Draft Environmental Assessment Addressing the Enhanced Use Lease Redevelopment at Kirtland Air Force Base, New Mexico

November 2019

PRIVACY ADVISORY

This EA is provided for public comment in accordance with the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) NEPA Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*.

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

Public commenting allows the Air Force to make better, informed decisions. Letters or other written or oral comments provided may be published in the EA. Providing personal information is voluntary. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meetings or hearings or to fulfill requests for copies of the EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of EA; however, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the EA.

COVER SHEET

REVISED PRELIMINARY DRAFT ENVIRONMENTAL ASSESSMENT ADDRESSING THE ENHANCED USE LEASE REDEVELOPMENT AT KIRTLAND AIR FORCE BASE, NEW MEXICO

Responsible Agencies: United States Air Force (USAF), Air Force Global Strike Command, Kirtland Air Force Base (AFB).

Affected Location: Kirtland AFB, New Mexico.

Report Designation: Draft Environmental Assessment (EA).

Abstract: The USAF is proposing to use Title 10 United States Code Section 2667, *Leases: Non-Excess Property of Military Departments and Defense Agencies Authorities*; Executive Order 13327, *Federal Real Property Asset Management*; and Deputy Assistant Secretary of the Air Force (Installations) policy to redevelop the underutilized portion of land on Kirtland AFB through an Enhanced Use Lease (EUL). The Proposed Action would develop a 77-acre underutilized site and evaluate a 23-acre developable site for future use at Kirtland AFB into a mixed-use development that could include office, retail/commercial, corporate apartments, hotel, gasoline station, and restaurant space uses. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities at the Environmental Impact Analysis Process (EIAP) Study Area. Thunderbird Kirtland Development Partners (TKD) would demolish the existing recreation facilities including a concession stand/storage building (Building 2555); TKD also would demolish the existing communications (ham radio) building (Building 509) located on the 23-acre site. The ham radio building is currently occupied by the Upper Rio FM Society, an amateur radio club that provides communication support for the community and base.

Under the No Action Alternative, the USAF would not enter into an EUL and the proposed mixed-use development, as described in the Proposed Action, would not be constructed. The No Action Alternative would maintain the current activities at the EIAP Study Area, and the USAF would not realize revenue generated from the EUL Agreement.

An alternative site location was identified and considered for analysis in the EA. The site is located north of the EUL land and Gibson Boulevard on approximately 86 acres of land, known as the Maxwell Area. This site was not carried forward for further evaluation because the area currently provides family housing under a privatized housing contract set to expire in 2019. If an extension of the housing contract were granted by the USAF, the alternative would not be feasible for redevelopment. Should an extension be denied, demolition costs would make the alternative cost-prohibitive. As such, the alternative was not carried forward for further evaluation.

The EA evaluates the potential for environmental impacts associated with the Proposed Action and No Action Alternative. The environmental impacts analysis conducted in the EA support the decision to either prepare a Finding of No Significant Impact or whether an Environmental Impact Statement is required.

Written comments and inquiries regarding this document should be directed by mail to the Kirtland AFB NEPA Program Manager, 377 MSG/CEIEC, 2050 Wyoming Boulevard SE, Suite 116, Kirtland AFB, New Mexico 87117-5270, or via email to kirtlandNEPA@us.af.mil. Letters or other written comments provided may be published in the Final EA. Any personal information provided will be kept confidential. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA; however, only the names of the individuals making comments and their specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI)
ENHANCED USE LEASE REDEVELOPMENT ENVIRONMENTAL ASSESSMENT
KIRTLAND AIR FORCE BASE, NEW MEXICO

Pursuant to provisions of the National Environmental Policy Act (NEPA), 42 United States Code (U.S.C.) §§ 4321 to 4370h; Council on Environmental Quality (CEQ) Regulations, 40 Code of Federal Regulations (CFR) Parts 1500-1508; and 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*, the United States Air Force (USAF) prepared the attached Draft Environmental Assessment (EA) to address the potential environmental consequences associated with redevelopment of an underutilized portion of land on Kirtland Air Force Base (AFB) through an Enhanced Use Lease (EUL).

Purpose and Need

The purpose of the Proposed Action is to redevelop a 77-acre (ac) underutilized site for redevelopment and evaluate 23 ac of undeveloped land for future use located on the northwestern portion of Kirtland AFB. Under an EUL, Kirtland AFB would lease the underutilized acres to Thunderbird Kirtland Development Partners (TKD) to construct a mixed-use development site that would include office, office/industrial, retail/commercial, restaurant, and hotel space. The additional 23 ac would become available through a future proposal and leasing negotiations.

The EUL allows installations to leverage the private sector's expertise and financial resources to build and/or develop existing land, buildings, and other real estate assets. EULs increase the USAF's ability to respond to mission shifts and realignments, allow use of underutilized assets to support unfunded USAF requirements, provide greater flexibility in the application of lease proceeds, and offer an alternative to property disposal.

The need for the Proposed Action is to return underutilized land, formerly used for military family housing (MFH), to a productive use that would result in an economic benefit for Kirtland AFB and the community. After privatization of the MFH in 2000, the deteriorating housing was demolished, leaving approximately 77 ac of underutilized land on the northwestern edge of the installation. The USAF published a competitive Request for Qualifications on the Federal Business Opportunities website for the purpose of soliciting proposals from public and/or private sector entities interested in leasing and developing the underutilized parcel. TKD's proposal was tentatively accepted and currently negotiating lease terms and conditions to incrementally develop the property through one or more Site Development Leases pending completion of the EIAP.

Description of Proposed Action and Alternatives

The USAF is proposing to use Title 10 U.S.C. § 2667, *Leases: Non-Excess Property of Military Departments and Defense Agencies Authorities*; Executive Order 13327, *Federal Real Property Asset Management*; and Deputy Assistant Secretary of the Air Force (Installations) policy to redevelop an underutilized portion of land on Kirtland AFB through an EUL. The Proposed Action would develop a 77-ac site and evaluate 23 ac of undeveloped land for future use (the EIAP Study Area) at Kirtland AFB into a mixed-use development that would include office, retail (which could include a gasoline station)/commercial, corporate apartments, hotel, and restaurant space uses. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities at the EIAP Study Area. Buildings would have electrical, plumbing, lighting, commercial communication lines, and heating, ventilation, and air conditioning systems. In addition, the Proposed Action would include

the installation of rooftop solar panels on yet to be determined buildings of the mixed-use development to offset utility costs.

An alternative site location for the proposed development was considered but eliminated from further detailed analysis because the site would not meet the purpose of or need for the Proposed Action. In addition, the alternative site would be cost-prohibitive as redevelopment costs would include significant demolition of existing housing units and buildings. As such, the alternative was eliminated from detailed analysis.

Under the No Action Alternative, the USAF would not enter into an EUL, and the proposed mixed-use development would not be constructed. While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, this alternative was retained to provide a comparative baseline against which to analyze the impacts of the Proposed Action, as required under CEQ regulations (40 CFR § 1502.14). The Proposed and the No Action Alternative were evaluated in this EA.

Summary of Findings

Potentially affected environmental resources were identified through communications with state and federal agencies and review of past environmental documentation. Specific environmental resources with the potential for environmental consequences include noise, land use, visual resources, air quality, geology and soils, water, biological, infrastructure, hazardous materials and wastes, safety, socioeconomics, and environmental justice.

Noise

The Proposed Action would include site preparation and construction activities for development of the EIAP Study Area. Depending on the phase of construction, demolition activities would occur. This type of activity typically involves the use of heavy equipment, which emit noise from 70 to 85 A-weighted decibels. Noise impacts during construction are expected to be short-term, moderate, and adverse. Once the EIAP Study Area is fully developed, traffic to the project site would be expected to increase. The distance of the EIAP Study Area from sensitive noise receptors would attenuate the increase in traffic noise below the criteria for sensitive noise receptors such as schools and hospitals. The projected increase of vehicles generated by the proposed development represent approximately 50 percent more vehicles daily; however, only 7 percent of the projected new vehicles are expected to travel during the peak hours. As such, noise impacts are expected to be long-term, insignificant, and adverse from increased traffic. While long-term, the noise environment would remain within acceptable noise levels; therefore, impacts to noise would not be significant.

Land Use

The EIAP Study Area would be converted from open space and recreational use to a multipurpose development including commercial, residential, and industrial land use. During construction, land clearing, soil excavation, and building construction would render the site unusable for other uses, resulting in long-term, moderate, adverse impacts. Once the site is fully built out, the multiuse development would provide long-term, moderate, beneficial impacts to the military and civilian residents in and around Kirtland AFB.

Visual Resources

The existing landscape has been disturbed and has lost much of its previous appearance. Ground disturbance and construction activities would be visible from surrounding areas and change the existing landscape that would be visible to surrounding viewers. This change to the visual landscape would result in short-term, minor, adverse impacts to visual resources. Background views of the Sandia and Manzano Mountains would not be impacted from construction activities. Once construction is complete, the newly constructed buildings and landscaping would visually enhance the project site and blend in with the surrounding urban landscape. Long-term, moderate, beneficial impacts to visual resources are expected from project development.

Air Quality

The Proposed Action would result in a long-term, insignificant, adverse impacts to air quality but is not expected to result in emissions levels above federal air quality thresholds. The EIAP Study Area is located in Bernalillo County, which was initially classified as nonattainment for carbon monoxide (CO) and later redesignated as maintenance in 1996, because CO concentrations decreased to below federal National Ambient Air Quality Standards. As a consequence, Albuquerque Environmental Health Department Air Quality Division (AEHD-AQD) submitted a 20-year CO Limited Maintenance Plan and Bernalillo County became subject to the Plan. As of 2016, the Limited Maintenance Plan for CO ended. As a result, General Conformity determination is no longer applicable to Bernalillo County. The county is in attainment for CO and all other criteria pollutants, and as such, conformity applicability analysis for Kirtland AFB is not required for any of the criteria pollutants. Short-term, minor, adverse impact from increased CO emissions during construction would not be significant and are not expected to cause an impact to federal air quality standards. During the proposed development operations, CO emissions from employee vehicles commuting to the site would result in long-term, insignificant, adverse impacts near the development area, but these impacts are not expected to result in any exceedance in National Ambient Air Quality Standards.

Geology and Soils

During construction and site preparation for the Proposed Action, soil materials and rocks would be excavated. Best Management Practices (BMPs) would be implemented as specified in the project-specific Stormwater Pollution Prevention Plan (SWPPP) to minimize soil erosion and sediment transport. Short-term, minor, adverse impacts to soil resources would occur at the EIAP Study Area during construction, but impacts would not be significant. During development buildout, soil material and rocks would be covered with buildings, roadways, and landscaping, reducing erosion and sediment transport. As such, little disturbance to soil resources are expected. The moderate seismic risk could pose a minor threat to the completed structures. Impacts to soils during development buildout are expected to be short- and long-term, minor, and adverse.

Water Resources

There are no surface water features such as arroyos, streams, or lakes at the EIAP Study Area. In addition, conditions needed for wetland formation are not present in the EIAP Study Area; therefore, no impacts to jurisdictional wetlands are expected. Stormwater runoff during construction at the project site would be managed under a project-specific SWPPP. Impacts to surface water and groundwater would be short-term, negligible, and adverse during project construction. Implementing procedures outlined in the SWPPP and applying BMPs would reduce the level to impact to water resources. Once constructed, the Albuquerque-Bernalillo County

Water Utility Authority would supply water to the proposed development for drinking, cleaning, and landscape irrigation. Xeriscape landscaping is proposed, drip irrigation would be used to limit water use in landscape areas. The amount of water use would represent less than 0.5 percent of Albuquerque's water use based on the development size. Long-term, negligible, adverse impacts to groundwater withdrawal and surface water supply are expected with full development of the Proposed Action.

Biological Resources

Kirtland AFB has an Integrated Natural Resources Management Plan (INRMP) in place, which was updated in 2018 and is integrated with other planning functions. Adherence of the INRMP with the Proposed Action ensures that the installation continues to support present and future mission requirements while preserving, improving, and enhancing ecosystem integrity.

Vegetation. The vegetation at the EIAP Study Area is mostly invasive and nonnative species typically associated with disturbed land; therefore, while a long-term change is anticipated, no significant impacts on vegetation is expected. Some areas would be landscaped after construction is complete using xeriscaping techniques designed to eliminate or reduce the need for irrigation, as well as using drought-tolerant native plants adapted to the region's climate that would provide long-term, moderate, beneficial impacts.

Wildlife Species and Habitat. Construction activities associated with the Proposed Action could cause moderate, short-term disturbances to wildlife that may inhabit the EIAP Study Area. Most of the wildlife species found on base are common and adapted to semi-urban settings. Some smaller, less mobile species may be adversely impacted from land clearing and construction activities; however, should mortalities occur, long-term, minor, adverse impacts to wildlife populations would be expected. The construction contractor would contact the Kirtland AFB Natural Resource Manager to arrange migratory bird surveys; nests found during surveys would be either relocated or construction would be delayed. If Gunnison's prairie dogs are present, measures to mitigate impacts would also take place. Implementation of the Proposed Action is not expected to cause significant impacts to wildlife species or their associated habitat.

Threatened and Endangered Species. No federal or state listed threatened or endangered species occur at the EIAP Study Area and this location lacks suitable habitat for listed species. In addition, there are no critical habitats within the EIAP Study Area. There would be no impact to threatened or endangered species or critical habitat from implementation of the Proposed Action. With the presence of Gunnison's prairie dog towns in the EIAP Study Area, there is the potential for the presence of the federal species of concern western burrowing owl. Prior to construction, surveys would be conducted; if active nests are found during surveys, mitigation measures may include relocation of owls to avoid impacts. If burrowing owls need to be relocated, they would be moved to other suitable habitats. While some mortalities are possible from this process, no long-term, adverse impacts to western burrowing owl populations are anticipated.

Infrastructure

The Proposed Action would require construction and installation of new infrastructure for water, wastewater, communications, and electrical power. Existing infrastructure is outdated and not adequate for the new development. Installation of new infrastructure would not be expected to result in impacts, but rather benefits would be realized from improved utility connection and capacity. No impacts are expected from installation of new commercial communications infrastructure has coordination with Kirtland AFB will be conducted prior to construction to avoid

existing military communications pathways. Traffic improvements would include new entrances/exits, traffic signals, pedestrian access, and parking facilities. These improvements are expected to enhance traffic flow along Gibson Boulevard and improve safety for drivers and pedestrians. Changes to transportation would represent a long-term, moderate, beneficial impact.

Hazardous Materials and Wastes

Construction equipment would utilize hazardous materials and petroleum products for minor equipment servicing and repair activities. Under the Proposed Action, the handling and storage of any hazardous materials and petroleum products would be carried out in compliance with applicable laws and regulations. Implementation of the Proposed Action would adhere to applicable management plans. The Proposed Action would result in a short-term, negligible, adverse impact should any hazardous materials or petroleum products be released into the environment.

All buildings would be evaluated for asbestos-containing material (ACM), polychlorinated biphenyl (PCB), and lead-based paint (LBP) abatement prior to their demolition. Prior to initializing demolition activity, notification would be provided in compliance with the AEHD-AQD regulations for National Emissions Standards for Hazardous Air Pollutants related to asbestos. Any regulated ACM, PCB, and/or LBP from demolition activities would be disposed of in accordance with state and federal laws. Two former Environmental Restoration Program (ERP) sites could still potentially be affected by the Proposed Action if they are found in place; however, their closure indicates minimal, if any, contamination if disturbed. The Proposed Action is not anticipated to occur within or immediately adjacent to any other ERP, Military Munitions Response Program, or Department of Energy Environmental Restoration sites. With BMPs in place, no adverse impacts are anticipated.

Safety

Under the Proposed Action, the development of the EIAP Study Area would generate effects on human health and safety associated with land clearing and construction activities. Likewise, the conversion of open space and recreation areas to land use with the potential for increased use along an Explosive Movement Route could increase the potential impacts to safety.

No impacts to health and safety are expected from construction or operational activities as activities would comply with requirements outlined in Occupational Safety and Health Administration (OSHA) Standards 29 CFR Part 1910, *General Industry*, and Part 1926, Construction, as well as New Mexico Occupational Health and Safety Bureau directives.

If ACM, PCB-containing ballasts and transformers, or LBP are identified during demolition of existing buildings, they would be removed by hazardous waste certified technicians hired by the developer. If soils at the development site contain levels of chlordane above the levels established for specific land use or that could be disposed of at special waste disposal sites, remediation actions would be initiated in accordance with the New Mexico Environment Department Voluntary Remediation Program as outlined in 20.6.3 New Mexico Administrative Code. Potential short-term, minor, and adverse impacts from these activities would end upon completion of construction activities.

Transportation of explosives through the Truman gate would continue under the Proposed Action. All trucks and drivers must comply with the requirements of OSHA Standard 29 CFR § 1926.902, Surface Transportation of Explosives, before transporting explosives; therefore, potential long-

term, negligible, and adverse impacts could be expected. There would be no impacts to safety zones as the Proposed Action is located outside of the Federal Aviation Administration Runway Protection Zone.

Socioeconomics

During construction of the Proposed Action, there would be a temporary increase in construction jobs. Most workers would come from the Albuquerque area, so there would be no impacts to schools, housing, or demand for government services and infrastructure from relocated workers. The impact to socioeconomics during construction would be short-term, minor, and beneficial from temporary job creation and tax revenues. At full development, the Proposed Action would develop new businesses and employ individuals to work in the retail, hotel, restaurant, and business establishments. Indirect benefits would be realized to companies providing services such as office supply companies, food services, hospitality services, and computer/technology services. The state of New Mexico would receive tax revenues from development of new business and Kirtland AFB would see an economic benefit from leasing fees generated through the EUL Agreement. Impacts to socioeconomics under full project development would be long-term, moderate, and beneficial with job creation, business expansion, and increases to the local economy and tax revenues.

Environmental Justice

Three census tracts in the immediate vicinity of the EIAP Study Area show disproportionately high minority and low-income populations when compared with Bernalillo County. If adverse impacts would affect human populations, these environmental justice populations would experience disproportionate impacts. During construction, disproportionate impacts to these populations would be short-term but minor. Elevated noise from construction activities, interrupted traffic flows, and increased air emissions from construction dust would create minor inconveniences, but these short-term impacts would not be significant. During the operational phase, these populations would realize long-term, moderate, and beneficial impacts such as improved employment opportunities and economic growth. No impacts are anticipated to children during construction or development of the Proposed Action.

Cumulative Impacts

The EA considered cumulative impacts that could result from the incremental impact of proposed project when added to other past, present, or reasonably foreseeable future actions. No potentially significant cumulative impacts were identified resulting from implementing the Proposed Action.

Mitigations

The EA analysis concluded that the Proposed Action and Alternatives would not result in significant environmental impacts; therefore, no mitigation measures are required. BMPs and environmental commitments are recommended where applicable. If any unanticipated discoveries of cultural resources are made during construction, all project activities would stop, the Kirtland AFB Cultural Resources Program Manager and the State Historic Preservation Officer would be notified, and operational procedures outlined in the Installation Cultural Resources Management Plan would be followed.

Conclusion

Finding of No Significant Impact. After review of the EA prepared in accordance with the requirements of NEPA, CEQ regulations, and 32 CFR Part 989 and which is hereby incorporated by reference, I have determined that the proposed activities to redevelop a 77-ac underutilized site to a multiuse development and evaluate 23 ac of undeveloped land for future use located on the northwestern portion of Kirtland AFB under an EUL Agreement would not have a significant impact on the quality of the human or natural environment. Accordingly, an Environmental Impact Statement will not be prepared. This decision has been made after considering all submitted information, including a review of public and agency comments submitted during the 30-day public comment period, and considering a full range of practical alternatives that meet project requirements and are within the legal authority of the USAF.

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ANDREW G. CROSS, GS-15, DAF DATE
Senior Civil Engineer
Chief, Engineering Division

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ACRONYMS AND ABBREVIATIONS

µg/m^3	microgram(s) per cubic meter
377 ABW	377th Air Base Wing
377 MSG	377th Mission Support Group
377 SFG	377th Security Forces Group
ABCWUA	Albuquerque-Bernalillo County Water Utility Authority
ac	acre(s)
ACAM	Air Conformity Applicability Model
ACM	asbestos-containing material
AEHD-AQD	Albuquerque Environmental Health Department Air Quality Division
AFB	Air Force Base
AFCEC/CI	Air Force Civil Engineer Center, Installations Directorate
AFI	Air Force Instruction
AFR	Albuquerque Fire Rescue
AFRL	Air Force Research Laboratory
AMAFCA	Albuquerque Metropolitan Arroyo Flood Control Authority
AMRGI	Albuquerque-Mid Rio Grande Intrastate
amsl	above mean sea level
APZ	Accident Potential Zone
AQCR	Air Quality Control Region
AT/FP	Antiterrorism Force Protection
bgs	below ground surface
BIA	Bureau of Indian Affairs
BISON-M	Biota Information System of New Mexico
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics
BMP	best management practice
CAA	Clean Air Act
CDC	Child Development Center
CEIEC	Civil Engineering Installation Management–Environmental Management–Compliance
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COC	Community of Comparison
CRO	Combat Rescue Officer
CWA	Clean Water Act
CZ	Clear Zone
dB	decibel
dBA	A-weighted decibel
DNL	day/night sound level
DOD	Department of Defense
DOE	Department of Energy
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EISA	Energy Independence Security Act
EMS	Environmental Management System
EO	Executive Order
EOC	Emergency Operations Center
ER	Environmental Restoration
ERP	Environmental Restoration Program
ESA	Endangered Species Act
EUL	Enhanced Use Lease
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FR	Forest Road
ft	foot(feet)
ft^2	square foot(feet)
GHG	greenhouse gas
HAP	hazardous air pollutant
HWMP	Hazardous Waste Management Plan
I	Interstate
IDP	Installation Development Plan
IPaC	Information for Planning and Consultation
LBP	lead-based paint
LID	Low-Impact Design

L_{max}	maximum sound level
MBTA	migratory Bird Treaty Act
MFH	Military family housing
mg/m^3	milligrams per cubic meter
MGD	million gallons per day
mi	mile(s)
MMRP	Military Munitions Response Program
MS4	Municipal Separate Storm Sewer System
MSA	Metropolitan Statistical Area
MSGP	Multi-Sector General Permit
MWD	Military Working Dog
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NMAC	New Mexico Administrative Code
NMArmyNG	New Mexico Army National Guard
NMDGF	New Mexico Department of Game and Fish
NMDOT	New Mexico Department of Transportation
NMED	New Mexico Environment Department
NMSA	New Mexico Statutes Annotated
NO_2	nitrogen dioxide
NOA	Notice of Availability
NOI	Notice of Intent
NO_x	nitrous oxide
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OSH	occupational safety and health
OSHA	Occupational Safety and Health Administration
Pb	lead
PCB	polychlorinated biphenyl
PJ	Pararescue Jumper
$PM_{2.5}$	particulate matter less than 2.5 microns
PM_{10}	particulate matter less than 10 microns
ppb	parts per billion
PPE	personal protective equipment
ppm	parts per million
PSD	Prevention of Significant Deterioration
R&D	research and development
RCRA	Resource Conservation and Recovery Act
RHS	RED HORSE Squadron
ROI	Region of Influence
RPZ	Runway Protection Zone
SAF/IEI	Deputy Assistant Secretary of the Air Force, Installations
SAR	Small Arms Range
SDL	Site Development Lease
SDWA	Safe Drinking Water Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SNL	Sandia National Laboratories
SO_2	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
TEAMS	Technical Evaluation Assessment Monitor Site
TKD	Thunderbird Kirtland Development Partners
TNM	Traffic Noise Model
tpy	tons per year
U.S.	United States
U.S.C.	United States Code
UFC	Unified Facilities Criteria
USAF	United States Air Force
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UTC	Urban Training Complex
UXO	unexploded ordnance
VAMC	Veterans Affairs Medical Center
VCC	Visitor Control Center
VOC	volatile organic compound

1.0 PURPOSE OF AND NEED FOR THE ACTION

1.1 INTRODUCTION

The United States Air Force (USAF) has identified 77 acres (ac) of underutilized land and 23 ac of undeveloped land in the northwestern portion of the Kirtland Air Force Base (AFB) located in Bernalillo County, New Mexico. In accordance with Title 10 United States Code (U.S.C.) § 2667, *Leases: Non-Excess Property of Military Departments and Defense Agencies Authorities*, the USAF would enter into a lease with Thunderbird Kirtland Development Partners (TKD) to convert the underutilized parcels to a mixed-use development. A portion of 77-acre underutilized land was formerly used for military family housing (MFH). After privatization of the MFH in 2000, the deteriorating housing was demolished, leaving approximately 77 ac of underutilized land on the northwestern edge of the installation. On 15 December 2017, the Air Force Civil Engineer Center, Installations Directorate (AFCEC/CI) published a competitive Request for Qualifications on the Federal Business Opportunities website for the purpose of soliciting proposals from public and/or private sector entities interested in leasing and developing the underutilized parcel consistent with 10 U.S.C. 2667; Executive Order (EO) 13327, *Federal Real Property Asset Management*; Deputy Assistant Secretary of the Air Force, Installations (SAF/IEI) policy; and other applicable governance. TKD's proposal was tentatively accepted and AFCEC/CI and TKD are currently negotiating lease terms and conditions to incrementally develop the property through one or more Site Development Leases (SDLs) pending completion of the EIAP.

