potential need for additional asbestos remediation in these buildings. Based on age, lead-based paint (LBP) remediation may also be required as part of demolishing these structures.
Flightline District		
F01	Demolish Hangar 1166	Demolish Hangar 1166 which is currently underutilized and no longer meets current mission requirements. In 2007, asbestos abatement was performed in the hangar's heating, ventilation and air conditioning systems, mechanical rooms and piping. Additional abatement, as well as potential LBP remediation due to building age, would need to be accomplished as part of the project.
F02	Demolish Aboveground Storage Tank 30003	Remove abandoned fuel tank #30003.
Outdoor Recreational District		
OR01	Construct Krueger Recreation Area Running Trail South of Fam Camp	Expand running trail (with rubberized surface) by at least one (1) mile to add a longer running/walking option to the existing amenities.
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M02	Repair Multiple Culverts and Bridges Basewide	Demolish/rebuild existing bridges, pipes and concrete structures, and perform ditch widening where necessary, to reduce flooding and re-establish longer culvert lifespans across the installation.

Based on information documented within the 2018 McConnell AFB Integrated Cultural Resources Management Plan (ICRMP), no prehistoric archaeological sites have been identified on McConnell AFB. A base wide survey conducted in 1995 identified eight archaeological sites, none of which were determined to be eligible for listing on the National Register of Historic

Places (NRHP) (DeVore and Ruhl, 1995), and results concluded that there is low probability for intact prehistoric archaeology due to heavy development and extensive ground disturbance (DeVore and Ruhl 1984; Padget 1984). Most of these archaeological sites date to the mid- to late-twentieth century. Four of the sites are the remains of trash dumps, and three others are the remains of commercial establishments in operation during the 1960s and 1970s. Site 14SG106, the remains of a farm, may date from the nineteenth century; however, demolition carried out after the USAF acquired the land has severely impacted its integrity. These eight archaeological sites were formally determined, in accordance with the Section 106 process, to be ineligible for listing on the NRHP. The Kansas State Historic Preservation Officer (SHPO) has concurred with these findings (McConnell AFB, 2018).

There are no known traditional cultural resources at the project locations. The USAF is initiating consultations with representatives of Native American groups as required under the American Indian Religious Freedom Act (AIRFA). The purpose of these consultations is to determine AIRFA-related concerns such as access to sites of past cultural activity, landforms, and components of the natural environment that may occur at the project site and are important to traditional religious practices of Native American groups.

If the Osage Nation wishes to consult on this project, it would help us greatly if we knew whether there are historic areas of religious and cultural significance or traditional cultural properties within the Area of Potential Effect of the proposed undertaking. Regardless of whether the Tribe chooses to consult on this project, the USAF will fully comply with applicable laws and regulations in the event of an inadvertent discovery of archaeological or funerary object(s) and/or human remains.

My staff will be contacting your office by telephone to discuss the EA and any potential impacts. Please direct any questions to Mr. David Pettus, McConnell AFB Cultural Resources Manager via email at david.pettus@us.af.mil, or via telephone at (316) 759-4446; or Ms. Kristi Draney, Environmental Chief, at kristi.draney@us.af.mil or (316) 759-3884. I look forward to receiving any input you may have regarding this endeavor.

Sincerely,

RICHARD C. TANNER, Colonel, USAF
Commander

2 Attachments
1. Location Map
2. Installation Development Projects

Cc: Dr. Andrea A. Hunter, THPO

DEPARTMENT OF THE AIR FORCE
22D AIR REFUELING WING (AMC)
MCCONNELL AIR FORCE BASE KANSAS

Colonel Richard C. Tanner
Commander, 22d Air Refueling Wing
57837 Coffeyville Street, Suite 135
McConnell AFB, KS 67221-3504

20 February 2020

Terri Parton, President
Wichita and Affiliated Tribes of Oklahoma
P.O. Box 729
Anadarko, OK 73005

Dear President Parton,

The purpose of this letter is twofold: to give you an opportunity to review and comment on a Proposed Action at McConnell Air Force Base (AFB) in which your tribe may have an interest and to invite your tribe to participate in government-to-government consultation with McConnell AFB pursuant to Section 106 of the National Historic Preservation Act[1].

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the installation development projects proposed at McConnell AFB in Wichita, Kansas (see **Attachment 1** – Location Map). The EA is being prepared in accordance with the National Environmental Policy Act (NEPA), as amended (42 United States Code [U.S.C.] 4321, et seq.), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and USAF policy and procedures (32 CFR Part 989).

The Proposed Action involves eight (8) individual projects throughout three (3) planning districts throughout the installation. Two (2) additional projects have been identified which cover more than one (1) planning district, hereinafter referred to as "multi-district projects". The projects are principally related to space or mission optimization and/or consolidation, as well as restoration and repair of natural and infrastructural features. The table below lists all projects identified for the EA, and these projects are also depicted graphically on **Attachment 2**.

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Based on information documented within the 2018 McConnell AFB Integrated Cultural Resources Management Plan (ICRMP), no prehistoric archaeological sites have been identified on McConnell AFB. A base wide survey conducted in 1995 identified eight archaeological sites, none of which were determined to be eligible for listing on the National Register of Historic Places (NRHP) (DeVore and Ruhl, 1995), and results concluded that there is low probability for intact prehistoric archaeology due to heavy development and extensive ground disturbance

(DeVore and Ruhl 1984; Padget 1984). Most of these archaeological sites date to the mid- to late-twentieth century. Four of the sites are the remains of trash dumps, and three others are the remains of commercial establishments in operation during the 1960s and 1970s. Site 14SG106, the remains of a farm, may date from the nineteenth century; however, demolition carried out after the USAF acquired the land has severely impacted its integrity. These eight archaeological sites were formally determined, in accordance with the Section 106 process, to be ineligible for listing on the NRHP. The Kansas State Historic Preservation Officer (SHPO) has concurred with these findings (McConnell AFB, 2018).

There are no known traditional cultural resources at the project locations. The USAF is initiating consultations with representatives of Native American groups as required under the American Indian Religious Freedom Act (AIRFA). The purpose of these consultations is to determine AIRFA-related concerns such as access to sites of past cultural activity, landforms, and components of the natural environment that may occur at the project site and are important to traditional religious practices of Native American groups.

If the Wichita and Affliated Tribes of Oklahoma wish to consult on this project, it would help us greatly if we knew whether there are historic areas of religious and cultural significance or traditional cultural properties within the Area of Potential Effect of the proposed undertaking. Regardless of whether the Tribe chooses to consult on this project, the USAF will fully comply with applicable laws and regulations in the event of an inadvertent discovery of archaeological or funerary object(s) and/or human remains.

My staff will be contacting your office by telephone to discuss the EA and any potential impacts. Please direct any questions to Mr. David Pettus, McConnell AFB Cultural Resources Manager via email at david.pettus@us.af.mil, or via telephone at (316) 759-4446; or Ms. Kristi Draney, Environmental Chief, at kristi.draney@us.af.mil or (316) 759-3884. I look forward to receiving any input you may have regarding this endeavor.

Sincerely,

RICHARD C. TANNER, Colonel, USAF
Commander

2 Attachments
1. Location Map
2. Installation Development Projects

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From: Mary Botone <mary.botone@wichitatribe.com>
Sent: Wednesday, March 4, 2020 10:43 AM
To: PETTUS, DAVID L GS-12 USAF AMC 22 CES/CEIEC <david.pettus@us.af.mil>
Subject: [Non-DoD Source] EA - McConnell AFB in Wichita , KS

Dear Mr. Pettus:

At this time, the Wichita & Affiliated Tribes is requesting consulting party status on any proposed projects that the United States Air Force undertakes in the state of Kansas, Oklahoma, Texas, Arkansas, Missouri, Colorado and New Mexico.

Upon reviewing the information we received pertaining to the potential impacts associated with the installation development at the McConnell AFB in Wichita, Kansas, we are requesting a copy of the 1995 Base wide survey conducted by DeVore and Ruhl. Please note that this request is based on the information available to us at the time of the project review. We reserve the right to revise our comments as information becomes available

If you have any questions or concerns, please contact Mr. Gary McAdams at 405.247.2425 extension 169 or via email to gary.mcadams@wichitatribe.com.

Sincerely,
Sincerely,
Mary M BoTone
Tribal Historic Preservation Office

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DEPARTMENT OF THE AIR FORCE
22D CIVIL ENGINEER SQUADRON (AMC)
MCCONNELL AIR FORCE BASE KANSAS

FEB 19 2020

22d Civil Engineer Squadron
57830 Pittsburg Street, Suite 120
McConnell AFB, KS 67221

Leo Henning, Deputy Secretary and Director of Environment
Kansas Department of Health and Environment
Division of Environment
1000 SW Jackson, Suite 400
Topeka, KS 66612-1367

Dear Mr. Henning,

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the installation development projects proposed at McConnell AFB in Wichita, Kansas (see **Attachment 1** – Location Map).

The Proposed Action involves eight (8) individual projects throughout three (3) planning districts throughout the installation. Two (2) additional projects have been identified which cover more than one (1) planning district, hereinafter referred to as "multi-district projects". The projects are principally related to space or mission optimization and/or consolidation, as well as restoration and repair of natural and infrastructural features. The table below lists all projects identified for the EA, and these projects are also depicted graphically on **Attachment 2**.

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Project ID	Project Name	Description of Project
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The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969, 42 United States Code, the Council of Environmental Quality NEPA Regulations, 40 Code of Federal Regulations (CFR) Parts 1500-1508, 32 CFR 989, and USAF policy and procedures. As part of this EA, we request your assistance in identifying potential areas of environmental impact to be assessed in the study.

The USAF invites government agency representatives and private citizens to participate in the environmental process and requests your input regarding any information you feel would assist us in this process. The environmental issues analyzed in the EA will be used in the decision-making process by the USAF for determining appropriate actions to be taken during construction activities. Input is requested within 30 days of receipt of this letter to ensure that the USAF has time to address any comments from interested parties.

Written comments should be addressed to Ms. Kristi Draney, 22 CES/CEIE, 57830 Pittsburg Street, Suite 120, McConnell AFB, KS 67221, by email to kristi.draney@us.af.mil, or by phone at (316) 759-3884 within 30 days of receipt of this letter.

