FINAL
ENVIRONMENTAL ASSESSMENT
FOR
ELECTRICAL SUBSTATION REPLACEMENT
ALTUS AIR FORCE BASE, OKLAHOMA

Prepared for:

Department of the Army, Corps of Engineers
Tulsa District

Altus Air Force Base
97th Air Mobility Wing

January 2024

CONTENTS

FIGURES

TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

97 AMW	97th Air Mobility Wing
ACAM	Air Conformity Applicability Model
ACM	asbestos-containing material
AETC	Air Education and Training Command
AFB	Air Force Base
AFFF	aqueous film forming foam
AFI	Air Force Instruction
AFMAN	Air Force Manual
bgs	below ground surface
BMP	best management practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO2	carbon dioxide
CO2e	carbon dioxide equivalent
COA	Course of Action
CWA	Clean Water Act
DAFI	Department of Air Force Instruction
DEQ	Department of Environmental Quality
DoD	Department of Defense
DoDI	Department of Defense Instruction
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EO	Executive Order
EPP	Environmental Protection Plan
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
GCR	General Conformity Rule

GHG	greenhouse gas
HAP	hazardous air pollutant
HMW	hazardous materials and waste
ICRMP	Integrated Cultural Resources Management Plan
IICEP	Interagency/Intergovernmental Coordination for Environmental Planning
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Conservation
ITLO	Installation Tribal Liaison Officer
LID	low impact development
MS4	municipal separate storm sewer system
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO2	nitrous dioxide
NOA	Notice of Availability
NRHP	National Register of Historic Places
O3	ozone
OCR	oil circuit recloser
OCWCS	Oklahoma Comprehensive Wildlife Conservation Strategy
ODWC	Oklahoma Department of Wildlife Conservation
OK	Oklahoma
OPDES	Oklahoma Pollutant Discharge Elimination System
Pb	lead
PCB	polychlorinated biphenyl
PFAS	Per- and Polyfluoroalkyl substances
PM	particulate matter
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO2	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasure
SWPP	Stormwater Pollution Prevention Plan
TMDL	total maximum daily load
ug/m^3	micrograms per cubic meter

USAF	United States Air Force
UFC	United Facilities Criteria
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WFEC	Western Farmers Electrical Cooperative

1. PURPOSE OF AND NEED FOR ACTION

1.1 Introduction and Background

The Air Force Air Education and Training Command (AETC) and the 97th Air Mobility Wing (97 AMW) at Altus Air Force Base (AFB), Oklahoma have identified the requirement to replace the current electrical switching substation on Altus AFB. This Environmental Assessment (EA) evaluates the potential environmental impacts of this proposed project in compliance with the National Environmental Policy Act of 1969 (NEPA), 42 U.S. Code (U.S.C.) § 4331 et seq., 40 Code of Federal Regulations (CFR) Parts 1500-1508 implementing NEPA as set forth by the Council on Environmental Quality (CEQ), the United States Air Force (USAF) Environmental Impact Analysis Process (EIAP) regulations at 32 CFR Part 989, and Air Force Instruction (AFI) 32-1015, Integrated Installation Planning (Chapter 5, Environmental Impact Analysis Process).

Altus AFB is home to the 97 AMW and is assigned to the AETC. The 97 AMW's primary mission is to train mobility Airmen on the intricacies of operating multi-engine aircraft. Accordingly, the wing trains flight crews and aircraft maintenance students on airframes such as the C-17 Globemaster III, KC-135 Stratotanker, and KC-46 Pegasus. The 97 AMW trains up to 3,000 students each year.

1.2 Location

The Altus AFB main base encompasses approximately 4,090 acres in southwest Oklahoma (Figure 1), approximately 4 miles east-northeast of Altus, Oklahoma. Southwest Oklahoma is within the Great Plains region and consists of grassland and gently rolling hills. The area is characterized by a humid, subtropical to semi-arid climate. Summer is typically hot and dry while winter months are warm to cool but also dry. Most rainfall occurs in the spring when intense thunderstorms with strong winds are commonplace. Occasionally, weather conditions can spawn tornadoes, but such events are rare. The location of the Proposed Action is on 1st Street approximately 160 feet southeast of the roundabout that connects Falcon Road with 1st Street and L Avenue (Figure 2).

1.3 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to minimize impacts to the military mission caused by unscheduled power disruptions and outages. The Proposed Action would accomplish these objectives consistent with the goals and objectives set forth in the Air Force's *Installation Energy Strategic Plan* (2021) and Department of Air Force Instruction (DAFI) 90-1701, *Installation Energy and Water Management* (2020).

The Proposed Action is needed because electrical power disruptions, due to deficiencies in the design of the current substation, result in real risks to the Altus AFB mission. The existing substation, which was constructed in 1984, has exceeded its service life and does not meet current codes. Additionally, the open switching system exposes distribution and switch lines/wires to inclement weather and wildlife. These vulnerabilities have resulted in six installation-wide power outages in the last five years. These outages often require manual repair near live conductors, increasing health and safety risks for the involved electricians. Each unscheduled power disruption results in a delay in mission-critical training due to rescheduling of simulated sorties. These unscheduled outages also require the manual reset and monitoring of 157 facility heat, ventilation, and air conditioning units, and fire suppression and security alarm systems.

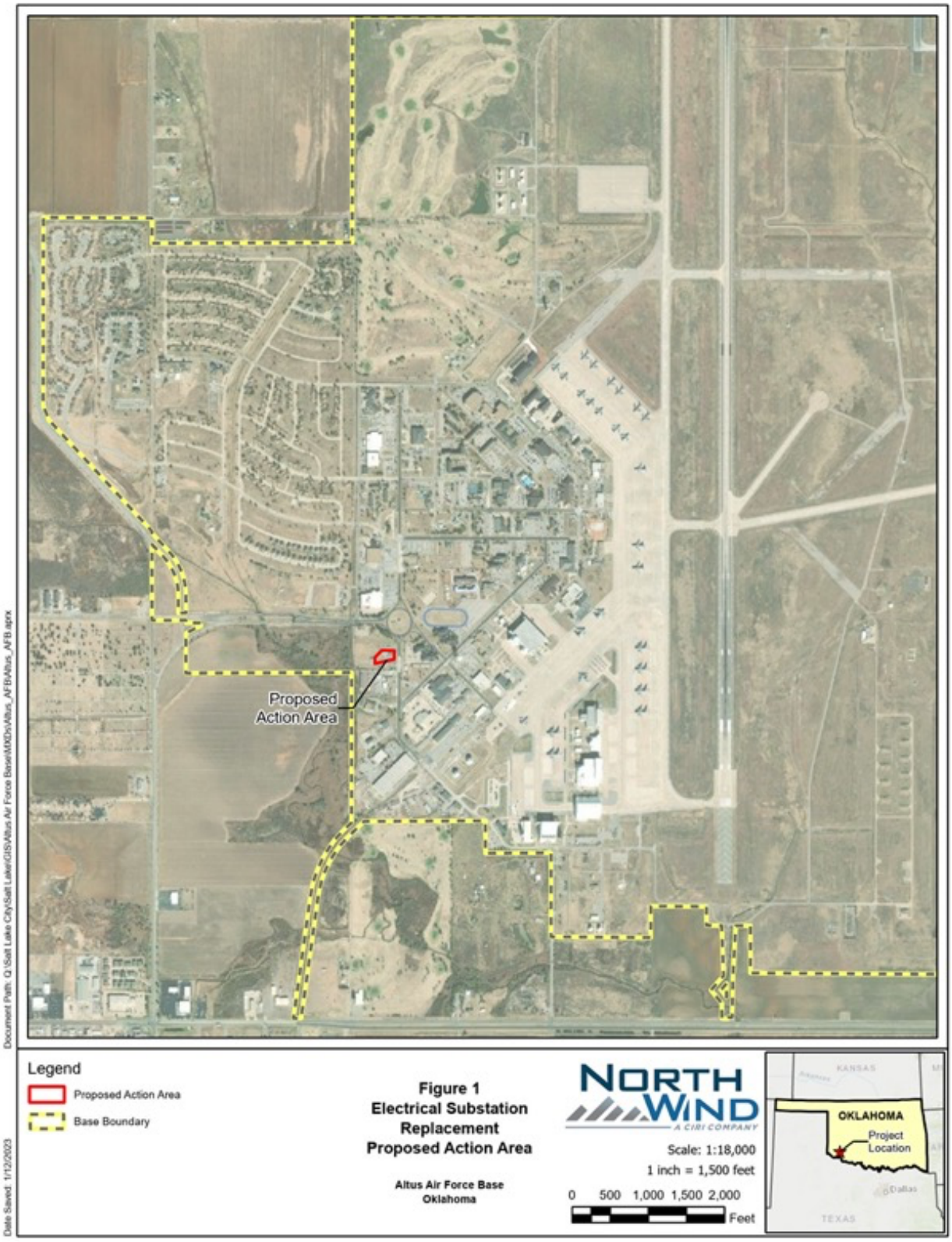


Figure 1. Location of Altus AFB and Proposed Action Area.

Figure 2. Detail of Proposed Action Area.

1.4 Interagency/Intergovernmental Coordination and Consultation

1.4.1 Interagency Coordination and Consultation

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 the Intergovernmental Cooperation Act of 1968, 42 U.S.C. § 4231, and Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, federal, state, and local agencies with jurisdiction that could be affected by the Proposed Action will be notified during the development of this EA as part of the Interagency/Intergovernmental Coordination for Environmental Planning (IICEP) process.

Appendix A contains a list of agencies that the USAF consulted or coordinated with during this analysis and copies of correspondence.

1.4.2 Government to Government Consultations

EO 13175, *Consultation and Coordination with Indian Tribal Governments*, directs federal agencies to coordinate and consult with Native American tribal governments whose interests may be affected by activities on federally administered lands. Consistent with that EO, Department of Defense Instruction (DoDI) 4710.02, *DoD Interactions with Federally Recognized Tribes*, and DAFI 90-2002, *Interactions with Federally Recognized Tribes*, federally recognized tribes that are historically affiliated with the Altus AFB geographic region are invited to consult on all proposed undertakings with the potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation or the IICEP process, and it requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The Altus AFB point-of-contact for Native American tribes is the wing commander, who is the designated Installation Tribal Liaison Officer (ITLO).

The Native American tribal governments consulted regarding these actions are listed in Appendix A.

1.4.3 Other Agency Consultations

In compliance with EO 12372, *Intergovernmental Review of Federal Programs*, federal, state, and local agencies with jurisdiction that could be affected by the Proposed Action were notified and consulted during the development of this EA. A list of the agencies coordinated or consulted with during the analysis is included in Appendix A.

1.5 Public and Agency Review of the EA

Because the Proposed Action area is within the 100-year floodplain, it is subject to the requirements and objectives of EO 11988, *Floodplain Management*. The USAF published an early notice that the Proposed Action would occur in a floodplain in the Altus Times newspaper on 26 May 2023 (Appendix A). The notice solicited public comment on the Proposed Action. The comment period for public and agency input ended on 25 June 2023. No comments were received.

The USAF also conducted early scoping with state and federal agencies and initiated government-to-government consultation with federally recognized Tribes with potential ancestral ties to the area (Appendix A). Response summaries to this coordination and consultation are provided below.

1.5.1 Agency

- On 30 May 2023, the U.S. Fish and Wildlife Service (USFWS) recommended the USAF use its Information for Planning and Conservation (IPaC) database to evaluate the project's potential to affect federally listed threatened or endangered species.
- On 2 June 2023, the Oklahoma Archeological Survey indicated that an archaeological field inspection would not be necessary based on the low archaeological potential of the project site.
- On 9 June 2023, the Oklahoma Department of Environmental Quality (DEQ) stated that no adverse environmental impacts within their jurisdiction would be anticipated to result from the project.
- On 9 June 2023, the Oklahoma Historical Society-Preservation Office requested a copy of the Integrated Cultural Resources Management Plan (ICRMP) and inquired about past consultations regarding Building 285 National Register of Historic Places (NRHP) eligibility status.
- On 28 November 2023, the USAF provided the State Historic Preservation Office (SHPO) with a completed Oklahoma SHPO Consultation Form, a copy of the Draft EA, and an Area of Potential Effects map. No response was received.

1.5.2 Tribal

- The Caddo Nation (6 June 2023) and Chickasaw Nation (26 June 2023) indicated no comments or concerns with the project. The Caddo Nation requested notification in the event of inadvertent discovery with potential Native American relevance.

A Notice of Availability (NOA) of the Draft EA was published in the Altus Times announcing the availability of the EA for review on 17 November 2023 (Appendix A). The NOA invited the public to review and comment on the Draft EA. Native American Tribes were also provided the opportunity to review the Draft EA. The Draft EA and FONSI were available online at https://www.altus.af.mil/About-Us/Environmental-Information/. Copies of the Draft EA and FONSI were also available for review at the following locations:

Altus Public Library **421 North Hudson** **Altus, OK 73521**	**Altus AFB Library** **109 East Avenue** **Altus AFB, OK 73523**

The public and agency review period concluded on 16 December 2023. No comments were received.

1.6 Decision to be Made

The EA evaluates whether the Proposed Action would result in significant impacts on the human environment. If significant impacts are identified, Altus AFB would undertake mitigation to reduce impacts to below the level of significance, prepare an Environmental Impact Statement (EIS) addressing the Proposed Action, or abandon the Proposed Action.

This EA is a planning and decision-making tool that will be used to guide Altus AFB in implementing the Proposed Action in a manner consistent with USAF standards for environmental stewardship.

2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The USAF proposes to construct a new electrical substation to replace the current substation at Altus AFB to satisfy the "Purpose of" and "Need for" the action described in Section 1.3. The location and components of the Proposed Action are shown on Figure 3.

The Proposed Action would replace the existing overhead, open air, oil circuit reclosers (OCR) with a 64-kilovolt, pad-mounted recloser configuration that would address short circuits. The newly configured substation would also be equipped with a control system, in-ground electrical ducts, fully enclosed electrical switches/transfer gear, fencing, and lightning protection systems.

The Proposed Action would be designed in accordance with applicable Unified Facilities Criteria (UFC) 1-200-1, DoD Building Code (2022) and energy efficiency standards contained in UFC 1-200-02, High Performance and Sustainable Building Requirements (2022). It would include up to eight enclosed, pad-mounted, aboveground switch stations configured approximately 6 feet apart from one another. All other electrical components would be housed below ground. The aboveground Western Farmers Electrical Cooperative (WFEC) transformer station at the site would extend a short distance underground to connect with the switch stations.

Local materials and construction techniques would also be considered and incorporated by design, as appropriate. Other relevant security, safety, and design criteria applicable to the Proposed Action include:

- UFC 3-550-01. *Exterior Electrical Power Distribution* (2019).
- UFC 4-010-01. *DoD Minimum Antiterrorism Standards for Buildings* (2022).
- DoD 5200.08-R. *Physical Security Program* (2019).
- Institute of Electrical and Electronic Engineers C2. *2023 National Electrical Safety Code* (2022).
- IEEE 1402-2021. *Guide for Physical Security of Electric Power Substations* (2021).
- EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input* (2015), as reinstated by EO 14030, *Climate-Related Financial Risk* (2021).

The Proposed Action would likely be implemented between 2025 and 2027. Construction and demolition would take place over six to eight months. It would be sequenced to minimize disruption to the military mission. Construction would commence with site preparation activities including earthwork, trenching, leveling, and soil compaction. The earthwork would include the import of approximately 2,280 cubic yards of clean fill to elevate the ½-acre site above the 100-year flood elevation. Following site preparation, construction would include fabrication of the electrical pads, trenching for underground electrical lines from the WFEC substation to the new pads and then to the outgoing service lines. Once connected, the construction phase would conclude with system testing and calibration. After the new substation is operational and connected to the electrical grid, the Proposed Action would involve the dismantlement, demolition, and recycling or landfilling (as appropriate) of the existing substation components. The former substation site would then be restored and returned to its original state, to the extent possible.