As part of the Environmental Impact Analysis Process (EIAP) process, an additional 23 ac of undeveloped land located adjacent to the Enhanced Use Lease (EUL) land will be evaluated for future mixed-use development. The 77-ac EUL land and 23-ac undeveloped land will be referred to as the EIAP Study Area. This section describes the purpose of and need for the Proposed Action, the scope of the Environmental Assessment (EA), and intergovernmental and stakeholder coordination.

Federal agencies are required to consider the potential environmental consequences of proposed actions in the decision-making process under the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. § 4321 et seq.) and the Council on Environmental Quality's (CEQ) implementing regulations for NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508). Kirtland AFB also is required to consider both the USAF NEPA-implementing regulation (32 CFR Part 989 *Environmental Impact Analysis Process [EIAP]*) and Department of Defense (DOD) Instruction 4715.9, *Environmental Planning and Analysis*.

The EA addresses the potential environmental consequences of the Proposed Action under an EUL Agreement and the No Action Alternative in accordance with NEPA of 1969 and CEQ implementing regulations.

1.2 KIRTLAND AIR FORCE BASE OVERVIEW

Kirtland AFB, located just southeast of Albuquerque, New Mexico, is at the foot of the Manzanita Mountains (**Figure 1-1**). These mountains define the eastern boundary of an area called East Mesa. Kirtland AFB encompasses 51,585 ac of East Mesa and has an average elevation of 5,400 feet (ft) above mean sea level (amsl). A breakdown of land ownership on the installation is presented on **Figure 1-1** and in **Table 1-1**. Surrounding land uses adjacent to the installation include the United States Forest Service (USFS) Cibola National Forest to the northeast and east;

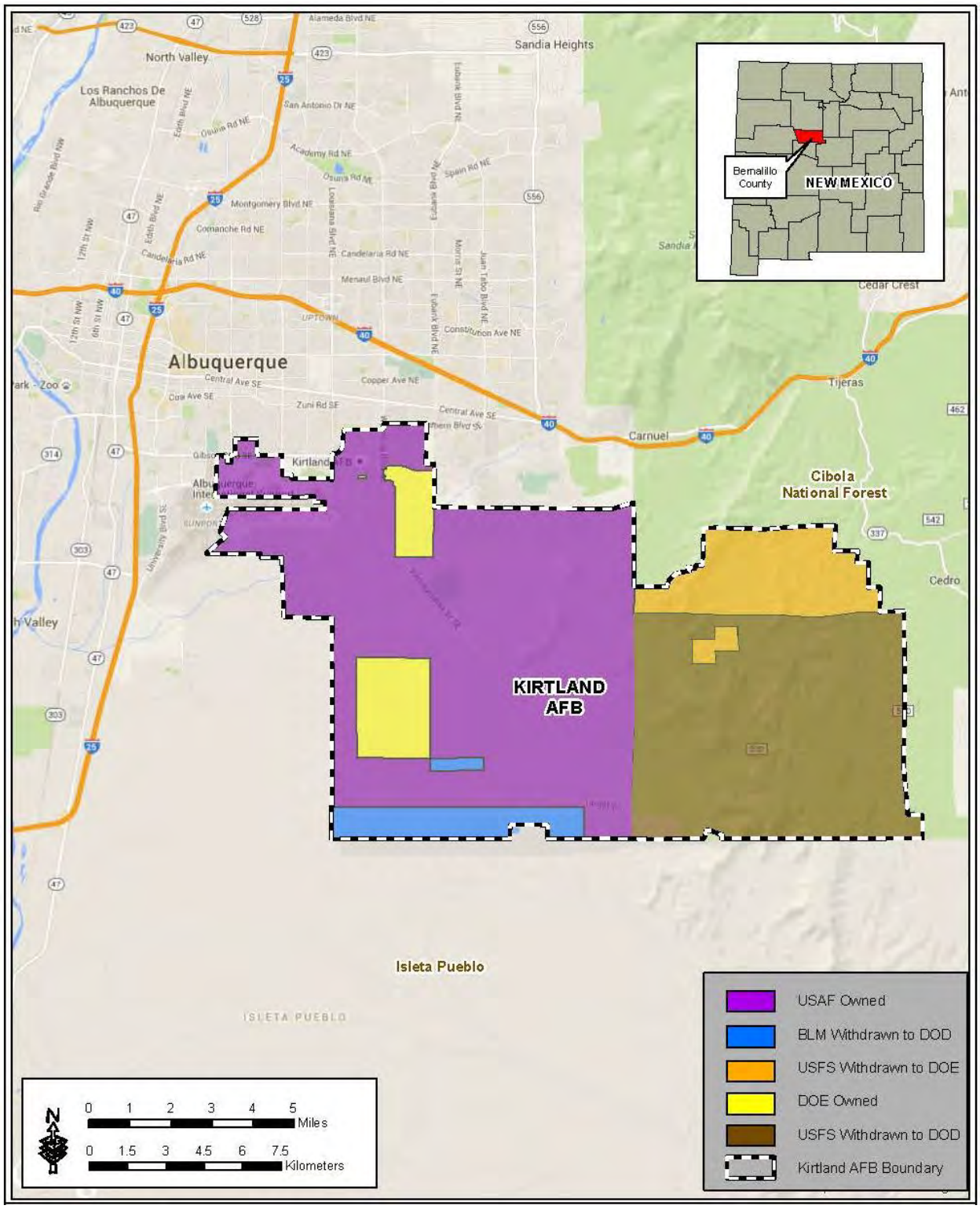

Figure 1-1. Kirtland Air Force Base Vicinity and Federal Agency Land Ownership

Table 1-1. Kirtland Air Force Base Lands

Kirtland Air Force Base Lands	Acres
USAF-Owned	25,612
USFS Withdrawn to DOD	15,891
BLM Withdrawn to DOD	2,549
USAF Total	**44,052**
DOE-Owned	2,938
USFS Withdrawn to DOE	4,595
DOE Total	**7,533**
GRAND TOTAL	**51,585**

Notes:
BLM = Bureau of Land Management; DOD = Department of Defense; DOE = Department of Energy; USAF = United States Air Force; USFS = United States Forest Service

Pueblo of Isleta to the south; Bernalillo County developments to the southwest; residential and business areas of the city of Albuquerque to the west and north; and the Albuquerque International Sunport, hereafter referred to as the Sunport, directly to the northwest. The Sunport, which is a joint-use civilian airport with runways serving civilian, military, and other government aircraft. Under the terms of a joint-use lease, the 377th Air Base Wing (377 ABW) provides fire protection (including crash and rescue) for the Sunport.

Kirtland AFB was established in the late 1930s as a training installation for the United States (U.S.) Army Air Corps. At that time the installation was known as the Albuquerque Army Air Base. The base grew rapidly with the involvement of the United States in World War II as a training site for aircrews for many of the country's bomber aircraft. In February 1942, Albuquerque Army Air Base was renamed Kirtland Army Air Field in honor of Colonel Roy C. Kirtland, one of the Army's earliest aviation pioneers. During this same year, the U.S. Army Air Corps established a training base, later to be known as Sandia Base, just east of Kirtland Army Air Field. In 1947, the U.S. Army Air Corps became the USAF, and Kirtland Army Air Field was renamed Kirtland AFB. In 1949, the USAF established its own Special Weapons Center and testing laboratory at Kirtland Field near Sandia Base which became the Air Force Weapons Laboratory and later simply the Weapons Laboratory operating from May 1963 to December 1990. From December 1990 to October 1997, the Weapons Laboratory became known as Phillips Laboratory and since 1997 as the Air Force Research Laboratory (AFRL). A majority of the test and evaluation activities were conducted on a 46,000-ac tract in the Manzanita Mountains, referred to as the New Mexico Proving Ground, on the southern portion of the installation, which includes USFS lands withdrawn for DOD and Department of Energy (DOE) research, testing, and development activities. The establishment of these activities at Kirtland AFB was considered ideal due to its proximity to the Los Alamos Laboratory and Sandia Base. The late 1940s and 1950s were expansion years as both Kirtland AFB and the adjacent Sandia Army Base played increasing roles in the nation's defense efforts. New buildings, hangars, and the east-west runway, which is now owned by the city of Albuquerque, were constructed. During this period, air defense, weather, and atomic test squadrons operated from Kirtland AFB. In 1971, Kirtland AFB and its adjoining military neighbors to the east, Sandia and Manzano Army Bases, were merged to form what is known as Kirtland AFB.

Kirtland AFB is the sixth largest installation in the USAF. It is operated by 377 ABW, a unit of Air Force Global Strike Command's 20th Air Force and the host unit at Kirtland AFB. Missions at

Kirtland AFB fall into four major categories: research, development, and testing; readiness and training; munitions maintenance; and support to installation operations for more than 100 mission partners. The primary mission of 377 ABW is to execute nuclear, readiness, and support operations for American airpower. Kirtland AFB is a center for research, development, and testing of nonconventional weapons, space and missile technology, laser warfare and much more. Organizations involved in these activities include the Air Force Nuclear Weapons Center, Air Force Operational Test and Evaluation Center, Space and Missile Systems Center, Air Force Inspection Agency, Air Force Safety Center, AFRL, DOE, and Sandia National Laboratories (SNL). In addition, 377 ABW ensures readiness and training of airmen for worldwide duty and operates the airfield for present and future USAF operations, prepares personnel to deploy worldwide on a moment's notice, and keeps the installation secure. Mission partners involved in these activities include the 58th Special Operations Wing, 150th Special Operations Wing (New Mexico Air National Guard), and the USAF Pararescue School.

1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to redevelop a 77-ac underutilized site for redevelopment and evaluate 23 ac of undeveloped land for future productive uses that would result in an economic benefit for Kirtland AFB and the community. Under an EUL, Kirtland AFB would lease the underutilized acres to TKD to construct a mixed-use development site that would include office, office/industrial, retail/commercial, restaurant, and hotel space. The additional 23 ac would become available through a future proposal and leasing negotiations.

The need for the Proposed Action is to more effectively use underutilized land, nonexcess property at Kirtland AFB in accordance with 10 U.S.C. § 2667, EO 13327, SAF/IEI policy, and other applicable governance. The underutilized land was formerly used for MFH.

1.4 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

The scope of the EA will include the range of actions; alternatives considered; a description of the existing environment; and direct, indirect, and cumulative impacts. The scope of the Proposed Action and the range of alternatives to be considered are presented in **Section 2**. In accordance with CEQ regulations implementing NEPA (40 CFR Parts 1500–1508) and the USAF NEPA-implementing regulations (32 CFR Part 989 [as amended]), the No Action Alternative will be analyzed. The No Action Alternative also provides the benchmark against which the environmental impacts of implementing the Proposed Action can be compared.

The EA will evaluate the potential environmental impacts of the Proposed Action and No Action Alternative on affected resource areas. Per CEQ regulations (40 CFR § 1501.7 [a][3]), only those resource areas that apply to the Proposed Action and No Action Alternative will be evaluated. The following resource areas will be evaluated for potential impacts from implementing the Proposed Action and No Action: Noise, Land Use, Visual Resources, Air Quality, Geology and Soils, Water Resources, Biological Resources, Infrastructure, Hazardous Materials and Wastes, Safety, Socioeconomics, and Environmental Justice.

1.5 NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE REQUIREMENTS

NEPA is a federal law that requires federal agencies to consider the potential environmental effects of a proposed federal action on the natural, built, and human environment. The CEQ, established under NEPA, advises federal agencies on the procedures to ensure NEPA compliance. Under the CEQ regulations for implementing NEPA, a systematic, interdisciplinary approach that evaluates the potential effects of the proposed and alternative actions is

documented in an EA with an issuance of a Finding of No Significant Impact (FONSI) or an Environmental Impact Statement (EIS) if significant environmental consequences are anticipated. Procedures for implementing NEPA are outlined in 40 CFR Parts 1500-1508, CEQ NEPA regulations.

USAF regulations under 32 CFR Part 989 provide environmental impact analysis procedures for compliance with NEPA regulations. If significant impacts are anticipated under NEPA, the USAF would decide whether to conduct mitigation to reduce impacts below the level of significance, prepare an EIS, or abandon the Proposed Action. The EA is used in the USAF's decision-making process for implementing the Proposed Action.

1.6 ENVIRONMENTAL LAWS, REGULATIONS, AND EXECUTIVE ORDERS

To comply with NEPA (Public Law 91-190, 42 U.S.C. § 4321 et seq.), the planning and decision-making process involves a study of other relevant environmental laws, regulations, and EOs. The NEPA process does not replace procedural or substantive requirements of other environmental laws; it addresses them collectively in an analysis, which enables decision makers to have a comprehensive view of major environmental issues and requirements associated with the Proposed Action. According to CEQ regulations, the requirements of NEPA must be integrated "with other planning and environmental review procedures required by law or by agency practice so that all such procedures run concurrently rather than consecutively" (40 CFR § 1500.2). Coordination with other environmental agencies may occur for the Proposed Action.

1.7 INTERGOVERNMENTAL AND STAKEHOLDER COORDINATION

1.7.1 Agency Consultation

EO 12372, *Intergovernmental Review of Federal Programs*, as amended by EO 12416, requires federal agencies to provide opportunities for consultation by elected officials of state and local governments that would be directly affected by a federal proposal. In compliance with NEPA, Kirtland AFB notified relevant stakeholders about the Proposed Action and alternatives (see **Appendix A** for all stakeholder coordination materials). The notification process provided these stakeholders the opportunity to cooperate with Kirtland AFB and provide comments on the Proposed Action and alternatives.

Per the requirements of Section 106 of the National Historic Preservation Act and implementing regulations (36 CFR Part 800), Section 7 of the Endangered Species Act and implementing regulations (50 CFR Part 17) including the Migratory Bird Treaty Act, findings of effect and a request for concurrence were transmitted to the State Historic Preservation Officer (SHPO) and the U.S. Fish and Wildlife Service (USFWS). A brief summary of comments received is shown below. All correspondence with SHPO and USFWS is included in **Appendix A.**

- ***SHPO.*** The New Mexico SHPO responded with no concerns about the potential for impacts from the proposed project on cultural or historic properties. Most of the area of potential effects has been inventoried and no historic properties were identified. Also, it is unlikely that historic properties would be present in the areas that have not been surveyed; however, the SHPO did request that in the event there are postreview discoveries, the SHPO should be contacted (Historic Preservation Division Log 109912).

Scoping letters were provided to relevant federal, state, and local agencies. The agencies were requested to provide information regarding impacts of the Proposed Action on the natural environment or other environmental aspects that they feel should be included and considered in

the preparation of this EA. During the scoping period, the USAF received response from four government agencies (the Bureau of Indian Affairs [BIA], the U.S. Department of Agriculture [USDA], the Federal Aviation Administration [FAA], and the USFS), two state agencies (the New Mexico Environment Department [NMED] and the New Mexico Department of Game and Fish [NMDGF]) and one local agency (Bernalillo County). A brief summary of concerns and comments for each agency is shown below. All correspondence with federal, state, and local agencies is included in **Appendix A**.

- **BIA.** The BIA determined the Proposed Action would not impact any trust resources under their jurisdiction. The BIA requested that the USAF consult with any local Pueblos or Tribes.

- **USDA.** The USDA reviewed information provided on the proposed project and since the project is located in an urban area not designated as Prime or Important Farmland, it is not expected to irreversibly convert farmland to other purposes. The USDA determined the proposed project is not subject to the Farmland Protection Policy Act.

- **FAA.** The FAA requested that FAA Form 7460-1, Notice of Proposed Construction or Alteration for the proposed project be filed. The form provides information to determine if notice to the FAA is required for the proposed development location.

- **USFS.** The USFS responded with no additional information regarding impacts of the Proposed Action on the natural environment not any environmental aspects.

- **NMED.** The following comments were received from NMED Bureaus:

    - *Ground Water Quality Bureau:*

      The developer is encouraged to contact NMED's Liquid Waste Program to determine the appropriate liquid waste permit for the project. The proposed project is not expected to have any adverse impacts on groundwater quality; however, there is the potential for contaminant release from construction equipment and advises all parties to be aware of notification requirements for contaminant releases.

    - *Petroleum Storage Tank Bureau:*

      Information and maps were provided of nearby underground storage tank facilities. The response also included instructions for conducting searches about underground storage tank facilities and their status.

    - *Solid Waste Bureau:*

      It was advised that proposed project construction has the potential to inadvertently excavate buried solid waste. It was requested that if more than 120 cubic yards of solid waste is excavated, a Waste Excavation Plan must be submitted.

    - *Surface Water Quality Bureau:*

      It was advised that the Kirtland AFB Storm Water Management Plan may need to be updated to reflect the proposed project activities, as well as preparation of a site-specific Stormwater Pollution Prevention Plan (SWPPP) for the site.

- **NMDGF.** The Department requested that preconstruction surveys be conducted for burrowing owls and Gunnison's prairie dogs and the findings of the surveys discussed in the Draft EA. If there is a presence of either species, mitigation strategies should be proposed; if absent, adverse effects to wildlife or habitat are expected.

- **Bernalillo County.** Bernalillo County Public Works expressed concerns about whether the development's exterior buildings would be turned inward or would face Gibson Boulevard, with a preference for the exterior buildings facing outward toward Gibson Boulevard. Bernalillo County also requested the opportunity to review the traffic study.

1.7.2 Government-to-Government Consultation

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 directly and substantially affected by activities on federally administered lands. Consistent with that EO, DOD Instruction 4710.02, *DOD Interactions with Federally-Recognized Tribes*, and Air Force Instruction (AFI) 90-2002, *Air Force Interactions with Federally-Recognized Tribes*, federally recognized tribes that are historically affiliated with the geographic region will be invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes (see **Appendix A** for all tribal coordination materials).

Scoping letters were provided to Native American tribes whose ancestors were historically affiliated with the land underlying Kirtland AFB, inviting them to consult on the proposed undertakings outlined within this EA. Additionally, the USAF verbally contacted the Native American tribes to verify they had no additional concerns. During the scoping period, the USAF received three responses. A brief summary of concerns and comments for each tribe is shown below. All correspondence is included in **Appendix A**.

- **Comanche Nation.** A Comanche Nation review of the project location with Comanche Nation site files was conducted.

- **White Mountain Apache Tribe**. The Tribe determined that the proposed project would not impact the Tribe's historic properties and/or traditional cultural properties.

- **Ysleta del Sur.** The Pueblo responded with no comments on the Proposed Action as the project would not affect traditional and culturally significant sites; however, the Pueblo requested consultation if human remains or artifacts were discovered as a requirement under the Native American Graves Protection and Repatriation Act.

1.8 PUBLIC AND AGENCY REVIEW OF DRAFT ENVIRONMENTAL ASSESSMENT

A Notice of Availability (NOA) for the Draft EA will be published in *The Albuquerque Journal* announcing the availability of the Draft EA. Letters will be provided to relevant federal, state, and local agencies and Native American tribal governments informing them that the Draft EA is available for review. The publication of the NOA will initiate a 30-day review period. The public comment period will close on XXXXXXX. A copy of the Draft EA will be made available for review at San Pedro Public Library at 5600 Trumbull Avenue SE, Albuquerque, New Mexico 87108. A copy of the Draft EA will also be made available for review online at http://www.kirtland.af.mil under the Environment Information tab. At the closing of the public review period, comments from the general public and interagency and intergovernmental coordination/consultation will be

incorporated into the analysis of potential environmental impacts performed as part of this EA, where applicable, and included in **Appendix A** of the Final EA.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The NEPA process provides for an evaluation of potential environmental consequences associated with the Proposed Action and considers alternative courses of action. Reasonable alternatives must satisfy the purpose of and need for the Proposed Action. In addition, CEQ regulations also specify the inclusion of a No Action Alternative against which potential impacts would be compared. While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, it is analyzed in detail in accordance with CEQ regulations.

2.1 PROPOSED ACTION

The USAF is proposing to use Title 10 U.S.C. § 2667; EO 13327, *Federal Real Property Asset Management*; and Deputy Assistant Secretary of the Air Force (Installations) policy to redevelop an underutilized portion of land on Kirtland AFB through an EUL. The Proposed Action would develop a 77-ac site and evaluate 23 ac of undeveloped land for future use (the EIAP Study Area) at Kirtland AFB into a mixed-use development that would include office, retail (which could include a gasoline station)/commercial, multifamily housing, hotel, and restaurant space uses. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities at the EIAP Study Area. Buildings would have electrical, plumbing, lighting, commercial communication lines, and heating, ventilation, and air conditioning systems. In addition, the Proposed Action would include the installation of rooftop solar panels on yet to be determined buildings of the mixed-use development to offset utility costs. The general vicinity of the Kirtland AFB EIAP Study Area is shown on **Figure 2-1**; the proposed development site plan is shown on **Figure 2-2**.

2.1.1 Environmental Impact Analysis Process Study Area

The EIAP Study Area is located on the northwestern edge of Kirtland AFB, south of Gibson Boulevard, extending from Carlisle Boulevard on the west to the Veterans Affairs Medical Center (VAMC) property on the east (**Figure 2-2**). AFRL facilities are located south of the EIAP Study Area. The Truman Gate, located on the eastern portion of the EIAP Study Area, currently provides entry from Gibson Boulevard into Kirtland AFB and would remain in place during construction and operation of the Proposed Action. The larger portion of the EIAP Study Area west of Truman Street is approximately 77 ac of EUL land; the remaining 23 ac of developable land are located east of Truman Street.