Additionally, upon publication, a copy of Draft EA will be made available for review at the following locations:

Linwood Park Branch Library
1901 S Kansas St
Wichita, KS 67211

Rockwell Branch Library
5939 E 9th St N
Wichita, KS 67208

Alford Branch Library
3447 S Meridian Ave
Wichita, KS 67217

McConnell Air Force Base Library
53476 Wichita Street, Building 412
McConnell AFB, KS 67221

JACOB D. LECK, Lt Col, USAF
Commander

2 Attachments
1. Location Map
2. Installation Development Projects

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Division of Environment
Curtis State Office Building
1000 SW Jackson St., Suite 410
Topeka, KS 66612-1367

Kansas
Department of Health
and Environment

Phone: 785-296-1660
Fax: 785-559-4261
www.kdheks.gov

Lee A. Norman, M.D., Secretary

Laura Kelly, Governor

March 17, 2020

Ms. Kristi Draney
22 CES/CEIE
57830 Pittsburg Street, Suite 120
McConnell AFB, KS 67221

RE: Environmental Assessment of Impacts for Installation Development Projects

Dear Ms. Draney,

The Kansas Department of Health and Environment Bureau of Remediation (KDHE-BER) reviewed the Proposed Action document concerning the eight areas for restoration and repair of natural and infrastructural features as well as space or mission optimization/and or consolidation. KDHE, with discussion with USEPA, offers the following comments for the project with respect to the known environmental activities at the McConnell AFB. The following comments are provided regarding the submittal. Several of these projects are cited within known Installation Restoration Program (IRP) site boundaries. Therefore, the requirements of the Institutional Control Implementation Plan (ICIP) apply, and McConnell's Environmental Restoration Program must be consulted during these projects.

1. There do not appear to appear any Solid Waste Management Units (SWMU) or Installation Restoration Program (IRP) sites in the areas affected by Projects C02, C04 and OR01. However, the Environmental Restoration Program staff should be consulted to verify that no SWMUs or IRPs are affected.

2. Project C01 may impact the Building 314 site (Site TU546). The site is not currently on the Permit, but it will be captured in a renewed Permit. There is currently a BTEX groundwater plume north of Building 314 and a groundwater extraction system operating in the area. Without having actual work plans, it is unknown whether construction activities will lead to exposure to contaminated groundwater. Work at this site should not interfere with the groundwater treatment system. If the system is impacted, the EPA and KDHE should be notified promptly.

   Project C01 is located next to several active areas; TU046, SS023, OW026, & OT547. There is a large TCE and PCE plume directly to the east of the area. The Remedial Facility Investigation for TU046 SS023, and OW026 will start in the spring 2020 for groundwater sampling by existing wells and direct push (DP) method. The listed areas have numerous groundwater wells for sampling and injections for zero-valent iron (ZVI) and in-situ chemical reduction ISCR. You may need to consult the Environmental Restoration Program staff for more information.

3. *Projects C03* and F01 are proposed portions of Site SS003. It is difficult to definitively determine whether construction will occur in areas with known TCE groundwater contamination; however, the projects are still within the Institutional Control (IC) boundaries of the site. The requirements of the Institutional Control Implementation Plan (ICIP) are applicable to these projects. Environmental Restoration Program staff should be consulted for projects in this site.

4. Project F02 is proposed in a portion of Site SS001. The project is within the IC boundaries, and the requirements of the ICIP are applicable to this project.

5. Some portions of Project M01 will be conducted in areas with known PFAS contamination (AFFF Area 7- Stormwater control gates and outfalls). Personnel performing the work must be informed of potential exposure to contaminants in surface water and have proper training. It is recommended that McConnell Restoration Program personnel oversee the work.

   Some of the M01 projects are within landfill areas (LF011) with long-term monitoring, injections, and upcoming pneumatic facture emplacement (PFE) with zero valent iron (ZVI). Other areas are soil farms ZZ055 and ZZ053 which are in review for closeout.

6. Based on the provided figure, it does not appear that Project OR02 will interfere with the cap on Site LF010. However, consultation with the Environmental Restoration Program is recommended to ensure the project does not encroach on the IC boundaries for this site. If the landfill cap is disturbed, it must be restored.

Should you have questions concerning the above comments please contact Margaret Townsend by email at margaret.townsend@ks.gov or by phone at 785-296-8801.

Sincerely,

Margaret Townsend

Margaret Townsend, PG
Unit Chief, Federal Facilities/Remedial Section/BER

C: Randy Carlson → Margaret Townsend → Jesse Saegert → MAFB Parent (C2-087-03010)
Cole Knight, MAFB, (e-copy)
Bob Jurgens, Bureau Director, BER (e-copy)
Ruby Crysler, USEPA, (e-copy)

DEPARTMENT OF THE AIR FORCE
22D CIVIL ENGINEER SQUADRON (AMC)
MCCONNELL AIR FORCE BASE KANSAS

FEB 19 2020

22d Civil Engineer Squadron
57830 Pittsburg Street, Suite 120
McConnell AFB, KS 67221

Kansas Historical Society
State Historic Preservation Officer
Attn: Patrick Zollner
6425 SW 6th Avenue
Topeka, KS 66615-1099

SUBJECT: Section 106 Consultation Initiation, Environmental Assessment – Installation Development at McConnell Air Force Base (AFB), Sedgwick County, Kansas

References:

a) National Historic Preservation Act of 1966, Section 106 (16 United States Code [U.S.C.] Section 470f) and Section 110 (16 U.S.C. Section 470h-2)
b) National Environmental Policy Act of 1969
c) 36 Code of Federal Regulations (CFR) Part 800.11 Documentation Standards

Dear Mr. Zollner

The purpose of this letter is to initiate consultation early in accordance with references (a) and (b) above. The United States Air Force (USAF) is in the process of preparing an Environmental Assessment (EA) that evaluates the potential environmental and/or cultural impacts associated with the installation development projects proposed at McConnell AFB in Wichita, Kansas (see **Attachment 1** – Location Map). In accordance with reference (c) above, the following documentation is being presented as our initial Section 106 consultation regarding effects on historic resources.

Description of the Undertaking

Installation development is needed at McConnell AFB to address deficiencies of function and capability in the facilities and infrastructure at the installation 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 is required to allow the 22nd Air Refueling Wing and its tenant units to successfully complete their missions. The Proposed Action involves eight (8) individual projects throughout three (3) planning districts throughout the installation. Two (2) additional projects have been identified which cover more than one (1) planning district, hereinafter referred to as "multi-district projects". The projects are principally related to space or mission optimization and/or consolidation, as well as restoration

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Area of Potential Effect

As defined under 36 CFR § 800.16(d), "the Area of Potential Effect" (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The USAF has defined the APE for direct effects to historic properties as the specific footprints of the Proposed Action's 10 individual projects, which are located on the main base area (as shown in **Attachment 2**). The APE for indirect effects is defined as a 1,000-foot buffer around the Proposed Action's individual project areas. Given the auditory and visual environment of an active USAF base, this buffer should capture all locations from which individual project construction or demolition activity may be visible or audible.

The proposed project is located on the U.S. Geological Survey 7.5-minute quadrangles titled Wichita East and Derby, at an elevation of approximately 1,350 feet above mean sea level.

Identification of Historic Resources

Prehistoric Archaeological Resources. Based on information documented within the 2018 McConnell AFB Integrated Cultural Resources Management Plan (ICRMP), no prehistoric archaeological sites have been identified on McConnell AFB. A basewide survey conducted in 1995 identified eight (8) archaeological sites, none of which were determined to be eligible for listing on the National Register of Historic Places (NRHP) (DeVore and Ruhl, 1995), and results concluded that there is low probability for intact prehistoric archaeology due to heavy development and extensive ground disturbance (DeVore and Ruhl 1984; Padget 1984). Most of these archaeological sites date to the mid- to late-twentieth century. Four (4) of the sites are the remains of trash dumps, and three others are the remains of commercial establishments in operation during the 1960s and 1970s. Site 14SG106, the remains of a farm, may date from the nineteenth century; however, demolition carried out after the USAF acquired the land has severely impacted its integrity. These eight (8) archaeological sites were formally determined, in accordance with the Section 106 process, to be ineligible for listing on the NRHP. The Kansas State Historic Preservation Officer (SHPO) has concurred with these findings (McConnell AFB, 2018).

Historic Buildings and Structures. McConnell AFB has evaluated buildings and structures with the potential to be considered eligible for listing on the NRHP. These evaluations were conducted under three (3) primary studies: the National Park Service Cultural Resource Survey of McConnell AFB (DeVore and Ruhl, 1995), A Systemic Study of Air Combat Command Cold War Material Culture (HQ ACC 1996), and McConnell AFB Survey Report (Rosin, 2011). Additional reviews were performed in conjunction with the development and update of the ICRMP (Pratt, 2002; Trnka, 2009), a review of nine (9) buildings was completed in 2013 in association with the KC-46A project (Allen, 2013), and a review to assess any buildings 45 years or older since the 2010 survey was completed (Blackwell and Plimpton, 2015).

Based on the findings of the surveys, Buildings 9, 1107, 1218, and 1219 are eligible for listing on the NRHP under Criteria A and C. Buildings 750, 732, 810, and 1166 are considered not eligible for listing on the NRHP because, although they are older than 50 years, they do not meet any of the eligibility criteria for NRHP. Family housing, unaccompanied personnel

housing, and the ammunition storage facilities are eligible, and Section 106 has been covered by Advisory Council on Historic Preservation (ACHP) Program Comments. The runways and Buildings 1111 and 1129 are treated as potentially eligible although Section 106 has not been finalized (McConnell AFB, 2018).

Three (3) of these NRHP-eligible structures are within the 1000-foot indirect effects APE for three of the proposed projects. Building 1129 is 530 feet away from Project C01 (Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks). Building 1107 is 650 feet from Project C03 (Construct New Base Civil Engineering Complex) and 450 feet from Project F01 (Demolish Hangar 1166). Building 1111 is 750 feet from Project F01. While construction and demolition associated with these projects could be seen and heard from the historic properties, noise and visual impacts would be temporary, and would not permanently effect integrity or characteristics that make the buildings eligible for inclusion on the NRHP. The loss of Hangar 1166 would not impact either Building 1107's or Building 1111's integrity of significant historic features, change the character of either property's use or physical features that contribute to historic significance, or alter either building's setting, or ability to convey feeling or sense of historic importance. It would not permanently "diminish the integrity of the properties' significant historic features (36 CFR § 800.5(a)(2)(v))." Likewise, the addition of the new base Civil Engineering Complex and four (4) new aboveground storage tanks at the Base Service Station would not significantly alter the viewshed from Building 1129 or Building 1107.