Figure 3. Proposed Action.

2.2 Screening Criteria

The NEPA, CEQ regulations, and 32 CFR Part 989 require an EA to evaluate reasonable alternatives to the Proposed Action. Alternatives that are eliminated from detailed analysis must be identified along with a brief discussion of the reasons for eliminating them. "Reasonable alternatives" are those that also could be utilized to meet the purpose of and need for the Proposed Action. For purposes of analysis, an alternative is considered "reasonable" only if it enables Altus AFB to satisfy requirements related to providing reliable, UFC-compliant electrical service to the installation. "Unreasonable" alternatives would not enable Altus AFB to meet the purpose of and need for the Proposed Action and therefore would not be retained for further analysis.

Per the requirements of 32 CFR Part 989, the USAF EIAP regulations, screening criteria were developed to further evaluate the considered alternatives for consistency with the purpose and need of the Proposed Action. As a result, three screening criteria were developed and are described below:

1. The alternative would cause **minimal impacts to electrical service during transition**. This selection standard is critical because although Altus AFB has a 9-megawatt emergency generator, the generator was designed to provide power to the base during peak loads, which typically occur during the summer months. It was not sized nor designed to carry the entire electricity load for the installation for an extended period.

2. The alternative would be **located near the WFEC-owned transmission substation and emergency generator**. This selection standard was developed because the incoming transmission lines, transmission substation, and emergency generator need to be collocated with the installation substation. Additionally, all outgoing underground electrical lines for the base originate from the current substation. It would not be practicable to move all these components to another area of the base.

3. The alternative would be **resistant to power outages due to inclement weather** (i.e., high winds, ice, and/or hail).

The USAF developed four potential courses of action (COAs), including the Proposed Action and the No Action alternatives. Except for the Proposed Action, none of the COAs developed by the USAF would satisfy all the screening criteria. These four developed COAs are listed below:

- **Proposed Action:** Replace existing substation with underground substation.
- **Alternative 1:** No Action.
- **Alternative 2:** Replace and expand the existing substation.
- **Alternative 3:** Site the substation at another location on Altus AFB.

The selection standards described above were applied to these alternatives to determine which (if any) would meet the purpose and need for the Proposed Action. As shown in Table 1, only the Proposed Action (as described above in Section 2.1), would meet the Air Force's stated purpose and need for the project. As a result, Alternatives 2 and 3 were eliminated from further consideration.

Table 1. Screening of Considered Alternatives

Alternatives	Selection Standards			Reasonable?
	Minimal impacts to electrical service during transition.	Located near the WFEC transmission substation and emergency generator.	Resistant to power outages due to inclement weather.	
	1	2	3	
Proposed Action: Replace Existing Substation with Underground Substation	**Yes**	**Yes**	**Yes**	**Yes**
Alternative 1: No Action	Not Applicable	**Yes**	**No**	**No**
Alternative 2: Replace and Expand Existing Substation	**No**	**Yes**	**No**	**No**
Alternative 3: Site the Substation at Another Location on Altus AFB	**No**	**No**	**Yes**	**No**

2.3 Alternatives Considered but Eliminated from Further Analysis

2.3.1 Alternative 2: Replace and Expand Existing Substation

Under this alternative, the USAF would demolish and replace the substation with a new overhead substation in the same location as the existing facility. This alternative would require earthwork to elevate the new switchgear out of the floodplain. It would bring the switching station up to code but would still leave it exposed to the environment and prone to weather outages due to high winds, ice, and hail. Demolishing and rebuilding in-place would also require particular care working around the WFEC-owned transformer substation. In addition to the potential vulnerabilities due to weather, this alternative would require Altus AFB to rely solely on the emergency generators for six to eight months. The emergency generators were not designed for this purpose and would need to be refueled every 24 to 48 hours, which would not be practicable and would be prohibitively expensive. Additionally, the installation would have no back-up energy source if the generators were to malfunction. Therefore, this alternative was eliminated from further consideration.

2.3.2 Alternative 3: Site the Substation at Another Location on Altus AFB

The USAF considered moving the substation to another location on the base not within the 100-year floodplain. However, such a location would require rerouting the incoming transmission lines, relocating the WFEC transformer substation and the emergency generators, and reconfiguring the primary electrical lines to provide service from the new location. Therefore, this alternative was determined to be neither reasonable nor practicable and was eliminated from further consideration.

2.4 Detailed Description of the Alternatives

As described above, the Proposed Action is the only reasonable alternative that would meet the Air Force's purpose and need. Therefore, the Proposed Action (described in detail in Section 2.1) is retained as an alternative for more detailed analysis in this EA, along with the No Action alternative (described below in Section 2.4.1).

2.4.1 Alternative 1-No Action

Under the No Action alternative, the USAF would continue to repair and/or replace the existing substation electrical equipment in its current configuration to mitigate some of the environmental vulnerabilities. The existing substation is still generally functional but does not meet the current UFC/IEEE codes for switchgear. The spacing of the equipment in the switchgear makes it vulnerable to damage/shorting from the environment and animal interference.

Because the switchgear is past its lifecycle, is unreliable, and does not comply with current codes, it would not address the purpose of and need for the Proposed Action. However, it is analyzed in the EA to provide a comparative baseline, as required under USAF and CEQ regulations (32 CFR § 989.8(a) and (d), and 40 CFR §1502.14(c), respectively).

2.5 Summary of Alternatives and Resources

Table 2 provides a summary of the anticipated impacts to resources carried forward for full analysis that could result from the selection of the Proposed Action or the No Action alternative. Resource areas considered but dismissed from further analysis are briefly addressed in Section 3.1.1. Impacts would not be expected to approach the significance threshold for any resource areas.

Table 2. Summary of Anticipated Environmental Impacts

Resource	Proposed Action	No Action
Air Quality and Climate Change	Less than significant impacts.	No impacts.
Earth Resources	Less than significant impacts.	No impacts.
Water Resources	Less than significant impacts.	No impacts.
Biological Resources	Less than significant impacts.	Less than significant impacts.
Cultural Resources	No impacts anticipated.	No impacts.
Utilities (electrical)	Long-term, beneficial effects.	Negative impacts to mission due to unplanned power outages.
Hazardous Materials and Waste	Less than significant impacts.	No impacts.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the existing environmental, cultural, and socioeconomic conditions associated with the Proposed Action and the No Action Alternative. It also includes the environmental consequences associated with the two alternatives. The Region of Influence (ROI) for this EA is generally defined as the area on and around the existing electrical substation, where the potential effects of the Proposed Action and No Action Alternative could reasonably be expected to occur or be felt.

Resource information for this EA was obtained by review of existing, available source data, including relevant environmental management plans, geospatial data, field observations, and communications with Altus AFB staff. Information was also sought and obtained from regulatory and other agencies or organizations with jurisdiction or interest in the ROI. These data were reviewed by qualified subject matter experts with knowledge of the scope and nature of the Proposed Action and No Action Alternative.

Environmental consequences were evaluated in terms of type (beneficial or adverse), context (setting or location), intensity (none, negligible, minor, moderate, severe), and duration (short-term/temporary or long-term/permanent). The type, context, and intensity of an effect on a resource are explained under each resource area. Unless otherwise noted, short-term effects are those that would result from construction activities, and long-term effects are generally those resulting from post-construction operations.

3.1 Scope of Analysis

The affected environment is described and interpreted broadly to include natural and physical resources and their relationship to the human environment (40 CFR § 1508.1(m)). The information presented below provides a baseline for analyzing the potential effects of the considered alternatives. Based upon this information, Chapter 4 identifies and evaluates the potential individual or cumulative effects of the Proposed Action and No Action Alternative, respectively. In accordance with NEPA, the CEQ NEPA implementing regulations, and the Air Force NEPA regulations at 32 CFR § 989, the description of the affected environment is commensurate with the level of potential effects anticipated to occur. When determined that no or negligible potential effects would occur, resources are dismissed from further, more detailed analysis in this EA. Section 3.1.1 identifies these resources and provides a brief justification for their dismissal.

3.1.1 Resources Considered but Dismissed from Further Analysis

Per the CEQ NEPA implementing regulations, federal agencies should "identify and eliminate from detailed study the issues which are not significant, or which have been covered by prior environmental review" (40 CFR § 1501.9(f)(1)). Accordingly, the Air Force considered but eliminated the following resources from further analysis in this EA:

Land Use. The site of the Proposed Action is situated within an area of Altus AFB designated as an industrial land use zone. Future land use under the Proposed Action would remain consistent with this land use designation.

Airspace Management. The Proposed Action would not alter the current airspace configurations associated with Altus AFB; the frequency, tempo, and volume of current aircraft training and operations would not change.

Aesthetics. Construction on Altus AFB occurs on a regular basis and is a common component of viewsheds throughout the Base. Construction activities associated with the Proposed Action would occur

on an intermittent and temporary basis only. In the long term, the demolition and removal of the existing, above ground electrical substation would have minor, beneficial effects on local aesthetics.

Noise. On Altus AFB, the existing noise environment is characterized by aircraft training and operations. Other sources of noise at the Base include local road traffic and construction and maintenance activities. Construction vehicles and equipment associated with the Proposed Action would generate short-term, intermittent, and temporary noise; however, these effects would be negligible and consistent with the status quo for Altus AFB. Noise generated during construction would barely be perceptible in areas outside the Base where people reside.

Prime Farmland. The site of the Proposed Action has soils with properties conducive to agriculture as defined under the Farmland Protection Policy Act (7 USC §§ 4201–4209). However, pursuant to the Act, the historic development and use of Altus AFB as a military installation over many decades lacks precedence to warrant its designation as "prime farmland."

Socioeconomics. The Proposed Action would not increase the number of military personnel or training activities at Altus AFB from current state. During construction, minor, beneficial effects on local economic conditions would likely result in the form of increased expenditures (e.g., procurement of construction materials and temporary jobs) and incidental spending. No adverse socioeconomic effects would be anticipated.

Environmental Justice. There are no minority or low-income communities on or adjacent to the site of the Proposed Action. The nearest such community is approximately 1.5 miles to the west of the site (i.e., Census Tract No. 40065968600). Therefore, the Proposed Action would not result in disproportionate adverse human health or environmental effects on any disadvantaged populations. Minor, beneficial effects on minority or low-income communities within the municipality of Altus would likely result from the hiring of temporary workers to support construction activities.

Protection of Children. Although children are present on Altus AFB both as residents and visitors, the Proposed Action would occur within a secured area of the Base. Children are not authorized to be in this portion of the Base and access to industrial areas on Altus AFB is strictly controlled. No secondary effects associated with the Proposed Action (e.g., noise, air quality, and traffic) would disproportionately affect children's health or safety.

Safety and Occupational Health. The Occupational Safety and Health Act requires employers to provide a workplace free from recognized hazards that cause, or are likely to cause, death or serious physical harm to employees. Air Force Instruction 91-202, *The US Air Force Mishap Prevention Program* (2022) implements these safety and health requirements for personnel and contractors conducting activities on USAF bases. Construction activities associated with the Proposed Action would meet all applicable protocols, standards, controls, and measures to minimize safety and health risks to construction workers.

The Proposed Action would not pose an operational safety risk to the military mission of Altus AFB. As necessary, construction activities would be de-conflicted with airfield operations or other military activities or areas on the Base. Construction of the Proposed Action would occur during normal daylight working hours (i.e., no light or glare would affect nighttime training and operations). Safety risks to or from military activities taking place concurrently with the Proposed Action would be manageable under established protocols and procedures.

Transportation. Local and regional roads provide direct access to and from the site of the Proposed Action. The condition and capacity of the roadway network on and around Altus AFB is sufficient to support construction activities, including demolition of the existing electrical substation. Traffic

management would ensure construction vehicles and equipment can travel to and from the project site in a safe manner. Temporary roadway closures, delays, and detours would be implemented if necessary to minimize traffic flow disruptions, and construction plans and schedules would generally avoid peak commuting hours for personnel and civilians working at Altus AFB.

Ancillary Utilities. Utility systems and services necessary to support the Proposed Action are adequate and available. These include temporary tie-ins to systems and services already procured by Altus AFB (e.g., power, water, waste collection and disposal, and information technologies), as well as mobile sources transported onto the Base for use during construction activities. Construction contractors would install and operate temporary utilities, as appropriate. Increases in demand would fluctuate and occur intermittently for the duration of the Proposed Action; however, local service disruptions would not be anticipated. There is sufficient regional disposal capacity for municipal solid waste generated by the Proposed Action. Further, the quantity of municipal solid waste would be reduced by the segregation of waste and debris at the site prior to disposition, including recyclable materials. With these systems and services in place and available, potential impacts on or from utilities that are ancillary to the Proposed Action would be negligible.

The Altus AFB stormwater management and electrical supply systems are further described below and carried forward for more detailed analysis.

3.1.2 Resources Carried Forward for Detailed Analysis

Based on the results of internal and external scoping (see Section 1.5), the following resources are carried forward for more detailed analysis: air quality; earth resources, water resources, biological resources, cultural resources, utilities (electrical), and hazardous materials and waste. Sections 3.2 to 3.8 describe the existing condition of each resource and evaluate the potential effects on or from these resources that could result from implementing the Proposed Action and No Action alternatives.

3.2 Air Quality and Climate Change

Air quality is the degree to which the air is suitable or clean enough for humans, animals, or plants to remain healthy. Air quality is described by the types and amounts of pollutants present in the local atmosphere. The amount of a pollutant in the air is generally expressed as a concentration in units of parts per million, parts per billion, or micrograms per cubic meter ($\mu g/m^3$).

Factors that contribute to or affect air quality are local and regional air emissions, geographical size of the air basin, topography, and prevailing meteorological conditions. Air emissions can occur from human activities (e.g., industrial process, fuel combustion, motor vehicles, aircraft) and natural events (e.g., wildfires, wind-blown dust). Meteorological conditions (temperature, wind speed, wind direction, amount of sunshine, and temperature inversions) influence the extent to which pollutants are dispersed and transported both vertically and horizontally within the atmosphere. The United States Environmental Protection Agency (USEPA) has divided air pollutants into several categories, including criteria pollutants, hazardous air pollutants (HAPs), and greenhouse gases (GHGs); each of these are discussed below.

3.2.1 Affected Environment

3.2.1.1 Criteria Pollutants

Under the Clean Air Act (CAA), the USEPA established the National Ambient Air Quality Standards (NAAQS) for six common air pollutants referred to as “criteria pollutants.” These include carbon monoxide (CO), lead (Pb), ozone (O3), nitrogen dioxide (NO2), sulfur dioxide (SO2), and particulate

matter (PM). These are the most common pollutants associated with human activities and natural events. PM is presented in the NAAQS in terms of particulates less than or equal to 10 micrometers in diameter (PM_{10}) and particulates less than or equal to 2.5 micrometers in diameter ($PM_{2.5}$). The NAAQS represent maximum concentration levels of air pollution that are considered safe for public health and the environment.

The USEPA is responsible for characterizing and designating a region's air quality status with respect to the NAAQS. A regional designation, as identified below, is made for each criteria pollutant based on ambient air monitoring data collected and verified by the state environmental agencies:

- Attainment – In compliance with the NAAQS (i.e., pollutant concentration is below the NAAQS).
- Nonattainment – The NAAQS is not being met (i.e., pollutant concentration exceeds the NAAQS).
- Maintenance – Previously classified as "nonattainment" but is now in compliance with the NAAQS and under a state plan to continue reducing emissions and improve air quality.
- Unclassified – No monitoring data are available; but by default, is considered in attainment.