2.1.2 Site Development

The Proposed Action includes construction of facilities and infrastructure in multiple phases, using multiple SDLs, each for a period of 50 years. TKD would demolish existing facilities including recreational facilities located on the 77-ac EUL land and a 300-square-foot (ft^2) 1950s-era communications building on the 23-ac parcel. The building type, mix, and density of the proposed development is generally illustrated in **Table 2-1**; however, market conditions would determine the actual project footprint and timeline.

TKD Partners would serve as property manager during operations and would direct all property management functions. They would be responsible for implementing and managing health, safety, and security procedures at the site. As property manager, TKD Partners would have an on-site management office and serve as the primary point of contact for USAF-related issues or questions.

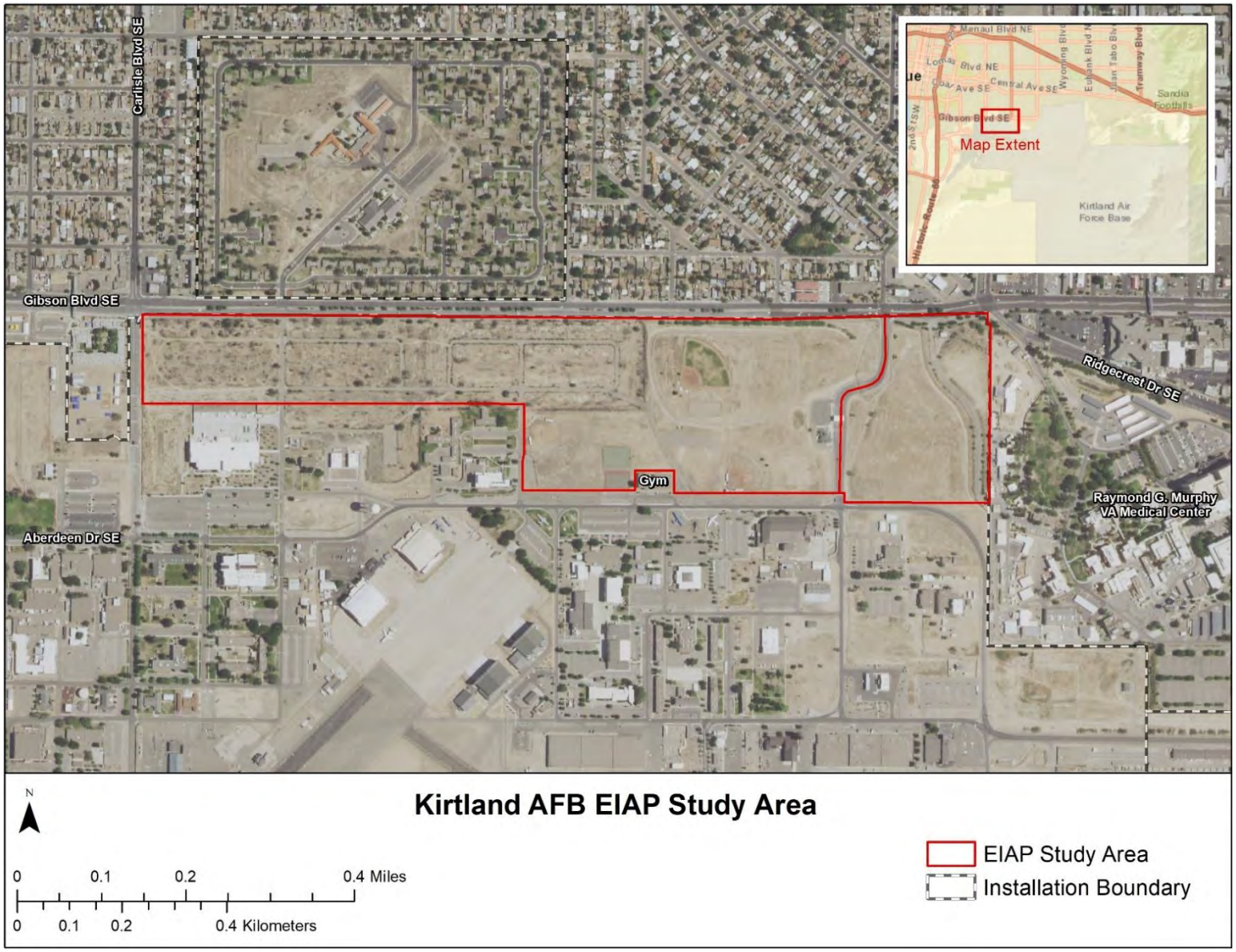

Figure 2-1. Kirtland Air Force Base Environmental Impact Analysis Process Study Area

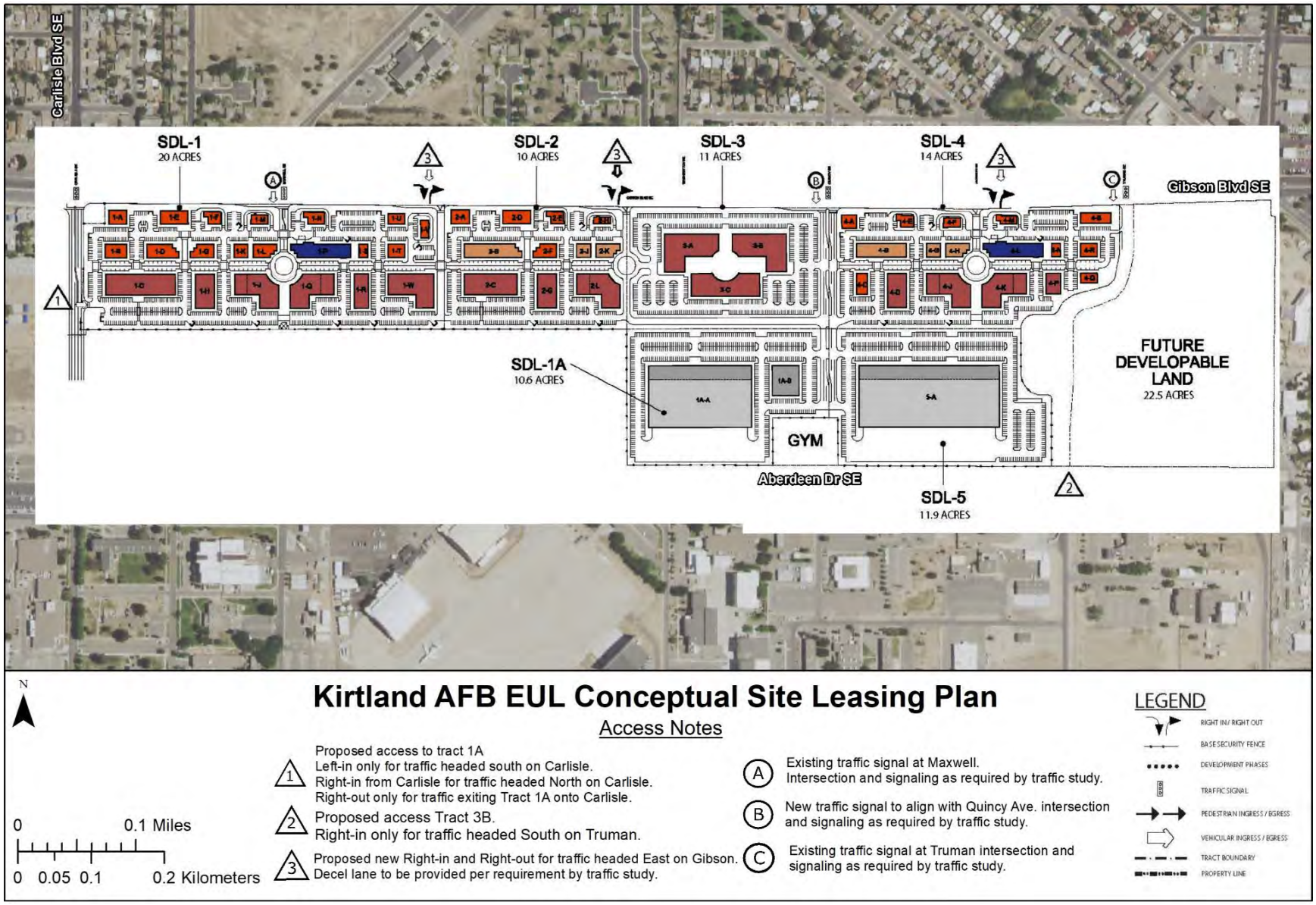

Figure 2-2. Kirtland Air Force Base Enhanced Use Lease Proposed Site Development

Table 2-1. Proposed Development Site Density and Mix on Enhanced Use Lease Land*

Site Development Lease (SDL) Number	Proposed Use	Building Height	Square Feet
SDL-1	Restaurant Drive Thru Retail Office/Research and Development Hotel	1 Floor Not Applicable 1 Floor 1, 2, 2.5 Floors 4 Floors	8,200 13,000 39,800 240,000 50,000
SDL-1A	Office/Research and Development Manufacturing	1 Floor 1 Floor	28,500 107,000
SDL-2	Restaurant Drive-Thru Retail Office/ Research and Development Mixed Development	1-3 Floors Not Applicable 1-3 Floors 1, 2, 2.5 Floors 3 Floors	9,600 5,400 31,100 108,250 50,400
SDL-3	Office/R&D	1 – 2.5 Floors	175,600
SDL-4	Restaurant Drive-Thru Retail Office/ Research and Development Hotel Mixed Development	1-2 Floors Not Applicable 1 – 2 Floors 1 – 2.5 Floors 4 Floors 2 Floors	5,400 7,800 40,800 124,400 50,000 50,400
SDL-5	Office/ Research and Development Manufacturing	1 Floor 1 Floor	37,500 112,500

*Depending on market conditions at the time of construction, building type and location could change.

2.1.2.1 Office and Manufacturing Facilities

Most of the buildings that would be constructed represent office/research and development (R&D) space. A maximum 714,250-ft^2 office/R&D space would be built. Manufacturing facilities comprise approximately 219,500-ft^2 industry and mixed-use development includes approximately 75,600 ft^2. The buildings would be one to four stories tall; be constructed of concrete, wood, and steel materials; and meet all applicable municipal, state, and federal building codes. Building tenants would not be affiliated with Kirtland AFB, nor would they be in conflict with Kirtland AFB activities. Some of the office buildings would have corporate apartment living to accommodate lodging needs for visitors associated with office building tenants.

2.1.2.2 Retail/Restaurant Facilities

The EUL project area plan also would include retail, restaurant, and hotel space. This commercial space would be leased to retail establishments and restaurants. Approximately 111,700 ft^2 ce is proposed for retail use and 23,200 ft^2 is proposed for restaurants. Two four-story hotels are proposed each with approximately 100 rooms (50,000 ft^2). One of the multistory hotels would on the western portion of the EUL and constructed under SDL-1; the other hotel is proposed to be located on the eastern portion of the EUL and constructed under SDL-4, 23 acres of developable land.

Depending on market conditions, the 23-ac parcel would be developed for mixed-use space. Building type, mix, and density could vary but could include retail, office, industrial, and potentially a gasoline station space. Future development would be negotiated with the USAF under separate SDLs.

2.1.2.3 Roadways, Parking, and Paths

The site plan for the EIAP Study Area includes internal roadways, parking areas, pedestrian paths, and sidewalks. The roadways would provide connecting travel routes for vehicles from the surrounding streets, such as Gibson Boulevard, to parking areas and buildings within the EIAP Study Area. Driveway entrances would be constructed along the edge of the project. Entrances from Aberdeen Drive, located on the southern boundary of the property area, would be provided to secured areas located south of the EIAP Study Area. Most of the traffic accessing Kirtland AFB would enter from the Carlisle Boulevard and the Truman Gates. Striping would be modified and added to surrounding roadways to guide drivers into the EIAP Study Area. Roadways within the project area would be one to two lanes wide (12 to 30 ft) and striped. Two main roadways within the EIAP Study Area would extend east to west through the extent of the project area. Traffic loops, or roundabouts, would be constructed to facilitate vehicular movement within the EIAP Study Area.

Depending on results from the Traffic Impact Study, which would be prepared prior to construction, a new traffic signal at the intersection of Quincy Avenue and Gibson Boulevard may be installed. The existing traffic signal at Carlisle Boulevard/Gibson Boulevard may require upgrades. Existing traffic signals at the Maxwell Avenue/Gibson Boulevard intersection and the Truman Street/Gibson Boulevard intersection would also be evaluated in the Traffic Impact Study. Right in/right out access would be provided along Gibson Boulevard between San Mateo Boulevard SE and Carlisle Boulevard intersections. The Truman Gate would remain in its current location. Some minor approach roadway realignment may be required along Gibson Boulevard. During construction of the driveways and entrances, lanes would be temporarily closed on existing roadways for approximately 3 months.

Parking areas and structures would be provided between buildings and would occupy up to one-third of the EIAP Study Area. Paths and sidewalks would be constructed along the streets to provide pedestrian connections between buildings and access to the EIAP Study Area.

The proposed traffic improvements for the EIAP Study Area are summarized in **Table 2-2**. Traffic improvements could be added, changed, or removed from what is described below based on results from the Traffic Impact Study (also refer to **Figure 2-2**).

2.1.2.4 Landscaping and Drainage

Landscaping would be placed in open areas between buildings and parking areas throughout the EIAP Study Area. Xeriscape landscaping with shade trees and rock mulch land covers is proposed for the development site. The practice of xeriscaping uses native plants that are well adapted to the region’s arid climate and provides attractive landscaping while conserving water.

The stormwater drainage systems would be designed in accordance with the County of Bernalillo ordinances, standards and permitting requirements as well as using guidelines set forth in the stormwater section of Kirtland AFB's Installation Facilities Standards (IFS) where appropriate. The IFS provides guidance of best design practices for new infrastructure construction on the base. TKD would also evaluate the potential for incorporating sustainable infrastructure options where feasible.

Table 2-2. Summary of Traffic Improvements

Traffic Improvement	Type of Improvement
Entrance/Exit	• Entrance from Carlisle Boulevard • Entrance between Carlisle Boulevard and Maxwell Avenue from Gibson Boulevard • Entrance at Gibson Boulevard and Maxwell Avenue • Entrance between Maxwell Avenue and Washington Street SE (west) at Gibson Boulevard • Entrance between Maxwell Avenue and Washington Street SE (east) at Gibson Boulevard • Entrance at Gibson Boulevard and Quincy Street • Entrance between Jackson Street SE and Truman Street at Gibson Boulevard • Entrance at Truman Street and Gibson Boulevard
Signals	• New traffic signal at Gibson Boulevard and Quincy Street • Use existing traffic signal at Carlisle and Gibson Boulevards; some upgrades may be required. • Use existing traffic signal at Gibson Boulevard and Maxwell Avenue intersection • Use existing traffic signal at Gibson Boulevard and Truman Street intersection
Pedestrian Access	• East-west pedestrian corridor south of Gibson Boulevard • North-south pedestrian corridor to Air Force Research Laboratory facilities • Pedestrian entrances into secured area • Paths and sidewalks between buildings
Parking	• Extensive parking areas outside secured area • Parking areas within secured area • Parking structures • Parking adjacent to retail, restaurants, hotel, office buildings

2.1.2.5 Security Perimeter

In accordance with AFI 31-210, *The Air Force Antiterrorism/Force Protection (AT/FP) Program Standards*, Kirtland AFB currently has perimeter fencing and several entrance gates to meet AT/FP program standards and maintain base security. To access the secured areas, individuals must have the appropriate pass to enter. The EIAP Study Area would not be located in a secured area; therefore, visitors to the EIAP Study Area would not require security clearance or a visitor pass to enter. During construction, the existing Kirtland AFB perimeter fencing would be temporarily moved to allow construction to occur outside of secured areas. This would also provide contractor access without going through base security. Once construction is completed, TKD would construct a permanent security fence to separate secured areas from unsecured areas within the EIAP Study Area.

2.1.3 Construction

Construction plans and permits would be approved, issued, and managed by the County of Bernalillo consistent with applicable requirements as established in local, state, and federal permits, standards, ordinances, and/or processes.

The entire EIAP Study Area can be graded and cleared once the EA, FONSI, and applicable approvals and permits have been obtained. Most of the trees present on the western half of the

project area would be removed; however, a few trees would be salvaged, if possible. A SWPPP that includes best management practices (BMPs) to minimize soil erosion and sediment transport would be prepared and implemented. Dust control measures would be used during construction. The Kirtland AFB security fence would be moved prior to construction. During the construction clearing phase, temporary traffic control may be needed for movement of construction vehicles from surrounding roadways and to ensure safety for area motorists.

After the project site is cleared, roadway and parking areas would be constructed. Subgrade preparation would take place, followed by paving. Building construction would include excavation, followed by foundation, framework, and interior and exterior construction.

2.1.4 Utilities

Existing utility infrastructure at the EIAP Study Area is obsolete and inadequate for the built-out proposed project. New utility infrastructure would be constructed for drinking water, wastewater, electricity, natural gas, and commercial communication lines. Electrical distribution lines would be at minimum, buried 24 inches deep in accordance with National Electrical Code requirements; water distribution and wastewater lines, in general, would be buried approximately 3 ft. Length of the trenches would vary depending on final site development plan and construction phase. TKD would coordinate with area utility providers such as Albuquerque Bernalillo County Water Utility Authority for water and wastewater, Public Service Company of New Mexico for electricity, New Mexico Gas Company for gas, and CenturyLink and Comcast for communications to construct new infrastructure in compliance with design/construction criteria and for servicing the proposed project.

The Proposed Action includes the installation of rooftop solar panels on yet to be determined buildings to offset utility costs. The solar panels would take advantage of Albuquerque's over 300 annual days of sunshine, provide a clean energy source, and offset the project's cost for utilities.

2.1.5 Relocation and Demolition of Existing Recreation Facilities and Communications (Ham Radio) Building

Upon completion of SDL-1 construction on EUL land, existing recreation facilities would be demolished. TKD would be responsible for demolition of the existing recreation facilities including a concession/storage building (Building 2555) as authorized through an SDL and approved by applicable local, state, and federal authorities.

The 300-ft^2 1950s-era communication (ham radio) building (Building 509) currently located on the eastern portion of the EIAP Study Area would be demolished prior to development of the 23-ac developable land. This facility is currently occupied. TKD would be responsible for demolition of this facility as authorized through an SDL.

2.1.6 Proposed Action Development Schedule

Over an approximate 12-year period, TKD would develop the proposed project in a phased approach as described in **Table 2-3**. Phasing would vary depending on the demand for space and associated requirements. Refer to **Figure 2-2** for location of facilities within each development phase.

Table 2-3. Proposed Action Development Schedule

Phase	Proposed Timeline	Proposed Development
SDL-1/ SDL-1A	Fall 2019	Develop a restaurant, hotel, office/R&D, retail, manufacturing. and drive-thru (Buildings 1-A to 1-W and 1A-A, and 1A-B). Demolition of existing recreation facilities would begin following completion of SDL-1 construction.
SDL-2	June 2021	Develop restaurant office/R&D buildings, mixed development, drive-thru, and retail (Buildings 2-A to 2-L)
SDL-3	June 2023	Develop office/R&D building (Buildings 3-A to 3C).
SDL-4/ SDL-5	June 2025 - 2028	Develop restaurants, retail, office/R&D, hotel, drive-thru, and mixed use (Buildings 4-1 to 4-S).
23-Acre Site	TBD	Specific development and building type, mix, and density would depend on market conditions and demand. Demolition of the communications (ham radio) building would occur prior to development.

Notes:
R&D = research and development; SDL = Site Development Lease; TBD = to be determined

2.2 SELECTION STANDARDS

In accordance with 32 CFR § 989.8(c), selection standards were developed to establish a means for determining the reasonableness of an alternative and whether an alternative should be carried forward for further analysis in the EA. Consistent with 32 CFR § 989.8(c), the following selection standards meet the purpose of and need for the Proposed Action and were used to identify reasonable alternatives for analysis in the EA:

- Compliance with Kirtland AFB's 2016 Installation Development Plan (IDP)
    - Site identified as potential EUL parcel for redevelopment
    - Compatible with future development needs and existing land use
- Located on the edge of the installation so the development area can be unsecured for easier access
- No special environmental resources identified.
- No conflicts with safety zones (e.g., safe distances from munitions storage areas), accident potential zones (APZs), and clear zones (CZs) associated with aircraft operations.

2.3 NO ACTION ALTERNATIVE

Under the No Action Alternative, the USAF would not enter into an EUL, and the proposed mixed-use development, as described in the Proposed Action, would not be constructed. The No Action Alternative would maintain the current land uses and activities at the EIAP Study Area. Recreation fields would remain in place and the small communications (ham radio) building on the eastern portion of the property would continue to be used by the Upper Rio FM Society, the amateur ham radio club. The former MFH area would continue to be used as a parking area for the occasional

special event (e.g., annual airshow). No revenue to benefit Kirtland AFB would be generated, and the land would remain underutilized.

While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, this alternative was retained to provide a comparative baseline against which to analyze the impacts of the action alternatives, as required under CEQ regulations (40 CFR § 1502.14).

2.4 ALTERNATIVE CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

An alternative site location for the proposed development was considered. The approximately 86-ac alternative site is located north of Gibson Boulevard and the proposed EIAP Study Area. The site is currently developed and includes the Maxwell Housing Area, the Emergency Operations Center (EOC) Complex (Buildings 1900, 1901, 1902, 1908, and 1909), and the Maxwell Child Development Center (CDC) (Building 1914) (**Figure 2-3**). The Maxwell Gate is located on the southwestern portion of the property for access from Gibson Boulevard and, currently, within a secured area. Also located in the area is the former Kirtland Inn (Building 1911), which is no longer in use and currently vacant (Kirtland AFB 2017). The Maxwell Housing Area is identified in the Kirtland IDP as suitable for redevelopment (Kirtland AFB 2016b).

The Maxwell Housing Area is under a housing privatization contract with Kirtland Family Housing, LLC. The housing privatization contract will expire in 2019. It is unknown at this time if the housing contractor would request an extension from the USAF, and whether the USAF would grant an approval. The Maxwell Housing Area has 224 housing units, of which 221 are currently occupied[1]. Homes and duplexes are primarily located around the perimeter of the property with a few situated in cul-de-sacs that extend from the area's main perimeter roadway. The EOC is located in the interior portion of the property and proposed for relocation to a site within the cantonment area (Kirtland AFB 2016b). The Maxwell CDC, a 23,300-ft^2 facility, is also proposed for relocation from the Maxwell Area to a new location on the west side of Kirtland AFB (Kirtland AFB 2016b).

The Maxwell Area alternative site was not identified by the USAF as underutilized and, therefore, would not meet the purpose of or need for the Proposed Action, nor would the alternative meet the selection standards (refer to **Section 2.2**). Additionally, it is uncertain about whether Kirtland Family Housing, LLC would request an extension of the privatized housing contract. If a request for an extension were submitted and the USAF approved, the alternative would not be considered feasible. Furthermore, if the property became available for the EUL, the alternative location would be cost-prohibitive as redevelopment costs would include significant demolition of 224 housing units and Buildings 1900, 1901, 1902, 1908, 1914, and 1911. As such, the Maxwell Area alternative site location was eliminated from further detailed analysis in this EIAP. The Proposed and the No Action Alternative are carried forward for detailed evaluation in this EA.