Several of the locations of Projects M01 (Stream Restoration) and M02 (Repair Bridges and Culverts) in the southern portion of the installation are within 800 to 1000 feet of the NRHP-eligible Cold War era storage igloos (Buildings 1401, 1403, 1413, 1414, and 1418). Additionally, the NRHP-eligible Cold War Era Unaccompanied Personnel Housing Building 202 is 520 feet away from several Project M01 locations in the north side of the base. While these are within the indirect effects APE, and noise and auditory effects may be present during project implementation, these would be minor, and temporary. Further, as discussed in Section 3.9.2, Section 106 considerations for base projects that may affect these historic properties have been addressed through ACHP Program Comments, which McConnell AFB is fulfilling.

Traditional Cultural Resources. There are no known traditional cultural resources at the project locations. The USAF is initiating consultations with representatives of Native American groups as required under the American Indian Religious Freedom Act (AIRFA). The purpose of these consultations is to determine AIRFA-related concerns such as access to sites of past cultural activity, landforms, and components of the natural environment that may occur at the project site and are important to traditional religious practices of Native American groups. The Native American groups being contacted include the Cheyenne - Arapaho Tribes of Oklahoma, Comanche Nation of Oklahoma, Kaw Nation, Osage Nation, and the Wichita and Affiliated Tribes of Oklahoma.

Conclusions

Based on the preceding, McConnell AFB requests that the Kansas SHPO concur with our delineation of the APE for this undertaking and with our finding of No Historic Properties Affected for the proposed Undertaking.

The USAF appreciates your review of our project activities and assistance with our efforts to identify important cultural resources early in the EA development. Upon completion, a copy of the draft EA will be forwarded to your office for review.

Please direct any questions to Mr. David Pettus, McConnell AFB Cultural Resources Manager. He can be reached via email at david.pettus@us.af.mil, or via telephone at (316) 759-4446; or Ms. Kristi Draney, Environmental Chief, at kristi.draney@us.af.mil or (316) 759-3884.

JACOB D. LECK, Lt Col, USAF
Commander

2 Attachments
1. Location Map
2. Installation Development Projects

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6425 SW 6th Avenue
Topeka KS 66615

phone: 785-272-8681
fax: 785-272-8682
kshs.culturalresources@ks.gov

KSR&C # 20-02-186
March 20, 2020

Sam Hartsfield
Aviation Environmental Planner
AECOM
Via Email

Re: Installation Development at McConnell AFB – Sedgwick County

We have reviewed the materials received February 27, 2020 regarding the above-referenced project in accordance with 36 CFR Part 800. In reviews of this nature, the SHPO determines whether a federally funded, licensed, or permitted project will adversely affect properties that are listed or determined eligible for listing in the National Register of Historic Places. The SHPO concurs that the proposed project will not adversely affect any historic properties. As far as this office is concerned the project may proceed.

Thank you for giving us the opportunity to comment on this proposal. Please refer to the Kansas State Review & Compliance number (KSR&C#) listed above on any future correspondence. Please submit any comments or questions regarding this review to Lauren Jones at 785-272-8681, ext. 225 or lauren.jones@ks.gov.

Sincerely,

Jennie Chinn
State Historic Preservation Officer

Patrick Zollner
Director, Cultural Resources Division
Deputy State Historic Preservation Officer

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DEPARTMENT OF THE AIR FORCE
22D CIVIL ENGINEER SQUADRON (AMC)
MCCONNELL AIR FORCE BASE KANSAS

FEB 19 2020

22d Civil Engineer Squadron
57830 Pittsburg Street, Suite 120
McConnell AFB, KS 67221

Kansas Department of Wildlife, Parks, and Tourism
Ecological Services Section
512 SE 25th Avenue
Pratt, KS 67124

To Whom this May Concern,

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the installation development projects proposed at McConnell AFB in Wichita, Kansas (see **Attachment 1** – Location Map).

The Proposed Action involves eight (8) individual projects throughout three (3) planning districts throughout the installation. Two (2) additional projects have been identified which cover more than one (1) planning district, hereinafter referred to as "multi-district projects". The projects are principally related to space or mission optimization and/or consolidation, as well as restoration and repair of natural and infrastructural features. The table below lists all projects identified for the EA, and these projects are also depicted graphically on **Attachment 2**.

Project ID	Project Name	Description of Project
Core District		
C01	Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks	Replace existing underground motor gasoline storage tank #30021 (10,000-gallon capacity) and vehicular diesel underground tank #30020 (10,000-gallon capacity) with four (4) aboveground storage tanks providing equivalent capacity.
C02	Construct Consolidated Support Center	Construct a two-story building to provide a facility to consolidate and house a variety of Federal, USAF, Wing and Group agencies, whose missions and in/out-processing actions interface on a daily basis.
C03	Construct New Base Civil Engineering Complex	Construct singular complex to consolidate civil engineering maintenance, storage, facilities operations, equipment and administrative functions.
C04	Demolish Buildings 750, 732, and 810	Demolish obsolescent Buildings 750, 732 and 810, whose functionality will be replaced by Project C02 (Construct Consolidated Support Center). During a 2007 fire damage repair of Building 750, non-friable asbestos-containing floor tiles were removed, indicating a potential need for additional asbestos remediation in these buildings. Based on age, lead-based paint (LBP) remediation may also be required as part of demolishing these structures.
Flightline District		

Project ID	Project Name	Description of Project
F01	Demolish Hangar 1166	Demolish Hangar 1166 which is currently underutilized and no longer meets current mission requirements. In 2007, asbestos abatement was performed in the hangar's heating, ventilation and air conditioning systems, mechanical rooms and piping. Additional abatement, as well as potential LBP remediation due to building age, would need to be accomplished as part of the project.
F02	Demolish Aboveground Storage Tank 30003	Remove abandoned fuel tank #30003.
Outdoor Recreational District		
OR01	Construct Krueger Recreation Area Running Trail South of Fam Camp	Expand running trail (with rubberized surface) by at least one (1) mile to add a longer running/walking option to the existing amenities.
OR02	Construct New Fam Camp Addition	Provide additional recreational camping vehicle parking positions and hook-ups adjacent to existing Fam Camp facilities north of Russell Road.
Multi-District Projects		
M01	Stream Restoration	Restore over one (1) mile of streams basewide, by removing trash and vegetative debris caused by flash-flood washout events. Perform bank stabilization activities to combat stream bed erosion and sedimentation.
M02	Repair Multiple Culverts and Bridges Basewide	Demolish/rebuild existing bridges, pipes and concrete structures, and perform ditch widening where necessary, to reduce flooding and re-establish longer culvert lifespans across the installation.

The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969, 42 United States Code, the Council of Environmental Quality NEPA Regulations, 40 Code of Federal Regulations (CFR) Parts 1500-1508, 32 CFR 989, and USAF policy and procedures. As part of this EA, we request your assistance in identifying potential areas of environmental impact to be assessed in the study.

The USAF invites government agency representatives and private citizens to participate in the environmental process and requests your input regarding any information you feel would assist us in this process. The environmental issues analyzed in the EA will be used in the decision-making process by the USAF for determining appropriate actions to be taken during construction activities. Input is requested within 30 days of receipt of this letter to ensure that the USAF has time to address any comments from interested parties.

Written comments should be addressed to Ms. Kristi Draney, 22 CES/CEIE, 57830 Pittsburg Street, Suite 120, McConnell AFB, KS 67221, by email to kristi.draney@us.af.mil, or by phone at (316) 759-3884 within 30 days of receipt of this letter.

Additionally, upon publication, a copy of Draft EA will be made available for review at the following locations:

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Wichita, KS 67211

Rockwell Branch Library
5939 E 9th St N
Wichita, KS 67208

Alford Branch Library
3447 S Meridian Ave
Wichita, KS 67217

McConnell Air Force Base Library
53476 Wichita Street, Building 412
McConnell AFB, KS 67221

JACOB D. LECK, Lt Col, USAF
Commander

2 Attachments
1. Location Map
2. Installation Development Projects

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From:	Pounds, Samantha [KDWPT]
To:	DRANEY, KRISTI L GS-12 USAF AMC 22 CES/CEIE
Subject:	[Non-DoD Source] KDWPT review, bridge and culvert replacements, Sedgwick County (Project# M02; Track# 20200226-10)
Date:	Tuesday, March 17, 2020 8:13:32 AM
Attachments:	image003.jpg

Dear Kristi Draney,

We have reviewed the information for the proposed bridge and culvert replacements basewide at McConnell AFB in Sedgwick County, KS. The project was reviewed for potential impacts on crucial wildlife habitats, current state-listed threatened and endangered species and species in need of conservation, and Kansas Department of Wildlife, Parks, and Tourism managed areas for which this agency has administrative authority.

We provide the following comments and general recommendations, when applicable:

- **We advocate span or bottomless type bridge designs (e.g., conservation culverts). Bury culverts a minimum of 12 inches.**
- **Avoid channel widening and streambank degradation during project construction.**
- **Streambank and streambed should be restored to a functioning stream system.**
- **Avoid placing riprap below the Ordinary High Water Mark.**
- **Avoid impacts to existing streams and rivers, adjacent riparian zones, wetlands, and native prairie and woodland areas.**
- **Minimize all bank or instream activity, particularly during general fish spawning season (March 1 – Aug. 31).**
- **All equipment should be thoroughly inspected and cleaned of mud, plant material, or other debris and cleaned with pressurized hot water or allowed to dry for 5 days prior to contacting any other Waters of the U.S. to prevent transporting invasive species.**
- **Incorporate principles of low impact development (LID), such as permeable asphalt pavement, porous concrete, swales, bioretention, or raingardens. More info. on LID: http://www.epa.gov/owow/NPS/lid/**
- **Implement and maintain standard erosion-control Best-Management-Practices during all aspects of construction by installing sediment barriers (wattles, filter logs, rock ditch checks, mulching, or any combination of these) across the entire construction area to prevent sediment and spoil from entering aquatic systems. Barriers should be maintained at high functioning capacity until construction is completed and vegetation is established. For more information, go to: http://www.kdheks.gov/stormwater/#construct**
- **Reseed disturbed areas with native warm-season grasses, forbs, and trees.**

Results of our review indicate there will be no significant impacts to crucial wildlife habitats; therefore, no special mitigation measures are recommended. The project will not impact any

public recreational areas, nor could we document any potential impacts to currently-listed threatened or endangered species or species in need of conservation. No Department of Wildlife, Parks, and Tourism permits or special authorizations will be needed if construction is started within one year, and no design changes are made in the project plans. Permits may still be required from other agencies, and we recommend consultation with all other applicable regulatory authorities.