The NAAQS are presented in Table 3 (EPA, 2023a) along with the current ambient air quality status for the area. Jackson County, where Altus AFB is located, is classified by the USEPA as being in attainment with all NAAQS.

Table 3. National Ambient Air Quality Standards

Air Pollutant		Averaging Period	NAAQS [(a)]	Jackson County, OK Attainment Status [(b)]
Carbon Monoxide	(CO)	1-hour 8-hour	35 ppm 9 ppm	Attainment
Nitrogen Dioxide	(NO2)	1-hour Annual	53 ppb 100 ppb	Attainment
Particulate Matter ≤ 10 microns	(PM_{10})	24-hour	150 µg/m^3	Attainment
Particulate Matter ≤ 2.5 microns	($PM_{2.5}$)	24-hour Annual	35 µg/m^3 12 µg/m^3	Attainment
Ozone	(O3)	8-hour	0.070 ppm	Attainment
Sulfur Dioxide	(SO2)	1-hour 3-hour	75 ppb 0.5 ppm	Attainment
Lead	(Pb)	3-month rolling	0.15 µg/m^3	Attainment

[(a)] National Ambient Air Quality Standards (NAAQS) (EPA, 2023a).
[(b)] NAAQS attainment status for Jackson County, OK as of May 2023 (EPA, 2023b).

3.2.1.2 Hazardous Air Pollutants

HAPs include a group of 188 pollutants identified by the USEPA as having the potential to cause cancer or other serious health effects (i.e., reproductive effects, birth defects, or adverse environmental or ecological effects). These are generally associated with solvents and chemicals used in industrial processes, and usually emitted in much lower quantities than the criteria pollutants.

3.2.1.3 Greenhouse Gases

GHGs include carbon dioxide (CO2), nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. GHGs are both a natural phenomenon and the result of man-made activity. Natural concentrations of CO2 are part of the global carbon cycle, an exchange between the atmosphere and land and water on the earth through processes such as plant photosynthesis. GHGs from human activity have risen over time through industrialization, including the burning of fossil fuels. Although natural processes can absorb some anthropogenic GHG emissions, those that are not absorbed accumulate in the atmosphere and contribute to climate change.

Global warming potential is a metric used to determine how much a particular GHG contributes to climate change. The calculation is premised on a global warming potential of 1 for CO2, which is then used to calculate a CO2-equivalent (CO2e) for other GHGs[1]. These data can then be totaled as an aggregate in metric tons CO2e.

Although there currently are no federal air quality standards for GHG emissions, the USEPA has started regulating these emissions from some mobile sources through fuel economy and emission standards, and from large stationary sources through best available control technology requirements. In addition, the USEPA, under 40 CFR 98, has established mandatory GHG reporting for large emission sources in the United States. The purpose is to collect comprehensive and accurate data on manmade CO2 and other GHG emissions for the use in future policy decisions. The USEPA has set the threshold for reporting GHG emissions at 25,000 metric tons or more of CO2e per year (for specific stationary sources).

The Air Force Climate Action Plan was released in October 2022 that defines how it will preserve operational capability, increase resiliency, and do its part to help mitigate future climate impacts through specific and measurable objectives and key results. It established three priorities: (1) maintain air and space dominance by making our installations more resilient; (2) make climate informed decisions in every aspect of operations; and (3) optimize energy use and pursue alternative energy sources to save resources and reduce greenhouse gas emissions (USAF, 2022).

On a national and global scale, climate change has resulted in warmer temperatures on average. However, variations above and below these averages often exist at a local or regional level. For example, average temperatures for eastern Oklahoma remain consistent with historical records over the last approximately 100 years whereas those for western Oklahoma increased slightly (i.e., less than 0.5°C) over the same time period. While Oklahoma has not experienced more droughts in recent decades when compared to historical records, some increases in precipitation rates have been observed, particularly during the wettest days of the year. In the coming decades, it is anticipated that Oklahoma will become warmer and will likely experience more severe floods and drought (EPA, 2016).

3.2.1.4 Program Rules/Permits

The Proposed Action would generate emissions during construction from vehicle and equipment operations. However, these emission sources are excluded from any air permit requirements under the CAA. Since Altus AFB would continue to procure its electricity from a commercial provider, no air permits or permit amendments would be required for the maintenance and operation of the Proposed Action post-construction.

[1] Of the three primary GHGs, the CO2e for methane and nitrous oxide is respectively 25 and 298 times that of CO2. Most other GHGs have a CO2e that is considerably higher than methane or nitrous oxide but are typically emitted at much lower levels.

The Oklahoma DEQ administers and enforces most CAA programs under state statutes and rules, including compliance with the General Conformity Rule (GCR) as described below.

General Conformity Rule

Under the CAA, the GCR requires proposed federal agency activities in designated nonattainment or maintenance areas (i.e., attainment areas reclassified from a prior nonattainment designation) to demonstrate conformity with the applicable state implementation plan (SIP) for attainment of NAAQS[2]. In such cases, an applicability determination is required to demonstrate that net emissions from a federal proposed action would be below *de minimis* threshold levels. If the net change of a criteria pollutant(s) in a nonattainment or maintenance area is above the applicable *de minimis* threshold(s), a more detailed General Conformity analysis is required [3].

In contrast to traditional air permit programs for regulating stationary source emissions, the GCR requires federal agencies to consider emissions from all *direct* (e.g., new or modified stationary sources) and *indirect* (e.g., motor vehicle emissions from worker travel) activities associated with a proposed action. Under the GCR, federal agencies are required to estimate emissions for the duration of a proposed action (i.e., annually) for comparison against the applicable *de minimis* emission thresholds (see Table 4). Project-related emissions found to be below these thresholds are considered to be "in conformance" with a state's SIP for the purposes of maintaining and improving air quality. Conversely, emissions that exceed one or more GCR thresholds require further analyses to evaluate the need for project-specific emission reduction strategies or measures.

Although the subject Proposed Action is located within an area designated as *in attainment* for all criteria pollutants under the NAAQS, and therefore does not require a GCR applicability determination, the USAF conducted such an analysis to support the findings of this EA (see Section 3.2.2). Table 4 lists the applicable *de minimis* thresholds for criteria pollutants under the Proposed Action.

Table 4. Conformity De Minimis Levels (Thresholds)

Nonattainment Air Pollutant [(a)]		**Threshold (ton/yr) [(b)]**
Carbon Monoxide	(CO)	100
Nitrogen Dioxide	(NOx)	100
Particulate Matter ≤ 10 microns	(PM10)	100
Particulate Matter ≤ 2.5 microns (NOx, SO2, VOCs)	(PM2.5)	100
Ozone (NOx or VOCs)	(O3)	100
Sulfur Dioxide	(SO2)	100
Lead	(Pb)	25

[(a)] Thresholds are applicable to the nonattainment pollutant and any precursor pollutants (listed in parentheses).
[(b)] Conformity de minimis thresholds for NAAQS nonattainment (marginal or moderate) and maintenance areas as listed in 40 CFR 93.153(b)(1).

[2] SIPs are required to demonstrate how a state plans, tracks, implements, maintains, and enforces compliance with the NAAQS.

[3] The GCR is only applicable to proposed federal actions that would directly emit criteria pollutants or their precursors in NAAQS nonattainment or maintenance areas. That is, proposed federal actions in attainment areas do not require an applicability determination.

Jackson County, Oklahoma

According to the most recent data available from the USEPA's National Emissions Inventory, baseline emissions data for the area of Jackson County, Oklahoma is presented in Table 5 (EPA, 2023d).

Table 5. Emissions (2020) for Jackson County, Oklahoma (ton/yr)

Region	Criteria Pollutants						GHGs (CO2e)
	CO	NOx	PM10	PM2.5	SO2	VOCs	
Jackson County	3,791	1,270	6,795	1,389	312	3,336	297,338
Source: USEPA, 2020.							

Various stationary and mobile sources contributed to the 2020 baseline emission estimates for Jackson County. The primary emission sources within the county included fuel combustion (i.e., electricity for industrial, commercial, and residential land use); industrial applications and processes; petroleum refining, storage, and distribution; the manufacturing and use of solvents; waste disposal practices; biogenics (e.g., vegetation, soil, and wildfire); transportation (e.g., mobile emissions from vehicles, trains, and aircraft); and other miscellaneous sources such as farming, outdoor burning, and fugitive dust.

3.2.2 Environmental Consequences

3.2.2.1 No Action

Under the No Action Alternative, the Proposed Action would not occur, and the existing electrical substation would continue to operate at Altus AFB. Air quality conditions would continue to be influenced by land and energy use, weather, and other natural and anthropogenic factors. Over time, more frequent electrical outages requiring maintenance, repair, and the use of backup emergency generators likely would result from the No Action Alternative.

3.2.2.2 Proposed Action

The Air Force's Air Conformity Applicability Model (ACAM) was used to evaluate the potential air quality impacts under the Proposed Action (Appendix B). The USAF uses ACAM to estimate and assess air emissions associated with an Air Force proposed action (USAF, 2017). It was designed to provide a uniform and consistent method for calculating air emissions associated with the various construction and operational activities typically encountered within Air Force projects. ACAM provides emission estimates for all phases of construction, demolition, heating, power generation, motor vehicles, off-road power equipment, aircraft flight operations, and ground support equipment. The Proposed Action construction activities are covered by these emission categories.

Inputs to ACAM include project-specific information about the Proposed Action, including land clearing, demolition, site grading, material hauling, trenching, building size, surface improvements, off-road power equipment, motor vehicles, distances travelled, and schedule. Output includes air emission estimates in ton/yr for each calendar year of construction through the first full build out year. The final year represents steady-state operational emissions, if any, associated with a proposed action. Both detailed and summary reports are generated by ACAM. The detailed report lists all inputs, emission factors, emission equations, and estimated emissions for each project component that was entered into the model. The summary report groups all estimated emissions (both construction and operational) into calendar years spanning the

project schedule. The summary report is referred to as a Record of Air Analysis. The ACAM summary report serves as the Record of Air Analysis for the Proposed Action.

The ACAM results for the Proposed Action are presented in Table 6. These represent the worst-case annual emissions associated with the construction and operation of the Proposed Action. Based on the ACAM analysis, no appreciable increase in emissions of criteria pollutants or GHGs would result from the Proposed Action. Therefore, potential short- and long-term air quality impacts under the Proposed Action would be negligible.

Table 6. Proposed Action Worst-Case Emissions

Pollutant Name	Construction Emissions (ton/yr)	Operational Emissions (ton/yr)	Insignificance Threshold (A) (ton/yr)	Exceedance (Yes or No)
CO	0.806	0	100	No
NOx	0.510	0	100	No
PM10	0.270	0	100	No
PM2.5	0.020	0	100	No
SOx	0.002	0	100	No
VOC	0.101	0	100	No
Pb	0	0	25	No
CO2e	181	0	-	-

(A) Conformity De Minimis Levels established by the USEPA serve as significant impact thresholds for this NEPA evaluation (see Table 4).

(B) Worst-case annual emissions (construction or operation) increase above the baseline emission levels for Jackson County, OK (see Table 5).

Greenhouse Gases and Climate Change – On January 9, 2023, the CEQ (2023) issued interim guidance to assist federal agencies in considering GHG and climate change effects when evaluating proposed actions in accordance with NEPA. This guidance is in the public review and comment process and has not yet been finalized. However, it is consistent with EO 13990 (2021a), "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis". Section 5 of EO 13990 states that in accounting for the benefits of reducing climate pollution it is essential that agencies capture the full costs of GHG emissions as accurately as possible. Doing so facilitates sound decision-making, recognizes the breadth of climate impacts, and supports the international leadership of the United States on climate issues. The social cost of GHG emissions is identified in terms of the social cost of carbon, social cost of nitrous oxide, and social cost of methane These costs are estimates of the monetized damages associated with incremental increases in GHG emissions. An accurate social cost is essential for agencies to determine the social benefits of reducing GHG emissions when conducting cost-benefit analyses of regulatory and other actions.

In addition, Section 176(c) of the CAA (as amended) requires federal agencies to ensure and make evident that every action and decision conforms to applicable air quality requirements. NEPA proponents are to (1) consider climate change as part of the environmental baseline for NEPA analysis, and (2) assess GHG emissions and climate change effects resulting from proposed federal actions.

To this end, methods for accurately estimating GHG emissions must be employed by the federal agency. To ensure this has been accomplished in the NEPA review process, agencies must quantify a proposed action's potential GHG emissions, considering available data and GHG quantification tools suitable for the proposed agency action. For this EA, the Air Force ACAM model was applied to the Proposed Action to quantity emissions of NAAQS criteria pollutants, HAPs, and GHGs. The ACAM is a robust computer

model developed and used primarily by Air Force planners in the environmental impact analyses process to provide a consistent method for evaluating potential emissions from a proposed action. Therefore, it meets the requirements of EO 13990.

Annual GHG emissions associated with Proposed Action would increase by approximately 0.06% above the current baseline for Jackson County. As shown on Table 6, a maximum of 181 tons (164 metric tons) of CO2e emissions would be generated during the worst-case construction year from combustion of fossil fuels associated with construction equipment and vehicles. Upon full build-out, there would be no new GHG emissions from the operational activities. The construction activity emissions result in a short-term impact to the environment.

From an order-of-magnitude perspective, the Proposed Action's 0.06% increase in regional GHG emissions would equate to an approximately 0.00000013% increase to the country's total GHG emissions.

The USAF would mitigate the impacts of GHG emissions by encouraging construction employee carpooling, promoting electric vehicle usage, and planting long-lived landscape trees. These measures would minimize any impacts of the Proposed Action on climate change.

By implementing GHG reduction measures and, based on the analysis that determined that annual emission levels and net changes would be below the GCR thresholds, impacts to air quality would be less than significant.

3.3 Earth Resources

3.3.1 Affected Environment

Earth resources include geology, topography, and soils, the characteristics of which help determine whether land is suitable for development. Geology refers to the structure and configuration of surface and subsurface features. Topography refers to the shape, height, and position of the land surface. Soil refers to the unconsolidated materials overlying bedrock or other parent material. Soils are defined by their composition, slope, and physical characteristics. Attributes of soil, such as elasticity, load-bearing capacity, shrink-swell potential, and erodibility, determine its suitability to support a particular land use, including development.

Altus AFB is part of the Wichita Uplift geological province, an area characterized by a reddish-brown to gray soft shale of the Hennessey Group (i.e., Hennessey shale). The subsurface is layered with sandstone, shale, and siltstone, and interlaced with beds of gypsum and salt. Alluvial deposits of sand, gravel, silt, and clay from the Quaternary period occur in and along stream channels and floodplains on the Base. The transition from weathered to consolidated shale begins at approximately 40 feet below ground surface (bgs).

The topography of Altus AFB consists of mostly flat terrain with slopes oriented south to southeast. The southwest portion of the Base ranges from approximately 1,345 feet to 1,355 feet above mean sea level. Surficial soils on Altus AFB predominately consist of fill soils due to the extensive development of the Base over many years. Two soil types predominate in the southwest portion of the Base, east from the unnamed tributary of Stinking Creek and south of the housing area. These soils are identified and described in Table 7.

3.3.2 Environmental Consequences

3.3.2.1 No Action

Under the No Action Alternative, the Proposed Action would not occur, and the existing electrical substation would continue to operate at Altus AFB. In the short-term, earth resources would not be affected; however, in time, the site would likely be disturbed by development.

Table 7. Project Area Soils

Soil Name	Project Area (acres)	Drainage Class	Erosion Potential (Kw) [1]	Subsurface Installation Rating [2]
Hollister silty clay loam, 0 to 1 percent slopes, moist	0.7	Well drained	0.32	Very limited
Rups silty clay loam, 0 to 1 percent slopes, frequently flooded	<0.1	Somewhat poorly drained	0.37	Somewhat limited

Sources: NRCS USDA 2023.