2.5 COMPARATIVE SUMMARY OF IMPACTS

The potential impacts under the Proposed Action and the No Action Alternative are summarized in **Table 2-4**.

[1] Personal Communication, Kirtland Maxwell Housing, LLC, 10 September 2018.

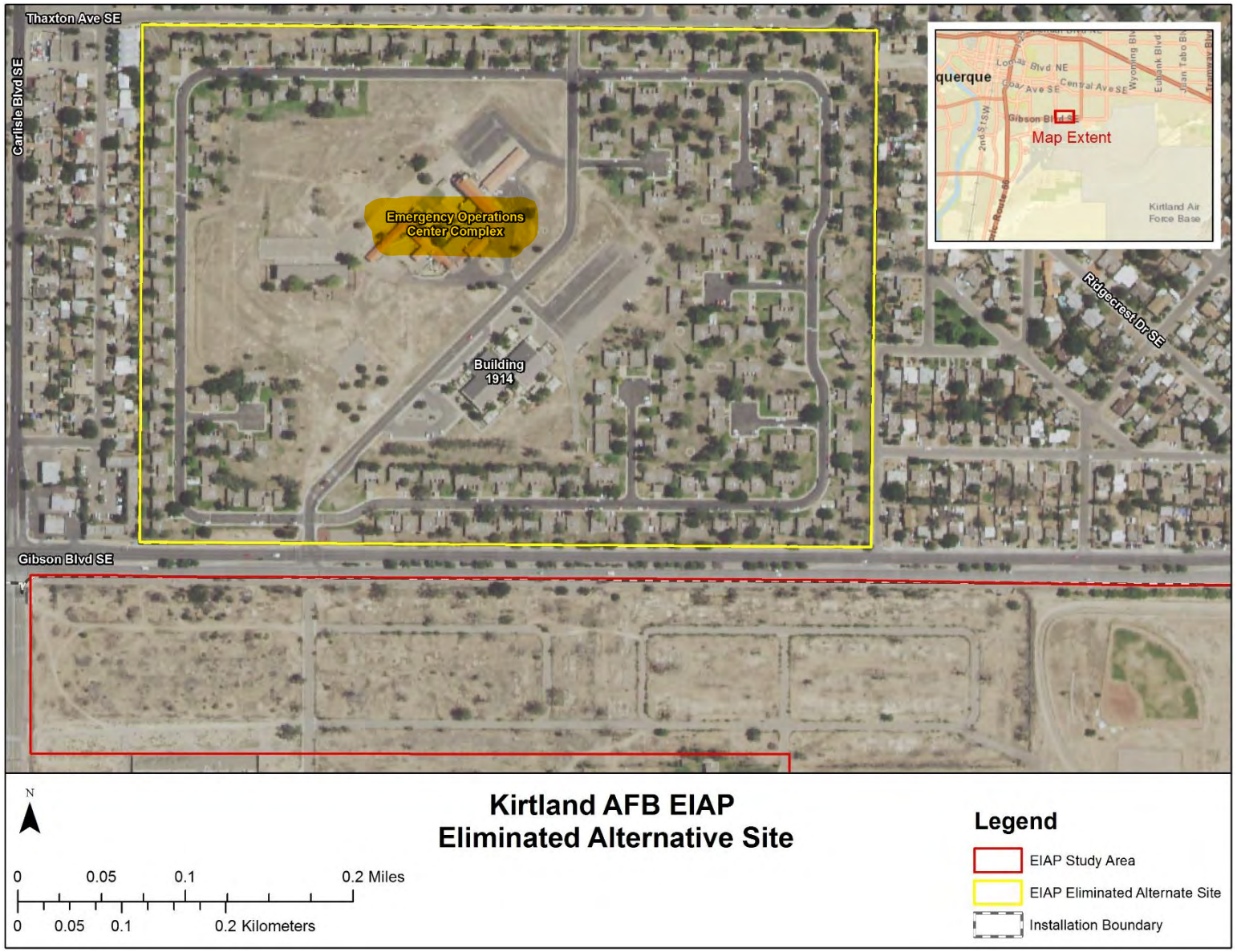

Figure 2-3. Kirtland Air Force Base Environmental Impact Analysis Process Eliminated Alternative Site Location

Table 2-4. Summary of Potential Impacts

Potentially Affected Resource	Proposed Action	No Action Alternative
Noise	**Construction Noise Impacts:** Impacts to the noise environment from construction activities are expected to be short-term, moderate, and adverse. Development at the EIAP Study Area would include site preparation and construction activities. Kirtland Elementary School and the Veterans Affairs Medical Center in the vicinity of the proposed construction activities would likely experience short-term, intermittent noise during the workday when activities are underway. **Operational Noise Impacts:** Upon completion of the mixed-use development, there would likely be an increase in traffic at the location associated with employees and customers. A qualitative and quantitative noise analysis was conducted and results indicated that noise impacts are expected to be long-term, insignificant, and adverse from increased traffic.	The No Action Alternative would not result in any new or additional impacts.
Land Use	Impacts to the EIAP Study Area include short-term, moderate, adverse impacts associated with land clearing, soil excavation, and building construction. This would render the site unusable for other uses during construction; however, development of the underutilized land would potentially result in long-term, moderate, beneficial impacts. Long-term, moderate, beneficial land use impacts would result from implementing the Proposed Action during the expected life of the development. Around and within the project area, sidewalks and landscaped areas would also be installed. The addition of the multiuse development would provide long-term, moderate, beneficial impacts to the military and civilian residents in and around Kirtland AFB.	Under the No Action Alternative, construction of the mixed-use development would not occur and existing conditions would remain the same. The No Action Alternative would result in any new or additional impacts to land use.
Visual Resources	The existing landscape is previously disturbed and has lost much of its original natural appearance. Ground disturbance and construction activities would be visible from surrounding areas and change the existing landscape that would be visible to surrounding viewers; however, this change to the visual landscape would result in short-term, minor, adverse impacts to visual resources. Once construction is complete, Long-term, moderate, beneficial impacts to visual resources are expected from project development.	Under the No Action Alternative, construction of the mixed-use development would not occur and existing conditions would continue. Long-term, moderate, adverse impacts to visual resources are expected.

Table 2-4. Summary of Potential Impacts

Potentially Affected Resource	Proposed Action	No Action Alternative
Air Quality	Implementation of the Proposed Action, on the whole, would result in long-term, insignificant, adverse impacts to air quality and not expected to result in emissions levels above federal air quality thresholds. Estimated emissions for all pollutants from the Proposed Action fall *below* the *de minimis* threshold. Short-term emissions from construction activities for the Proposed Action are not significant and will not cause any significant impact to federal air quality standards. Operational emissions generated by employees or personnel commuting to the site in their vehicles would result in long-term, minor, adverse impacts near the area of the new development; however, these operational emissions are not significant enough to cause any exceedances in National Ambient Air Quality Standards. The nominal amount of greenhouse gas emissions would not likely contribute to climate change in any pronounced way, especially when the emissions are reviewed from a regional context.	Under the No Action Alternative, no new or additional impacts to air quality would occur and existing conditions would continue.
Geology and Soils	Short-term, minor, adverse soil resource impacts would occur at the EIAP Study Area during construction from disturbance of approximately 100 acres of soil. Except for occasional excavations for maintenance and minor site improvement that would periodically expose soils, little disturbance is expected to soil resources during the operation of the mixed-use site. Long-term, negligible, adverse impacts to soil resources would occur at the EIAP Study Area during development buildout. The moderate seismic risk could pose a minor threat to the completed structures.	The No Action Alternative would result in long-term, neutral impacts as soil development and erosion processes continue with minimal and insignificant human impact. Impacts would be beneficial as soils slowly develop and also adverse, but less than significant, as erosion occurs after precipitation and runoff events.
Water Resources	There are no surface water features such as arroyos, streams, or lakes at the EIAP Study Area. No impacts to jurisdictional wetlands are expected as conditions needed for wetland formation are not present in the EIAP Study Area. Stormwater runoff during construction at the project site would be managed under a project-specific SWPPP, and BMPs would be applied to avoid soil erosion and sediment transport. Long-term, negligible, adverse impacts to surface water and groundwater are anticipated during project construction. During full buildout, the amount of water use for the proposed project would represent less than 0.5 percent of Albuquerque's water use based on the development size. This would represent	Implementation of the No Action Alternative would not result in new or additional impacts to surface water or groundwater.

Table 2-4. Summary of Potential Impacts

Potentially Affected Resource	Proposed Action	No Action Alternative
	a long-term, negligible, adverse impact to groundwater withdrawal and surface water supply. Impacts associated with sediment and contamination transport to water quality are expected to be long-term, negligible, and adverse.	
Biological Resources	**Vegetation:** During construction activities, soil surfaces, including existing vegetation, would be cleared. Adverse impacts on the majority of land would be long-term due to the permanent removal of vegetation and construction of buildings and installation of parking. Some areas would be landscaped after construction completion using xeriscaping techniques resulting in long-term, moderate, beneficial impacts. **Wildlife species and habitat:** Implementation of the Proposed Action is not expected to cause significant impacts to wildlife species or their associated habitat. Construction activities associated with the Proposed Action could cause moderate, short-term disturbances to wildlife that may inhabit the EIAP Study Area. Some smaller, less mobile species may be adversely impacted from land clearing and construction activities; however, should mortalities occur, long-term, negligible, adverse impacts to wildlife populations would be expected. Implementation of the Proposed Action would create long-term, minor, adverse impacts to some wildlife species as a result of the loss of habitat; however, this impact would not be significant. Surveying and avoiding construction activities during nesting seasons, as well as mitigation actions, if required, would also reduce the potential for mortalities from activities under the Proposed Action. **Threatened and endangered species:** There would be no impact to threatened or endangered species or critical habitat from implementation of the Proposed Action. No federally listed species have been documented on Kirtland AFB. The two state-listed threatened species that have been documented on base, the gray vireo and peregrine falcon, would not occur at the EIAP Study Area since this location lacks suitable habitat. In addition, there are no critical habitats within the EIAP Study Area. With the presence of Gunnison's prairie dog towns in the EIAP Study Area, there is the potential for the presence of the New Mexico Species of Greatest Conservation Need western burrowing owl, although past surveys have not documented western burrowing owls in the EIAP Study Area.	Implementation of the No Action Alternative could result in long-term beneficial impacts to biological resources, these impacts would not significant. No new or additional impact are expected.

Table 2-4. Summary of Potential Impacts

Potentially Affected Resource	Proposed Action	No Action Alternative
Infrastructure	**Transportation.** Impacts to transportation resulting from the development of the Proposed Action would represent a long-term, moderate, beneficial impact. The Proposed Action would require traffic improvements. These improvements would enhance traffic flow along Gibson Boulevard and other roadways in and around the EIAP Study Area as well as improve safety for drivers and pedestrians. Increased traffic during development buildout would increase; it is not expected to exceed the capacity of existing infrastructure. **Electrical System.** No impacts from connection of electrical power to the proposed development is anticipated since the power supply is currently available. Disruption of service to surrounding areas could occur during construction and interconnection; however, this is expected to be a short-term inconvenience. Rooftop solar panels would be installed on select buildings to offset utility costs. **Natural Gas and Propane.** No impacts from construction and connection to natural gas supplies are anticipated.. Disruption of gas service to surrounding areas could occur during construction and connection to existing natural gas lines; however, this would be a short-term inconvenience. **Liquid Fuel.** The Proposed Action includes the potential for the construction of a gasoline station. The local distribution of liquid fuels would be a beneficial supply source to area residents, visitors to the development site, and workers. **Water Supply System.** No long-term, adverse impacts to Kirtland AFB drinking water supplies are anticipated. The Proposed Action would require the installation of new water lines to the EIAP Study Area. Impacts related to the construction of new water lines would result in short-term, minor, adverse impacts. No water would be obtained from the Kirtland AFB drinking water system. ***Communications System*.** The Proposed Action would require new communications infrastructure for servicing the area. Potential impacts to Kirtland AFB communication paths in tracts 1B, 1D, 1F, and 5A could occur; however, prior to construction, the developer will coordinate with Kirtland AFB personnel to avoid and protect these communication lines. ***Solid Waste Management*.** No impacts are expected from collection and disposal of solid waste generated from construction of the Proposed Action. Solid waste generated from the	Implementation of the No Action Alternative would not result in new or additional impacts to surface water or groundwater.

Table 2-4. Summary of Potential Impacts

Potentially Affected Resource	Proposed Action	No Action Alternative
	Proposed Action would be collected by a private solid waste company and disposed at a licensed landfill through the City of Albuquerque.	
Hazardous Materials and Wastes	**Environmental Management System.** No adverse impacts to the EMS program are expected as construction contractors would comply with the installation's EMS program. **Hazardous Materials and Petroleum Products.** The Proposed Action would result in short-term, negligible, adverse impacts should any hazardous materials or petroleum products be released into the environment. The handling and storage of any hazardous materials and petroleum products would be carried out in compliance with applicable laws and regulations. During operation of the potential gasoline station, similar hazardous materials and petroleum products would remain on site, including fuels and cleaning products. TKD would adhere to the typical safety guidelines and standards for the storage and handling of these products **Hazardous and Petroleum Wastes.** Construction activities requiring the use of hazardous materials and petroleum products could result in the generation of hazardous wastes and used petroleum products. The Proposed Action would result in a short-term, negligible, adverse impact on the generation of hazardous and petroleum wastes **Toxic Substances.** All buildings should be evaluated for ACM, PCB, and LBP abatement prior to their demolition. With BMPs in place, no adverse impacts are anticipated. **Environmental Restoration Program.** Two former ERP sites could still potentially be affected by the Proposed Action if they are found in place; however, their closure indicates minimal, if any, contamination if disturbed. With BMPs in place, no adverse impacts are anticipated.	Implementation of the No Action Alternative would not result in new or additional adverse impacts to hazardous materials and waste.
Safety	Implementing the Proposed Action is not expected to result in adverse impacts to health and safety, as activities would comply with requirements outlined in Occupational Safety and Health Standards 29 Code of Federal Regulations Parts 1910 and 1926, as well as New Mexico Occupational Health and Safety Bureau directives.. Transportation of explosives through the Truman gate would continue under the Proposed Action. All trucks and drivers must comply with the requirements of Occupational Safety and Health	Implementation of the No Action Alternative would not result in new or additional adverse impacts to safety.

Table 2-4. Summary of Potential Impacts

Potentially Affected Resource	Proposed Action	No Action Alternative
	Administration Standard 1926.902, *Surface Transportation of Explosives*, before transporting explosives; therefore, potential long-term, negligible, adverse impacts are expected. There would be no impacts to public safety under the Proposed Action.	
Socioeconomics	During construction, impacts to socioeconomics would be short-term, minor, and beneficial from temporary job creation and tax revenues generated from project development. Impacts to socioeconomics under full project development would be long-term, moderate, and beneficial with job creation, business expansion, and increases to the local economy and tax revenues.	Implementation of the No Action Alternative would not result in new or additional adverse impacts to socioeconomics. However, under the No Action, beneficial impacts to socioeconomics would not be realized.
Environmental Justice	Potential adverse impacts identified in this EA could result in a disproportionate impact to these Environmental Justice populations. During construction, disproportionate impacts to these populations would be short-term and minor. During the operational phase, these populations would realize potential long-term, moderate, and beneficial impacts such as improved employment opportunities and economic growth. No impacts to children are expected.	Implementation of the No Action Alternative would not result in new or additional adverse disproportionate impacts to environmental justice or children; however, under the No Action, beneficial impacts to disproportionate populations would not be realized.

Notes:
ACM = asbestos-containing material; AFB = Air Force Base; BMP = best management practice; EIAP = Environmental Impact Analysis Process; ERP = Environmental Restoration Program; LBP = lead-based paint; PCB = polychlorinated biphenyl; SWPPP = Stormwater Pollution Prevention Plan; TKD = Thunderbird Kirtland Development Partners

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section of the EA describes the natural and human environments that exist within Kirtland AFB and the potential consequences of the Proposed Action and No Action Alternative on affected resources within that environment. Only those resources that have the potential to be affected by any of the alternatives considered are described, as per CEQ guidance (40 CFR § 1501.7[3]).

Specific criteria for evaluating the potential environmental impacts of the Proposed Action and No Action Alternative are discussed in the following text by resource area. The significance of an action is measured in terms of its context and intensity. The context and intensity of potential environmental impacts are described in terms of duration, the magnitude of the impact, and whether they are adverse or beneficial as summarized below:

- ***Short-term or long-term.*** In general, short-term impacts are those that would occur only with respect to a particular activity, for a finite period, or only during the time required for construction or installation activities. Long-term impacts are those that are more likely to be persistent and chronic.

- ***Significant, moderate, minor, negligible, or no impact.*** These relative terms are used to characterize the magnitude or intensity of an impact. Significant impacts are those effects that would result in substantial changes to the environment (as defined by 40 CFR § 1508.27) and should receive the greatest attention in the decision-making process. Less than significant impacts are those that would be slight but detectable.

- ***Adverse or beneficial.*** An adverse impact is one having unfavorable or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment.

The area described for each resource is defined as the Region of Influence (ROI). The ROI includes the area immediately surrounding or adjacent to the 77-ac EIAP Study Area and the 23-ac developable land.

Based upon the Proposed Action, resource areas with no impacts were identified through a preliminary screening process. The following bullets describes those resource areas not being carried forward for detailed analysis, along with the rationale for their elimination:

- ***Airspace Management***. Airspace management is not addressed in this EA because the Proposed Action would not result in a change to current airspace types or flight activities. Nor would it create conflicts with FAA regulations and management of the airspace in the ROI. As a result, the USAF anticipates no short- or long-term impacts on airspace management at Kirtland AFB; therefore, airspace management will not be carried forward for detailed analysis.

- ***Cultural Resources.*** Cultural resources are not addressed in this EA because the Proposed Action would not result in impacts on known cultural resources or historic properties within the ROI. On 19 March 2019, Kirtland AFB received concurrence from the SHPO that the Proposed Action would not adversely affect any surveyed or unsurveyed historic properties (Historic Preservation Division Log 109912) (Estes 2019). If, however, during construction any inadvertent discoveries of cultural resources are made, all project

activities would stop, the Kirtland AFB Cultural Resources Program Manager and the SHPO would be notified, and operational procedures outlined in the Installation Cultural Resources Management Plan would be followed. As a result, the USAF anticipates no short- or long-term impacts on cultural resources at Kirtland AFB; therefore, cultural resources will not be carried forward for detailed analysis.

3.1 NOISE

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

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

Human response to noise varies, as do the metrics used to quantify it. Generally, sound can be calculated with instruments that record instantaneous sound levels in decibels (dB). A-weighted decibel (dBA) is the unit used to characterize sound levels that can be sensed by the human ear. “A-weighted” denotes the adjustment of the frequency range to what the average human ear can sense when experiencing an audible event. The threshold of audibility is generally within the range of 10 to 25 dBA for normal hearing. The threshold of pain occurs at the upper boundary of audibility, which is normally in the region of 135 dBA (USEPA 1981a).

Table 3-1 compares common sounds and how they rank in terms of auditory impacts. As shown, a whisper is normally 30 dBA and considered to be very quiet while an air conditioning unit 20 ft away is considered an intrusive noise at 60 dBA. Noise levels can become annoying at 80 dBA and very annoying at 90 dBA. To the human ear, each 10 dBA increase seems twice as loud (USEPA 1981b).

Under the Noise Control Act of 1972, the Occupational Safety and Health Administration (OSHA) established workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 dBA over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed to is 115 dBA, and exposure to this level must not exceed 15 minutes within an 8-hour period. These standards limit instantaneous exposure, such as impact noise, to 140 dBA. If noise levels exceed these standards, employers are required to provide hearing protection equipment that would reduce sound levels to acceptable limits.

Table 3-1. Sound Levels and Human Response

Noise Level (dBA)	Common Sounds	Effect
10	Just audible	Negligible
30	Soft whisper (15 ft)	Very quiet
50	Light auto traffic (100 ft)	Quiet
60	Air conditioning unit (20 ft)	Intrusive
70	Noisy restaurant or freeway traffic	Telephone use difficult
80	Alarm clock (2 ft)	Annoying
90	Heavy truck (50 ft) or city traffic	Very annoying Hearing damage (8 hours)
100	Garbage truck	Very annoying
110	Pile drivers	Strained vocal effort
120	Jet takeoff (200 ft) or auto horn (3 ft)	Maximum vocal effort
140	Carrier deck jet operation	Painfully loud

Source: USEPA 1981b

Note:
dBA = A-weighted decibel; ft = feet

The average day/night sound level (DNL) metric is a measure of the total community noise environment. DNL is the average A-weighted sound level over a 24-hour period, with a 10 dBA adjustment added to the nighttime levels (between 2200 and 0700 hours). This adjustment is an effort to account for increased human sensitivity to nighttime noise events. DNL was endorsed by the U.S. Environmental Protection Agency (USEPA) for use by federal agencies and was adopted by the U.S. Department of Housing and Urban Development. DNL is an accepted unit for quantifying annoyance to humans from general environmental noise, including construction noise. Land use compatibility and incompatibility are determined by comparing the predicted DNL at a site with the recommended land uses. Noise levels occurring at night generally produce a greater annoyance than those of the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA louder than those occurring during the day, at least in terms of its potential for causing community annoyance.

3.1.1 Affected Environment

The ambient noise environment at Kirtland AFB is affected mainly by USAF and civilian aircraft operations, automotive vehicles, and live-fire weapons. In the heavily developed northwestern portion of the installation, the commercial and military aircraft operations at the Sunport are the primary source of noise. **Figure 3-1** presents the existing DNL noise contours for the Sunport plotted in 5-dB increments, ranging from the 65- to 75-dBA DNL. The vast majority of the EIAP Study Area is located outside of the 65-dB noise contour with approximately 14 ac within the 70-dB noise contour in the southern portion. Secondary sources of noise, such as vehicle travel, industrial activities, and military training, also contribute to the louder ambient sound environment of the northwestern portion of the installation compared to other portions of Kirtland AFB. The ambient sound environment of the remaining portions of the installation is quieter because development is less concentrated. Intermittent noises from military training, mainly military vehicles, live-fire weapons, and explosives training, dominate the ambient sound environment of these portions of Kirtland AFB.