Since the Department's recreational land obligations and the State's species listings periodically change, if construction has not started within one year of this date, or if design changes are made in the project plans, the project sponsor must contact this office to verify continued applicability of this assessment report. For our purposes, we consider construction started when advertisements for bids are distributed.

Please consider this email our official review for this project. Thank you for the opportunity to provide these comments and recommendations. Please let me know if you have any questions or concerns about the preceding information.

Please direct all review materials electronically to kdwpt.ess@ks.gov to streamline the review process for all parties.

Samantha Pounds
Ecologist, Ecological Services Section
Kansas Dept. of Wildlife, Parks, and Tourism
Pratt, KS 67124
Office: (620)672-0792
Cell: (620)388-6061
samantha.pounds@ks.gov

Norman, Tia

From: Pounds, Samantha [KDWPT] <Samantha.Pounds@KS.GOV>
Sent: Monday, March 16, 2020 6:08 PM
To: DRANEY, KRISTI L GS-12 USAF AMC 22 CES/CEIE
Subject: [Non-DoD Source] KDWPT review, construction and demolition of buildings, Sedgwick County (Project# C02, C03, C04, F01, F02; Track# 20200226-2, -3, -4, -5, -6)

Dear Kristi Draney,

We have reviewed the information for the proposed construction of Consolidated Support Center and New Base Civil Engineering Complex, and the demolition of Buildings 750, 732, 810, Hangar 1166, and Aboveground Storage Tank 30003 at McConnell AFB in Sedgwick County, KS. The project was reviewed for potential impacts on crucial wildlife habitats, current state-listed threatened and endangered species and species in need of conservation, and Kansas Department of Wildlife, Parks, and Tourism managed areas for which this agency has administrative authority.

We provide the following comments and general recommendations, when applicable:

- **Avoid impacts to existing streams and rivers, adjacent riparian zones, wetlands, and native prairie and woodland areas.**
- **Minimize all bank or instream activity, particularly during general fish spawning season (March 1 – Aug. 31).**
- **Incorporate principles of low impact development (LID), such as permeable asphalt pavement, porous concrete, swales, bioretention, or raingardens. More info. on LID:** http://www.epa.gov/owow/NPS/lid/
- **Implement and maintain standard erosion-control Best-Management-Practices during all aspects of construction by installing sediment barriers (wattles, filter logs, rock ditch checks, mulching, or any combination of these) across the entire construction area to prevent sediment and spoil from entering aquatic systems. Barriers should be maintained at high functioning capacity until construction is completed and vegetation is established. For more information, go to:** http://www.kdheks.gov/stormwater/#construct
- **Reseed disturbed areas with native warm-season grasses, forbs, and trees.**

Results of our review indicate there will be no significant impacts to crucial wildlife habitats; therefore, no special mitigation measures are recommended. The project will not impact any public recreational areas, nor could we document any potential impacts to currently-listed threatened or endangered species or species in need of conservation. No Department of Wildlife, Parks, and Tourism permits or special authorizations will be needed if construction is started within one year, and no design changes are made in the project plans. Permits may still be required from other agencies, and we recommend consultation with all other applicable regulatory authorities.

Since the Department's recreational land obligations and the State's species listings periodically change, if construction has not started within one year of this date, or if design changes are made in the project plans, the

project sponsor must contact this office to verify continued applicability of this assessment report. For our purposes, we consider construction started when advertisements for bids are distributed.

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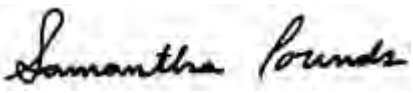

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Cell: (620)388-6061
samantha.pounds@ks.gov

Norman, Tia

From: Pounds, Samantha [KDWPT] <Samantha.Pounds@KS.GOV>
Sent: Tuesday, March 17, 2020 10:04 AM
To: DRANEY, KRISTI L GS-12 USAF AMC 22 CES/CEIE
Subject: [Non-DoD Source] KDWPT review, Kruger Recreation Area Running Trail and the addition of Fam Camp facilities, Sedgwick County (Project# OR01, OR02; Track# 20200226-7, -8)

Dear Kristi Draney,

We have reviewed the information for the proposed construction of Kruger Recreation Area Running Trail and the addition of Fam Camp facilities at McConnell AFB in Sedgwick County, KS. The project was reviewed for potential impacts on crucial wildlife habitats, current state-listed threatened and endangered species and species in need of conservation, and Kansas Department of Wildlife, Parks, and Tourism managed areas for which this agency has administrative authority.

We provide the following comments and general recommendations, when applicable:

- **Avoid impacts to existing streams and rivers, adjacent riparian zones, wetlands, and native prairie and woodland areas.**
- **Minimize all bank or instream activity, particularly during general fish spawning season (March 1 – Aug. 31).**
- **Incorporate principles of low impact development (LID), such as permeable asphalt pavement, porous concrete, swales, bioretention, or raingardens. More info. on LID:** http://www.epa.gov/owow/NPS/lid/
- **Implement and maintain standard erosion-control Best-Management-Practices during all aspects of construction by installing sediment barriers (wattles, filter logs, rock ditch checks, mulching, or any combination of these) across the entire construction area to prevent sediment and spoil from entering aquatic systems. Barriers should be maintained at high functioning capacity until construction is completed and vegetation is established. For more information, go to:** http://www.kdheks.gov/stormwater/#construct
- **Reseed disturbed areas with native warm-season grasses, forbs, and trees.**

Results of our review indicate there will be no significant impacts to crucial wildlife habitats; therefore, no special mitigation measures are recommended. The project will not impact any public recreational areas, nor could we document any potential impacts to currently-listed threatened or endangered species or species in need of conservation. No Department of Wildlife, Parks, and Tourism permits or special authorizations will be needed if construction is started within one year, and no design changes are made in the project plans. Permits may still be required from other agencies, and we recommend consultation with all other applicable regulatory authorities.

Since the Department's recreational land obligations and the State's species listings periodically change, if construction has not started within one year of this date, or if design changes are made in the project plans, the

project sponsor must contact this office to verify continued applicability of this assessment report. For our purposes, we consider construction started when advertisements for bids are distributed.

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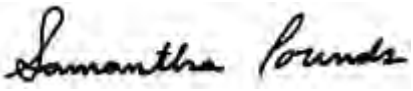

Samantha Pounds
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samantha.pounds@ks.gov

Norman, Tia

From: Pounds, Samantha [KDWPT] <Samantha.Pounds@KS.GOV>
Sent: Monday, March 16, 2020 5:59 PM
To: DRANEY, KRISTI L GS-12 USAF AMC 22 CES/CEIE
Subject: [Non-DoD Source] KDWPT review, Replace underground storage tanks, Sedgwick County (Project# C01; Track# 20200226)

Dear Kristi Draney,

We have reviewed the information for the proposed replacement of underground storage tanks with four above ground storage tanks at McConnell AFB in Sedgwick County, KS. The project was reviewed for potential impacts on crucial wildlife habitats, current state-listed threatened and endangered species and species in need of conservation, and Kansas Department of Wildlife, Parks, and Tourism managed areas for which this agency has administrative authority.

We provide the following comments and general recommendations, when applicable:

- **Follow all applicable Kansas Department of Health and Environment (KDHE) requirements and guidelines for storage tanks.**
- **Avoid impacts to existing streams and rivers, adjacent riparian zones, wetlands, and native prairie and woodland areas.**
- **Minimize all bank or instream activity, particularly during general fish spawning season (March 1 – Aug. 31).**
- **Incorporate principles of low impact development (LID), such as permeable asphalt pavement, porous concrete, swales, bioretention, or raingardens. More info. on LID:** http://www.epa.gov/owow/NPS/lid/
- **Implement and maintain standard erosion-control Best-Management-Practices during all aspects of construction by installing sediment barriers (wattles, filter logs, rock ditch checks, mulching, or any combination of these) across the entire construction area to prevent sediment and spoil from entering aquatic systems. Barriers should be maintained at high functioning capacity until construction is completed and vegetation is established. For more information, go to:** http://www.kdheks.gov/stormwater/#construct
- **Reseed disturbed areas with native warm-season grasses, forbs, and trees.**

Results of our review indicate there will be no significant impacts to crucial wildlife habitats; therefore, no special mitigation measures are recommended. The project will not impact any public recreational areas, nor could we document any potential impacts to currently-listed threatened or endangered species or species in need of conservation. No Department of Wildlife, Parks, and Tourism permits or special authorizations will be needed if construction is started within one year, and no design changes are made in the project plans. Permits may still be required from other agencies, and we recommend consultation with all other applicable regulatory authorities.

Since the Department's recreational land obligations and the State's species listings periodically change, if construction has not started within one year of this date, or if design changes are made in the project plans, the project sponsor must contact this office to verify continued applicability of this assessment report. For our purposes, we consider construction started when advertisements for bids are distributed.

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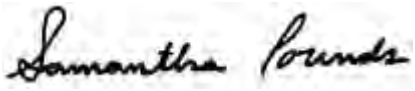

Samantha Pounds
Ecologist, Ecological Services Section
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DEPARTMENT OF THE AIR FORCE
22D CIVIL ENGINEER SQUADRON (AMC)
MCCONNELL AIR FORCE BASE KANSAS

FEB 19 2020

22d Civil Engineer Squadron
57830 Pittsburg Street, Suite 120
McConnell AFB, KS 67221

Joshua Tapp, NEPA Program Manager
U.S. Environmental Protection Agency, Region 7
Office of Intergovernmental Affairs
11201 Renner Boulevard
Lenexa, KS 66219

Dear Mr. Tapp,

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the installation development projects proposed at McConnell AFB in Wichita, Kansas (see **Attachment 1** – Location Map).

The Proposed Action involves eight (8) individual projects throughout three (3) planning districts throughout the installation. Two (2) additional projects have been identified which cover more than one (1) planning district, hereinafter referred to as "multi-district projects". The projects are principally related to space or mission optimization and/or consolidation, as well as restoration and repair of natural and infrastructural features. The table below lists all projects identified for the EA, and these projects are also depicted graphically on **Attachment 2**.

Project ID	Project Name	Description of Project
Core District		
C01	Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks	Replace existing underground motor gasoline storage tank #30021 (10,000-gallon capacity) and vehicular diesel underground tank #30020 (10,000-gallon capacity) with four (4) aboveground storage tanks providing equivalent capacity.
C02	Construct Consolidated Support Center	Construct a two-story building to provide a facility to consolidate and house a variety of Federal, USAF, Wing and Group agencies, whose missions and in/out-processing actions interface on a daily basis.
C03	Construct New Base Civil Engineering Complex	Construct singular complex to consolidate civil engineering maintenance, storage, facilities operations, equipment and administrative functions.
C04	Demolish Buildings 750, 732, and 810	Demolish obsolescent Buildings 750, 732 and 810, whose functionality will be replaced by Project C02 (Construct Consolidated Support Center). During a 2007 fire damage repair of Building 750, non-friable asbestos-containing floor tiles were removed, indicating a potential need for additional asbestos remediation in these buildings. Based on age, lead-based paint (LBP) remediation may also be required as part of demolishing these structures.