Notes:

[1] Kw is an indicator of soil susceptibility to sheet and rill erosion. Kw values range from 0.02 to 0.69. In general, the higher the value, the more susceptible the soil is to erosion.

[2] Subsurface Water Management, System Installation rating based on soil properties that affect drainage and excavation for construction, including depth to water table, ponding, flooding, slope, depth to bedrock or a cemented pan, clay content, excavation stability, etc.

3.3.2.2 Proposed Action

No exposure to bedrock would occur under the Proposed Action. Therefore, no impacts to the geology underlying Altus AFB would result from the project.

The Proposed Action would largely be designed in concert with the natural topography of the project site. Therefore, impacts on topography would be negligible under the Proposed Action.

The Proposed Action would involve earthwork, including excavation, backfilling, and compacting of soils at the project site. The exposed soils would be more susceptible to water and wind erosion. Where excavation and backfill are required, soil structure, composition, and function would be altered. For example, operating heavy vehicles and equipment to remove, place, or stabilize infrastructure would result in soil compaction. In a compacted state, normal soil functions (e.g., water storage, infiltration, or filtration) could be affected. The Proposed Action could also result in the accidental release of contaminants or disturbance of existing (unknown) contaminants in local soils.

Under the Proposed Action, construction contractors would be required to document site-specific stormwater pollution prevention measures as part of an environmental protection plan (EPP). A requirement for construction sites smaller than 1 acre, the EPP includes a list of stormwater best management practices (BMPs) and a site layout map showing all associated drainage pathways to and from the site. The Altus AFB Stormwater Program Manager would then review and approve the EPP activities or communicate the need to obtain a Storm Water General Permit for Construction Activities (OKR10) from the OK DEQ before construction starts. Additionally, in accordance with the Base-wide Stormwater Pollution Prevention Plan (SWPPP), construction contracts under the Proposed Action would require consideration of traditional stormwater management practices to divert, infiltrate, reuse, or otherwise manage stormwater runoff in a manner that reduces pollutants in stormwater discharges from

the site. Such measures include vegetated swales, inlet controls, infiltration and filtration devices, detention devices, and others that function to reduce overland runoff, improve groundwater recharge, and augment base flow in local streams.

Once reuse and fill soils are placed and compacted, surficial soils would be graded to conform to local topography and achieve positive surface drainage. All construction activities under the Proposed Action would conclude with revegetation of the landscape using native vegetation. The USAF would also conduct post-construction site inspections to ensure any agreed upon management measures remain effective and pre-construction conditions remain the same or improve.

With these required measures in place, potential effects on soils resulting from the Proposed Action would be short-term and minor. No long-term effects on soils would be anticipated from operation of the Proposed Action.

3.4 Water Resources

3.4.1 Affected Environment

Altus AFB is situated in southeast Oklahoma within the 10,853-acre Stinking Creek-North Red River subwatershed of the Lower North Red River basin. This section describes the types and conditions of water resources within the ROI, including surface waters, stormwater management, wetlands, floodplains, and groundwater.

3.4.1.1 Surface Waters

Altus AFB is bisected by Stinking Creek, a small, perennial stream that passes through the airfield from the northwest to the southeast. Stinking Creek drains the north-northeast portion of the installation, then flows southeast to the North Fork of the Red River. An unnamed, intermittent tributary of Stinking Creek runs along the southwest boundary of Altus AFB and joins Stinking Creek approximately 5 miles south of the Base. This tributary is located approximately 600 feet west of the Proposed Action site at the closest point and drains the south-southwest portion of the Base. The unnamed tributary of Stinking Creek is usually devoid of flow in the late summer months; however, an irrigation canal with seasonal flow from spring to fall intersects and parallels parts of the stream.

3.4.1.2 Water Quality, including Stormwater Management

Pursuant to the Clean Water Act (CWA), the OK DEQ sets and enforces water quality standards for surface waters in Oklahoma. Discharges to state waters are permitted under the Oklahoma Pollutant Discharge Elimination System (OPDES) permit program. OPDES permits are required for different types of pollutant-generating activities such as construction, industrial operations, and public-owned and -operated storm sewers.

Under Section 303(d) of the CWA, the State of Oklahoma must identify and develop a list of waterbodies (or waterbody segments) impaired based on their intended use (e.g., swimming or fishing). Impaired waterbodies are those that do not meet the water quality standards promulgated by the OK DEQ. To achieve compliance with the standards, a total maximum daily load (TMDL) is developed for the impairment. TMDLs use science-based criteria to establish a regulatory ceiling for the impaired waterbody to achieve attainment of water quality standards or the maximum pollutant loads a waterbody may receive from all or portions of a drainage basin in compliance with the standards. TMDLs target specific pollutants and set enforceable limits to improve or maintain the current condition of a 303(d)-listed waterbody (USEPA, 2021).

Stinking Creek is a 303(d)-listed impaired stream throughout its reach due to levels of chloride, nutrients (i.e., nitrates and sulfates), and bacteria that exceed state water quality standards.

Stormwater runoff from the Base generally drains to Stinking Creek or its unnamed tributary through a series of open ditches. Other stormwater infrastructure includes a variety of natural and manmade drainages and conveyances. Many developed portions of the Base convey stormwater below ground via pipes with associated catch basins, drain inlets, and manholes. Surface flows ultimately discharge to one of eight outfall locations on the Base. Six outfalls are authorized to receive stormwater runoff from industrial areas on Altus AFB in accordance with Multi-Sector General Permit issued by the OK DEQ. Stormwater discharges associated with construction activities are regulated separately under the OPDES permit system.

Pursuant to the CWA, the housing area on Altus AFB is regulated as a small municipal separate storm sewer system (MS4). As such, the Base maintains an MS4 permit for stormwater conveyance within this area. In association with the MS4 permit, Altus AFB also maintains a Base-wide SWPPP describing its stormwater management procedures for the Base.

Section 438 of the Energy Independence and Security Act (EISA) (42 USC § 17094) directs federal agencies to incorporate, to the maximum extent technically feasible, LID measures to maintain the pre-development hydrology of a site for projects involving 5,000 square feet or more of land disturbance. DOD technical criteria and requirements for compliance with Section 438 of EISA are provided in UFC 3-210-10, Change 1, Low Impact Development.

The approximately 0.5-acre project site conveys stormwater to Outfalls 5 and 6 that discharge to an approximately 1.1-mile segment of the unnamed tributary of Stinking Creek. Outfall 5 drains a 158-acre industrial area of the Base. Outfall 6 drains agricultural lands to the north-northeast of Altus AFB and the eastern half of the Base housing area.

3.4.1.3 Waters of the United States, including Wetlands

The US Army Corps of Engineers (33 CFR § 328.3) and USEPA (40 CFR § 230.3) define wetlands as “areas that are inundated or saturated by surface or groundwater 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 are a subset of Waters of the US, and those deemed “jurisdictional” are regulated under Section 404 of the CWA. When a federal agency proposed action requires a Section 404 wetlands permit, states are provided authority to enforce surface water quality standards under Section 401 of the CWA by review of the proposed action and permit application.

There are no waters of the US or wetlands associated with the project site itself. The unnamed tributary of Stinking Creek meanders past the project site, approximately 600 feet to the west. Although natural segments of this stream with a defined bed and bank can be considered jurisdictional waters of the US, segments with connectivity to constructed drainages, swales, or canals are typically not regulated as such under the CWA. Two isolated wetland communities occur along segments of the unnamed tributary. These include an approximately 1.4-acre freshwater emergent wetland to the west, and 4.5-acre wetland of the same type to the southwest, of the project site. The hydrologic state of these wetlands is influenced by season, as well as by their association with natural or manmade surface waters. Common plant species observed in these wetlands include three-square bulrush (*Schoenoplectus pungens*) and Small's spikerush (*Eleocharis smallii*).

3.4.1.4 Floodplain Management

Floodplains are areas of low-lying, relatively flat ground adjacent to rivers, streams, large wetlands, or coastal waters with a potential for inundation due to rain or melting snow. In a natural vegetated state, floodplains slow the rate at which incoming overland flows reach the adjacent waterbody. Floodplains also function to recharge groundwater, maintain water quality, provide wildlife habitat, and support recreation.

The Federal Emergency Management Agency (FEMA) defines the 100-year floodplain as an area that has a 1-percent chance of inundation in any given year; the 500-year floodplain is defined as an area with a 0.2-percent chance of inundation in any given year. FEMA designates floodplain zones to indicate the severity or type of flooding in an area. For example, Zone A designates 100-year floodplains with depths or base flood elevations that are not yet known and require further study, whereas Zone AE designations indicate a known base flood elevation as determined by a formal floodplain study (FEMA 2012).

EO 11988, *Floodplain Management*, requires federal agencies to determine whether proposed development would occur within a floodplain and to avoid floodplains, to the maximum extent practicable. Where construction within the floodplain is unavoidable, a Finding of No Practicable Alternative (FONPA) is required to explain why the proposed action is in the floodplain.

Several areas of Altus AFB lie within 100- or 500-year floodplains. Flooding of these areas can occur during high intensity or frequency rainfall events. Several factors exacerbate flooding on the Base, including its flat terrain, soils with low permeability, and narrow or constricted drainages overburdened by increases in stormwater runoff. Most flooding occurs in the southwest portion of Altus AFB along with specific areas of the airfield. The project site lies within the 100- and 500-year floodplains of the unnamed tributary of Stinking Creek to the west (FEMA 2012) (Figure 4).

3.4.1.5 Groundwater

Groundwater is water that collects or flows beneath the land surface. As precipitation occurs, water percolates through the ground and occupies porous space in soil, sediment, and rocks. Groundwater resources are often used for potable water consumption, agricultural irrigation, and industrial applications. An aquifer is a body of porous rock or sediment saturated with groundwater.

The area of Altus, Oklahoma is underlain by minor aquifer units associated with the Salt and North Forks of the Red River. The shallow, unconfined aquifer system underlying the Base occurs within the alluvial deposits of these rivers and the upper layer of weathered shale. The shallow aquifer system on Altus AFB occurs at depths ranging from approximately 5 to 55 feet bgs. With precipitation as its main source of recharge, the water-bearing zone can fluctuate considerably between seasons or periods of heavy rainfall. Groundwater flow in the aquifer generally moves northwest to southeast across the Base; however, flow patterns are locally influenced by streams, drainage ditches, and irrigation canals. For example, canal operations increase recharge to and flow within the aquifer system. Groundwater quality is variable with high levels of sulfates, chlorides, iron, and suspended solids limiting its use to mainly agricultural, manufacturing, and industrial operations.

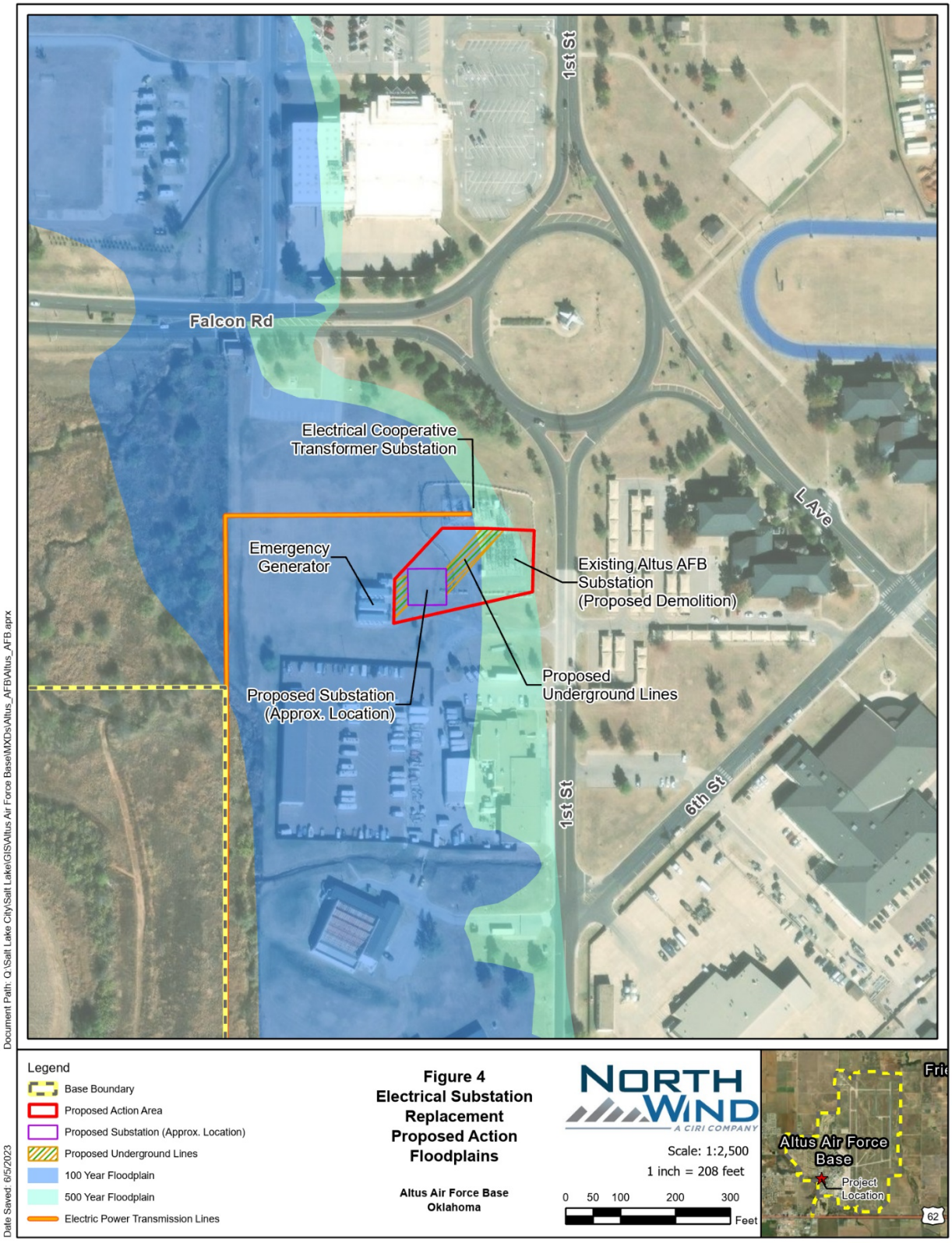


Figure 4. Proposed Action Floodplains

3.4.2 Environmental Consequences

3.4.2.1 No Action

Under the No Action Alternative, the Proposed Action would not occur, and the existing electrical substation would continue to operate at Altus AFB. Water resources management at Altus AFB would continue in accordance with the Base's Integrated Natural Resources Management Plan (INRMP), including regulatory compliance measures and BMPs to protect water resources.

3.4.2.2 Proposed Action

The construction and operation of the Proposed Action could affect water resources at or in the vicinity of the project area. For example, increased potential for erosion and sedimentation of surface water bodies, reduced natural function benefits, or contaminant releases to groundwater.

3.4.2.2.1 Surface Water Quality, including Wetlands and Stormwater Management

Construction of the Proposed Action would not directly affect any surface water bodies, including wetlands. Potential indirect effects on water resources could result from construction-generated erosion and sedimentation, and the discharge of contaminants in runoff.

During construction of the Proposed Action, implementation of the stormwater management measures and practices in the Altus AFB-approved EPP would minimize potential effects on water resources from erosion and sedimentation. Site plans and layouts would also seek to avoid potential effects on water resources. Such measures could include the staging and parking of equipment and vehicles on existing hardscape areas and incorporating LID measures into designs to increase onsite infiltration.