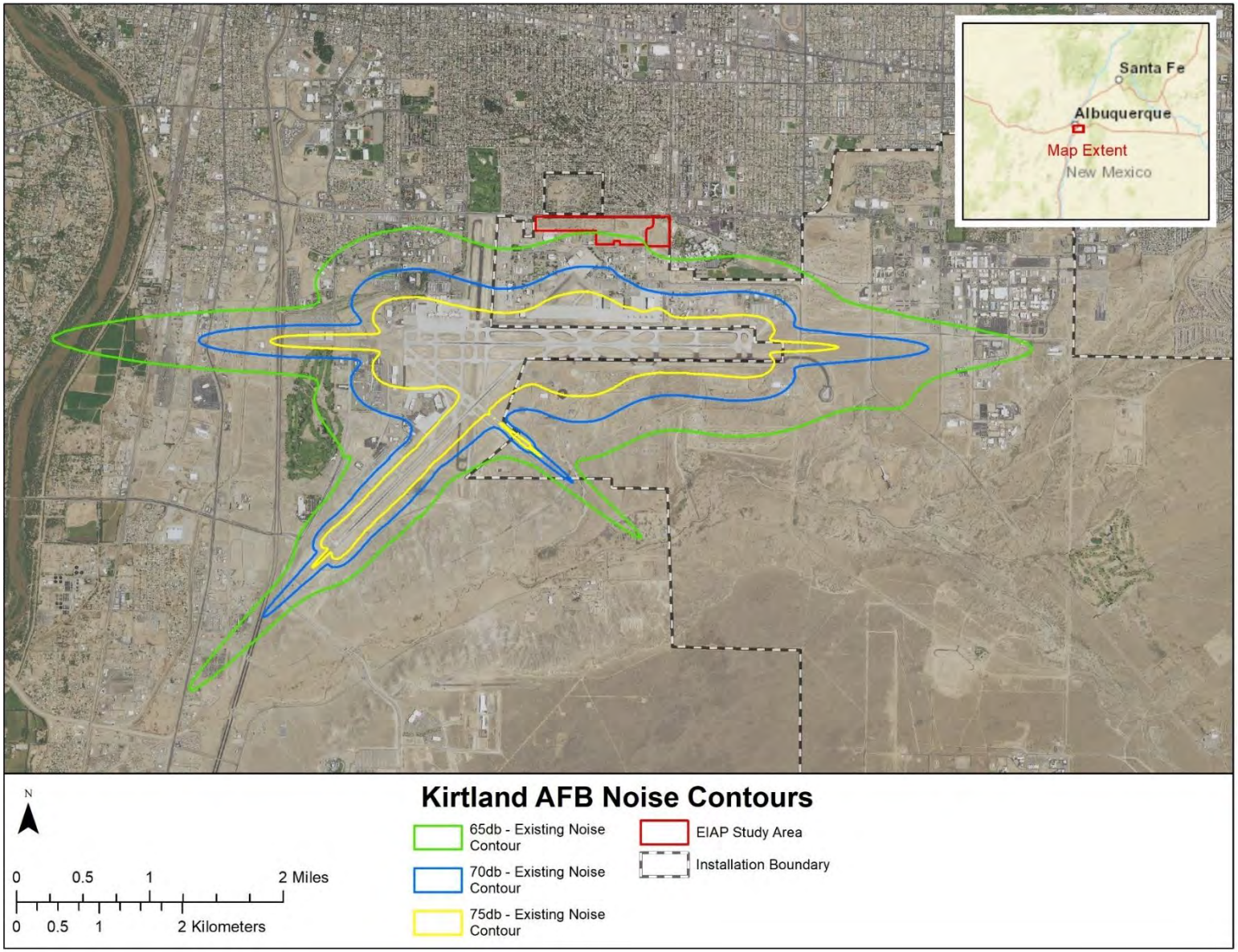

Figure 3-1. Existing Noise Contours at Kirtland Air Force Base

Most sensitive noise receptors that could potentially be exposed to noise from installation activities are on or proximate to the northwestern and northern portions of Kirtland AFB. For example, several schools for the city of Albuquerque are on or proximate to the northwestern portion of the installation. There are also several medical centers and hospitals in this region. All Kirtland AFB housing and community functions are within the northwestern portion of the installation, and several residential neighborhoods in the city of Albuquerque are proximate to the northwestern and northern boundaries of the installation. No other portions of Kirtland AFB contain or are proximate to sensitive noise receptors (Kirtland AFB 2016b).

Aside from noise generated from commercial and military aircraft, traffic noise is a major source of noise around the project area. Gibson Boulevard, which borders the northern boundary of the project area is a six-lane major arterial roadway with heavy daily traffic including automobiles and City of Albuquerque buses. Traffic noise levels are highest during the peak morning and evening commutes.

Two sensitive noise receptors have been identified near the EIAP Study Area. Kirtland Elementary School is located approximately 1,000 ft west of the EUL project area at the southwestern corner of the Carlisle/Gibson Boulevard intersection. The second identified sensitive noise receptor is the VAMC, located about 1,500 ft from the eastern edge of the 23-ac developable site. In addition, residential neighborhoods are located north of Gibson Boulevard and the EIAP Study Area.

3.1.2 Environmental Consequences

3.1.2.1 Proposed Action

Construction Noise Impacts. Under the Proposed Action, development of the EIAP Study Area would include site preparation and construction activities. The Proposed Action includes the use of heavy equipment and power tools consistent with demolition, land preparation, and construction activities. The impacts to the noise environment from construction activities are expected to be short-term, moderate, and adverse, and as such, no significant impacts are expected.

The noise being generated would be dependent on the phase of construction. Site preparation activities may include the demolition of the concession stand/storage building (Building 2555) and the communications (ham radio) building (Building 509). In addition, existing pavement and vegetation would be removed. This type of activity typically involves the use of heavy equipment such as bulldozers, front-end loaders, backhoes, and dump trucks as well as other equipment such as pneumatic jack hammers and other machinery for concrete and pavement removal. The equipment that has the potential to generate loudest noise includes concrete saws, jack hammers, and other pneumatic tools that emit noise of 85 to 90 dBA at 50 ft (Federal Highway Administration [FHWA] 2006). Most other equipment, including the heavy machinery, typically emit noise from 70 to 85 dBA range at 50 ft. Additional site preparation would include the installation of underground utilities and drainage systems and would include the use of the heavy equipment and machinery described above. After site preparation, construction of the structures and installation of roads, parking, curbs, and sidewalks would occur as well as landscaping. In addition to some of the equipment and machinery described above, this phase may also include the use of heavy equipment such as cranes, concrete mixers, pavers, and rollers as well as pneumatic and electric power tools. A list of common construction equipment and machinery and the predicted noise at specified distances is provided **Table 3-2**.

Table 3-2. Predicted Noise Levels for Construction Equipment

Construction Equipment	L_{max} at 50 feet	L_{max} at 500 feet	L_{max} at 1,500 feet
Backhoe	78	58	48
Chain Saw	84	64	54
Compactor (Ground)	83	63	53
Concrete Mixer Truck	79	59	49
Concrete Pump Truck	81	61	51
Concrete Saw	90	70	60
Crane	81	61	51
Dozer	82	62	52
Excavator	81	61	51
Front-End Loader	79	59	49
Grapple (Backhoe)	87	67	57
Impact Pile Drive	101	81	71
Jack Hammer	89	69	59
Pavement Scarifier	90	70	60
Pneumatic Tools	85	65	55
Vacuum Excavator	85	65	55

Source: FHWA 2006

Note:
L_{max} = maximum sound level (in decibels)

Noise is generally attenuated as the distance from the source increases; sound levels measured from point sources usually decrease at a rate of 6 dB each time the distance is doubled (FHWA 2006). For example, a point source that generates 85 dBA at 50 ft is reduced to 79 dBA at 100 ft and 73 dBA at 200 ft; therefore, the noise generated from the loudest equipment expected to be used (e.g., cement saw and jack hammer) would be attenuated to about 64 dBA at 1,000 ft and 60 dBA at 1,500 ft. These levels are below the 67 dBA activity criteria set for traffic and construction noise around schools and hospitals in New Mexico (NMDOT 2011).

The noise associated with construction-type activities is typically short-term, intermittent, and highly localized. Kirtland Elementary School and the VAMC in the vicinity of the proposed construction activities would likely experience short-term, intermittent noise during the workday when activities are underway. While this exposure may be a nuisance, it would not pose a threat to hearing or change the long-term noise environment. Additionally, the increase of noise in and around the housing areas would typically occur during daytime hours of 0700 to 1700. Moreover, noise abatement measures specified in New Mexico Department of Transportation (NMDOT) Directives would further minimize potential impacts. Once construction activities are complete the associated noise would cease.

Operational Noise Impacts. Upon completion of the mixed-use development, there would likely be an increase in traffic at the location associated with employees and customers.

Potential traffic-related noise impacts as a result of the proposed development identified in the Max Q Long Range Development Plan (2 May 2019) were evaluated with a summary of findings provided here. This noise analysis included consideration of projected traffic volumes and patterns, a noise-level analysis, zoning and land use of adjacent lands, and alignment with state and federal noise impact regulations.

Projected traffic volumes for the full build out (SDL 1-5) are based on the details provided in the Max Q Long Range Development Plan (2 May 2019) and established using *Trip Generation Manual*, 10th Edition. The traffic analysis resulted in an estimate of 1,284 new trips in the AM peak hour and 1,380 new trips in the PM peak hour along the Gibson Boulevard project corridor directly related to the proposed development (**Table 3-3**).

Table 3-3. Total New Trips as Established in the 2019 Kirtland Air Force Base Enhance Use Lease/MAXQ Traffic Impact Analysis

Land Use	AM Enter	AM Exit	PM Enter	PM Exit
Hotel	55	17	20	28
Retail	303	271	298	253
Residential	11	28	12	9
Employment	552	47	111	649
Total	**920**	**363**	**441**	**939**

According to the Mid Region Council of Governments traffic count database, the average weekday traffic volumes along Gibson Boulevard, within the study area, are currently 38,321 vehicles (2017) with 3,345 trips in the PM peak hour (**Table 3-45**).

The 2030 traffic projections were calculated based on 2019 traffic counts and an estimated growth rate. Additional information about existing and future traffic is located in the Kirtland AFB EUL/MAXQ Traffic Impact Analysis completed by Bohannan Huston (2019).

Table 3-4. Existing and Future Traffic

	Existing Year 2017	2030 No-Build*	2030 Build*
Daily Volume (VPD)	38,321	43,281	50,940
Peak Hour (VPH)	3,345	4,328	5,094
Directional Split (%)	0.62	0.61	0.63
% Heavy and Medium (Truck/Bus)	-	2	2

*Carlisle and Gibson intersection

Noise levels were calculated with the FHWA Traffic Noise Model (TNM) (Version 2.5) (FHWA 2004). The TNM model uses site-specific information including traffic volumes and speeds, vehicle classification data, roadway geometry, and site acoustical properties to predict peak-hour noise levels at selected receptor locations.

Receptors were chosen to represent the residential housing and Kirtland Elementary School adjacent to the corridor. A map with receptor locations is in **Appendix B**.

The following data points and assumptions (inputs) were used to produce the noise analysis results:

- PM Peak traffic volumes (2017) obtained from Mid Region Council of Governments data for the 2017 baseline scenario
- PM Peak projected traffic volumes (2030) based on 2019 traffic counts for the 2030 no development scenario
- PM Peak projected traffic volumes (2030) based on 2019 traffic counts plus projected development-related traffic volumes (see **Appendix B**) for the 2030 development scenario
- Speed limit of 40 miles per hour as posted on the corridor
- 1.5 percent medium trucks and 0.05 percent heavy trucks were used assumed during the peak hour based on the 2019 traffic count data
- Roadway geometry for a six-lane divided roadway

Noise level results for the baseline (2017), no development (2030), and development scenario (2030) are attached and summarized in **Table 3-5**. The maximum noise-level increase resulting from the development scenario in 2030 is 1.9 dBA. So, although, the 2017 baseline conditions currently exceed the 67-dBA Noise Abatement Criteria (NAC) levels established by FHWA for residential land use, the overall increase directly related to the development is not substantial.

Table 3-5. Noise Level Results (A-weighted Decibel)

	Existing 2017	2030 No-Build	2030 Build	Difference
Receiver 1	68.6	69.7	70.5	1.9
Receiver 2	65.2	66.4	67.0	1.8
Receiver 3	69.8	70.9	71.7	1.9
Receiver 4	70.6	71.7	72.5	1.9
Receiver 5	69.2	70.3	71.0	1.8
Receiver 6	70.9	72.0	72.7	1.8

Research has shown that most people do not notice a difference in loudness between noise level increases of less than 3 dBA. In general, people relate a 10-dBA increase in noise levels to a doubling of sound loudness.

Adjacent zoning and land use consist of primarily multifamily high density with various mixed-use designations on both the eastern and western ends of the project area. Although there is existing residential along the project corridor, it is high density and currently adjacent to mixed-use developments with commercial elements. Under the 2018 Integration Development Ordinance recently updated by the City of Albuquerque, the uses allowed within these various zones include such activities as car washes, outdoor entertainment facilities, bars, restaurants, auditoriums, hospitals, retail, temporary festivals, and more. This is just a collective sampling of what is allowed along this corridor but clearly indicates that many of these uses are noise generating and noise tolerant. The project corridor is also within relative proximity to the Albuquerque Sunport International Airport which is a significant contributor to background noise in the area.

The qualitative traffic noise analysis also considered the guidance and regulations provided by the NMDOT Infrastructure Design Directive, IDD 2011-02 (NMDOT IDD 2011-02). According to the IDD 2011-02, the proposed development does not warrant a quantitative traffic noise analysis since limited or no geometrical modifications are being done to the actual roadway corridor.

Geometrical modifications which would warrant a noise study under the IDD 2011-02 include substantial vertical or horizontal alterations, addition of traffic lanes, or new alignments; however, consideration of the NAC established under federal regulations (23 CFR Part 772) and shown in **Table 3-6** provides perspective on potential noise impacts as they relate to the land use in the area. Existing and allowable land uses adjacent to the corridor do fall under NAC B, C, D, and F. Three of these NAC categories do allow the highest dBA of all NACs with Category F not even providing a maximum dBA and including airports and emergency services. Both land uses referenced in NAC Category F are adjacent to, or in proximity to, the proposed site indicating a mix of land use and noise receptor types in the area.

Table 3-6. Federal Highway Administration Noise Abatement Criteria (Table 1 of 23 Code of Federal Regulations, Part 772)

Activity Category	Activity Criteria(1,2) L10(h), dBA	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B(3)	67	Exterior	Residential
C(3)	72	e	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E(3)	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A–D or F.
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	--	Undeveloped lands that are not permitted

In conclusion, with the quantitative and qualitative analysis complete and summarized above, it is not anticipated that the additional traffic projected to be generated by the proposed development identified in the Max Q Long Range Development Plan will result in long-term noise impacts to the public as a result of traffic noise impacts. The use of the FHWA-approved TNM 2.5 indicates that the maximum noise-level increase resulting from the development scenario in 2030 is 1.9 dBA as compared to the existing noise levels. This indicates an insignificant increase in noise levels for the corridor as a result of the proposed development. As previously discussed, the project area includes mixed use and high-density development and is currently impacted by existing traffic noise levels; therefore, the traffic volume associated with the proposed development is not expected to change the current conditions nor be perceptible to the existing noise sensitive receptors. No further analysis or mitigation measures are recommended.

3.1.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in **Section 2.1** would not be implemented and the existing conditions discussed in **Section 3.1.2** would continue. Implementation of the No Action Alternative would not result in any new or additional impacts from noise.

3.2 LAND USE

The term “land use” refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are codified in local zoning laws; however, there is no nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use descriptions, “labels,” and definitions vary among jurisdictions. Natural conditions of property can be described or categorized as unimproved, undeveloped, conservation or preservation area, and natural or scenic area. There is a wide variety of land use categories resulting from human activity. Descriptive terms often used include residential, commercial, industrial, agricultural, institutional, and recreational.

AFI 32-7062, Comprehensive Planning, describes procedures for developing, implementing, and integrating an IDP with activity management plans. It establishes a systematic framework for informative decision making on the physical development of USAF installations and the surrounding area. Comprehensive planning integrates the multiple USAF processes that support and sustain current and future missions. It relies on active participation in the development of a sustainable plan and promotes compliance with applicable federal, state, and local laws, regulations, and policies. Through comprehensive planning, installations are divided into identifiable Planning Districts based upon geographical features, land use patterns, building types, and transportation networks. The concepts and principles of sustainable planning are incorporated into all installation development planning and infrastructure projects. The goal is to satisfy mission requirements while maintaining a safe, healthy, and high-quality environment for current and future generations.

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

3.2.1 Affected Environment

Surrounding Land Use. Kirtland AFB is located in the southwestern portion of Bernalillo County, New Mexico (see **Figure 1-1**). It is bound on the west and north by the city of Albuquerque, on the northeast and east by the Cibola National Forest, and on the south by the Isleta Pueblo. The area east of the withdrawn area includes a low-impact recreational area and open space in the Cibola National Forest. The Sunport, the city of Albuquerque's airport, abuts the installation's northwestern border and allows the installation use of its runways. Runway 17/35 is a decommissioned north-south runway that would eventually be home to the Aviation Center of Excellence, which would be the centerpiece of a new development known as Destination Sunport. This new development would include the decommissioned runway and a 10-ac strip along Gibson Boulevard that would feature aviation and aerospace businesses, high tech companies, and retail businesses (ABQ Sunport 2017).

Kirtland AFB works with the planning commissions and governing bodies within the city of Albuquerque and Bernalillo County to ensure compatible development occurs in areas near or adjacent to the installation. The neighborhoods in the city of Albuquerque north of the installation include a mix of residential (both single-family and multifamily development) and commercial uses. The Juan Tabo Hills subdivision, which abuts the northern boundary of the installation, has been a concern due to their close proximity and potential to impact installation and DOE activities. Commercial uses range from neighborhood retail to commercial/industrial uses. Institutional uses in the same area include the VAMC facilities located south of Gibson Boulevard. The Sandia Science and Technology Park is an industrial park with many mission partners that benefit from the close proximity to SNL.

On-Installation Land Use. Kirtland AFB is 51,585 ac, and most of the land is owned by the USAF. DOE occupies the largest amount of land area of any mission partner on the installation. DOE owns and operates facilities on approximately 7,533 ac at Kirtland AFB, primarily in the eastern portion of the cantonment area and the northeastern and southwestern portions of the installation (see **Figure 1-1**).

Land use at Kirtland AFB consists of a total of 12 planning districts. Four planning districts are primarily dedicated to testing, storage, and training operations. These include the Manzano District, the Arroyo District, the Southern Research and Development Area, and the Withdrawn Area. The cantonment area of the installation consists of the Flightline, Science and Technology, Medical, Industrial, Community, Enterprise, Airfield, and DOE/SNL Districts.

The most heavily developed area of Kirtland AFB is the cantonment area in the northwestern portion of the installation. The cantonment area is commonly referred to in terms of its eastern or western sides; the western side is the site of the original Kirtland AFB while the eastern side includes the former Sandia and Manzano Bases. Recent installation planning and infrastructure efforts have focused on unifying the formerly segregated western and eastern portions of the cantonment area into a more unified installation.

Airfield operations and aircraft support facilities are concentrated in the Flightline District, which is in the western portion of the cantonment area adjacent to the Sunport and its runways. Several associate organizations, including the AFRL, the New Mexico Air National Guard, Detachment 12 of the Space and Missiles Systems Center, and the 58th Special Operations Wing, are also in this area. The administrative area of the Air Force Nuclear Weapons Center and a majority of the installation support functions, to include the 377 ABW Headquarters and the 377th Mission Support Group (377 MSG), are located in the eastern portion of the cantonment area. Facilities of other mission partners to include DOE's Albuquerque Office, SNL, Air Force Operational Test and

Evaluation Center, Defense Threat Reduction Agency, and Air Force Safety Center are also located in this area. Most housing areas and their associated community uses are at the northeastern border of the cantonment area in the Community District, adjacent to existing off-installation neighborhoods.

The Star Fire Optical Range, High Energy Research Test Facility, and the Lovelace Respiratory Research Institute are located in the southern portion of the installation, which is dominated by undeveloped open space. While most recreational facilities are in the cantonment area, the Tijeras Arroyo Golf Course is in the southwestern portion of the installation in the Manzano District.

In the Future Land Use Plan, presented in the installation's 2016 IDP, a major emphasis of the installation's long-range facility development plan is to consolidate land uses and collocate similar functions. Special attention is given to energy conservation, architectural compatibility, and low maintenance exteriors. The future land use patterns described in the IDP resemble the installation's existing land use pattern although a number of modifications have been made to the plan to enhance functional efficiency through consolidation of similar land uses. Changes to the overall land use pattern at Kirtland AFB would take place incrementally and focus on consolidating existing land uses. The Future Land Use Plan establishes clear land use zones that indicate what development types should occur within the various areas of the installation. Future facility siting decisions should consider compatible land uses and seek to establish a logical order, or hierarchy of uses (Kirtland AFB 2016b).

The Gibson Boulevard corridor, north of the EIAP Study Area, includes primarily commercial/retail and residential land uses. Hospitals, banks, restaurants, convenience stores, multifamily buildings, and single-family residences line the major corridor. Commercial land uses are concentrated at the major intersections of Gibson/Carlisle Boulevards and Gibson/San Mateo Boulevards. Single-family and multifamily residential is located north of Gibson Boulevard and the project area. Kirtland Elementary School is located west of the project area, south of Gibson Boulevard on the western side of Carlisle Boulevard. The VAMC is located east of the EIAP Study Area. Land uses south of the project include Kirtland AFB facilities such as the AFRL, aircraft facilities, and the Albuquerque International Sunport. Easements on the EIAP Study Area include the City of Albuquerque roadway right-of-way, Gibson Trails landscape right-of-way, and Public Service Company of New Mexico utility rights-of-way for electric power, water, and wastewater lines.

The 77-ac portion of the EIAP Study Area is currently vacant, underutilized land, previously used as an MFH until the homes were demolished. Land use east of the former MFH currently is used for recreation. The recreation area includes baseball fields, track field, parcourse, tennis courts, running track, volleyball courts, and a parking lot. The 23-ac site east of Truman Street is primarily open space except for the presence of a communications (ham radio) building. The EIAP Study Area is located within the Kirtland AFB Science and Technology Planning District as designated in the Kirtland AFB IDP (2016b). The Science and Technology District is planned for office buildings and laboratories designed in a campus-like setting with appealing landscaping (Kirtland AFB 2016b). The 77-ac portion of the EIAP Study Area is also identified as underutilized and suitable for redevelopment as an EUL. The EUL development is considered concurrent jurisdiction and the property would not be subject to the planning and development standards outlined in Kirtland AFB IDP. As part of the SDL, Kirtland AFB Civil Engineering would be required to review the proposed development prior to applying for a building permit from Bernalillo County. Bernalillo County will issue the building permits for construction within the EUL.

3.2.2 Environmental Consequences

3.2.2.1 Proposed Action

Under the Proposed Action, the EIAP Study Area would be converted from open space and recreational use to a multiuse development that could include commercial, residential, and industrial land use. This would result in the conversion of 77 ac and a recreational area as well as the possible future development of an additional 23 ac. If the 23-ac parcel is also developed, the ham radio building would also be removed.

Albuquerque International Sunport and Kirtland AFB is a joint-use airfield and therefore must comply with Unified Facilities Criteria (UFFC 3-2601-01 (4 Feb 2019), which specifies that FAA criteria for CZs and restrictions contained in FAA Advisory Circular (AC) 150/5300-13 are applicable The FAA Runway Protection Zones (RPZs) are shown on **Figure 3-2**. The RPZ, or CZ, precludes any obstructions. Development in these areas adheres to Unified Facilities Criteria (UFC) 3-260-01, *Airfield and Heliport Planning and Design*. The construction of any new buildings would be coordinated with Regional and Airport Design Office staff in consultation with the National Airport Planning and Environmental Division. As shown on **Figure 3-2**, the EIAP Study Area is outside of the FAA RPZ; therefore, building restrictions would not apply.