Project ID	Project Name	Description of Project
Flightline District		
F01	Demolish Hangar 1166	Demolish Hangar 1166 which is currently underutilized and no longer meets current mission requirements. In 2007, asbestos abatement was performed in the hangar's heating, ventilation and air conditioning systems, mechanical rooms and piping. Additional abatement, as well as potential LBP remediation due to building age, would need to be accomplished as part of the project.
F02	Demolish Aboveground Storage Tank 30003	Remove abandoned fuel tank #30003.
Outdoor Recreational District		
OR01	Construct Krueger Recreation Area Running Trail South of Fam Camp	Expand running trail (with rubberized surface) by at least one (1) mile to add a longer running/walking option to the existing amenities.
OR02	Construct New Fam Camp Addition	Provide additional recreational camping vehicle parking positions and hook-ups adjacent to existing Fam Camp facilities north of Russell Road.
Multi-District Projects		
M01	Stream Restoration	Restore over one (1) mile of streams basewide, by removing trash and vegetative debris caused by flash-flood washout events. Perform bank stabilization activities to combat stream bed erosion and sedimentation.
M02	Repair Multiple Culverts and Bridges Basewide	Demolish/rebuild existing bridges, pipes and concrete structures, and perform ditch widening where necessary, to reduce flooding and re-establish longer culvert lifespans across the installation.

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53476 Wichita Street, Building 412
McConnell AFB, KS 67221

JACOB D. LECK, Lt Col, USAF
Commander

2 Attachments
1. Location Map
2. Installation Development Projects

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From: Summerlin, Joe <summerlin.joe@epa.gov>
Sent: Thursday, March 12, 2020 11:11 AM
To: DRANEY, KRISTI L GS-12 USAF AMC 22 CES/CEIE
Cc: Tapp, Joshua <Tapp.Joshua@epa.gov>
Subject: [Non-DoD Source] McConnell AFB EA to evaluate installation development projects

Dear Ms. Draney:

Thank you for contacting the U.S. Environmental Protection Agency, Region 7 about the proposed environmental assessment concerning installation development projects that include:

- replacing underground storage tanks
- building construction
- building demolition
- aboveground storage tank demolition
- trail construction
- stream restoration
- culvert and bridge repair.

As you move forward to solicit comments from the public and jurisdictional agencies, EPA would like to provide you with some helpful comments that may enhance your project and provide insight for environmental considerations. From the scoping letter we received on February 19, 2020, it is clear that careful consideration for the abatement of asbestos and lead associated with the demolition of buildings is being planned. EPA has other recommendations to consider as follows:

DEMOLITION:
In light of the recent reports of possible exposure of hexavalent chromium to airmen (https://www.hppr.org/post/mcconnell-afb-reviewing-safety-procedures-after-personnel-exposed-cancer-causing-chemical), EPA recommends testing for the presence of hexavalent chromium or other OSHA regulated toxic and hazardous substances in compliance with OSHA regulations 1910.1026 and federal and state RCRA regulations for disposal if encountered in numbers above the PEL. EPA also recommends contacting Kansas Department of Health and Environment (KDHE) for RCRA compliance within the State of Kansas. This may or may not include removal of chemical fire retardant or deicing systems located within existing buildings that are marked for demolition.

UNDERGROUND STORAGE TANKS (UST):
As the Air Force moves forward with demolition of underground storage tanks, please contact KDHE South Central District to ensure permitting, compliance and demolition regulations are met.

STREAM RESTORATION:

For stream restoration that includes streambank stabilization and vegetative removal, please contact the U.S. Army Corps of Engineers for 404(b) permitting if activities will disturb one or more acres of wetlands.

NEPA CONSIDERATIONS:

This environmental assessment covers so many different types of projects that may have varying degrees of environmental impacts. It might be helpful for this project to be tiered under a programmatic environmental assessment that covers a generic assessment for these types of projects. Then the USAF can use tiering to categorically exclude projects in the case of culvert repair if applicable, or write an environmental impact statement in the case of demolition or construction projects where the need for a clean-up or remediation action is required. This would expedite those projects that have less than significant environmental impacts and allow for a more detailed analysis for those projects with considerably more impacts.

NHPA CONSIDERATIONS:

Please contact the Kansas State Historic Preservation Office to ensure compliance with the National Historic Preservation Act if any of the buildings have been placed on or are considered for inclusion on the National Registry.

Again, thank you for coordinating early with the USEPA. If you have any questions or concerns about any of the comments or have general questions concerning the NEPA process, please contact me at summerlin.joe@epa.gov or call me at (913) 551-7029.

Sincerely,

Joe Summerlin
NEPA Project Manager
Office of Intergovernmental Affairs/NEPA
EPA Region 7

Joe Summerlin
NEPA Project Manager
Office of Intergovernmental Affairs
EPA Region 7

DEPARTMENT OF THE AIR FORCE
22D CIVIL ENGINEER SQUADRON (AMC)
MCCONNELL AIR FORCE BASE KANSAS

FEB 19 2020

22d Civil Engineer Squadron
57830 Pittsburg Street, Suite 120
McConnell AFB, KS 67221

Mr. Jason Luginbill
Kansas Field Supervisor
U.S. Fish and Wildlife Service
2609 Anderson Avenue
Manhattan, KS 66502

Dear Mr. Luginbill,

The United States Air Force (USAF) is in the process of preparing an Environmental Assessment (EA) that evaluates the potential environmental impacts associated with the installation development projects proposed at McConnell Air Force Base (AFB) in Wichita, Kansas (see **Attachment 1** – Location Map).

Installation development is needed at McConnell AFB to address deficiencies of function and capability in the facilities and infrastructure at the installation 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 is required to allow the 22nd Air Refueling Wing and its tenant units to successfully complete their missions. The Proposed Action involves eight (8) individual projects throughout three (3) planning districts throughout the installation. Two (2) additional projects have been identified which cover more than one (1) planning district, hereinafter referred to as "multi-district projects". The projects are principally related to space or mission optimization and/or consolidation, as well as restoration and repair of natural and infrastructural features. The table below lists all projects identified for the EA, and these projects are also depicted graphically on **Attachment 2**.

Project ID	Project Name	Description of Project
Core District		
C01	Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks	Replace existing underground motor gasoline storage tank #30021 (10,000-gallon capacity) and vehicular diesel underground tank #30020 (10,000-gallon capacity) with four (4) aboveground storage tanks providing equivalent capacity.
C02	Construct Consolidated Support Center	Construct a two-story building to provide a facility to consolidate and house a variety of Federal, USAF, Wing and Group agencies, whose missions and in/out-processing actions interface on a daily basis.
C03	Construct New Base Civil Engineering Complex	Construct singular complex to consolidate civil engineering maintenance, storage, facilities operations, equipment and administrative functions.

Project ID	Project Name	Description of Project
C04	Demolish Buildings 750, 732, and 810	Demolish obsolescent Buildings 750, 732 and 810, whose functionality will be replaced by Project C02 (Construct Consolidated Support Center). During a 2007 fire damage repair of Building 750, non-friable asbestos-containing floor tiles were removed, indicating a potential need for additional asbestos remediation in these buildings. Based on age, lead-based paint (LBP) remediation may also be required as part of demolishing these structures.
Flightline District		
F01	Demolish Hangar 1166	Demolish Hangar 1166 which is currently underutilized and no longer meets current mission requirements. In 2007, asbestos abatement was performed in the hangar's heating, ventilation and air conditioning systems, mechanical rooms and piping. Additional abatement, as well as potential LBP remediation due to building age, would need to be accomplished as part of the project.
F02	Demolish Aboveground Storage Tank 30003	Remove abandoned fuel tank #30003.
Outdoor Recreational District		
OR01	Construct Krueger Recreation Area Running Trail South of Fam Camp	Expand running trail (with rubberized surface) by at least one (1) mile to add a longer running/walking option to the existing amenities.
OR02	Construct New Fam Camp Addition	Provide additional recreational camping vehicle parking positions and hook-ups adjacent to existing Fam Camp facilities north of Russell Road.
Multi-District Projects		
M01	Stream Restoration	Restore over one (1) mile of streams basewide, by removing trash and vegetative debris caused by flash-flood washout events. Perform bank stabilization activities to combat stream bed erosion and sedimentation.
M02	Repair Multiple Culverts and Bridges Basewide	Demolish/rebuild existing bridges, pipes and concrete structures, and perform ditch widening where necessary, to reduce flooding and re-establish longer culvert lifespans across the installation.

The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969, 42 United States Code (U.S.C.), the Council of Environmental Quality NEPA Regulations, 40 Code of Federal Regulations (CFR) Parts 1500-1508, 32 CFR 989, and USAF policy and procedures. As part of this EA, we request your assistance in identifying potential areas of environmental impact to be assessed in the study.

Based on information included in the 2018 McConnell AFB Integrated Natural Resource Management Plan (INRMP), no federally threatened and/or endangered listed species have been observed or are known to occur on McConnell AFB and no critical habitat has been established on McConnell AFB. Pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531 et seq.), a list of threatened and endangered species that may occur within the study area was obtained from the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) tool (Consultation Code: 06E21000-2019-SLI-0424) on September 17, 2019 provided in **Attachment 3**. All applicable permits will be obtained, as deemed necessary, prior to implementation of the proposed projects.

McConnell AFB is considered by the USFWS to be within the white-nose zone (WNS) for the northern long-eared bat. For areas considered to be affected by WNS, incidental take is prohibited under the following circumstances:

- If it occurs within a hibernaculum.
- If it results from tree removal activities and
  - the activity occurs within 0.25 mile of a known hibernaculum; or,
  - the activity cuts or destroys a known, occupied maternity roost tree or other trees within a 150-foot radius from the maternity roost tree during the pup season from June 1 through July 31 (USFWS, 2019e).