With these measures in place, potential impacts on surface water quality would be short-term and minor. No impacts on surface water quality would be anticipated from operation of the Proposed Action.

3.4.2.2.2 Floodplain Management

The Proposed Action would adversely affect 0.3 acres of the 100-year floodplain from the placement of approximately 2,280 cubic yards of clean fill, permanently raising the surface elevation in this area. Minor, temporary adverse effects on 0.1 acres of the 100-year floodplain would result from trenching during the construction of the proposed substation. Elevation data obtained from FEMA (2012) indicated that the 100-year floodplain elevation at the Proposed Action site is 1,351.0 feet. Light Detection and Ranging (LiDAR) data (2021) showed the elevation of the proposed substation site ranges from 1,348.6 to 1,351.7 feet, with a mean elevation of 1,350.9 feet. The proposed substation site would be elevated to 3 feet above the 100-year floodplain (i.e., 1,354.0 feet).

In accordance with EO 11988, the USAF considered alternative sites for the Proposed Action; however, no other sites would connect the new substation to the existing WFEC-owned electrical transmission lines and substation to provide Altus AFB with reliable electrical service. Other sites on or adjacent to Altus AFB, outside of floodplains, were therefore not feasible. To document planning conducted to avoid and minimize potential adverse effects of the Proposed Action on 100- and 500-year floodplains, the USAF prepared a FONPA. The FONPA also identifies and documents the measures the USAF would take to avoid and minimize such effects.

Although the Proposed Action would alter the composition, structure, and function of some soils in 100-year floodplains, it would also allow soils in the 100-year floodplain to return to a prior state following demolition and removal of the existing substation. Similarly, the capacity of soils to retain or attenuate

floodwaters would decrease in some areas but increase in others under the Proposed Action. However, based on the larger extent of undeveloped floodplains in this area of Altus AFB, potential effects would be limited to a small fraction of the 100-floodplain. Further, given the project site's distance from surface water bodies to the northeast, east, and southeast, and the transition zone between soils (none of which are classified as hydric), the affected floodplain area is relatively well drained.

The Proposed Action would affect the capacity and function of 100-year floodplains within the footprint of the newly constructed substation. These effects would be permanent but minor in the context of the larger area of 100-year floodplains in the southwest portion of Altus AFB. Once constructed, the new substation would be generally compatible with the designated floodplains in this area. Additionally, the demolition and removal of the existing substation and its associated infrastructure under the Proposed Action would result in minor, beneficial effects on floodplains. The improved capacity and function of these floodplains would, in part, offset that lost from construction of the new substation. Therefore, potential long-term, minor adverse effects on 100-year floodplains would occur under the Proposed Action.

3.4.2.2.3 Groundwater Quality

Surficial groundwater underlying the project site could be affected by the Proposed Action. For example, the unintentional release of fuel from equipment could leach downward into groundwater.

Based on the water table depth of the involved soils, trenching associated with the Proposed Action would not be anticipated to encounter groundwater. However, should groundwater be encountered all construction work would halt to remove water from the excavated area before proceeding. No withdrawal of groundwater would be necessary to construct or operate the Proposed Action.

The placement of fill soils to found, stabilize, and secure the below ground components of the new substation and elevate the above-ground structures would alter the hydrology of the site. However, potential effects on groundwater recharge would be negligible and limited to localized areas within the 0.5-acre site. These potential effects would largely be associated with the construction phase of the Proposed Action. Restoration activities following construction would seek to maintain the site's pre-development hydrology to the maximum extent technically feasible.

Therefore, potential impacts on groundwater quantity and quality from the Proposed Action would be short-term and minor. Over time, no appreciable impacts on groundwater resources would be anticipated to result from the project.

3.5 Biological Resources

3.5.1 Affected Environment

Biological resources include native or naturalized plants and animals and the habitats in which they occur. Sensitive biological resources are defined as those plant and animal species listed as threatened or endangered or proposed for listing by the USFWS or those identified by the Oklahoma Department of Wildlife Conservation (ODWC) as "species of greatest conservation need" known, or with potential, to occur at Altus AFB.

Pursuant to the Sikes Act (16 USC § 670a), Altus AFB maintains an INRMP to guide the use and management of natural resources on the Base. The Endangered Species Act (ESA), as amended by the National Defense Authorization Act for Fiscal Year 2004 (Public Law 108-136), exempts military installations from "critical habitat" designations in cases where a Sikes Act-compliant INRMP provides a demonstrable benefit to one or more ESA-listed species.

3.5.1.1 Vegetation

Although remnants of native grass, shrub, and tree species occur on Altus AFB, most areas are landscaped and routinely mowed in support of the military mission. Areas immediately adjacent to facilities and infrastructure (including the Proposed Action site) primarily consist of common bermudagrass (*Cynodon dactylon*); however, in less frequently maintained portions of Altus AFB, native prairie grasses such as sideoats grama (*Bouteloua curtipendula*), blue grama (*Bouteloua gracilis*), switchgrass (*Panicum virgatum*), buffalograss (*Buchloe dactyloides*), and little bluestem (*Schizachyrium scoparium*) are more prevalent. Most native species of shrubs and trees occur in mixed vegetative communities buffering streams on the Base.

3.5.1.2 Wildlife

Land use surrounding Altus AFB primarily includes agricultural fields with the exception of urban areas associated with the city of Altus to the west and southwest. There are no federal wildlife refuges, state wildlife management areas, or nature preserves within a 5-mile radius of Altus AFB. With a limited amount of large, contiguous areas of natural habitat available to wildlife on a regional scale, opportunistic species who live in or have a range that overlaps with the human-influenced environment are most prevalent. In the absence of a surface waterbody, these primarily include more mobile species of mammals and birds.

Wildlife habitat at Altus AFB is limited due to the relatively small size of the Base and the existing uses that occur there. Most open space areas on the Base consist of maintained ornamental grasses, minimizing their use as wildlife habitat. In other areas, security fencing or other infrastructure components limit the movement of wildlife on Altus AFB. Noise and military operations in general also deter wildlife from the Base. Wildlife observed on Altus AFB include various species of mammals, birds, reptiles, amphibians, and fish.

3.5.1.3 Special Status Species, including Migratory Birds

Special status species include plants and animals that receive protection under federal or state laws and regulations. Examples include ESA-listed threatened and endangered species or their designated critical habitat, and migratory birds that receive protection under the Migratory Bird Treaty Act. No ESA-listed plants occur on Altus AFB or in southwest Oklahoma.

A July 2023 query of the USFWS' IPaC database identified three ESA-protected species and two species of concern pending protection under the ESA with potential to occur on or in the vicinity of the project site. The federally listed species include the endangered Whooping Crane (*Grus americana*) and the threatened Piping Plover (*Charadrius melodus*) and Red Knot (*Calidris canutus rufa*). The tricolored bat (*Perimyotis subflavus*), proposed for listing as an endangered species, was identified on Altus AFB during a 2016 acoustic survey (University of Montana-Center for Integrated Research on the Environment 2017). Additionally, the monarch butterfly (*Danaus plexippus*), a candidate for listing under the ESA, is known to occur on the Base.

The ODWC administers a program to conserve wildlife diversity in the state. The ODWC maintains the Oklahoma Comprehensive Wildlife Conservation Strategy (OCWCS), a conservation plan for the state's species of greatest conservation need. The OCWCS is organized by ecological regions of Oklahoma; Altus AFB is situated in the Mixed-grass Prairie Region of the state. State-listed species of Greatest Conservation Need documented to occur on Altus AFB include the following:

- **Mammals –** Brazilian (Mexican) free-tailed bat, tricolored bat, and western big-eared bat (*Corynorhinus townsendii*).

- **Reptiles – s**piny softshell turtle (*Apalone spiniferus*) and Texas horned lizard (*Phrynosoma cornutum*).
- **Birds –** Loggerhead Shrike (*Lanius ludovicianus*), Burrowing Owl (*Athene cunicularia*), Little Blue Heron (*Egretta caerulea*), Swainson's Hawk (*Buteo swainsoni*), Prairie Falcon (*Falco mexicanus*), Northern Bobwhite (*Colinus virginianus*), and Upland Sandpiper (*Bartramia longicauda*).

EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, directs federal agencies to manage for the conservation of migratory birds. Altus AFB lies within the Central Flyway, a migratory bird corridor that extends from northern Alaska, south through Canada and the central U.S., and into northern Mexico. Although their presence is variable each year, migratory birds have been observed on the Base on a year-round, seasonal, and temporary basis.

The IPaC query also identified six migratory birds of conservation concern with potential to occur in the project area, resting, foraging, or breeding. These include the Black Tern (*Chlidonias niger*), Chimney Swift (*Chaetura pelagica*), Lesser Yellowlegs (*Tringa flavipes*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Western Grebe (*Aechmophorus occidentalis*), and Willet (*Tringa semipalmata*). Of these, only the Chimney Swift has been observed on the Base.

3.5.1.4 Invasive Species

Invasive species at Altus AFB generally include varying types of non-native grasses, weeds, and shrubs, and non-native birds such as starlings, sparrows, doves, and pigeons. On Altus AFB, ground maintenance practices/standards are managed in accordance with an Integrated Pest Management Plan to reduce reliance on pesticides and herbicides, enhance environmental protection, and maximize the use of integrated pest management techniques. The Base's INRMP maintains a list of native plant species for use in restoration and landscaping activities, including flowers for pollinator habitat. The INRMP also provides guidance regarding hunting on the Base which is employed to control populations of several non-native bird species.

3.5.2 Environmental Consequences

3.5.2.1 No Action

Under the No Action Alternative, the existing electrical substation would continue to operate at Altus AFB. Natural resources management at Altus AFB would continue in accordance with Base's INRMP.

3.5.2.2 Proposed Action

3.5.2.2.1 Vegetation

The Proposed Action would take place in a large open space area consisting of maintained grass within the fenced perimeter of Altus AFB. This area is subject to regular mowing and any native grasses are secondary to the more dominant non-native grasses. Trees and shrubs in this portion of the Base are limited to a small linear area along the traffic circle and Falcon Road to the north of the project site. Therefore, potential impacts on vegetation under the Proposed Action would be negligible.

3.5.2.2.2 Wildlife

Wildlife habitat is limited to an area of transition between that associated with surface water bodies and ditches immediately outside the perimeter of the Base towards the west, and development on the Base that surrounds the project site in all other directions. Cover for wildlife species on the Base is limited to a small, linear patch of trees north of the project site, and culverts, ditches, and structures associated with

the built environment. All other available habitat for wildlife occurs outside the western perimeter of Altus AFB as delineated by a chain-link fence. Overall, wildlife habitat on and around the project site is of a low quality and fragmented by various features of the built environment.

The construction of the Proposed Action could temporarily displace or disturb some common wildlife species. For example, wildlife could be deterred by the presence of construction crews or noise generated by construction vehicles and equipment. Most wildlife would simply relocate during the construction phase of the Proposed Action; however, it is possible that smaller, less mobile species could be injured or killed.

Under the Proposed Action, standard BMPs (e.g., visual surveys prior to the start of a construction activity) and operational protocols (e.g., noise reduction measures) would minimize potential effects on wildlife during construction. All work would take place during daylight hours, structures in the area are generally limited to the existing electrical system components, and relatively few wildlife species have been observed on and around the project site.

Therefore, potential effects on wildlife would be short-term and minor during the construction of the Proposed Action. Long-term, minor, beneficial effects on wildlife would result from the demolition and removal of the existing substation as wildlife fatalities and injuries associated with this infrastructure would be avoided.

3.5.2.2.3 Special Status Species, including Migratory Birds

No ESA-listed species are known to occur on Altus AFB, and the Proposed Action site provides no habitat for the ESA listed, proposed, or candidate species identified by the IPaC query. Therefore, no impacts to federally designated threatened or endangered species would be anticipated under the Proposed Action.

Habitat for migratory birds is limited in and adjacent to the Proposed Action site because the vegetation consists of maintained grass immediately adjacent to developed portions of Altus AFB. Although migratory birds could use the project site as a stopover location during migration, the lack of resources to support feeding or breeding activities would likely diminish their interest in favor of other areas outside the Base. Any migratory birds present on the site would also be expected to relocate during construction activities. Potential effects on migratory birds (e.g., Chimney Swift) would be avoided during construction of the proposed substation by visual surveys and deterrence measures. Should an active migratory bird next be discovered at the project site, work would halt, and a perimeter would be established around the nest to minimize disturbance; no work would occur within the established perimeter until the nesting birds depart.

Therefore, potential impacts on migratory birds would be short-term and minor under the Proposed Action. No impacts on migratory birds would result from the operation of the Proposed Action.

3.5.2.2.4 Invasive Species

The Proposed Action would occur within a portion of Altus AFB consisting of maintained grasses, most of which are non-native species. The restoration of the project site post-construction would identify and plant native grass species. Under the Proposed Action, this would result in minor, beneficial effects.

3.6 Cultural Resources

3.6.1 Affected Environment

Cultural resources include any prehistoric or historic district, site, building, structure, or object considered important to a culture, subculture, or community for scientific, traditional, religious, or other purposes. They include archaeological resources, historic properties, and traditional resources. Archaeological resources are found at locations where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains (e.g., arrowheads or bottles). Historic properties (as defined in 36 CFR 60.4) are significant archeological, architectural, or traditional resources eligible for listing, or listed in, the NRHP. Traditional resources are associated with cultural practices and beliefs of a living community that are rooted in its history and important in maintaining the community's continuing cultural identity.

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies consider the effects their actions, funding, permitting, or licensing may have on historic properties, and that they provide the Advisory Council on Historic Preservation a "reasonable opportunity to comment" on such actions. Actions in areas outside of a Historic District also need to be reviewed for their potential visual effects on the Historic District.

Historic and cultural resources management on USAF installations is established by Air Force Manual (AFMAN) 32-7003, *Environmental Conservation*. To comply with AFMAN 32-7003, Altus AFB maintains an ICRMP to guide the management and protection of cultural resources on the Base.

3.6.1.1 Architectural Resources

Cultural resources surveys conducted at Altus AFB in 1987 and 2003 identified three historic properties with potential eligibility for listing in the NRHP. None of the potentially NRHP-eligible sites are within the viewshed of the Proposed Action Area.

During a review of a preliminary (1-mile radius) Area of Potential Effect (APE), the USAF identified one Cold War era architectural resource on Altus AFB determined eligible for listing in the NRHP. This resource consists of an active aircraft maintenance hangar (Building 285) approximately 0.4-mile east of the project site.

3.6.1.2 Archaeological Resources, including Traditional Cultural Properties

The 1987 cultural resources survey at Altus AFB identified two historic debris scatters and one isolated artifact; however, due to the high levels of disturbance and a lack of subsurface integrity, none of the sites were determined eligible for listing in the NHRP. Subsequently, in 1995, the National Park Service conducted a Base-wide archaeological reconnaissance survey of Altus AFB. This survey did not identify any archaeological sites on the Base and concluded that no further investigations are warranted at the Base.

3.6.2 Environmental Consequences

3.6.2.1 No Action

Under the No Action Alternative, the Proposed Action would not occur, and the existing electrical substation would continue to operate at Altus AFB. Cultural resources at Altus AFB would continue to be managed in accordance with the Base's ICRMP.

3.6.2.2 Proposed Action

No historic properties would be affected under the Proposed Action, and no impacts to archaeological resources would be anticipated. Therefore, the USAF concluded "no adverse effects" on historic properties would result from the proposed action.

As confirmed by a 1995 National Park Service assessment and recounted in the ICRMP, no archaeological resources were identified on Altus AFB. Based on the assessment results, it was recommended that no further archaeological investigations were required at the Base. The Oklahoma Archeological Survey (OAS) reaffirmed this finding for the proposed undertaking in correspondence received by the USAF dated 2 June 2023. The OAS stated that an archaeological field inspection would not be necessary based on the low archaeological potential of the project site.