Impacts to the EIAP Study Area would be short-term, moderate, and adverse associated with land clearing, soil excavation, and building construction. This would render the site unusable for other uses during construction; however, development of the underutilized land would potentially result in long-term, moderate, beneficial impacts. There would be long-term, moderate, adverse impacts from the loss of open space and recreational area; however, the open space is underutilized and the conversion to multiuse development would reduce the adverse effect. In addition, the recreational area would be relocated and there are other recreational areas (Kirtland AFB 2016b) on base that would be used in the interim, as such the short-term loss of this recreational area would result in a long-term negligible, adverse impact.

Long-term, moderate, beneficial land use impacts would result from implementing the Proposed Action during the expected life of the development. Underutilized land would be converted to office, commercial, and residential use. Commercial uses would include retail, restaurant, and hotels. Around and within the project area, sidewalks and landscaped areas would also be installed. The addition of the multiuse development would provide long-term, moderate, beneficial impacts to the military and civilian residents in and around Kirtland AFB.

3.2.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in **Section 2.1** would not be implemented, and the existing conditions discussed in **Section 3.2.1** would continue. Implementation of the No Action Alternative would not result in any new or additional impacts to land use. The area would continue to be an open space and recreational area.

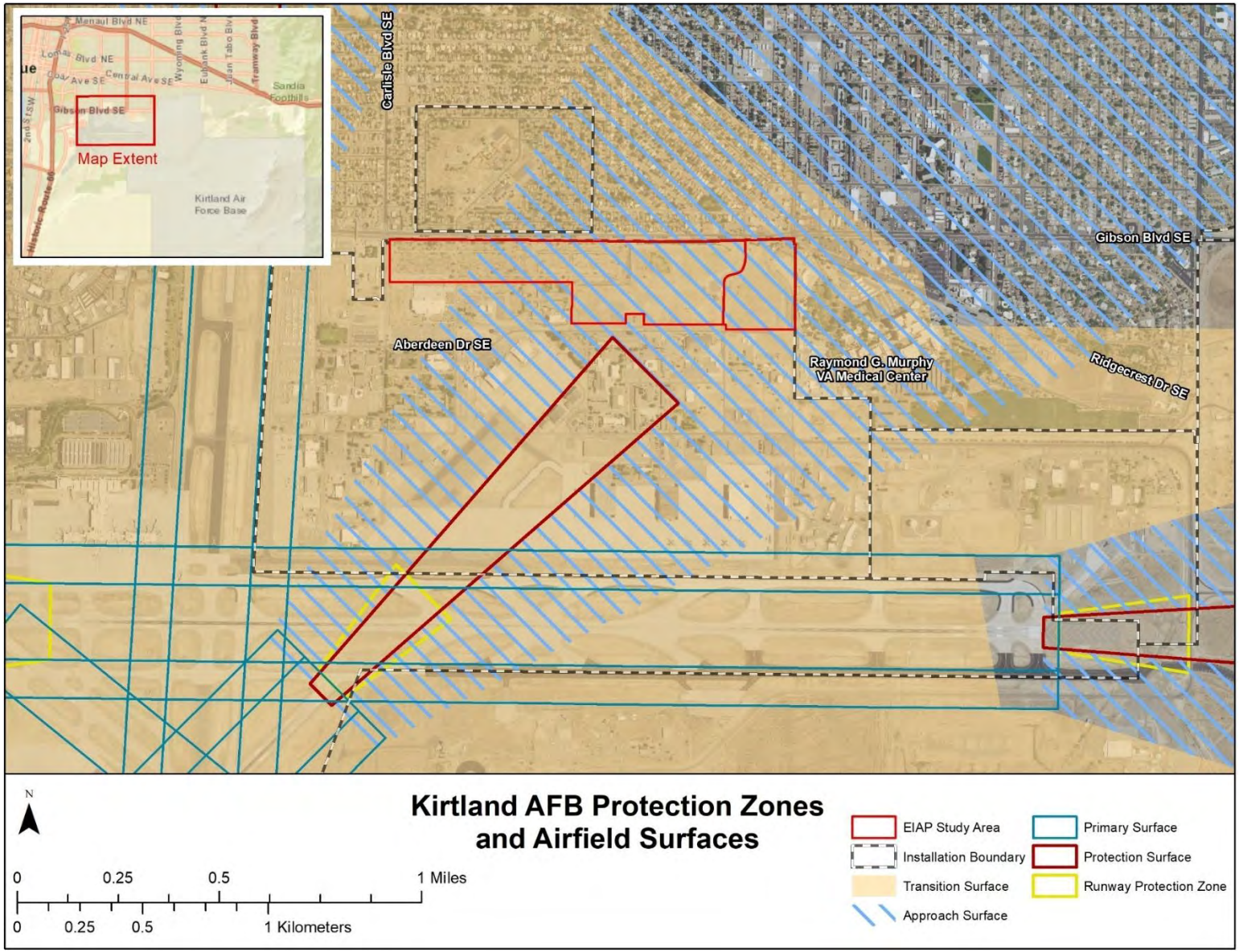

Figure 3-2. Kirtland Air Force Base Runway Protection Zones and Airfield Surfaces

3.3 VISUAL RESOURCES

Visual resources include the natural and man-made physical features that give a particular landscape its character and influence the visual appeal of an area for residents and visitors. The features forming the overall visual impression a viewer receives include landforms, vegetation, water, color, adjacent scenery, scarcity, and man-made modifications. Resources such as designated scenic rivers, roads, recreational areas, or other public lands create important visual aesthetic features for the public. In general, a feature observed within a landscape can be considered as "characteristic" (or character-defining) if it is inherent to the composition and function of the landscape. Landscapes do change over time, so the assessment of the environmental impacts of a proposed action on a given landscape area must be made relative to the "characteristic" features currently composing the landscape or area.

3.3.1 Affected Environment

Military and civilian airfields, testing and training areas, and government and military facilities compose much of the visual environment of Kirtland AFB. The prominent visual features of the installation include hangars, maintenance and support facilities, and aircraft. Less developed mountainous terrain is visible along the eastern portion of the installation and is a landform that is visible both on and off the installation. Off installation, the visual environment varies from urban to rangeland to woodlands. To the north and west of Kirtland AFB are urban areas of the city of Albuquerque; to the northeast and east, open spaces, woodlands, and rangeland are the prominent visual features including lands managed by the USFS; and south of the installation are Isleta Pueblo lands, which are generally open space, woodlands, or vacant land.

The surrounding area of the EIAP Study Area features an urban landscape consisting of buildings, overhead utilities, roadways, vacant land, and landscaped vegetation. Background views to the east include the Sandia and Manzano Mountain Ranges. The Rio Grande Valley and the city of Albuquerque views to the west and northwest are obscured by existing buildings in the EIAP Study Area foreground view.

The EIAP Study Area south of Gibson Road has been previously disturbed with remnants of a former MFH and the presence of a recreation site. On otherwise open space, neighborhood roads and numerous landscaping trees remain from demolition of the former MFH. The recreational area includes ball fields, track field, parcourse, tennis courts, volleyball courts, and a parking lot. These features dominate the foreground views west of Truman Street. To the east of Truman Street, the foreground view consists of grassland vegetation on open land. A single man-made structure (ham radio building) is located on the northeastern corner of the site. Beyond and south of the EIAP Study Area, military development that includes buildings, overhead utilities, roads, and vehicle parking dominate the view.

3.3.2 Environmental Consequences

3.3.2.1 Proposed Action

The existing landscape is previously disturbed and has lost much of its original natural appearance. The Proposed Action would replace approximately 100 ac of primarily vacant land with building structures, roads, parking lots, and development landscaping. Ground disturbance and construction activities would be visible from surrounding areas and change the existing landscape that would be visible to surrounding viewers; however, this change to the visual

landscape would result in short-term, minor, adverse impacts to visual resources. Background views of the Sandia and Manzano Mountains would not be impacted from construction activities.

Once construction is complete, the newly-constructed buildings and landscaping would visually enhance the project site and blend in with the surrounding urban landscape. Long-term, moderate, beneficial impacts to visual resources are expected from project development.

3.3.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in **Section 2.1** would not be implemented and the existing conditions discussed in **Section 3.3.1** would continue. The existing character of the landscape would remain unchanged. Without any modifications to the existing EIAP Study Area, the vacant land would continue to appear disturbed. Existing vegetation and nonnative trees would eventually deteriorate and die without irrigation. Additionally, the vacant land would be noticeable to viewers in an environment primarily composed of an urban landscape. Long-term, moderate, adverse impacts and long-term impacts to visual resources are expected under the No Action Alternative.

3.4 AIR QUALITY

In accordance with federal Clean Air Act (CAA) requirements, the air quality in a region or area is measured by the concentration of criteria pollutants in the atmosphere. The air quality in a region is a result of not only the types and quantities of atmospheric pollutants and pollutant sources in an area but also surface topography, the size of the topological "air basin," and the prevailing meteorological conditions.

Ambient Air Quality Standards. Under the CAA, the USEPA developed numerical concentration-based standards, or National Ambient Air Quality Standards (NAAQS), for pollutants that have been determined to affect human health and the environment. The NAAQS represent the maximum allowable concentrations for ozone (O_3) measured as either volatile organic compounds (VOCs) or total nitrogen oxides (NO_x), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (including particulate matter equal to or less than 10 microns in diameter [PM_{10}] and particulate matter equal to or less than 2.5 microns in diameter [$PM_{2.5}$]), and lead (Pb) (40 CFR Part 50). The CAA also gives states the authority to establish air quality rules and regulations. The USEPA NAAQS for the federally listed criteria pollutants are presented in **Table 3-7**.

Attainment versus Nonattainment and General Conformity. USEPA classifies the air quality of an Air Quality Control Region (AQCR), or subareas of an AQCR, according to whether the concentrations of criteria pollutants in ambient air exceed the NAAQS. Areas within each AQCR are therefore designated as either "attainment," "nonattainment," "maintenance," or "unclassified" for each of the six criteria pollutants. Attainment means that the air quality within an AQCR is better than the NAAQS; nonattainment indicates that criteria pollutant levels exceed one or more of the NAAQS; maintenance indicates that an area was previously designated nonattainment but is now in attainment; and an unclassified air quality designation by USEPA means that there is not enough information to appropriately classify an AQCR, so the area is considered to be in attainment for the NAAQS.

USEPA has delegated the authority for ensuring compliance with the NAAQS in New Mexico to the NMED Air Quality Bureau. The NMED Air Quality Bureau has delegated authority over air quality in Bernalillo County to the Albuquerque Environmental Health Department Air Quality

Division (AEHD-AQD). In accordance with the CAA, each state must develop a State Implementation Plan (SIP). A SIP is a compilation of regulations, strategies, schedules, and enforcement actions designed to move the state into compliance with all of the NAAQS.

The General Conformity Rule requires that any federal action meet the requirements of a SIP or Federal Implementation Plan. More specifically, CAA conformity is ensured when a federal action does not (1) cause a new violation of the NAAQS, (2) contribute to an increase in the frequency or severity of violations of the NAAQS, or (3) delay the timely attainment of any of the NAAQS, interim progress milestones, or other milestones toward achieving compliance with the NAAQS. The General Conformity Rule applies only to actions in nonattainment or maintenance areas.

Table 3-7. National Ambient Air Quality Standards

Pollutant	Averaging Time	Primary Federal Standard	Secondary Standard
CO	8-hour	9 ppm (10 mg/m^3)	None
	1-hour	35 ppm (40 mg/m^3)	None
Pb	Rolling 3-Month	0.15 µg/m^3(1)	Same as Primary
NO_2	Annual Arithmetic Mean	53 ppb(2)	Same as Primary
	1-hour	100 ppb	None
PM_{10}	24-hour	150 µg/m^3	Same as Primary
$PM_{2.5}$	Annual Arithmetic Mean	12 µg/m^3	15 µg/m^3
	24-hour	35 µg/m^3	Same as Primary
O_3	8-hour	0.07 ppm(3)	Same as Primary
SO_2	1-hour	75 ppb(4)	0.5 ppm (3-hour)

Source: USEPA 2015

Notes:

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m^3 as a calendar quarter average) also remain in effect.

(2) The level of the annual NO_2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed 1 October 2015, and effective 28 December 2015. The previous (2008) O_3 standards additionally remain in effect in some areas. Revocation of the previous (2008) O_3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

(4) The previous SO_2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous SO_2 standards or is not meeting the requirements of a State Implementation Plan (SIP) call under the previous SO_2 standards (40 CFR § 50.4[3]), A SIP call is a USEPA action requiring a state to resubmit all or part of its SIP to demonstrate attainment of the required NAAQS.

µg/m^3 = micrograms per cubic meter; CO = carbon monoxide; mg/m^3 = milligrams per cubic meter; O_3 = ozone; NO_x = nitrogen oxide; $PM_{2.5}$ = particulate matter equal to or less than 2.5 microns in diameter; ppb = parts per billion; ppm = parts per million SO_2 = sulfur dioxide; tpy = tons per year; VOC = volatile organic compound;

The federal *de minimis* threshold emissions rates were established by the USEPA in the General Conformity Rule to focus analysis requirements on those federal actions with the potential to substantially affect air quality. These thresholds, by regulated pollutant, are presented in **Table 3-8**. As shown in **Table 3-8**, *de minimis* thresholds vary depending on the severity of the nonattainment area classification.

With respect to the General Conformity Rule, effects on air quality would be considered significant if the proposed federal action would result in an increase of a nonattainment or maintenance area's emissions inventory above the *de minimis* threshold levels established in 40 CFR § 93.153(b) for individual nonattainment pollutants or for pollutants for which the area has been redesignated as a maintenance area. 40 CFR § 93.153(c) exempts certain federal actions from a general conformity determination.

Federal Prevention of Significant Deterioration. Federal Prevention of Significant Deterioration (PSD) regulations apply in NAAQS attainment areas to a major new stationary source (i.e., source with the potential to emit 250 tons per year (tpy) of any criteria pollutant, such as a new power plant) or a significant modification to a major stationary source (i.e., a change that adds 15 to 40 tpy to the facility's potential to emit depending on the pollutant). Additional PSD major source and significant modification thresholds apply for greenhouse gases (GHGs), as discussed below in the Greenhouse Gas Emissions subsection.

Table 3-8. Conformity *de minimis* Emissions Thresholds

Pollutant	Status	Classification	*de minimis* Limit (tpy)
O_3 (measured as NO_x or VOCs)	Nonattainment	Extreme Severe Serious Moderate/marginal (inside ozone transport region) All others	10 25 50 50 (VOCs)/ 100 (NO_x) 100
	Maintenance	Inside ozone transport region Outside ozone transport region	50 (VOCs)/ 100 (NO_x) 100
CO	Nonattainment/maintenance	All	100
PM_{10}	Nonattainment/maintenance	Serious Moderate Not Applicable	70 100 100
$PM_{2.5}$ (measured directly, as SO_2, or as NO_x)	Nonattainment/maintenance	All	100
SO_2	Nonattainment/maintenance	All	100
NO_x	Nonattainment/maintenance	All	100

Source: 40 CFR § 93.153

Notes:
CO = carbon monoxide; O_3 = ozone; NO_x = nitrogen oxide; $PM_{2.5}$ = particulate matter equal to or less than 2.5 microns in diameter; SO_2 = sulfur dioxide; tpy = tons per year; VOC = volatile organic compound

Title V Requirements. Title V of the CAA Amendments of 1990 requires states and local agencies to permit major stationary sources. A Title V major stationary source has the potential to emit more than 100 tpy of any one criteria air pollutant, 10 tpy of a hazardous air pollutant (HAP), or 25 tpy of any combination of HAPs. The purpose of the permitting rule is to establish regulatory control over large, industrial-type activities and monitor their impact on air quality. Section 112 of the CAA defines the sources and kinds of HAPs.

Greenhouse Gas Emissions. GHGs are gaseous emissions that trap heat in the atmosphere. These emissions occur from natural processes and human activities. The most common GHGs

include carbon dioxide (CO_2), methane, and nitrous oxide. On 22 September 2009, USEPA issued a final rule for mandatory GHG reporting from large GHG emissions sources in the United States. The purpose of the rule is to collect comprehensive and accurate data on CO_2 and other GHG emissions that can be used to inform future policy decisions. In general, the threshold for reporting is 25,000 metric tons or more of carbon dioxide equivalent (CO_2e) emissions per year but excludes mobile source emissions. The first emissions report under the GHG Reporting Program was published with 2010 emissions data. For the 2011 reporting year, USEPA added 12 additional emissions sources; during this time frame, approximately 8,000 facilities reported 3.3 billion tons of CO_2e direct emissions (USEPA Greenhouse Gas Reporting Program 2013). GHG emissions would also be factors in PSD and Title V permitting and reporting, according to a USEPA rulemaking issued on 3 June 2010 (75 Federal Register 31514). GHG emissions thresholds of significance for permitting of stationary sources are 75,000 tons CO_2e per year and 100,000 tons CO_2e per year for Steps 1 and 2, respectively, under these permit programs.

Fugitive Dust Control Regulation. The AEHD-AQD has fugitive dust control requirements in 20.11.20 New Mexico Administrative Code (NMAC), *Fugitive Dust Control*. A fugitive dust control construction permit is required for projects disturbing 0.75 ac or more, as well as the demolition of buildings containing more than 75,000 cubic feet of space. As stated in 20.11.20.12 NMAC, *General Provisions*, each person shall use reasonably available control measures or any other effective control measure during active operations or on inactive disturbed surface areas, as necessary to prevent the release of fugitive dust, whether or not the person is required by 20.11.20 NMAC to obtain a fugitive dust control permit. This regulation also contains a provision for buildings containing asbestos-containing materials (ACMs) as stated in 20.11.20.22 NMAC, *Demolition and Renovation Activities; Fugitive Dust Control Construction Permit and Asbestos Notification Requirements*: "All demolition and renovation activities shall employ reasonably available control measures at all times, and, when removing ACM, shall also comply with the federal standards incorporated in 20.11.64 NMAC, *Emission Standards for Hazardous Air Pollutants for Stationary Sources*. A person who demolishes or renovates any commercial building, residential building containing five or more dwellings, or a residential structure that would be demolished in order to build a nonresidential structure or building shall file an asbestos notification with the department no fewer than 10 calendar days before the start of such activity. Written asbestos notification certifying to the presence of ACM is required even if regulated ACM is not or may not be present in such buildings or structures."

3.4.1 Affected Environment

Kirtland AFB is located in Bernalillo County, New Mexico, which is located within Albuquerque-Mid Rio Grande Intrastate (AMRGI) AQCR 152. The AMRGI AQCR also includes portions of Sandoval and Valencia Counties, New Mexico (USEPA 2002).

The USEPA has classified Bernalillo County as unclassified/attainment for all criteria pollutants. The County was initially classified as nonattainment for CO and later redesignated as maintenance in 1996, because CO concentrations decreased to below federal NAAQS. As a consequence, AEHD-AQD submitted a 20-year CO Limited Maintenance Plan and Bernalillo County became subject to the Plan. As of June 2016, the Limited Maintenance Plan for CO ended. As a result, General Conformity determination is no longer applicable to Bernalillo County. The County is in attainment for CO and all other criteria pollutants, and as such, conformity applicability analysis for Kirtland AFB is not required for any of the criteria pollutants (Dario Rocha, email communication, March 12, 2019).

Kirtland AFB manages a number of air quality permits, including 20.11.41 NMAC, *Construction Permits*, 20.11.21 NMAC, *Open Burn Program* permits, 20.11.20 NMAC *Fugitive Dust Control* permits, and 20.11.40 NMAC, *Source Registrations*, all of which include operating or emissions limits to ensure compliance with the CAA. Kirtland AFB must also comply with 20.11.42 NMAC Title V Operating Permit #527-RN1, which covers a majority of the permitted stationary emission sources on the installation. Kirtland AFB is also considered a synthetic minor source of HAPs under Title I, Section 112 of the CAA. There are various air emissions sources on the installation, including emergency generators, fire pump engines, boilers, water heaters, fuel storage tanks and fuel dispensing systems, gasoline service stations, surface coating operations, aircraft engine testing, fire training, remediation activities, mulching activities, miscellaneous chemical usage, and open detonation of munitions for military training, emergency remediation, and research and development. The 2018 Stationary Air Emissions Inventory for Kirtland AFB is found in **Table 3-9**.

Kirtland AFB also holds a Fugitive Dust Control Programmatic Permit, Permit No. 8091-P, with the AEHD-AQD that covers routine heavy equipment activities. The permit includes BMPs such as watering during ground-disturbing activities, using soil stabilization agents for dust suppression, and decreasing speed limits on unpaved roads.

Table 3-9. Calendar Year 2018 Stationary Air Emissions Inventory for Kirtland Air Force Base

Actual Emissions	NO_x (tpy)	VOC (tpy)	CO (tpy)	SO_2 (tpy)	PM_{10} (tpy)
	7.05	40.75	4.22	0.50	0.50

Source: Kirtland AFB 2018c (Table 3-3).

Notes:

CO = carbon monoxide; NO_x = nitrogen oxide; PM_{10} = particulate matter equal to or less than 10 microns in diameter; SO_2 = sulfur dioxide; tpy = tons per year; VOC = volatile organic compound

3.4.2 Environmental Consequences

3.4.2.1 Evaluation Criteria

The CAA Section 176(c), *General Conformity*, requires federal agencies to demonstrate that their proposed activities would conform to the applicable SIPs for attainment of the NAAQS. General Conformity applies to nonattainment and maintenance areas. If the emissions from a federal action proposed in a nonattainment area exceed annual *de minimis* thresholds identified in the rule, a formal conformity determination is required of that action. The thresholds are more restrictive as the severity of the nonattainment status of the region increases.

This section discusses the potential effects of the Proposed Action alternative on air quality within Bernalillo County, where Kirtland AFB is located. Bernalillo County is designated as unclassifiable/attainment area for all criteria pollutants. Although in such areas the General Conformity rule does not apply, the 100 tpy *de minimis* threshold was relied upon as a significance indicator. If the Proposed Action emissions exceed the *de minimis* threshold, further analysis of projected emissions is conducted to determine their significance. In such cases, the PSD threshold for new major sources (i.e. 250 tpy of a criteria pollutant) is used as the primary indicator of potential significant impact as a result of implementing the Proposed Action.

An air quality impact assessment was conducted in accordance with the guidance in the USAF Air Quality EIAP Guide and 32 CFR Part 989. A Net Change Emissions Assessment was performed, which compared all net (increases and decreases caused by the federal action) direct and indirect emissions against general conformity *de minimis* values as thresholds for nonattainment/maintenance areas and as indicators of air quality impact significance for attainment areas. While the proposed action alternatives will not be occurring within a nonattainment or maintenance area, the General Conformity Rule *de minimis* (i.e., too trivial or minor to merit consideration) values were used as conservative indicators of potential significant impacts to air quality. If these values represent *de minimis* emissions levels for nonattainment or maintenance areas; logically they would also represent emissions levels too trivial or minor to merit consideration in an attainment area; therefore, any net emissions below these significance indicators are considered too insignificant to pose a potential impact on air quality.

The USAF's Air Conformity Applicability Model (ACAM) (version 5.0.12a) was used to provide emissions estimates for construction activities, including grading, trenching, asphalt paving, building construction, worker trips, employee commute, architectural coatings, and other mobile sources associated with the Proposed Action; no generators or comfort heat activities are anticipated. Total combined direct and indirect emissions associated with the Proposed Action were estimated through ACAM on a calendar-year basis for worst-case and steady-state emissions. Operating emissions from the storage and dispensing of fuel for the underground, gasoline storage tanks were estimated manually using approved emission factors. Details and assumptions for emission estimates manually an using ACAM are discussed in **Appendix C**.