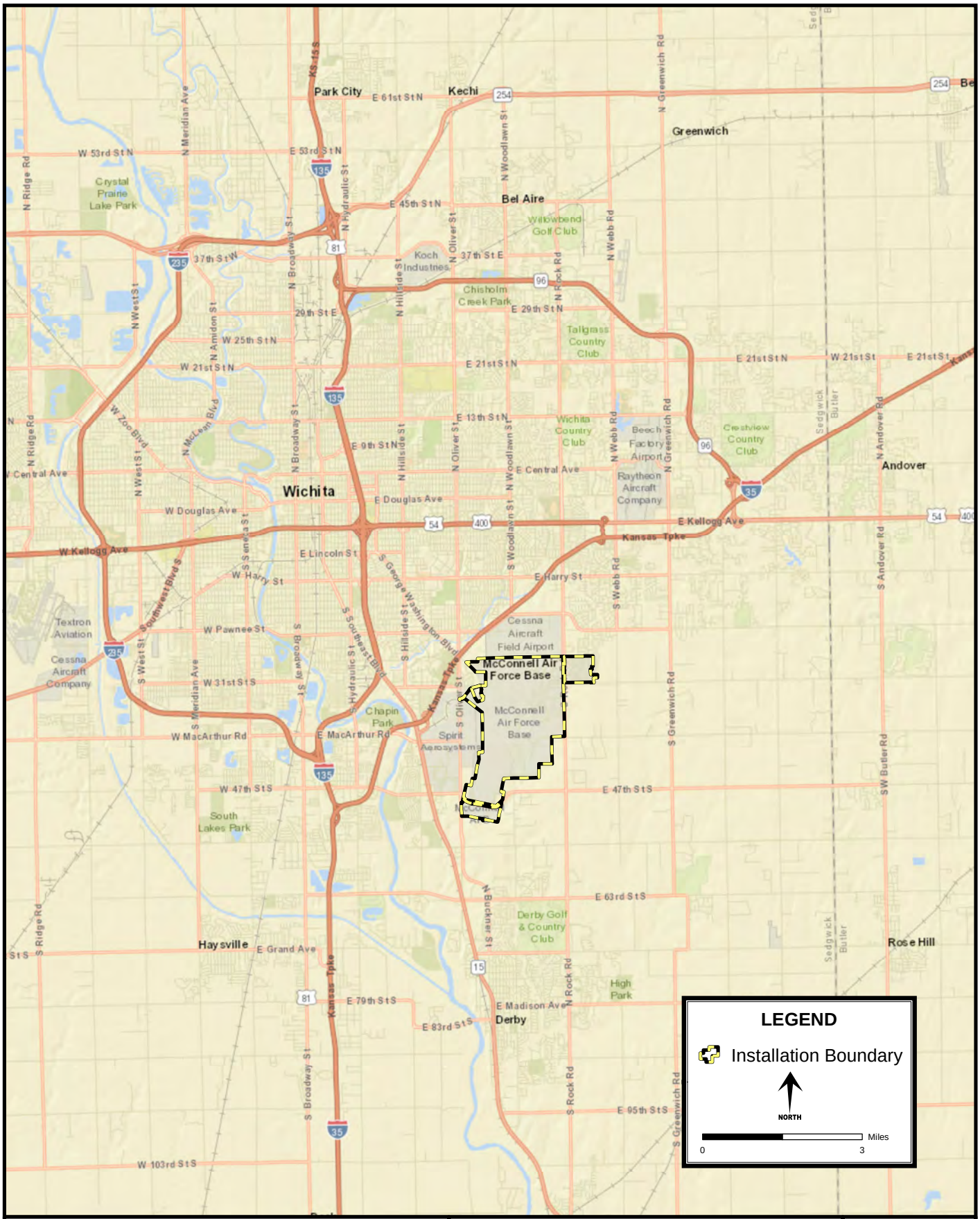
Tree removal activities are not anticipated as part of the Proposed Actions. In addition, the northern long-eared bats also on rare occation roost in human-made structures including buildings, barns, pavilions, sheds and cabins. However, the removal of northern long-eared bats from these structures is considered to not adversely affect the species' conservation or recovery.

The USAF invites government agency representatives and private citizens to participate in the environmental process and requests your input regarding any information you feel would assist us in this process. The environmental issues analyzed in the EA will be used in the decision-making process by the USAF for determining appropriate actions to be taken during construction activities. Input is requested within 30 days of receipt of this letter to ensure that the USAF has time to address any comments from interested parties.

Please direct any questions to Mr. David Pettus, McConnell AFB Natural Resources Manager, via email at david.pettus@us.af.mil, or via telephone at (316) 759-4446; or Ms. Kristi Draney, Environmental Chief, at kristi.draney@us.af.mil or (316) 759-3884. Written comments should be addressed to Mr. David Pettus, 22 CES/CEIEC, 57830 Pittsburg Street, Suite 120, McConnell AFB, KS 67221.

JACOB D. LECK, Lt Col, USAF
Commander

3 Attachments
1. Location Map
2. Installation Development Projects
3. USFWS IPaC List of Federally Listed Species Potentially Occurring on McConnell AFB



McConnell Air Force Base, Wichita, KS

INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

Location Map

Figure 1.1-1

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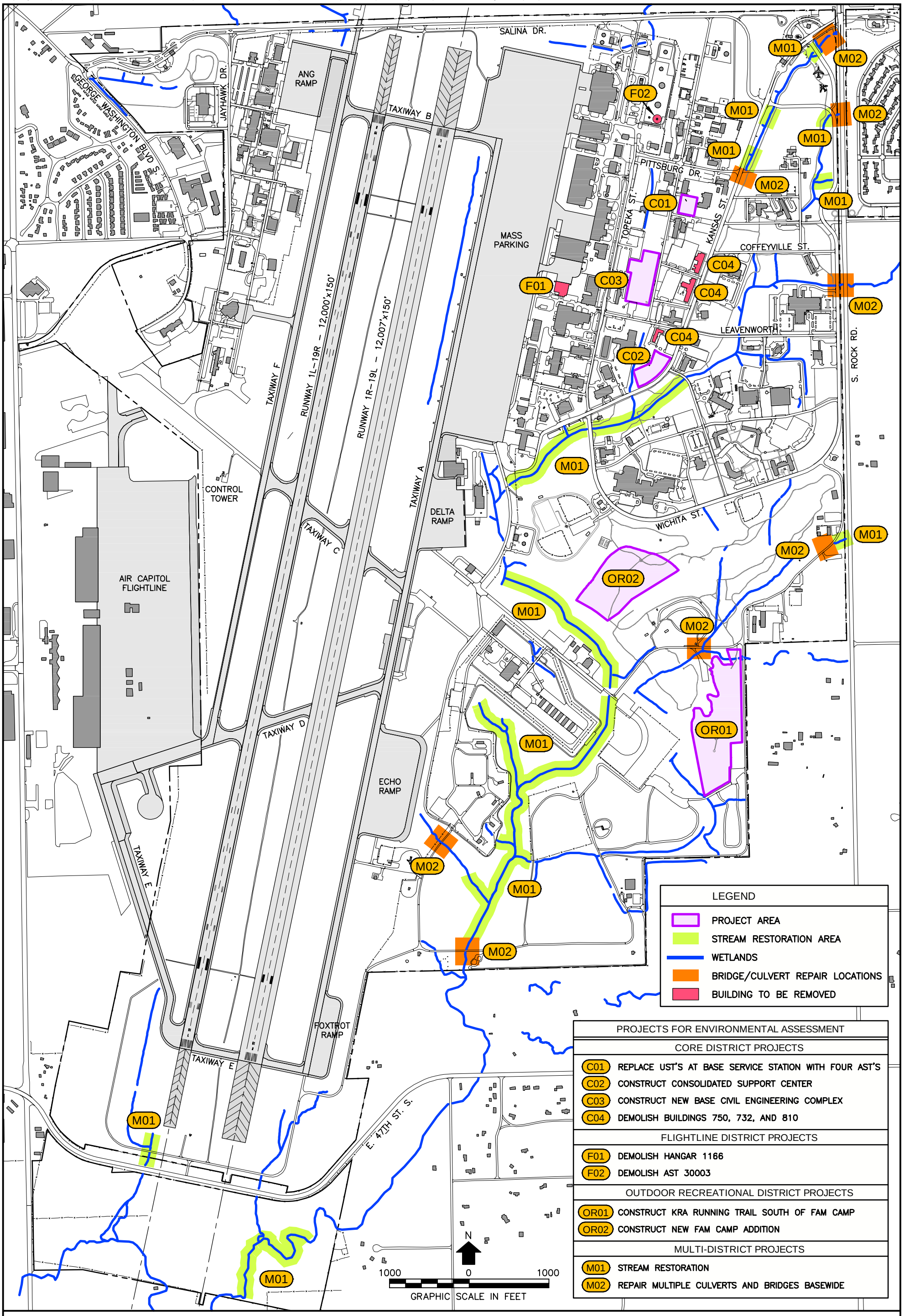

FIGURE 1.4-1

INSTALLATION DEVELOPMENT PROJECTS

McConnell Air Force Base, Wichita KS
INSTALLATION DEVELOPMENT PLAN
ENVIRONMENTAL ASSESSMENT

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
Phone: (785) 539-3474 Fax: (785) 539-8567

In Reply Refer To:
Consultation Code: 06E21000-2019-SLI-0424
Event Code: 06E21000-2020-E-00914
Project Name: MAFB IDEA

January 30, 2020

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*)(https://www.fws.gov/birds/management/managed-species/eagle-management.php), and wind projects affecting these species may require development of an eagle conservation plan (https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf). Additionally, wind energy projects should follow the wind energy guidelines (https://www.fws.gov/ecological-services/energy-development/wind.html) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: https://www.fws.gov/birds/management/project-assessment-tools-and-guidance.php

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
(785) 539-3474

Project Summary

Consultation Code: 06E21000-2019-SLI-0424

Event Code: 06E21000-2020-E-00914

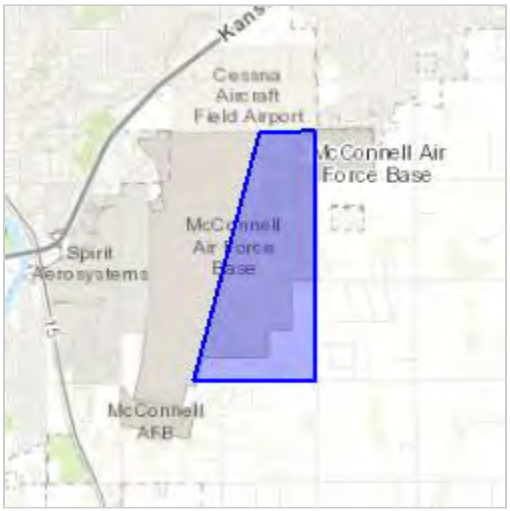
Project Name: MAFB IDEA

Project Type: ** OTHER **

Project Description: Environmental Assessment for multiple development projects on base.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.62427589726144N97.25278522271626W