During construction of the Proposed Action, should land-disturbing activities unearth artifacts, human remains, or other evidence of past human events or civilizations, all work would immediately stop, and the area would be secured to prevent any further disturbance. The Altus AFB Cultural Resource Manager would be notified of the inadvertent discovery to conduct an initial evaluation of the site. As necessary, in consultation with the OK SHPO, the site would be evaluated to determine its eligibility for listing in the NRHP. The USAF would comply with the applicable provisions of the Native American Graves Protection and Repatriation Act (Public Law 101-601, 25 U.S.C. 3001 et seq.) in the event Native American human remains are encountered during construction. These procedures would be stipulated in construction contracts and maintained onsite for the duration of the Proposed Action. With these measures and stipulations in place to manage the unintentional discovery of cultural resources during construction of the Proposed Action, no significant adverse effects would be anticipated.

3.7 Infrastructure and Utilities (Electrical)

3.7.1 Affected Environment

An electrical system or electric power grid is a complex network of generation, transmission, and distribution facilities and infrastructure. These systems are owned and operated by myriad entities that sell power to multiple types and numbers of end-users. In the US, electricity is generated using a variety of sources; natural gas, coal, and nuclear power are most common.

Most electrical systems receive power from large-scale, centralized generation facilities, including natural gas, coal, and nuclear power plants, wind farms, and hydroelectric dams. Generation facilities are usually located away from multiple end-users who receive electricity from a series of interconnected, high-voltage transmission lines. Substations function to "step down" high-voltage power to a lower voltage electricity provided to customers via a smaller scale network of distribution lines. Residential, commercial, and industrial customers each account for approximately one-third of the electricity used in the US.

Markets for electricity in the US include wholesale and retail components. Wholesale markets involve the sales of electricity among electric utilities and electricity traders. Retail markets involve the sales of electricity to consumers. Both wholesale and retail markets can be traditionally regulated or competitive markets.

The WFEC is a generation and transmission cooperative that provides electric service to Altus AFB. WFEC maintains a diverse portfolio of energy generation facilities, technologies, and fuel types. The Cooperative has a total power capacity of more than 2,500-MWs. To provide the Base with electricity, the WFEC owns and operates the aboveground transformer station that feeds into the existing electrical substation. In 2015, a 9-MW emergency generation system was given to Altus AFB by the WFEC and

installed at the site. The generator farm provides management flexibility to address peak electrical loads at the Base that primarily occur during the summer months.

Constructed in 1984, the existing electrical (switch) substation has exceeded its service life. This 65KV substation is a critical infrastructure asset for Altus AFB as it receives and distributes electricity from the WFEC transformer station. The existing substation has been the cause of several power outages at Altus AFB in recent years. These outages are the result of its poor condition, onsite orientation, and exposure to the environment over many years. Other electrical system components at the project site include a fencing and grounding system and small maintenance building.

3.7.2 Environmental Consequences

3.7.2.1 No Action

Under the No Action Alternative, the Proposed Action would not occur, and the existing electrical substation would continue to operate at Altus AFB. Aircraft training and other military operations at the Base would continue to experience power outages due to the condition and design of the current substation. Over time, the frequency of power outages would likely increase, as would the need for electrical repairs and their associated safety risks.

3.7.2.2 Proposed Action

Under the Proposed Action, the existing, above ground electrical substation would be deactivated once the new substation is operational. The existing substation, including its associated subsurface components, would then be demolished, excavated, dismantled, and removed from the project site.

Although sufficient capacity exists to provide continual electricity for military training and operations at Altus AFB, the Proposed Action would substantially improve the condition, reliability, and efficiency of the electrical distribution system servicing the Base. That is, the Proposed Action would result long-term, beneficial effects on the infrastructure and delivery of electricity to Altus AFB.

3.8 Hazardous Materials and Waste

3.8.1 Affected Environment

Hazardous materials are substances that are considered severely harmful to human health and the environment. The use or release of hazardous materials usually results in the generation of hazardous waste. AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*, establishes procedures and standards that govern management of hazardous materials and waste (HMW) throughout the Air Force.

Hazardous waste is defined under the Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. §6901 et seq.) as a solid waste (or combination of solid wastes) which, because of its quantity, concentration, or physical, chemical, or infectious characteristics may: (1) cause or contribute to an increase in mortality or an increase in serious irreversible, or incapacitating illness, or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Four characteristics determine whether a substance is considered hazardous. These include ignitability, corrosiveness, reactivity, and toxicity. Any solid waste that exhibits one or more of these characteristics is considered a hazardous waste.

On Altus AFB, hazardous waste is generated from aircraft and vehicle maintenance and various other mission support activities. To meet its obligations under RCRA, Altus AFB implements a comprehensive

hazardous waste management program. The program oversees activities that generate, accumulate, monitor, dispose of, or respond to incidents involving hazardous waste across the Base. Altus AFB maintains a Hazardous Waste Management Plan that contains "cradle-to-grave" procedures for the management of hazardous waste generated on the Base. Other hazardous waste management plans include more detailed guidance for a particular contaminant (e.g., asbestos-containing materials [ACM] and lead-based paint) or activity (e.g., spill or incident response).

3.8.1.1 Environmental Restoration Program

Through the Environmental Restoration Program (ERP) (formerly the Installation Restoration Program), military installations are required to identify, investigate, and clean up hazardous waste disposal or release sites. The ERP provides a uniform, thorough methodology to evaluate past disposal sites, control the migration of contaminants, minimize potential hazards to human health and the environment, and clean up contamination through a series of stages until it is decided that no further remedial action is warranted.

Altus AFB currently manages 14 active ERP sites; clean up actions have been completed for another 15 sites (some of which are subject to long term monitoring programs). None of these sites overlap with or occur adjacent to the project site.

3.8.1.2 Emerging Contaminants

Per- and Polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used in industry and consumer products since the 1940s due to their useful properties. There are thousands of different chemicals in the PFAS group, some of which are more widely used and studied than others. Most PFAS share characteristics of concern in their ability to move, persist, and bioaccumulate in the environment over time. Although PFAS exposure in humans at relatively low concentrations is common, research suggests that exposure to concentrated sources of PFAS over long periods of time may be linked to adverse health outcomes (USEPA, 2021c).

The DoD identifies PFAS as a contaminant of concern associated with legacy aqueous film forming foam (AFFF) used to extinguish petroleum fires. In 2016, the USEPA issued a lifetime drinking water health advisory for two PFAS precursors in AFFF and health-based regional screening levels for a third PFAS used as a firefighting agent in AFFF. The USAF continues to evaluate potential AFFF releases on its current and former bases. The USAF is currently in the process of converting all old style AFFF to a new AFFF standard that does not use these contaminants. All Crash Fire Rescue Trucks at Altus AFB have been converted to the new AFFF type. The PFOS/PFOA contamination on Altus AFB is generally between 30-35 feet below the ground's surface and is primarily inside the flight line area and within the base fence line. No such sites occur on or near the Proposed Action (Air Force, 2023).

3.8.2 Environmental Consequences

3.8.2.1 No Action

Under the No Action Alternative, the Proposed Action would not occur, and the existing electrical substation would continue to operate at Altus AFB. Activities involving the use, handling, transport, and disposal of hazardous materials and waste would continue as specified in Base management plans and in compliance with applicable laws and regulations.

3.8.2.2 Proposed Action

Construction activities under the Proposed Action would involve the use, handling, storage, transport, and disposal of regulated HMW, such as vehicle and equipment operating fuels (e.g., oil, diesel, gasoline,

antifreeze, and lubricants). HMW associated with the demolition of the existing substation may include polychlorinated biphenyls (PCBs) (mainly in electrical cables, gaskets, grout/caulking, other electrical components, and paint), ACM (insulation materials and wallboard), lead-based paint, mercury in electrical switches and other components, and, in general, various petroleum, oils, and lubricants. The operation and maintenance of the Proposed Action would also involve the use and generation of HMW such as petroleum, oils, and lubricants. These activities would create potential for the accidental discharge or spill of HMW. Construction activities could also unearth contaminants in environmental media not yet known or identified for management action. Additionally, structural components of the existing electrical substation contain HMW in the form of PCBs and ACM.

Under the Proposed Action, the USAF would generate, handle, manage, store, package, characterize, transport, and dispose of all HMW used or generated onsite in accordance with written procedures and requirements set forth in applicable management plans. In the event of an accidental spill, all personnel would be required to adhere to the procedures outlined in the Spill Prevention Control and Countermeasure (SPCC) plan for Altus AFB. The Proposed Action would also require site- or project-specific BMPs to minimize potential adverse effects on the surrounding environment, as appropriate. All regulated HMW requiring treatment and disposal would be removed and transported to a final disposal location in accordance with applicable laws and regulations. With these management measures in place, potential effects from the use or generation of HMW would remain less-than-significant. Although no ERP or AFFF sites are known to be associated with the Proposed Action, should any soil or groundwater contaminants be encountered or suspected to occur in the course of ground-disturbing activities, work in that location would immediately cease for further evaluation and management action. Prior to demolition of the existing electrical substation, surveys would be conducted to identify components of the structure that contain PCBs, ACM, or other HMW that would be disturbed by the Proposed Action. Demolition plans would include all appropriate procedures and practices to properly handle, segregate, and dispose of such contaminants in accordance with applicable laws and regulations.

With these measures in place, potential effects from HMW during construction and operation of the Proposed Action would be short-term and minor.

4. CUMULATIVE IMPACTS

NEPA requires consideration of cumulative environmental effects of a federal proposed action. Cumulative effects may be accrued over time and/or in conjunction with pre-existing effects from other activities. A cumulative impact may result from individually minor but collectively significant actions expected to occur in a similar location and during a similar timeframe. This section analyzes the potential cumulative effects of the Proposed Action in combination with other past, present, and reasonably foreseeable federal and non-federal actions on and in the vicinity of Altus AFB.

4.1 Past, Present, and Reasonably Foreseeable Future Projects

Since past projects on and in the vicinity of Altus AFB are characterized and analyzed in Chapter 3 as part of the affected environment, the cumulative effects analysis focuses on present and reasonably foreseeable (i.e., proposed, planned, programmed, or funded), future projects that could combine with the Proposed Action in time or space. All of the identified projects would take place on the installation. Only one project would be expected to be implemented concurrent with the Proposed Action: renovation of the existing South Gate facilities. The other projects with relevance to the Proposed Action were those planned to occur from approximately 2026 through 2030. These military construction projects are in a pre-planning phase but would generally include:

- An entry control facility (Main Gate) with a designated access road, vehicle inspection area, and visitor's center.
- An additional aircraft taxiway with parking space.
- A multipurpose aircraft maintenance hangar.
- A new fitness center.
- Three operational support facilities to house military personnel and their administrative functions.

Based on the projects and the resource-specific impact analyses discussed above, potential cumulative effects associated with the Proposed Action were limited to floodplain management. The following sections analyze the potential cumulative effects on floodplain management that could result from the Proposed Action, in combination with other past, present, and reasonably foreseeable, future projects.

4.1.1 No Action

Under the No Action Alternative, the Proposed Action would not occur, and the existing electrical substation would continue to operate at Altus AFB. This alternative would not contribute to cumulative adverse effects on floodplain management, on or near the Base.

4.1.2 Proposed Action

Potential cumulative adverse effects on floodplain management under the Proposed Action could occur in combination with other construction activities, particularly those proposed within 100- or 500-year floodplains on Altus AFB. For example, a portion of the planned entry control facility (Main Gate) would occur in floodplains near the site of the Proposed Action. Based on the known details for this project, the area involved includes existing roadways that would be upgraded and expanded or realigned in support of the improved entry control features of the main facility. The siting and design of this project would be required to comply with applicable

laws and regulations for stormwater management, including the pre-development hydrology regulations under the EISA. Only a small, linear portion of floodplains would be affected by the project given the existing infrastructure. Although the planned entry control facility would affect floodplains, regulatory compliance measures would be in place to avoid and minimize potential adverse effects. Therefore, when combined with the Proposed Action, cumulative adverse effects on floodplain management would be minor and less-than-significant.

5. LIST OF PREPARERS

Tony Ruhlman
Project Manager, NEPA Analyst
M.S. Biology, Central Michigan University, 1992
B.S. Biology, Alma College, Alma, Michigan, 1988

Michael Robertson
NEPA Analyst
M.S. Environmental Planning Studies, Newcastle-upon-Tyne, 2005
B.S. Crop and Soil Environmental Science, Virginia Tech, 1999

Kelly Green
NEPA Analyst
M.P.A. Public Administration-Environmental Sciences Emphasis, Idaho State University, 1998
B.S. Ecology, Idaho State University, 1992

Emily Tobin
NEPA Analyst
M.S. Environmental Science, University of Glasgow, 2015
B.A. Geology, Clemson University, 2014

Robert Golus
Meteorologist
M.S. Meteorology, Pennsylvania State University, 1982
B.S. Geology, Edinboro University of Pennsylvania, 1977

Nick Giannopoulos
Air Quality Manager
M.S. Environmental Systems Engineering, Clemson University 1987
B.S. Chemical Engineering, Clemson University, 1984

Eric Adams
Geographic Information System Analyst
B.S. Geology, Portland State University, 2016

Michael Pardue
Geologist
M.S. Hydrogeology, Clemson University, 2012
B.S. Geological Sciences, University of North Carolina at Chapel Hill, 2009

6. REFERENCES

32 CFR 989, "Environmental Impact Analysis Process (EIAP)." *Code of Federal Regulations*.

36 CFR 800, "Protection of Historic Properties." *Code of Federal Regulations*.

40 CFR 1500–1508, Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA). *Code of Federal Regulations*.

42 U.S.C. §§ 4321 - 4370d, National Environmental Policy Act (NEPA) of 1969. *United States Code*.

AFCEC. 2018. *Second Five-Year Review Report. Altus Air Force Base*. Air Force Civil Engineer Center. March 2018.

AFI 32-1015, *Integrated Installation Planning* (30 July 2019), Chapter 5, Environmental Impact Analysis Process. Air Force Instruction.

Air Force. 2014. *Installation Development Plan. Altus Air Force Base*. June 2014.

Air Force. 2017. Air Force Response to PFOS/PFOA Fact Sheet. November 2017.

Air Force. 2018. *Altus AFB Environmental Information-Water Information*. Accessible online at https://www.altus.af.mil/About-Us/Environmental-Information/.

Air Force. 2020. *Facility Response Plan. Altus Air Force Base*. December 2020.

Air Force. 2020. *Integrated Cultural Resources Management Plan. Altus Air Force Base*. August 2020.

Air Force. 2020. *Request for Environmental Impact Analysis*. AF Form 813 AUG 93 (EF-V1). Altus Air Force Base.

Air Force. 2021. *Asbestos Management and Operations Plan*. 30 September 2021.

Air Force. 2021. *Installation Energy Strategic Plan*.

Air Force. 2021. *Integrated Natural Resources Management Plan. Altus Air Force Base.*

Air Force. 2021. *Integrated Pest Management Plan. Altus Air Force Base*. October 2021.

Air Force. 2021. *Storm Water Pollution Prevention Plan. Altus Air Force Base*. May 2021.

Air Force. 2022. Altus Air Force Base Website. Accessible online at https://www.altus.af.mil/. Accessed September 2022.

Air Force. 2022. *APIMS Criteria Pollutant Emissions for Calendar Year 2021. Altus Air Force Base.* February 2022.

Air Force. 2022. *APIMS HAP Summary for Calendar Year 2021. Altus Air Force Base*. February 2022.