3.4.2.2 Proposed Action

Implementation of the Proposed Action, on the whole, would result in a long-term, moderate, adverse impact to air quality but is not expected to result in emissions levels above federal air quality thresholds. Emissions directly or indirectly caused by the proposed development of mixed-use facilities, a gasoline station, and related infrastructure were estimated and compared to the General Conformity significance indicator of 100 tpy *de minimis* threshold. Estimated emissions for all pollutants from the Proposed Action fall *below* the *de minimis* threshold.

Much of the emissions potentially resulting from the Proposed Action is contributed by employees or personnel commuting to the site in their vehicles, which constitute the Proposed Action's future operational emissions. This would cause long-term, adverse impacts near the area of the new development; however, these operational emissions are not significant enough to cause any exceedances in NAAQS standards. Short-term emissions from construction activities for the Proposed Action are not significant and will not cause any significant impact to federal air quality standards. Construction activities include grading, trenching, asphalt paving, building construction, worker trips, architectural coatings, and other mobile sources. These activities would result in increases in particulate matter.

Annual emissions, starting with the year the proposed construction is expected to begin through 2028 when all construction projects associated with this EA are expected to be completed, are shown in **Table 3-10**. Annual future operational emissions associated with the Proposed Action would remain constant beginning with the year 2028, when steady-state emissions would been achieved for all proposed development activities. None of the estimated emissions associated with the Proposed Action alternative at Kirtland AFB are above the General Conformity significance indicators, indicating no significant impact to air quality. Thus, no further assessment is necessary. Also, the nominal amount of GHG emissions would not likely contribute to climate change in any pronounced way, especially when the emissions are reviewed from a regional context.

The detailed emissions summary is included in **Appendix C** and includes the emissions estimation methodology.

3.4.2.3 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in **Section 2.1** would not be implemented and the existing conditions discussed in **Section 3.4.1** would continue. Implementation of the No Action Alternative would not result in any new or additional impacts on air quality.

Table 3-10. Summary of Emissions for Proposed Activities

Year	NO_x (tpy)	VOC (tpy)	CO (tpy)	SO_2 (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	CO_2e (tpy)
2019	6.33	0.95	5.12	0.01	16.27	0.29	1,245.70
2020	9.10	2.46	8.61	0.02	7.70	0.42	1,942.50
2021	7.67	2.18	14.92	0.02	23.64	0.31	2,353.70
2022	5.23	3.36	29.36	0.02	0.18	0.17	2,999.00
2023	4.21	3.37	36.37	0.03	10.18	0.12	3,374.10
2024	6.07	3.92	38.50	0.03	0.18	0.17	3,899.40
2025	6.74	4.52	45.47	0.04	12.60	0.19	4,575.00
2026	7.20	5.49	55.47	0.04	10.88	0.19	5,368.40
2027	8.51	6.50	66.19	0.05	1.14	0.23	6,351.70
2028 (steady-state)	5.78	8.67	70.56	0.04	0.14	0.12	6,059.60

Notes:

(1) Emissions from combustion, fugitive dust and construction commuter activities are included in emissions presented in the table.

(2) Emissions for possible construction of a gasoline station on the 23-acre site are included with CY2027 emissions.

(3) Lead emissions are not included are they are emitted in insignificant levels for the proposed project.

CO = carbon monoxide; CO_2e= carbon dioxide equivalent; O_3 = ozone; NO_x = nitrogen oxide; $PM_{2.5}$ = particulate matter equal to or less than 2.5 microns in diameter; PM_{10} = particulate matter equal to or less than 10 microns in diameter; SO_2 = sulfur dioxide; tpy = tons per year; VOC = volatile organic compound

3.5 GEOLOGY AND SOILS

Geological resources consist of the Earth's surface and subsurface materials. Within a given physiographic province, these resources typically are described in terms of topography and physiography, geology, soils, and, where applicable, geologic hazards. Topography and physiography pertain to the general shape and arrangement of the land surface, including its height and the position of its natural and man-made features. Geology is the study of the Earth's

composition and provides information on the structure and configuration of surface and subsurface features.

Soils are the unconsolidated materials overlying bedrock or other parent material. Soils typically are described in terms of their complex type, slope, and physical characteristics. Differences among soil types, in terms of their structure, elasticity, strength, shrink-swell potential, and erosion potential, affect their abilities to support certain applications or uses. In appropriate cases, soil properties must be examined for their compatibility with particular construction activities or types of land use.

Prime farmland is protected under the Farmland Protection Policy Act (FPPA) of 1981. The intent of the FPPA is to minimize the extent that federal programs contribute to the unnecessary conversion of high-quality farmland to nonagricultural uses. The FPPA also ensures that federal programs are administered in a manner that, to the extent practicable, is compatible with private, state, and local government programs and policies to protect farmland. The implementing procedures of the FPPA (7 CFR Part 658) require federal agencies to evaluate the adverse effects (direct and indirect) of their activities on farmland, which includes prime farmland, unique farmland, and farmland of statewide or local importance, and to consider alternative actions that could avoid adverse effects.

3.5.1 Affected Environment

Regional Geology. The Rio Grande Rift is a zone of faults and sediment-filled basins extending from south-central Colorado across New Mexico and into northern Mexico. The rift is a defining physiographic feature of central New Mexico and the approximately 3,000-square-mile Albuquerque Basin (also referred to as the Middle Rio Grande Basin). This basin is comprised of three discrete subbasins each containing more than 14,000 ft of rift-filled valley deposition accrued over millions of years. Along the margins of the basin, sediment deposits thin out to depths as low as 3,000 ft in areas where tectonic activity formed and uplifted mountains (USGS 2003).

Kirtland AFB is situated near the east-central edge of the Albuquerque Basin, along the margins of the Sandia and Manzanita Mountains. The geology of Kirtland AFB is defined by the vertical displacement between the rock units exposed at the top of these mountains and areas west and southwest towards the Rio Grande River (hereafter, referred to as Rio Grande) and its tributaries. The subsurface environment underlying Kirtland AFB is complex because of the gradual filling of the basin with sediments deposited by river and stream (fluvial), slopes and mountain fronts (alluvial-colluvial), wind (eolian), and volcanic activity in the form of lava or ash. Sediment deposition was further complicated by the large-scale faulting of the Albuquerque Basin that occurred approximately 5 to 11 million years ago (SNL 2017).

The portion of the Albuquerque Basin underlying Kirtland AFB is primarily composed of poorly consolidated alluvial-colluvial sediments. The exposed bedrock in the eastern part of the installation generally consists of igneous (i.e., granite) and metamorphic rock, overlain by noncorresponding deposits of marine carbonate rock (i.e., limestone, sandstone, and shale) (Kirtland AFB 2018b).

Topography and Soils. The east-central portion of the Albuquerque Basin (locally referred to as East Mesa) extends west and southwest from the steep foothills and slopes of the Sandia and Manzanita Mountains to the gently sloping areas near the Rio Grande. Similarly, the topography of Kirtland AFB ranges from the mountainous terrain of the Cibola National Forest Withdrawn Area in the east to the relatively flat mesa in the west. Elevations range from nearly 8,000 ft amsl

in the Manzanita Mountains to approximately 5,200 ft amsl on the mesa. The greatest change in elevation occurs in the centrally located Coyote Canyon and along the far eastern boundary of Kirtland AFB. The ground surface slope across the installation generally occurs in a west to southwest direction.

Regionally, the soils of the Albuquerque Basin vary from fine-grained clays and silts near river channels to well-drained sands and sandy loams on plateaus and highlands. Soils associated with Kirtland AFB predominately consist of sand and loam with varying amounts of gravel, cobble, or stone. Nearly all soils on the installation are well drained, and some are susceptible to erosion, particularly in areas with topographic relief (Kirtland AFB 2018b). **Table 3-11** describes the soil characteristics for areas of Kirtland AFB that directly support the USAF mission.

Table 3-11. Soil Characteristics of United States Air Force Controlled Lands at Kirtland Air Force Base

Soil Series	Slope	Runoff
Bluepoint loamy fine sand	1 to 9%	low
Embudo gravelly fine sandy loam	0 to 5%	very low
Embudo-Tijeras complex	0 to 9%	very low to medium
Gila fine sandy loam	0 to 2%	low
Ildefonso gravelly sandy loam	1 to 9%	low
Laporte-Rock Outcrop-Escabosa complex	5 to 20%	medium
Latine sandy loam	1 to 5%	low
Madurez loamy fine sand	1 to 5%	low
Madurez-Wink Association	1 to 7%	very low to low
Nickel-Latene Association	1 to 30%	low to medium
Pino-Rock outcrop Association	3 to 15%	very high
Rock outcrop (various)	15 to 80%	high to very high
Salas complex	20 to 80%	high
Seis-Silver complex	10 to 40%	very high
Seis very cobbly loam	0 to 15%	medium
Silver and Witt soils	5 to 9%	high to very high
Tesajo-Millet stony sandy loam	3 to 20%	low to medium
Tijeras gravelly fine sandy loam	1 to 5%	low
Tome very fine sandy loam	0 to 2%	medium
Wink fine sandy loam	0 to 5%	very low

Source: USDA 2018

None of the soils listed in **Table 3-11** are classified as prime farmland, unique farmland, or farmland of statewide or local importance pursuant to the FPPA (USDA 2018). Additionally, Kirtland AFB is not currently utilized for agriculture, nor is any agricultural use planned in the future.

Geological Hazards. Earthquake activity or seismicity is generally caused by displacement across active faults. Earthquakes are more prevalent in areas with a high level of tectonic activity such as volcanic regions and fault zones. Landslides or mudslides are also commonly associated with tectonically active zones. Landslides include a wide range of ground movements and are typically caused by multiple, overlapping environmental factors (e.g., rockfalls, deep failure of slopes, land modifications, earthquakes, and storms).

More commonly known as the Tijeras fault zone, the Tijeras-Cañoncito fault system consists of several northeast-oriented, subvertical faults that form the eastern edge of the Albuquerque Basin. The Tijeras fault zone is part of this regionally extensive group of faults. The southern end of the Tijeras fault zone converges with the southern Sandia and Hubbell Spring fault zones beneath Kirtland AFB near Tijeras Arroyo (USGS 2002). Frequent, low-magnitude, and low-intensity earthquakes are common occurrences for the Albuquerque region, including Kirtland AFB.

Accordingly, the U.S. Geological Survey (USGS) rates the seismic hazard of this area as "moderate" based upon a measurement of expected building damage in an earthquake scenario. Similarly, the International Conference of Building Officials Uniform Building Code classifies the region as having a moderate potential for damage to structures from seismic activity (USGS 2008).

The EIAP Study Area is relatively level with a slight slope downward to the west. Elevations at the EIAP Study Area range from 5,320 to 5,350 ft amsl (USGS 2018). Surface geology consists of quaternary piedmont alluvial deposits. No mining has been known to occur in the EIAP Study Area. There are no significant geologic formations in the EIAP Study Area.

Characteristic of the soils in the Albuquerque Basin, soils in the EIAP Study Area are composed of equal parts Wink series fine sandy loam soils and Latene series sandy loam soils (**Figure 3-3**). Wink and Latene series soils are deep, well-drained soils on nearly level to moderately sloping uplands. The Wink series soils have moderately rapid permeability and a low risk for water erosion. These soils have moderate limitations for shallow excavations and landscaping but no limitations for small commercial buildings, dwellings with basements, local roads and streets, and sprinkler irrigation; they are rated fair for roadfill. The Latene series soils are characterized by medium runoff and moderate potential for wind and water erosion. These soils have moderate limitations for shallow excavations, landscaping, and sprinkler irrigation but no limitations for small commercial buildings, dwellings with basements, and local roads and streets; they are rated fair for roadfill. The risk of concrete corrosion is low for Wink soils but moderate for Latene; both soil series have a moderate risk of uncoated steel corrosion. Ponding or flooding is not probable for either soil series (USDA 2018).

3.5.2 Environmental Consequences

3.5.2.1 Proposed Action

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

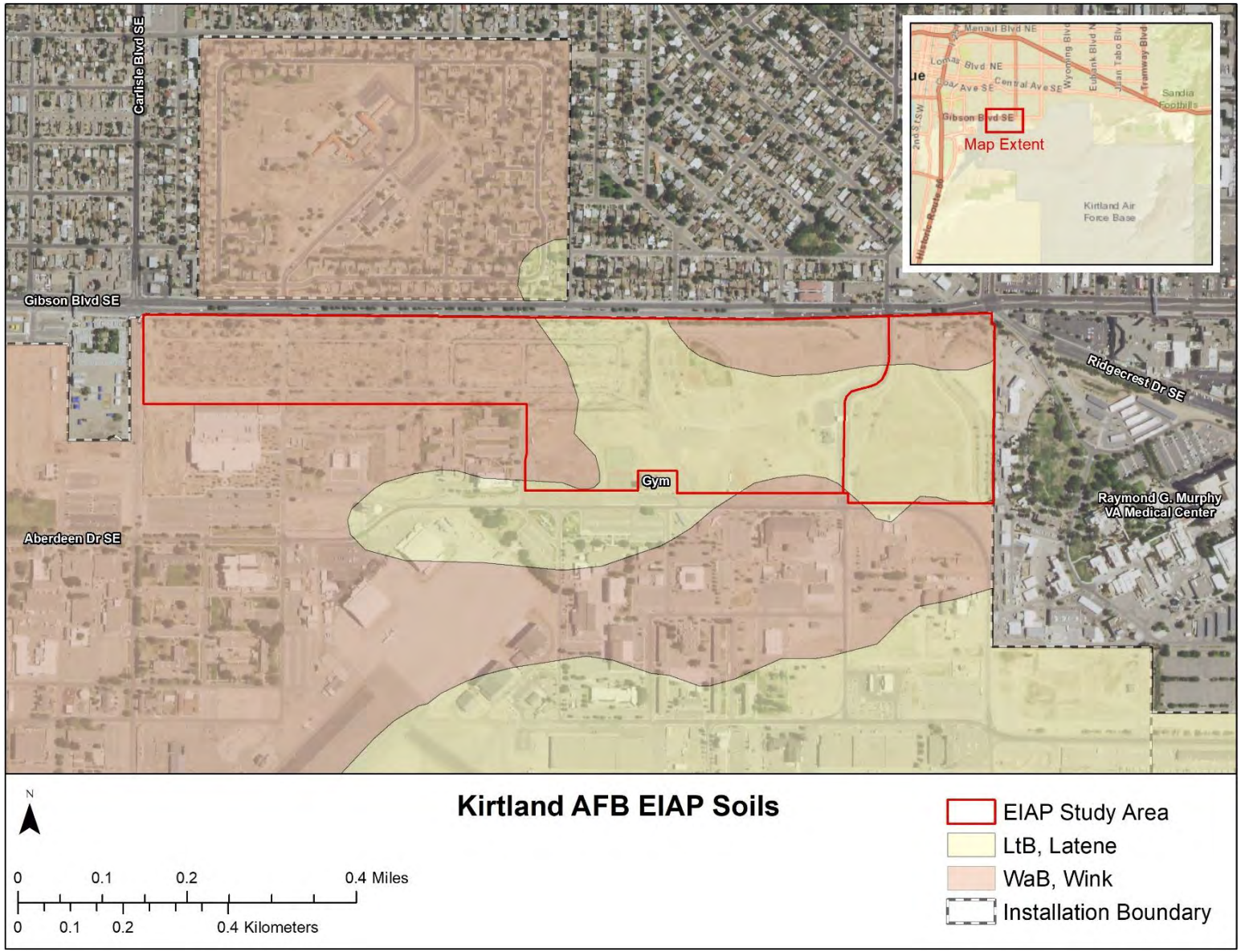

Figure 3-3. Kirtland Air Force Base Study Area Soils

Adverse impacts would result if the regional geology was affected; soils classified as prime and unique farmland were affected; soils affected were considered unsuitable for development; and/or building construction was incompatible with the seismic risk status of the project area. Effects on geology and soils would also be adverse if they would alter the lithology, stratigraphy, and geological structure that control groundwater quality, distribution of aquifers and confining beds, and groundwater availability or change the soil composition, structure, or function within the environment.

Soil material and rocks would be excavated, compacted, and graded as part of site preparation, building construction, and roadway construction at the EIAP Study Area. Depth of trenching would vary depending on final site development plan and construction phase, but the localized EUL development activities would not impact regional geology or cause bedrock to become unstable.

The EIAP Study Area also has no unique geologic features. The EUL activities would also not disrupt the deep groundwater (500 ft below ground surface [bgs]) from the Albuquerque Basin Regional Aquifer within the Santa Fe Formation. The moderate seismic risk could pose a minor threat to the completed structures.

Existing, previously disturbed soil horizons would be lost as 100 ac of soil are excavated and reworked. Additional geologic materials would be deposited on the areas as part of subgrade preparation and building foundation construction. BMPs would be implemented as part of construction as specified in the SWPPP to minimize soil erosion and sediment transport. Buildings would be designed to meet the seismic, soil, and foundation standards of the International Building Code 2018. At the completion of construction, soil material and rocks would be covered with buildings, roadways, and landscaping, which would reduce erosion and sediment transport. Except for occasional excavations for maintenance and minor site improvement that would periodically expose soils, little disturbance is expected to soil resources during the operation of the mixed-use site. Short- and long-term, minor, adverse impacts on geology and soils would be expected to occur at the EIAP Study Area.

3.5.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in **Section 2.1** would not be implemented and the existing conditions discussed in **Section 3.5.1** would continue. Implementation of the No Action Alternative would result in long-term, neutral impacts as soil development and erosion processes continue with minimal and insignificant human impact. Impacts would be beneficial as soils slowly develop and also adverse, but not significant, as erosion occurs after precipitation and runoff events.

3.6 WATER RESOURCES

Water resources are natural and man-made sources of water that are available for use by, and for the benefit of, humans and the environment. Water resources relevant to Kirtland AFB's location in New Mexico include groundwater, surface water, floodplains, and wetlands. Evaluation of water resources examines the quantity and quality of the resource and its demand for various purposes and ensures compliance with the Clean Water Act (CWA).

Groundwater. Groundwater is water that exists in the saturated zone beneath the Earth's surface that collects and flows through aquifers. Groundwater is an essential resource that functions to recharge surface water and is used for drinking, irrigation, and industrial purposes. Groundwater typically can be described in terms of depth from the surface, aquifer or well capacity, water

quality, recharge rate, and surrounding geologic formations. The state of New Mexico passed ground and surface water protection objectives subject to the Water Quality Act, New Mexico Statutes Annotated (NMSA) 74-6, under 20.6.2 NMAC.

Groundwater quality and quantity are regulated under several federal and state programs. The federal Underground Injection Control regulations, authorized under the Safe Drinking Water Act (SDWA), require a permit for the discharge or disposal of fluids into a well. The federal Sole Source Aquifer regulations, also authorized under the SDWA, protect aquifers that are critical to water supply. The state of New Mexico passed state drinking water rules, which incorporate the federal SDWA regulations, under 20.7.10 NMAC and regulates water rights under NMSA 72-1.

Surface Water. Surface water includes natural, modified, and man-made water confinement and conveyance features above groundwater that may or may not have a defined channel and discernable water flow. These features are generally classified as streams, springs, wetlands, natural and artificial impoundments (e.g., ponds, lakes), and constructed drainage canals and ditches. Stormwater is surface water generated by precipitation events that may percolate into permeable surficial sediments or flow across the top of impervious or saturated surficial areas, a condition known as runoff. Stormwater is an important component of surface water systems because of its potential to introduce sediments and other contaminants that could degrade surface waters, such as lakes, rivers, or streams. Proper management of stormwater flows, which can be intensified by high proportions of impervious surfaces associated with buildings, roads, and parking lots, is important to the management of surface water quality and natural flow characteristics.

The CWA establishes federal limits, through the NPDES permit process, for regulating point (end of pipe) and nonpoint (e.g., stormwater) discharges of pollutants into the Waters of the United States and quality standards for surface waters. The term “Waters of the United States” has a broad meaning under the CWA and incorporates deep water aquatic habitats and special aquatic habitats (including wetlands). Sections 401 and 404 of the CWA regulate the discharge of dredged or fill materials into the Waters of the United States, including wetlands.

USEPA’s Municipal Separate Storm Sewer System (MS4) program addresses pollution from stormwater runoff conveyed by an MS4 and discharged into rivers and streams. Common pollutants include oil and grease from roadways, pesticides from lawns, sediment from construction sites, and trash and other inappropriately disposed of waste materials. In compliance with provisions of the CWA, operators of stormwater discharges associated with industrial activities are authorized to discharge to Waters of the United States in accordance with the eligibility and Notice of Intent requirements, effluent limitations, inspection requirements, and other conditions set forth in the 2016 Revised Multi-Sector General Permit #NMR050000 (MSGP). The USEPA currently regulates large (equal to or greater than 1 acre) construction activity through the 2017 Construction General Permit (CGP), which provides coverage for a period of 5 years.

Energy Independence Security Act (EISA) Section 438 (42 U.S.C. § 17094) establishes into law stormwater design requirements for federal development projects that disturb a footprint of greater than 5,000 ft^2. EISA Section 438 requirements are independent of stormwater requirements under the CWA. The project footprint consists of all horizontal hard surface and disturbed areas associated with project development. Under these requirements, predevelopment site hydrology must be maintained or restored to the maximum extent technically feasible with respect to temperature, rate, volume, and duration of flow. Predevelopment hydrology would be modeled or calculated using recognized tools and must include site-specific factors, such as soil type, ground cover, and ground slope.

Additionally, Low-Impact Design (LID) features need to be incorporated into new construction activities to comply with the restrictions on stormwater management promulgated by EISA Section 438. LID is a stormwater management strategy designed to maintain site hydrology and mitigate the adverse impacts of stormwater runoff and nonpoint source pollution. LIDs can manage the increase in runoff between pre- and postdevelopment conditions on the project site through interception, infiltration, storage, and evapotranspiration processes before the runoff is conveyed to receiving waters. Examples of LID methods include bioretention, permeable pavements, cisterns/recycling, and green roofs (DOD 2010).

Floodplains. Floodplains are areas of low, level ground present along rivers, stream channels, or coastal waters that are subject to periodic or infrequent inundation due to rain or melting snow. Floodplain ecosystem functions include natural moderation of floods, flood storage and conveyance, groundwater recharge, nutrient cycling, water quality maintenance, and provision of habitat for a diversity of plants and animals. Flood potential is evaluated by the Federal Emergency Management Agency (FEMA), which defines the 100-year floodplain as an area within which there is a 1 percent chance of inundation by a flood event in a given year, or a flood event in the area once every 100 years. The risk of flooding is influenced by local topography, the frequencies of precipitation events, the size of the watershed above the floodplain, and upstream development. Federal, state, and local regulations often limit floodplain development to passive uses, such as recreation and conservation activities, to reduce the risks to human health and safety. EO 11988, *Floodplain Management*, requires federal agencies to determine whether a proposed action would occur within a floodplain and directs them to avoid floodplains to the maximum extent possible wherever there is a practicable alternative.