Counties: Sedgwick, KS

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Least Tern *Sterna antillarum* Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Jul 31
Harris's Sparrow *Zonotrichia querula* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

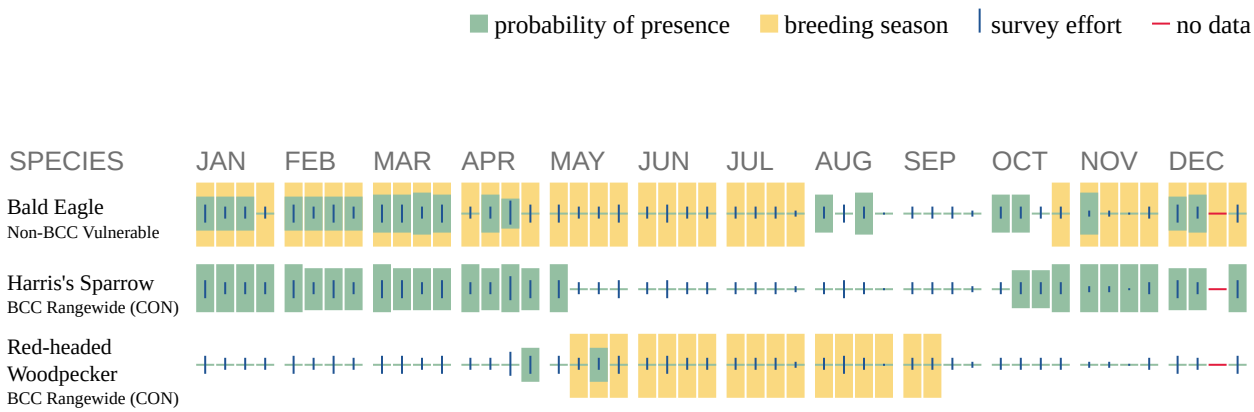
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding

in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In

contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1C
- PEM1Cx
- PEM1Fh

FRESHWATER FORESTED/SHRUB WETLAND

- PFOA
- PFOAh
- PSSA

FRESHWATER POND

- PABFh
- PABFx

RIVERINE

- R4SBC
- R4SBCx
- R5UBH

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
2609 Anderson Ave
Manhattan, Kansas 66502

In Reply Refer to:
FWS/IR05/IR07

March 27, 2020

David Pettus
22d Civil Engineer Squadron
57830 Pittsburg Street, Suite 120
McConnell AFB, KS 67221

RE: McConnell AFB IDEA FWS Tracking # 2020-CPA-0190

Dear. Mr. Pettus:

This communication is in response to the attached letter received February 28, 2020 requesting review and comments on the McConnell Air Force Base Installation Development Plan projects to occur in Sedgwick County, Kansas.

For the northern long-eared bat, you have stated that tree removal activities are not anticipated. We concur that your project actions are not likely to adversely affect the northern long-eared bat except in the instance of removing a northern long-eared bat from a structure. We ask that you contact Michele McNulty in this office at 785-539-3474 Ext. 106 in the event you need to remove a northern long-eared bat from a structure.

We recommend disturbance to any riparian habitat be mitigated by revegetation of the disturbed area with native plants as soon as possible following construction. If any native upland habitat is disturbed, we recommend revegetation with native, perennial, warm season grasses post construction to prevent the succession of undesirable invasive plants.

Due to the prevalence of invasive species and associated damage to native ecosystems and habitat, we recommend adhering to strict measures to prevent their spread and introduction as a result of this project. Thoroughly washing and removing excess dirt, seeds, and plant parts prior to transporting equipment can help prevent the spread of both aquatic and terrestrial invasive plant species.

No further coordination with the Service is required pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*.) for this project. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered.

Thank you for the opportunity to comment on this project and please accept this letter as our formal response. If you any further questions, please contact Laura Mendenhall in this office (785) 539-3474 Ext. 110.

Sincerely,

LAURA MENDENHALL

Digitally signed by LAURA MENDENHALL
Date: 2020.03.27 12:07:06 -05'00'

FOR:
Jason Luginbill
Project Leader
Kansas Ecological Services Field Office

The Wichita Eagle
Kansas.com
330 N Mead St | Wichita, KS 67202 | 316-268-6000

LEGAL PROOF OF PUBLICATION

Account #	Ad Number	Identification	PO	Amount	Cols	Lines
749112	0004581928	To: All Interested Agencies, Groups, and Individua	Legal Notice	$894.52	1	78

Attention: Sam Hartsfield

AECOM
111 SW COLUMBIA ST, SUITE 1500
PORTLAND, OR 97201

To: All Interested Agencies, Groups, and Individuals
The U.S. Air Force (USAF) is proposing installation development at McConnell Air Force Base, Sedgwick County, Kansas, to address function and capability deficiencies of existing facilities and infrastructure. These activities are referred to as the Proposed Action. The purpose of the Proposed Action is to enable and support the mission of the 22nd Air Refueling Wing and tenant units by addressing current installation deficiencies resulting from obsolescence, deterioration, and evolving mission needs. The Proposed Action would include replacing existing outdated vehicle fuel underground storage tanks with modern above ground storage tanks of the same capacity;
constructing new building space to consolidate and house a variety of on-base interrelated agencies, groups, departments, and functions; demolishing approximately 96,646 sq. ft. of obsolete 1950s era semi-permanent buildings; demolishing 26,390 sq. ft. of underutilized hangar space that no longer meets mission needs; removing an abandoned fuel tank; expanding on-base recreational facilities; restoring over one mile of streams and associated buffers installation-wide; and
demolishing/rebuilding existing bridges, pipes, and culverts to reduce flooding and extend infrastructure lifespans.
The Proposed Action would include construction activities adjacent to or within a small portion of the 100-year floodplain, as well as wetlands inside the existing footprint of the installation. Impacts to the floodplain and wetlands would be minimized through design and construction best practices.
This notice is required by Section 2(a)(4) of Executive Order (EO) 11988, Floodplain Management, and by Section 2(b) of EO 11990, Protection of Wetlands, and will be prepared and made available to the public by the USAF in accordance with Title 32, Code of Federal Regulations (CFR), Part 989.24(c) and Air Force Instruction 32-7064.
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 analyze the potential environmental impacts of the Proposed Action. The USAF will contact Federal, state and local regulatory agencies for their input on the Proposed Action during the preparation of the Preliminary Draft EA as part of the NEPA review process. Pursuant to EO 11988, Section 2(a)(4) and 32 CFR Part 14(1), the USAF is requesting public comments on the proposed projects to determine if there are any concerns regarding the projects listed in the EA and their potential environmental impacts and is soliciting input or comments on potential project alternatives. The full Draft EA will be available for public review upon completion. Please provide written comments to
Ms. Kristi Draney, Environmental Chief, 22 CES/CEIE, 57830 Pittsburg Street, Suite 120, McConnell AFB, KS 67221. Written comments will be accepted for 30 days from this publication notice.

In The STATE OF KANSAS
In and for the County of Sedgwick
AFFIDAVIT OF PUBLICATION

2 Insertions

Beginning issue of: 03/01/2020

Ending issue of: 03/02/2020

STATE OF KANSAS)
.SS
County of Sedgwick)

Tony Berg, of lawful age, being first duly sworn, deposeth and saith: That he is Record Clerk of The Wichita Eagle, a daily newspaper published in the City of Wichita, County of Sedgwick, State of Kansas, and having a general paid circulation on a daily basis in said County, which said newspaper has been continuously and uninterruptedly published in said County for more than one year prior to the first publication of the notice hereinafter mentioned, and which said newspaper has been entered as second class mail matter at the United States Post Office in Wichita, Kansas, and which said newspaper is not a trade, religious or fraternal publication and that a notice of a true copy is hereto attached was published in the regular and entire Morning issue of said The Wichita Eagle from **3/1/2020** to **03/02/2020**.

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

(Signature of Principal Clerk)
DATED: 3/2/2020

Notary Public Sedgwick County, Kansas

JENNIFER RAE BAILEY
Notary Public - State of Kansas
My Appt. Expires 6/14/2021

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APPENDIX B Record of Air Analysis and ACAM Detailed Reports

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

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

a. Action Location:

Base: MCCONNELL AFB
State: Kansas
County(s): Sedgwick
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Installation Development at McConnell Air Force Base, Kansas

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2021

e. Action Description:

C01 - Replace Underground Storage Tanks at Base Service Station with Four Aboveground Storage Tanks: Replace existing underground motor gasoline storage tank #30021 (10,000-gallon capacity) and vehicular diesel underground tank #30020 (10,000-gallon capacity) with four (4)aboveground storage tanks providing equivalent capacity.

C02 - Construct Consolidated Support Center: a two-story building to provide a facility to consolidate and house a variety of Federal, Air Force, Wing and Group agencies, whose missions and in/out-processing actions interface on a daily basis.

C03 - Construct New Base Civil Engineering Complex: Construct singular complex to consolidate civil engineering maintenance, storage, facilities operations, equipment and administrative functions.

C04 - Demolish Buildings 750, 732 and 810: Demolish obsolescent Buildings 750, 732 and 810 whose functionality will be replaced by Project C02 (Construct Consolidated Support Center). May include asbestos and lead paint remediation.

F01 - Demolish Hangar 1166: Demolish Hangar 1166 which is currently underutilized and no longer meets current mission requirements. Will include asbestos and lead paint remediation.

F02 - Demolish Aboveground Storage Tank 30003: Remove abandoned fuel tank #30003.

OR01 - Construct Kruger Recreation Area Running Trail South of Fam Camp: Expand existing running trail (with rubberized surface) by at least one (1) mile to add a longer running/walking option to the existing amenities.

OR02 - Construct New Fam Camp Addition: Provide additional recreational camping vehicle parking positions and hook-ups adjacent to existing Fam Camp facilities north of Russell Road.

M01 - Stream Restoration: Restore over one (1) mile of streams basewide, by removing trash and vegetative debris caused by flash-flood washout events. Perform bank stabilization activities to combat stream bed erosion and sedimentation.

M02 - Repair Multiple Culverts and Bridges Basewide: Demolish/rebuild existing bridges, pipes and concrete structures, and perform ditch widening where necessary, to reduce flooding and reestablish longer culvert lifespans across the installation.