Air Force. 2022. *Lead Based Paint Management and Operations Plan. Altus Air Force Base*. February 2022.

Air Force. 2022. *Hazardous Waste Management Plan. Altus Air Force Base*. February 2022.

Air Force. No Date. *FY 2023 Project Data – Replace Electrical Switch Station*. DD Form 1391, July 1999. Altus Air Force Base.

CEQ. 2023. "National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (issued Jan. 9, 2023)." Federal Register, Vol. 88, No. 32. Council on Environmental Quality. February 16, 2023. [CEQ–2022–0005].

CIRE. 2017. *Acoustic Survey for Northern Long-Eared Bat*. Center for Integrated Research on the Environment. March 2017.

DAFI 90-2002, *Interactions with Federally Recognized Tribes*, Department of Air Force Instruction. August 24, 2020.

DOD and DOE. 2020. *Memorandum of Understanding Concerning a Collaboration to Enhance Energy Resilience*. Department of Defense and Department of Energy. 28 September 2020.

DoDI 4710.02, *DoD Interactions with Federally Recognized Tribes*, Department of Defense Instruction. September 14, 2006.

EO 11988, *Floodplain Management*, Executive Order. May 24, 1977.

EO 11990, *Protection of Wetlands*, Executive Order. May 24, 1977.

EO 12372, *Intergovernmental Review of Federal Programs*, Executive Order. July 14, 1982.

EO 13175, *Consultation and Coordination with Indian Tribal Governments*, Executive Order. November 9, 2000.

EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, Executive Order. January 30, 2015.

EO. 2021a. Executive Order 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis. Executive Order. January 20, 2021.

EO. 2021b. *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990. Interagency Working Group on Social Cost of Greenhouse Gases, United States Government*. Executive Order. February 2021. https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf.

EPA. 2016. *What Climate Change Means for Oklahoma*. EPA 430-F-16-038. National Center for Environmental Publications, U.S. Environmental Protection Agency. August 2016.

EPA. 2022. *Facility Level Information on Greenhouse Gases Tool*. Accessible online at https://ghgdata.epa.gov/ghgp/main.do. U.S. Environmental Protection Agency. Accessed October 2022.

EPA. 2023a. *National Ambient Air Quality Standards (NAAQS).* https://www.epa.gov/criteria-air-pollutants/naaqs-table. U.S. Environmental Protection Agency. Accessed May 2023.

EPA. 2023b. 40 CFR Part 81.337, Designation of Areas for Air Quality Planning Purposes – Subpart C – Attainment Status Designations – Oklahoma.https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-81/subpart-C/section-81.337. U.S. Environmental Protection Agency. Accessed May 2023c.

EPA. 2023c. *Greenhouse Gas Emissions, Inventory of U.S. Greenhouse Gas Emissions and Sinks*. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks. U.S. Environmental Protection Agency. Accessed May 2023.

EPA. 2023d. *2020 National Emissions Inventory (NEI) Data*. https://www.epa.gov/air-emissions-inventories/2020-national-emissions-inventory-nei-data, U.S. Environmental Protection Agency. Accessed May 2023.

FEMA. 2012. *Jackson County Oklahoma Floodplain Map*. Federal Emergency Management Agency. Effective April 3, 2012.

Geo-Marine, Inc. 2003. *Cold War Context Series Reports of Investigations Number 8*. Altus Air Force Base. November 2003.

NRCS USDA. 2023. *Web Soil Survey*. Available online at https://websoilsurvey.sc.egov.usda.gov/. Natural Resources Conservation Service, U.S. Department of Agriculture. Accessed 25 May 2023.

OK DEQ. 2010. *2010 Corrective Action Permit. Altus Air Force Base (OK9571824045)*. Accessible online at https://www.deq.ok.gov/land-protection-division/waste-management/hazardous-waste/altus-air-force-base/. Oklahoma Department of Environmental Quality. Accessed October 2022.

OK DEQ. 2022. *Water Quality in Oklahoma - 2022 Integrated Report*. Oklahoma Department of Environmental Quality. August 2022.

University of Montana-Center for Integrated Research on the Environment. 2017. Acoustic Survey for Northern Long-eared Bat.

USACE. 1982. *Electrical Switching Station (as-builts*). *Altus Air Force Base*. U.S. Army Corps of Engineers. July 1982.

USAF. 2017. *Air Conformity Applicability Model (ACAM) Quick Start Guide*, Version 5.0. United States Air Force. July 2017.

USAF. 2022. *Climate Action Plan*. October 2022. https://www.safie.hq.af.mil/. United States Air Force.

WCRM. 1987. *A Multicultural Resource Inventory of Altus Air Force Base, Jackson County, Oklahoma*. Western Cultural Resource Management, Inc. December 1987.

Appendix A

Public, Agency, and Native American Correspondence and Consultation

Agencies

State Historic Preservation Office
Attn: Section 106 Consultation
Oklahoma Historical Society
800 Nazih Zuhdi Drive
Oklahoma City, OK 73105

Oklahoma Archeological Survey
University of Oklahoma
111 Chesapeake Street
Norman, OK 73019-5111

US Fish and Wildlife Service
Oklahoma Ecological Services Field Office
9014 E. 21st Street South
Tulsa, OK 74129-1428

Oklahoma Department of Wildlife Conservation
P.O. Box 53465
Oklahoma City, OK 73152

Mr. Jon Roberts
Oklahoma Department of Environmental Quality
Office of Business and Regulatory Affairs
P.O. Box 1677
Oklahoma City, OK 73101-1677

US Environmental Protection Agency
USEPA Region 6
1201 Elm Street, Suite 500
Dallas, TX 75270

Mr. Jerry Abbott
Jackson County Emergency Management Administration

City of Altus
Planning and Development Department
509 S Main Street
Altus, OK 73521

Office of the Mayor/City Manager
509 S Main Street
Altus, OK 73521

Native American Tribes

Superintendent Rose Roberson
Bureau of Indian Affairs, Southern Plains Region
Anadarko Agency
P.O. Box 309
Anadarko, Oklahoma

Caddo Nation
Tribal Historic Preservation Officer
P.O. Box 487
Binger, OK 73009

Governor Bill Anoatubby
Chickasaw Nation
P.O. Box 1548
Ada, OK 74821

Director Carissa Speck
Delaware Nation
P.O. Box 825
Anadarko, OK 73005

Ms. Martina Minthorn
Tribal Historic Preservation Officer
Comanche Nation
P.O. Box 908
Lawton, OK 73502

Apache Tribe of Oklahoma
Tribal Historic Preservation Officer
P.O. Box 1330
Anadarko, OK 73005

Chairman Lawrence SpottedBird
Kiowa Indian Tribe of Oklahoma
100 Kiowa Way
Carnegie, OK 73015

Tribal Historic Preservation Officer
Wichita and Affiliated Tribes, Oklahoma
P.O. Box 729
Anadarko, Oklahoma 73005

Sparklight® teams with eero to launch advanced whole-home connectivity solution in Altus

Sparklight®, a leading broadband communications provider, today announced the launch of Wall-To-Wall WiFi, an advanced whole-home connectivity solution that provides fast, reliable and secure internet throughout the home.

Teaming up with eero, an Amazon company, Sparklight will offer the eero ProGE to deliver comprehensive WiFi coverage throughout the home - regardless of size or shape, creating a wide-ranging signal that eliminates dead zones. Powered by the latest Wi-Fi 6 technology, Wall-To-Wall WiFi connects and transmits wirelessly up to 1 Gig, while eero's patented TrueMesh technology learns the layout of a network to intelligently route traffic and help optimize a customer's WiFi.

Every eero device comes with encryption and security protocols, and ongoing security updates to help protect against the latest threats. In addition, eero Secure enhances your eero with services to help keep your connected devices safe and secure with advanced parental control features, active threat protection, and ad blocking. An eero Plus option will be available to customers, providing an additional layer of advanced online security with eero Dynamic DNS, licenses for 1Password, Malwarebytes, and encrypt.me VPN, and more.

"Wall-To-Wall WiFi will give our customers an exceptional whole-home internet connectivity experience, delivering faster speeds, reliable coverage and advanced online security that allows for safe and fast browsing, streaming, gaming and social networking," said Ken Johnson, Cable One Chief Technology and Digital Officer.

The company's new Wall-To-Wall WiFi is managed through a convenient and easy-to-use app, which enables customers to view and manage their network – from anywhere, at any time.

"Residential WiFi needs are constantly growing as customers continue to work, learn and access entertainment using multiple devices in their homes," Johnson said. "With the capacity to support more than 100 connected devices simultaneously, Wall-To-Wall WiFi meets those ever-changing needs, giving our customers a superior internet experience they can trust and rely on."

Sparklight, part of the Cable One family of brands, continues to invest in bringing fast and reliable internet to the communities it serves. Over the past three years, the company has invested more than $1 billion across its footprint in network upgrades and enhancements to stay ahead of customer demand for increased speed and data and to lay the groundwork to launch speeds as fast as 10 Gigabits (10G) and beyond. With the launch of eero and the company's roadmap to next gen DOCSIS 4.0 underway, Sparklight is looking forward to delivering speed 10 times faster than today's networks - transforming the customer experience, creating new possibilities for smart cities, connected homes, virtual and augmented reality and business.

More information about Wall-To-Wall WiFi can be found by visiting www.sparklight.com/wall-to-wall-wifi.

Tips for avoiding bug bites this summer

STATEPOINT — Bug bites are not just a nuisance; they can cause discomfort and even pose health risks for some.

"Mosquitoes that may carry Zika, Chikungunya, Dengue fever and West Nile virus are always out in full force during the summer months and new evidence suggests that tick populations are growing, expanding their geographic ranges and carrying additional pathogens," says Daniel Perry, entomologist at Zevo, a maker of pest control products that are made to bother bugs, not people.

From beach barbecues to walks in the woods, here's how to safeguard yourself against ticks and mosquitoes, so you can stay bug-free this summer for whatever takes you outside.

• Beat backyard bugs: Eliminate standing water to prevent mosquitoes from using your backyard as a breeding ground in areas where you entertain and dine. Keeping your lawn and weeds in check is a useful step for managing ticks.

• Take safer walks: Whether you're picnicking in the park, walking the dog, working in the garden or hiking in the woods, it's important to be mindful of ticks, which can transmit Lyme and other diseases. When possible, avoid contact with tall grass and brush, which is where ticks reside. Always be sure to launder your outdoor gear shortly after use. Take a shower soon after getting home, being sure to inspect your body (and your dog's!) for ticks. If you do spot a tick, follow proper protocol for removal, using clean tweezers and removing fully, without squeezing or twisting the tick.

• Protect your skin: "No matter what your outdoor plans entail, bug spray products applied beforehand are your best bet for complete protection against mosquitoes and ticks, and of course, the diseases they harbor and transmit," says Perry.

The new line-up of Zevo On-Body Mosquito + Tick Repellents are odorless and non-greasy, unlike traditional insect repellents, and provide complete, feel-good protection for the entire family for up to 8 hours. Whether you're at a garden-style wedding or hiking a mountain trail, you can be comfortable and protected from bugs with this innovative formula. The active ingredient in these products is inspired from a naturally-occurring amino acid and doesn't leave your skin feeling sticky, which is a big bonus when you're spending all day outside or even just 30 minutes! It's available as an aerosol spray, a pump spray, and a lotion, which allows for easy, mess-free application before you go outside.

• Camp smart: Before departing for a camping trip, check your tent for small holes and repair or replace as needed. Select a campsite away from standing water, and zip up your tent whenever you're not actively entering or exiting it. These measures will help you feel comfortable and protected from bugs on your next trip.

Don't let the bugs bug you this summer. From sporting events to evenings on the patio, a few precautions can help ensure your comfort and protection from those pesky pests.

Local woman turns 104

Courtesy photo

Grace Dempsey turned 104 on Friday, May 18. Grace is very spunky for 104. She likes to watch Thunder basketball and loves playing bingo. Grace always has a smile on her face. Thank you Grace, for letting us celebrate your big day with you.

PUBLIC NOTICE

PREPARATION OF ENVIRONMENTAL ASSESSMENT FOR CONSTRUCTION OF AN ELECTRICAL SUBSTATION ALTUS AIR FORCE BASE, OKLAHOMA

The U. S. Air Force (USAF) is inviting public input on practicable alternatives for a proposed project within the 100-year floodplain on Altus Air Force Base (AFB), Oklahoma. The action under consideration is to construct a nine-megawatt electrical substation adjacent to the existing substation located south of Falcon Road near the Main Gate. It also includes the demolition of the existing 40-year-old substation. The new substation would consist of up to eight enclosed pad-mounted switch stations mounted on eight-foot by eight-foot concrete pads configured approximately six feet apart. All other electrical components would be housed below ground. The action would require the placement of clean fill material in the floodplain to elevate the new substation components above 100-year flood levels. The new substation is needed to reduce risks to the military mission caused by regular Base-wide power outages due to the outdated and obsolete design of the existing substation. Construction and operation of a new substation would result in more efficient, reliable, and secure electrical services on Altus AFB to support mission-critical capabilities. The USAF has identified two practicable alternatives, both of which would require impacts to the 100-year floodplain: (1) placing fill over a contiguous area on which the pads would be installed, and (2) reducing the amount of fill by installing fiberglass collars on the pads to elevate the electrical components. Because of limited space adjacent to the incoming power lines and associated components owned by the Western Farmers Electrical Cooperative, the USAF has not identified any practicable alternatives that would not impact the 100-year floodplain. The proposed action would impact less than one acre of land in total and approximately one-tenth of an acre within the floodplain.

The USAF is performing an environmental analysis in accordance with the National Environmental Policy Act to analyze the potential environmental impacts of this proposed action. In accordance with Executive Order 11988, Floodplain Management, this early public notice solicits public input regarding the proposed action. The USAF point of contact for this proposed action is Lori Stevens, lori.stevens.2@us.af.mil.

The following state and federal regulatory agencies will have the opportunity to review this action: Oklahoma State Historic Preservation Office, Oklahoma Department of Wildlife Conservation, Oklahoma Department of Environmental Quality, US Environmental Protection Agency, US Army Corps of Engineers, US Fish and Wildlife Service, and the Federal Emergency Management Agency.

The USAF requests your input no later than 30 days from the publication date of this notice. Please address any written comments to the Altus AFB Public Affairs Office at 510 N. 6th St., Bldg. 87, Room 107, Altus AFB, OK 73521, or via email at 97amw.pa@us.af.mil.

What is a holiday without reminiscing about past holidays?

KATHLEEN GUILL
Managing Editor

One Thanksgiving I will never forget is the year we all got food poisoning from a restaurant when we decided to cut our workload. We all wish we'd just put in the effort for a homemade Thanksgiving and we will never make the mistake of eating out on a holiday again.

Planning this Thanksgiving took me back to the year 2007 — the year of the holiday mishaps.

We decided that we should eat out for Thanksgiving — mistake number one.

Restaurant staff left the turkey sitting out too long — mistake number two.

We all thought it tasted a little funny but we ate it anyway — mistake number three.

My dad was in the process of building his beautiful home, so in the meantime, we all stayed in his little house on the prairie cabin minus the loft. It had running water…until the well ran dry. And it did, a lot. To flush the toilet, we had to go outside to the rain barrel and get a bucket of water to pour in the tank.

There were six people, one bathroom, and food poisoning. When we weren't running from the bathroom to the rain barrel and back again, we were huddled in the corner praying the person before us would hurry up.

"Someone needs to brave a trip to the grocery store," mom said.

I thought maybe I could handle it because my stomach seemed to be calming down. So, my brother, sister, and I made a mad dash to the store to stock up on Imodium and Pepto.

"Please stay put," I begged my stomach as we sped around the twisty, curvy Arkansas mountain roads. We just barely beat our stomachs to the store.

My sister's stomach wasn't as calm as she thought, so she made a quick run to the bathroom and when she came out, she was on the phone.

"What do you mean you're bleeding?"

"Who's bleeding?" I asked, thinking someone was bleeding from the food poisoning.

"An engine fell on your head?"

"Whose head?" I asked, now worried about my kids.

Meanwhile, my sister is making the universal hand gesture for "shut up, I'm on the phone."

"Okay, we're on our way back," she said, slamming her phone shut. "Mom said an engine fell on her head and she's bleeding. She needs to go to the hospital."

"An engine? You're sure she said engine?"

"She said an engine rolled off the freezer and hit her in the head."

"Yeah, if it was an engine, she'd probably be dead."

In hindsight, we may have stood there discussing the situation a little too long. Although we were all fairly sure an engine hadn't rolled off the freezer and hit her in the head — something had, and she needed to get to the hospital.

This time, we took the curves way too fast and nearly slid off the side of the mountain, but we made it back where we found that an alternator had rolled off the freezer and hit our mom in the head. A quick rock, paper, scissors later — it's decided that I'm the one taking her to the hospital and my sister will stay with the kids. I think it was just because she needed the bathroom more than I did at that moment.

Five hours, six staples and a tetanus shot later, we were released from the hospital with instructions to come back in a week for staple removal and to quit putting car parts on the freezer. You'd think that was the end of the story, wouldn't you? How many things can happen over one holiday weekend to the same family?

Saturday, the day we were leaving to go home, my son woke up fussy and he cried for 16,000 hours — maybe it was only six hours — and refused to eat so we decided to stop at the emergency room in a town we were passing through. Poor guy had tonsillitis.

A few weeks later, we were getting ready for Christmas, thankfully not traveling. Just a nice quiet Christmas at home. I was wrapping Christmas presents and ran out of tape.

"Hey, the baby is sleeping," I said to my brother-in-law. "Can you listen for him while I run to the store?"

My oldest was three at the time and wanted to come with me. After getting the tape, we left the store and I got halfway to my car when I saw a giant white dog approaching out of my peripheral vision. I looked over at it and its head was down. It was not wagging its tail and it was showing its giant teeth.

I looked back at the door I'd just exited, then at my car, trying to decide which one was closer. In that split second, I decided the car was my best bet and I started slowly walking toward it, even though every instinct I had was telling me to run, while keeping an eye on the dog.

Bam! I smashed my head into a square pole. The corner of the pole met the corner of my eye and left a gash in my eyebrow.

We finally made it to the car and I opened the passenger side door, threw the kid inside and jumped in after him.

"You squooshed me, mama," he said.

I did practically sit on him in my panic, but he was fine. I was the one with a gash in my eyebrow, which still doesn't grow right, by the way.

I managed to get him buckled into his car seat and I looked out the window expecting to see the dog trying to claw its way into the car, similar to the way the wolves attacked Belle in "Beauty and the Beast" but it was still standing in the same spot. So, maybe I overreacted a bit.

I thought I was crying so I reached up to wipe the tears away and realized I wasn't crying. That was blood I felt running down my face.

After I got home, I told my brother-in-law that I was sorry I took so long at the store.

"You were gone 10 minutes," he said.

That's right. This whole episode that felt like hours happened in 10 minutes.

"I was attacked by a dog," I said.

Then I relived the terror and really did start crying.

"If you're going to cry, get out. I can't talk to a hysterical female," he said.

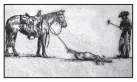
I did eventually admit that I overreacted to the stray dog. And I'm admitting now that I still overreact every time I see a stray dog – which is quite often.

Despite the year of the holiday mishaps, I still love them, and thankfully, none of them have been nearly as eventful as that year.

I'm happy to report that my family and I can finally look each other in the eyes again and my parents' new house has three bathrooms.

Here's hoping all of your holidays are full of love, thankfulness, and no food poisoning!

Hypocrites at Church!



WESKINDER
Contributing Columnist

I heard it again, a few days ago! I won't go to that church, they're all hypocrites!

Are you pretty good at tellin' others what to do, but maybe you don't listen to what you are sayin'? You know what I'm talkin' about, "Do as I say, not as I do." How many of us, as parents, teachers, coaches, leaders, or – yes, even pastors have ever said something similar?

There are a great number of folks who claim that they won't attend church because of someone else who attends and the way they act. "I am not going to have anything to do with church because it is full of hypocrites."

"I'll tell you what, I see where the Bible teaches one thing and some of them church members do just the opposite." Yes, that is called sin. The Church is full of sinners, and just as Paul says, "I am the greatest."

It's called hypocrisy which originates in the Greek. It's Greek to me! Seriously, it was a theatrical term describing an actor that played two or more roles often wearing a mask as a disguise. That's where we get two-faced from. We have some other names for it as well. Hypocrisy is all about living a lie. It involves deception, dishonesty, and trickery. Why does this person do this? Often, he does it to seek praise and approval from others. But we need to know; God is not pleased! Jesus commands us in Matthew 6 not to be hypocritical in our giving, our prayers, or in our fasting.

And, yes, there are hypocrites in the church. A hypocrite can destroy not only his own reputation, but also the reputation of the local church as well.

Jesus pointed out that the scribes and Pharisees were hypocrites for they did not do at all as they taught. Matthew 23:2-3, "The scribes and the Pharisees have seated themselves in the chair of Moses; therefore all that they tell you, do and observe, but do not do according to their deeds; for they say things and do not do them. (nasb)

But is a preacher or teacher to be considered a hypocrite because he teaches God's word, yet has sin in his life? Paul said in 1 Tim 1:15, "It is a trustworthy statement, deserving full acceptance, that Christ Jesus came into the world to save sinners, among whom I am foremost of all. Paul wasn't excused as a result of this and nor should we!

So are preachers hypocrites? It is true that James 3:1 warns that preachers and teachers "will incur a stricter judgment." As a minister, God requires me to preach Truth from the Word of God. If I only preach on the subjects I have mastered there would be very little left for me to talk about. When I stand on my "preacher's box," As for me, I stand as part of the group. When I speak, I am first preaching to myself. God convicts me, and then He shows me through His word. Then, He guides me to prepare a message that I need to hear. And, no doubt, the local body needs to hear it as well! So, in proclaiming God's Word, while proclaiming we have yet to master sin, we are not being hypocrites. Those who make false claims will be judged.

The trouble is that the world is confused! They somehow have the idea that followers of God should never fail! But folks, the church is plum full of sinners. Now, as to whether not having to surround yourself with sinners is some sort of a valid excuse for staying away from church and surrendering your life to Christ, you'll have to take that up with God. But, God won't go against His Word!

Choose Jesus, choose life! And find a Bible believin' church where you "fit in" and know, grow, and follow Christ! Tell others! See y'all at church and keep PRAYIN' for HIS HARVEST! And y'all please KEEP PRAYIN' for RAIN! Amen

NOTICE OF AVAILABILITY

Draft Environmental Assessment and Finding of No Significant Impact for Electrical Substation Replacement

Altus Air Force Base, Oklahoma

The U.S Air Force (USAF) is proposing to construct a new electrical substation to replace the current substation at Altus AFB. The replacement is needed because of electrical power disruptions due to deficiencies in the design of the current substation that result in real risks to the Altus AFB mission. The existing substation, which was constructed in 1984, has exceeded its service life and does not meet current codes. Additionally, the open switching system exposes distribution and switch lines/wires to inclement weather and wildlife.

The USAF has prepared a Draft Environmental Assessment (EA) and Finding of No Significant Impact, (FONSI), pursuant to the National Environmental Policy Act, that is available for public comment. The Draft EA and FONSI evaluate the environmental impacts from construction of the new substation and demolition of the existing facility.

The Draft EA and FONSI can be reviewed online at https://www.altus.af.mil/About-Us/Environmental-Information/ and at the following libraries:

Altus Public Library 421 North Hudson Altus, OK 73521	Altus AFB Library 109 East Avenue Altus AFB, OK 73523

You are encouraged to submit written comments to the Altus AFB Public Affairs Office at 510 N. 6th St., Bldg. 87, Room 107, Altus AFB, OK 73521, or via email at 97amw.pa@us.af.mil. Comments must be received by email or postmarked by 16 December 2023 to receive consideration.

CHURCH DIRECTORY

This Devotional Directory is made possible by these businesses who encourage all of us to attend worship services

ADVENTIST
Seventh Day Adventist, 1304 N. Chalmers, Altus, OK 73521

APOSTOLIC
The Apostolic Truth, 2400 Galaxy Drive, Altus, OK 73521

ASSEMBLY OF GOD
Freedom Church, 1400 Falcon Road, Altus, OK 73521
Glad Tidings Assembly Of God, 1505 Tamarack Road, Altus, OK 73521
Templo Sinai Spanish Assembly, 805 N. Blain St., Altus, OK 73521

BAPTIST
First Baptist Church, 420 Hughes Drive, Blair, OK 73526
Emmanuel Baptist, 800 N. Forrest, Altus, OK 73521
First Baptist Church, 300 N. Main, Altus, OK 73521
First Baptist Church, 101 4th Street, Duke, OK 73532
First Baptist Church, 615 W. 4th Olustee,OK 73560
Friendship Baptist, 16010 Cr S. 210, Altus, OK 73521
Landmark Missionary, Baptist N. Hwy 283, Blair, OK 73526
Macedonia Baptist, 721 W. Nona, Altus, OK 73521
Martha Road Baptist Church, 20388 E. Cr 158, Altus, OK 73521
Primera Iglesia Bautista, 401 E. Livcoak, Altus, OK 73521
Prairie Hill Baptist, P.o. Box 311, Olustee, OK 73560
Saint John Baptist Church, 620 West Martin Luther King, Altus, OK 73521
St. John's Baptist, 620 W. Nona Street, Altus, OK 73521
Southside Baptist, 1100 Asa Lee, Altus, OK 73521
Tabernacle Baptist, 321 N. Lee Street Altus, OK 73521
Trinity Baptist, 1300 N. Benson, Altus, OK 73521
Victory Baptist Church, 1200 S. Park Lane, Altus, OK 73521

CATHOLIC
Prince Of Peace, 1500 Falcon Road, Altus, OK 73521

CHRISTIAN
First Christian, 2501 N. Park Lane, Altus, OK 73521
Christway Christian Church, Po Box 551, Blair, OK 73526
Church Of Christ, 600 W. Pecan, Altus, OK 73521
Elm & Hudson Church Of Christ, 400 N. Hudson, Altus, OK 73521
Ridgecrest Rd Church Of Christ, 1117 E. Ridgecrest Rd, Altus, OK 73521
Tamarack Rd Church Of Christ, 1000 E. Tamarack, Altus, OK 73521
Church Of Christ, 600 W. Pecan, Altus, OK 73521

CHURCH OF GOD IN CHRIST
Church Of God In Christ, 900 S. Main, Altus, OK 73521

EPISCOPAL
St. Pauls Episcopal Church, 721 N. Thomas, Altus, OK 73521

LUTHERAN
Faith Lutheran, 2401 N. Park Lane, Altus, OK 73521

METHODIST
United Methodist, 300 E. Main, Blair, OK 73526
First United Methodist, 317 N. Main, Altus, OK 73521
Grace United Methodist, 620 S. Park Lane, Altus, OK 73521
Highland Heights Methodist, 1911 N. Main, Altus, OK 73521
United Methodist Church, Street Elmer, OK 73539

CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
Church Of Jesus Christ Of Latter Day Saints, 1515 San Ann, Altus, OK 73521

NAZARENE
Church Of The Nazarene, 700 N. Main, Altus, OK 73521

NON-DENOMINATIONAL
Agap Fellowship, 20449 E. Cr 159, Altus, OK 73521
Altus Afb Base Chapel, 306 F Ave, Altus Afb, OK 73521
Thrive Church, 107 N. Hudson, Altus, OK 73521
Church Of The Nazarene, 700 N. Main, Altus, OK 73521
Crossroads Church Of Altus, Hwy 62, 5 Mi W Of Altus, OK 73521
The Door, 100 S. Park Lane, Suite 8 Altus, OK 73521
Family Life Church, 1901 Falcon Road, Altus, OK 73521
Grace New Life Fellowship, 1025 N. Forrest, Altus Afb, OK 73522
Living Waters Church, 1105 S. Navajo, Altus, OK 73521
New Beginnings, 613 Saturn, Altus, OK 73521
New Beginning With A New Hope, 400 S. Willard, Altus, OK 73521
Olustee Community Church, 17458 S. Cr 200, Olustee. OK 73560
On Mission, 221 West Walnut Altus, OK 73521
The Salvation Army, 1100 N. Park Lane, Altus, OK 73521
Spirit Of The Lord, 1120 W Wingfield, Altus, OK 73522
Strong Tower, 805 Martin Luther King Dr Altus, OK 73521
Relevant Church, 701 W. Broadway, Altus, OK 73521

PENTECOSTAL
Altus Church Of God, 900 S. Park Lane Altus, OK 73521
First United Pentecostal, 2400 Galaxy, Altus, OK 73521
Fuente De Salvation, 417 E. Cypress, Altus, OK 73521
New Life Pentecostal Holiness, 221 E. Commerce Altus, OK 73521
Over-Comer Faith Temple, 315 Ridgecrest, Altus, OK 73521

PRESBYTERIAN
First Presbyterian, 208 E. Cypress, Altus, OK 73521

REFORMED BAPTIST
One Way Christian Center, 605 E. 5th Street, Olustee, OK 73560

Appendix B

Air Conformity Applicability Model Report
Record of Air Analysis (ROAA)

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

PROPOSED ACTION

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impacts 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: ALTUS AFB
State: Oklahoma
County(s): Jackson
Regulatory Area(s): NOT IN A REGULATORY AREA
b. Action Title: Altus AFB - Electrical Substation Replacement - PROPOSED ACTION
c. Project Number/s (if applicable): N/A
d. Projected Action Start Date: 3 / 2026
e. Action Description:

PROPOSED ACTION would occur between Build Years 2025 and 2027 (year 2026 is used for this analysis). It includes:

---

(1) Limit of Disturbance - 0.5 acres

(2) Build Year 2026
- Affected area = 0.5 acres (i.e., limit of surface disturbance).
- Start year = 2026 (mid-point of range 2025-2027).
- Project duration 6-8 months.
- Material hauled onsite = 2,280 cu yds.
  - Round trip distance = 2 × 2 miles = 4 miles.
- Trenching area for underground electric lines (based on DOPPA Figure 3):
  - Proposed Substation to WFEC Substation = 50' × 150' area
  - Proposed Substation to Emergency Generators = 50' × 75' area (i.e., to the outgoing service lines).
- Demolition area = 75' × 75' (footprint of existing substation)
- New concrete pad for switch stations = 75' × 75' (conservative overestimate).
- No paving (other than new concrete pads)
- No new emergency generators.
- No operational air emissions.
- No increase to personnel.

(3) Operation Year 2027 and beyond

• No operational air emissions for this action.

f. Point of Contact:
Name:
Title: Contractor
Organization: North Wind - LGYB Federal
Email:
Phone Number:

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 action's 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:

2026

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.101	100	No
NOx	0.510	100	No
CO	0.806	100	No
SOx	0.002	100	No
PM 10	0.270	100	No
PM 2.5	0.020	100	No
Pb	0.000	25	No
NH3	0.000	100	No
CO2e	181.0		

2027 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	100	No
NOx	0.000	100	No
CO	0.000	100	No
SOx	0.000	100	No
PM 10	0.000	100	No
PM 2.5	0.000	100	No
Pb	0.000	25	No
NH3	0.000	100	No
CO2e	0.0		

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

North Wind Resource Consulting — 21-July-2023

Contractor — Date