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

f. Point of Contact:

Name:	Paul Sanford
Title:	Aviation Environmental Planner
Organization:	AECOM
Email:	paul.sanford@aecom.com
Phone Number:	813-675-6843

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

_____ applicable
__X__ not applicable

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

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

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

Analysis Summary:

2021

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.214	100	No
NOx	1.410	100	No
CO	1.245	100	No
SOx	0.003	100	No
PM 10	7.668	100	No
PM 2.5	0.061	100	No
Pb	0.000	25	No
NH3	0.001	100	No
CO2e	316.5		

2022

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.018	100	No
NOx	0.157	100	No

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

CO	0.126	100	No
SOx	0.000	100	No
PM 10	0.148	100	No
PM 2.5	0.007	100	No
Pb	0.000	25	No
NH3	0.000	100	No
CO2e	35.2		

2023

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	3.648	100	No
NOx	3.582	100	No
CO	3.417	100	No
SOx	0.009	100	No
PM 10	1.943	100	No
PM 2.5	0.154	100	No
Pb	0.000	25	No
NH3	0.006	100	No
CO2e	867.7		

2024

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.151	100	No
NOx	1.402	100	No
CO	1.169	100	No
SOx	0.018	100	No
PM 10	0.113	100	No
PM 2.5	0.113	100	No
Pb	0.000	25	No
NH3	0.000	100	No
CO2e	1636.8		

2025 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.151	100	No
NOx	1.402	100	No
CO	1.169	100	No
SOx	0.018	100	No
PM 10	0.113	100	No
PM 2.5	0.113	100	No
Pb	0.000	25	No
NH3	0.000	100	No
CO2e	1636.8		

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

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

7/23/2020

Paul Sanford, Aviation Environmental Planner — DATE

APPENDIX C Reasonably Foreseeable Actions Included in Cumulative Impacts Analysis

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PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS ON MCCONNELL AIR FORCE BASE (AFB) AND OFF-INSTALLATION WITHIN THE REGION OF INFLUENCE (ROI)

Proponent/Location	Action	Description	Timeframe	Resource Interaction
Military Actions				
McConnell AFB/Core District	Construct a Combat Arms Training and Maintenance (CATM) facility	As indicated by title.	Present	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Flightline District	Project # To be determined (TBD)	Renovate combined Maintenance Operations Center and Command Post (Building 1170).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Renovate Air Force Office of Special Investigations (Building 522) (relocating from Building 750).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Flightline District	Project # TBD	Renovate KC-46 Aerospace Ground Equipment maintenance facility (Building 1176).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Flightline District	Project # TBD	Renovate Aircraft Maintenance Units (Building 1107) and KC-46 consolidated tool kits.	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Repair dormitory (Building 350) walls.	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Renovate Dole Center (Building 412) for one-stop customer service center.	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Repair Child Development Center (Building 337) roof; heating, ventilation, and air conditioning (HVAC); and interior finishes.	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste

Proponent/Location	Action	Description	Timeframe	Resource Interaction
				Management; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Flightline District	Project # TBD	Renovate TI Operation Support Squadron (Building 1186) and KC-46 air flight equipment facility (Building 1185).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Renovate restrooms and modernize administrative space in Airman and Family Readiness Center (Building 732).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Repair HVAC and bathrooms in Air Capital Inn (Building 196).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Multiple Districts	Project # TBD	Repair or replace six roofs: Buildings 51, 415, 1092, 1094, 1176 (Group 1).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Flightline District	Project # TBD	Repair HVAC, flooring, windows, and personnel doors at Main Fire Station (Building 1200).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Flightline District	Project # TBD	Prepare Building 1171 and surrounding pavements for use by Logistics Readiness Squadron cargo deployment.	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Construct addition to Civil Engineering Utilities Shop (Building 670).	Future	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Repair Hobby Shop (Building 424).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste

Proponent/Location	Action	Description	Timeframe	Resource Interaction
				Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Flightline District	Project # TBD	Add additional maintenance bay to Building 952.	Future	Air Quality; Noise; Biological and Natural Resources; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Multiple Districts	Project # TBD	Repair 20 degraded roofs (Group 2).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/National Guard District	Project # TBD	Structural repairs to historic hangar (Building 9) including floor, rafters, joists.	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Expand existing airfield pavements and displays.	Future	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Multiple Districts	Project # TBD	Complete a multi-use path around the base via the south end of the installation.	Future	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Airfield	Project # TBD	Repair airfield pavements at Building 1107.	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.

Proponent/Location	Action	Description	Timeframe	Resource Interaction
McConnell AFB/Airfield	Project # TBD	Repair east portion of Runway 01R/19L.	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Airfield	Project # TBD	Upgrade Taxiway D shoulder for KC-46 turning radius.	Future	Air Quality; Noise; Biological and Natural Resources; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Munitions District	Project # TBD	Construct secure hold parking pad.	Future	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Multiple Districts	Project # TBD	Repair degraded road and parking lot pavements (Group 1).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Multiple Districts	Project # TBD	Repair multiple culverts and bridges basewide.	Future	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Multiple Districts	Project # TBD	Design/repair degraded road and parking lot pavements (Group 2).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Multiple Districts	Project # TBD	Convert interior lighting to LED in 50+ facilities.	Future	Hazardous Materials and Hazardous Waste Management; Infrastructure and

Proponent/Location	Action	Description	Timeframe	Resource Interaction
				Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Multiple Districts	Project # TBD	Design and modernize HVAC monitoring controls in 60 facilities.	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Repair air handling units at the Dole Center (Building 412).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Flightline District	Project # TBD	Demolish Wing Operations Center (Buildings 1108 and 1111).	Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
McConnell AFB/Core District	Project # TBD	Construct 96-bed dormitory to meet projected bed deficit.	Future	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
State, County, and Local Actions				
City of Wichita	INT-19-03	Provide left turn lanes on all approaches, bike, and pedestrian facilities, and upgrade traffic signals at the intersection of Mount Vernon Street and Hillside Street.	Past, Present	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
City of Wichita	R-19-09	Reconstruct existing two-lane asphalt mat street with a three to five-lane street on Pawnee Street from Webb Road to Greenwich Road. Final lane configuration will be determined as initial concepts are developed and traffic data has been updated from the	Past, Present, Future	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth

Proponent/Location	Action	Description	Timeframe	Resource Interaction
		recent construction/opening of Southeast High School. The project will include drainage improvements, minimum of a six-inch sidewalks on each side of Pawnee Street, and a bicycle facility to connect existing paths along Greenwich Road and Pawnee Street.		Resources; Safety and Occupational Health; Socioeconomics.
City of Wichita, City of Haysville	South Wichita Haysville Area Plan	The South Wichita/Haysville Area Plan was published on November 30, 2001 and set long-term development, zoning, and growth planning goals and strategies for the area. Specific priorities identified within the ROI include reconstructing the 47th Street and Interstate 135 (I-135) interchange; widening 47th Street from Meridian Avenue to the Arkansas River; improving neighborhood drainage; reconstructing residential streets in various neighborhoods; and developing the "regional" commercial center southwest of the 47th Street and I-135 interchange.	Past, Present, Future	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics and Environmental Justice.
Kansas Department of Transportation (KDOT)	ITS-18-04	Install dual Dynamic Message Signs at Kansas 96 (K-96) and the Redbud Trail and on U.S.-54 east of 143rd Street East.	Past	Air Quality; Noise; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
KDOT	R-11-005	Expand Kellogg Road to a six-lane freeway. Improvements at the intersection of East Kellogg and South Webb Roads include a new intersection design, new overpass, new auxiliary lanes, new sidewalks, expanded highway entrance/exit roadways, and reconstructed pavements.	Past, Present	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.
KDOT	R-17-07	Expand Kellogg Road to a six-lane freeway, grade separate Kellogg Road and Greenwich Road as well as Kellogg Road and Zelta Street with new ramp connections to the Kansas Turnpike Authority (KTA).	Past	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Earth Resources; Safety and Occupational Health; Socioeconomics.

Proponent/Location	Action	Description	Timeframe	Resource Interaction
KDOT	R-17-09	Surfacing on U.S.-81 from the Sumner/Sedgwick County line north approximately six miles.	Present	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
KDOT	R-19-01	Surfacing on I-135 from the south end route at KTA north to the south end of the Pawnee Street overpass.	Present	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
KDOT	B-19-03	Replace strip seals, concrete surface repair, substrate waterproofing at hinges, and patch deck. Repair concrete surfaces and barrier on Bridge #012 on I-135, 0.02 mile north of K-15.	Present	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
KDOT	S-19-04	I-135 guardrail upgrades from the KTA north to the south end of Pawnee Street overpass.	Present, Future	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
Sedgwick County Public Works	R175-A	Asphalt surface recycling and paving on various county roads within the ROI.	Present	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
Sedgwick County Public Works	R175-B	NovaChip overlays and pavement marking on select county roads.	Present	Air Quality; Noise; Hazardous Materials and Hazardous Waste Management; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
Sedgwick County Public Works	R345	Includes grading, concrete sidewalk, traffic signal modification, pavement marking, and landscaping approximately one mile northeast of McConnell AFB.	Present	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Land Use; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.

Proponent/Location	Action	Description	Timeframe	Resource Interaction
Sedgwick County Public Works	B478	30-40-30 reinforced concrete haunched slab (RCHS) bridge work, grading, asphalt surfacing, seeding, guardrail, and pavement marking on Pawnee Street at 143rd Street East.	Past	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Land Use; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
Sedgwick County Public Works	B479	30-40-30 RCHS bridge work, grading, asphalt surfacing, seeding, guardrail, and pavement marking on Pawnee Street at 159th Street East.	Past	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Land Use; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics.
Wichita-Sedgwick County	47th to 55th Street South Joint Area Plan 2008 - 2030	The 47th to 55th Street South Joint Area Plan established a tri-jurisdictional land use plan for this planning area from 2008 - 2030. The plan focuses on projected land use changes and projected population and employment growth in the study area. Specific projects are not identified. Of note, 500 to 1,000 additional dwelling units, 75 new retail and 200 new non-retail jobs are projected between 2008 and 2030. The plan also sets a framework for ensuring adequate infrastructure, transportation, and emergency service development within the study area over the course of this timeframe.	Past, Present, Future	Air Quality; Noise; Cultural Resources; Biological and Natural Resources; Water; Hazardous Materials and Hazardous Waste Management; Land Use; Infrastructure and Utilities; Safety and Occupational Health; Socioeconomics and Environmental Justice.

Sources: McConnell AFB, Kansas, 2019a; Wichita-Sedgwick County Metropolitan Area Planning Department, 2008; Sedgwick County Public Works, 2019; City of Wichita, 2001; WAMPO, 2019 .