3.6.1 Affected Environment

Groundwater. Kirtland AFB is located within the limits of the Rio Grande Underground Water Basin, which is defined as a natural resources area and designated as a “declared underground water basin” by the state of New Mexico. The average depth to groundwater beneath Kirtland AFB is 450 to 550 ft bgs. The Rio Grande Basin’s source of groundwater is the Santa Fe Aquifer, which has an estimated 2.3 billion acre-feet of recoverable water. This aquifer is most likely recharged east of the installation in the Manzanita Mountains where the sediment soil materials favor rapid infiltration (Kirtland AFB 2018b).

The regional aquifer present under Kirtland AFB ranges in depth from near surface to 200 ft bgs east of the major fault zones in the eastern portion of the installation and to depths of 350 to 500 ft bgs west of the fault zone. The general direction of groundwater flow from the Rio Grande to the east, north, and west towards clusters of water supply wells (USGS 2014). The regional aquifer is used for the installation’s water supply. Kirtland AFB has a water right that allows it to divert approximately 6,400 ac-ft of water, or approximately 2 billion gallons, per year from the underground aquifer (Kirtland AFB 2016b). In 2017, Kirtland AFB pumped 2,285 ac-ft (744 million gallons) of water from these wells (Kirtland AFB 2017).

The project area is located west of the fault zone with depth to groundwater approximately 485 to 500 ft. Water is drawn from six different wells in the Albuquerque Basin Regional Aquifer within the Santa Fe Formation (Kirtland AFB 2017). Water is collected, chlorinated, stored, and distributed to supply the base with potable water. The Albuquerque-Bernalillo County Water Utility Authority (ABCWUA) distributes water to the base during times of high water demand.

Surface Water. Kirtland AFB is located within the Rio Grande watershed. The Rio Grande is the major surface hydrologic feature in central New Mexico, flowing north to south through Albuquerque, approximately 5 mi west of the installation. Surface water resources on

Kirtland AFB reflect its dry climate. The average annual rainfall in Albuquerque is 9 inches, with half of the average annual rainfall occurring from July to October during heavy thunderstorms. Surface water generally occurs in the form of stormwater sheet flow that drains into small gullies during heavy rainfall events (Kirtland AFB 2018b). Surface water generally flows across the installation in a westerly direction toward the Rio Grande.

The two main surface water drainage channels on Kirtland AFB are the Tijeras Arroyo and the smaller Arroyo del Coyote, which joins the Tijeras Arroyo approximately 1 mi west of the Tijeras Arroyo Golf Course (**Figure 3-4**). The Tijeras Arroyo and Arroyo del Coyote are tributaries to the Rio Grande. The Tijeras Arroyo and Arroyo del Coyote flow intermittently during heavy thunderstorms and the spring snowmelt, but most of the water percolates into alluvial deposits or is lost to the atmosphere via evapotranspiration. The Tijeras Arroyo, which is dry for most of the year, is the primary surface channel that drains surface water from Kirtland AFB to the Rio Grande. Precipitation reaches the Tijeras Arroyo through a series of storm drains, flood canals, and small, mostly unnamed arroyos. Nearly 95 percent of the precipitation that flows through the Tijeras Arroyo evaporates before it reaches the Rio Grande. The remaining 5 percent is equally divided between groundwater recharge and runoff (Kirtland AFB 2018b).

Kirtland AFB operates under three NPDES Permits: the MSGP (NMR050000) for industrial activities, the MS4 Permit (NMR04A009) for water conveyances from installation development, and the CGP for construction projects. Stormwater runoff on the installation predominantly flows through the drainage patterns created by natural terrain and paved surfaces. In some areas, runoff is directed through ditches and piping, with direct discharges into a receiving stream or surface water body.

Issued in December 2015, and revised August 2016, the MSGP requires the installation to have a SWPPP and includes specific requirements for implementing control measures (e.g., minimize exposure, good housekeeping, maintenance, spill prevention and response), conducting self-inspections and visual assessments of discharges, taking corrective action, and conducting training, as appropriate. The MS4 Permit, issued in September 2015, regulates stormwater sediment and pollutant discharges from the installation. The MS4 collects and conveys stormwater from storm drains, pipes, ditches, and discharges into the Tijeras Arroyo and the city of Albuquerque's MS4. Kirtland AFB has developed a Stormwater Management Plan as required by the MS4 permit. When construction projects are not subject to NPDES CGP requirements (i.e., due to the size of the project or waivers), the contractor must implement appropriate BMPs to minimize stormwater pollutants.

Kirtland AFB operates under a 2017 CGP (#NMR100000), which expires 16 February 2022. It includes a number of guidelines to implement erosion and sedimentation control, pollution prevention, and stabilization. Permittees must select, install, and maintain effective erosion- and sedimentation-control measures as identified and as necessary to comply with the 2017 CGP, including the following:

- Sediment controls, such as sediment basins, sediment traps, silt fences, vegetative buffer strips
- Off-site sediment tracking and dust control
- Runoff management
- Erosive velocity control
- Postconstruction stormwater management
- Construction and waste materials management

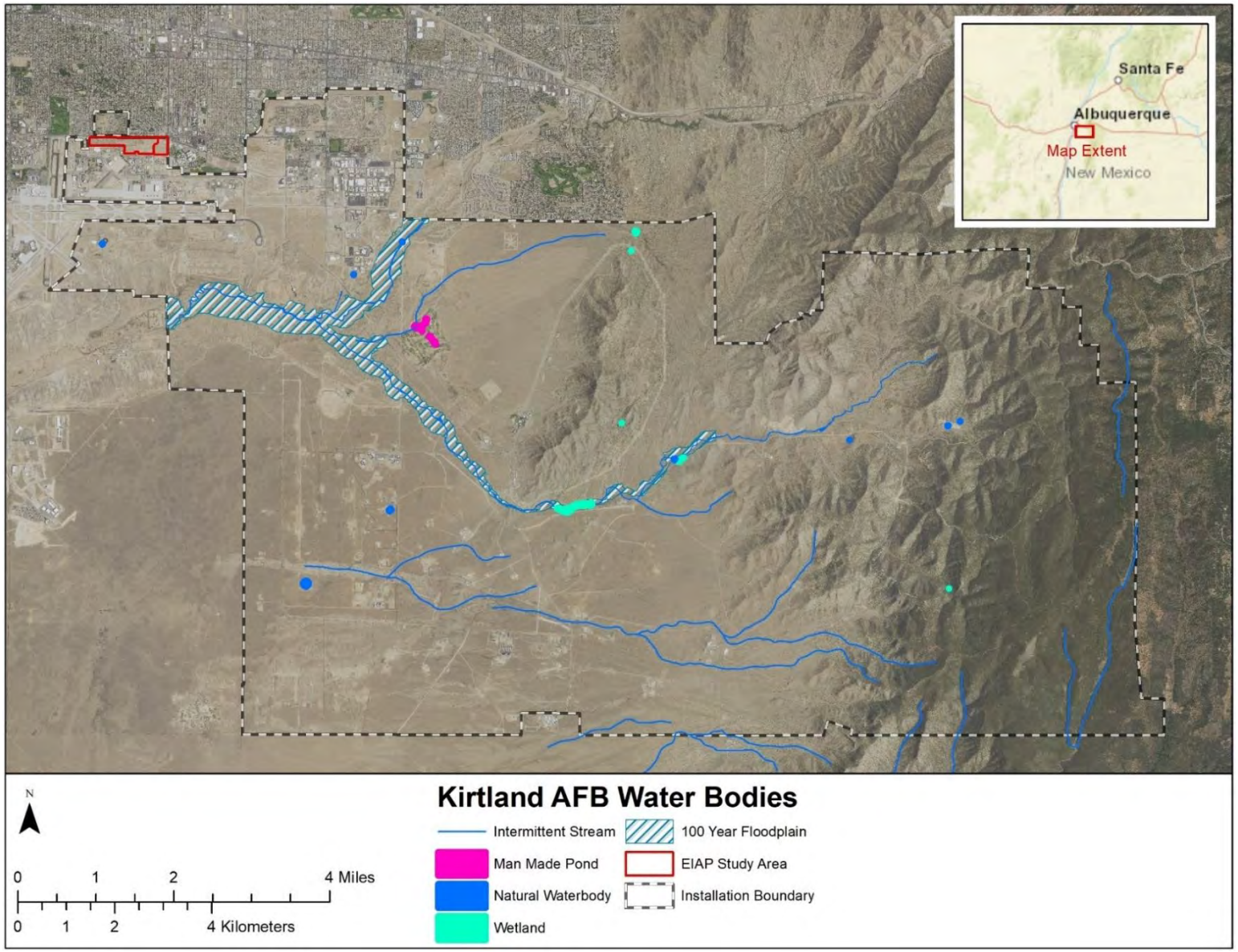

Figure 3-4. Surface Water, Floodplains, and Wetlands on Kirtland Air Force Base

- Nonconstruction waste management
- Erosion control and stabilization
- Spill/release prevention

If a project at Kirtland AFB is subject to the CGP requirements, the contractor must develop a site-specific SWPPP and provide the plan to 377 MSG/Civil Engineering Installation Management–Environmental Management–Compliance (CEIEC) for review and approval. Upon approval, both the contractor and Kirtland AFB must submit Notices of Intent (NOIs) and be granted approval from USEPA before work begins.

Wetlands are considered "waters of the United States" if they are determined to be jurisdictional by the U.S. Army Corps of Engineers and USEPA. There are 10 wetlands supplied by at least 15 naturally occurring springs on Kirtland AFB; however, no Jurisdictional Determinations have been made concerning these water features. There are no natural lakes or rivers on Kirtland AFB; however, six man-made ponds have been created on the Tijeras Arroyo Golf Course.

Floodplains. A 100-year floodplain encompasses both the Arroyo del Coyote and Tijeras Arroyo. These are the only two arroyos with a floodplain on the installation (see **Figure 3-4**). Arroyo del Coyote and Tijeras Arroyo floods occur infrequently and are characterized by high peak flows, small volumes, and short durations (Kirtland AFB 2018b).

The project area is not located within a designated 100-year floodplain or a Special Flood Hazard Area (FEMA 2018a). According to the FEMA, the project area is within a Flood Zone D, which means that the flood hazard has not been determined for the area, but there is a potential for a flood to occur (FEMA 2018b).

3.6.2 Environmental Consequences

3.6.2.1 Proposed Action

There are no surface water features such as arroyos, streams, or lakes at the EIAP Study Area. In addition, conditions needed for wetland formation, such hydrophytic vegetation, hydric soils, and hydrology conditions are not present in the EIAP Study Area. No impacts to jurisdictional wetlands are expected. Stormwater runoff during construction at the project site would be managed under a project-specific SWPPP. The developer would be responsible for preparing a SWPPP, filing an NOI, and obtaining a general NPDES permit for construction activities. BMPs would be applied to avoid soil erosion and sediment transport. Water used for construction such as concrete pouring, site watering, and clean-up activities would be supplied by ABCWUA. By implementing procedures outlined in the SWPPP and applying BMPs, long-term, negligible adverse impacts to surface water and groundwater are anticipated during project construction.

Once constructed, the ABCWUA would supply water to the proposed development for drinking, cleaning, and landscape irrigation. Xeriscape landscaping is proposed, drip irrigation would be used to limit water use in landscape areas. The amount of water use would represent less than 0.5 percent of Albuquerque’s water use based on the development size. This would represent a long-term, negligible, adverse impact to groundwater withdrawal and surface water supply. The stormwater drainage system would be design in accordance with the City of Albuquerque guidelines and potentially include storm inlets, drains, valley gutters and swales, and landscaped detention ponds. Impacts associated with sediment and contamination transport to water quality are expected to be long-term, negligible, and adverse.

3.6.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the mixed-use development described in **Section 2.1** would not be implemented and the existing conditions discussed in **Section 3.6.1** would continue. Implementation of the No Action Alternative would not result in new or additional impacts to surface water or groundwater.

3.7 BIOLOGICAL RESOURCES

Biological resources include native or naturalized plants and animals and the habitats in which they occur and native or introduced species found in landscaped or disturbed areas. Laws protecting wildlife include the ESA, MBTA, and the Bald and Golden Eagle Protection Act of 1940. Protected species are defined as those listed as threatened, endangered, or proposed or candidate for listing by the USFWS or NMDGF. Federal species of concern are not protected by law; however, these species could become listed and therefore are given consideration when addressing biological resource impacts of an action.

Sensitive habitats include those areas designated by the USFWS as critical habitat protected by the ESA and sensitive ecological areas as designated by state or federal rulings. Sensitive habitats also include wetlands, plant communities that are unusual or of limited distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, crucial summer/winter habitats).

The New Mexico Wildlife Conservation Act (NMSA 17-2-37) authorizes the NMDGF to create a list of endangered or threatened wildlife within the state and to take steps to protect and restore populations of species on the list. Actions causing the death of a state endangered animal are in violation of the Wildlife Conservation Act. In addition, USFWS and NMDGF maintain lists of species considered to be particularly sensitive or at risk.

3.7.1 Affected Environment

Kirtland AFB lies at the intersection of four major North American biotic provinces: the Great Plains, Great Basin, Rocky Mountains, and Chihuahuan Desert. Vegetation and wildlife found within the installation are influenced by each of these provinces, with the Great Basin being the most dominant influence. Elevations range from approximately 5,000 ft in the west to almost 8,000 ft in the Manzanita Mountains, providing a variety of ecosystems. Five canyons (i.e., Lurance, Sol se Mete, Bonito, Otero, and Madera) are located in the eastern portion of the installation; a few smaller canyons occur on Manzano Base. Kirtland AFB is situated near three regional natural areas: the Sandia Mountain Wilderness Area, Sandia Foothills Open Space, and Rio Grande Valley State Park. The Sandia Mountain Wilderness Area, encompassing 37,877 ac, lies approximately 5 mi north of the eastern portion of the installation. This area is home to many species of plants and animals and supports an important raptor migration route (Kirtland AFB 2018b).

Kirtland AFB has an Integrated Natural Resources Management Plan (INRMP) in place, which was updated in 2018. The INRMP provides interdisciplinary strategic guidance for natural resources management on the installation for a period of 5 years. It is integrated with other planning functions and supports the military mission. The INRMP is focused on the achievement of 10 specific goals for the protection and improvement of the natural environment. The goals were formulated from a comprehensive analysis of mission requirements, regulatory requirements, the condition of the natural resources on Kirtland AFB, and a consideration of the value of the resources to the people who live and work on the installation. Implementation of the

INRMP ensures that the installation continues to support present and future mission requirements while preserving, improving, and enhancing ecosystem integrity (Kirtland AFB 2018b).

Vegetation. Four main plant communities occur on Kirtland AFB: grassland (includes sagebrush steppe and juniper woodlands), piñon-juniper woodlands, ponderosa pine woodlands, and riparian/wetland/arroyo. **Figure 3-5** present the distribution of the vegetation communities on the installation. Grassland and piñon-juniper woodlands are the dominant vegetative communities on the installation. The riparian/wetland/arroyo community is confined to drainages and isolated areas inundated by surface water during at least some part of the year. The ponderosa pine woodland community is found along the eastern boundary of the installation (Kirtland AFB 2018b).

- ***Grassland Community***. This community is found between elevations of 5,200 and 5,700 ft at Kirtland AFB. The grassland community on the installation is further delineated into two community types: sagebrush steppe in the western portion of the installation and juniper woodlands in the eastern portion. In a sagebrush steppe, the understory is less dense, with cryptogamic crust covering areas of exposed ground. The juniper woodlands are similar to the grasslands to the east, except for the greater abundance of one-seeded juniper. The presence of this shrubby tree creates a savanna-like habitat in an otherwise treeless area. Juniper woodlands are found at a slightly higher elevation than the surrounding grassland. This habitat type provides a transition into piñon-juniper woodlands. Common grass species include ring muhly, Indian ricegrass, sixweeks grama, black grama, blue grama, and spike dropseed. Shrubs commonly found in the grassland community include sand sagebrush, winterfat, and broom snakeweed. Other species include purple threeawn, sixweeks threeawn, hairy grama, mesa dropseed, four-wing saltbush, Apache plume, plains prickly pear, and soapweed yucca. Transitional shrublands are common between grassland and piñon-juniper woodland communities, with many species from both communities inhabiting these areas (Kirtland AFB 2018b).

- ***Piñon-Juniper Woodland Community***. The piñon-juniper woodland community ranges in elevation from 6,300 to 7,500 ft. This plant community is primarily composed of Colorado piñon pine and juniper, with an understory of shrubs and grasses. At most elevations, this community consists of open woodland with grama grasses dominating the understory. Other species associated with this plant community are broom snakeweed, rubber rabbitbrush, threadleaf groundsel, and alderleaf mountain mahogany (Kirtland AFB 2018b).

- ***Ponderosa Pine Woodland Community***. The ponderosa pine woodland community is typically found in the highest elevations of the eastern portion of the installation between 7,600 to 7,988 ft. Common species include ponderosa pine, Colorado piñon pine, Rocky Mountain juniper, and Gambel oak. Intermingled with these species are creeping barberry, New Mexican locust, and snowberry. One-seeded juniper, hoptree, and alderleaf mountain mahogany are also present in ponderosa pine woodland (Kirtland AFB 2018b).

- ***Riparian/Wetland/Arroyo Community.*** The riparian/wetland/arroyo community consists of species that have a greater moisture requirement than species common to the other communities on the installation. These plant communities are found along the Tijeras Arroyo, Arroyo del Coyote, and at the various springs located throughout the installation. Common species include cottonwood, hoptree, Apache plume, yerba mansa, and saltcedar. Most of the small, scattered wetlands on Kirtland AFB are in good condition and occur in conjunction with other plant communities (Kirtland AFB 2018b).

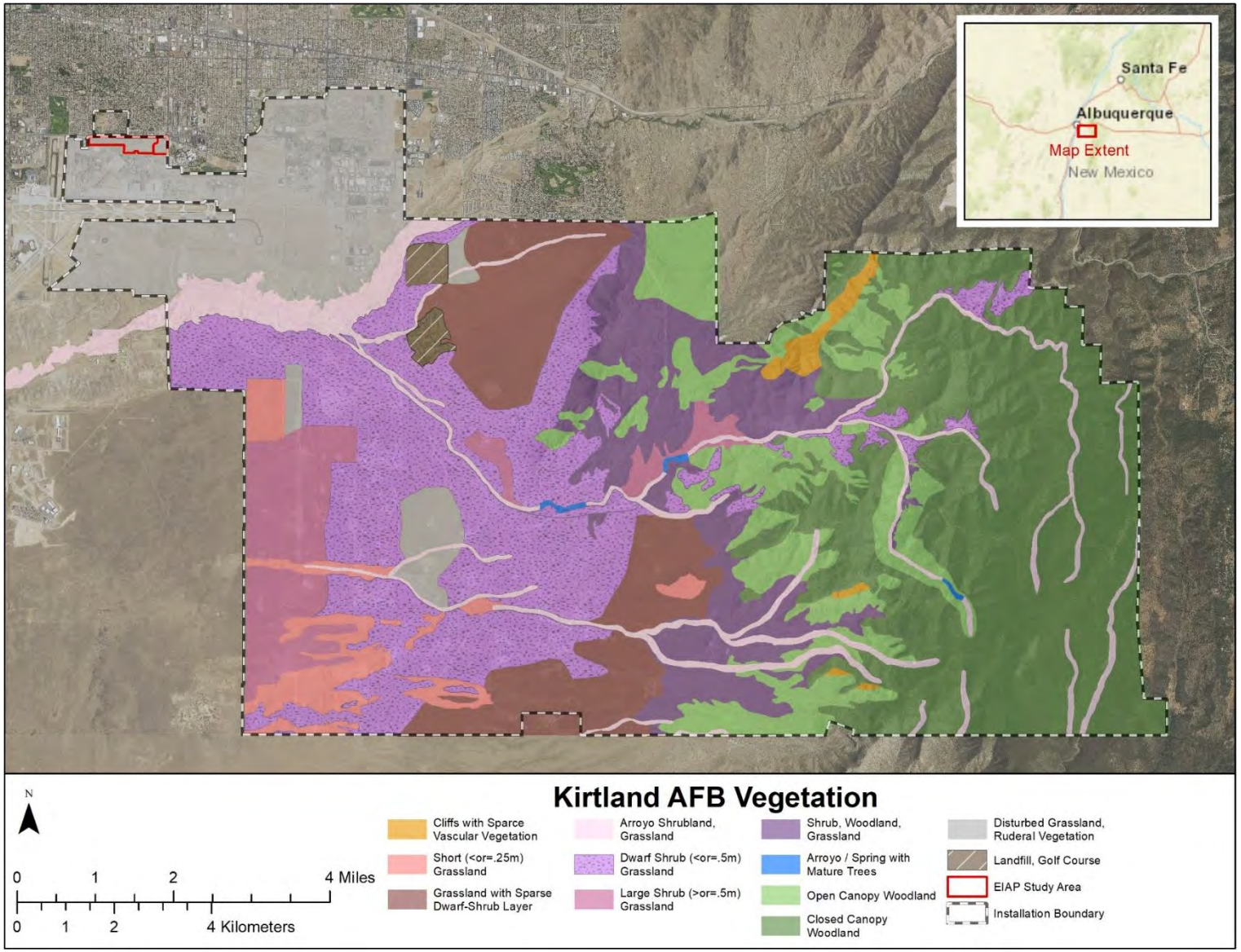

Figure 3-5. Location of Military Training Areas and Vegetation at Kirtland Air Force Base

- ***Improved Areas.*** Approximately 1,980 ac are considered improved areas and are generally on the northern portion of the installation. These areas are landscaped or maintained. Kirtland AFB promotes water conservation landscaping by using xeriscape methods combined with native plant materials. Landscaping may be an involved process or something as simple as the upkeep of natural vegetation through weeding and mowing (Kirtland AFB 2018b).

Vegetation in the EIAP Study Area is characterized as predominantly nonnative and invasive species. The western portion of the EIAP Study Area was formerly MFH and a mixture of tree species that provided neighborhood landscaping remain. Tree species remnants include ash, locust, piñon pine, Siberian elm, and sycamore. The 23-ac portion of the EIAP Study Area includes grasses and invasive species, such as annual goldenweed, Bermuda grass, black grama, blue grama, dandelion, globemallow, horseweed, Kentucky bluegrass, prickly pear cacti, puncture vine, purple aster, Russian thistle, snakeweed, and three-awn.

Wildlife Species and Habitat. Wildlife species found on Kirtland AFB are representative of the species' diversity common to the regional ecosystem (e.g., grassland, juniper woodland, piñon-juniper woodland, and ponderosa pine woodlands) and species common in grassland and semideveloped areas. Species can be transient and travel between communities, inhabit several communities, or exist in transitional areas between vegetation communities. Native fauna includes terrestrial and aquatic vertebrates and invertebrates. Terrestrial vertebrates include species such as large and small mammals, birds, amphibians, and reptiles. The only aquatic habitats on lands managed by Kirtland AFB are the small ponds at Tijeras Golf Course and isolated wetlands (Kirtland AFB 2018b).

Mammals commonly found on the installation include the desert cottontail, black-tailed jack rabbit, spotted ground squirrel, rock squirrel, Gunnison's prairie dog, silky pocket mouse, Ord's kangaroo rat, banner-tailed kangaroo rat, Merriam's kangaroo rat, western harvest mouse, deer mouse, white-footed deer mouse, and northern grasshopper mouse, porcupine, black bear, and mule deer. Mammalian predators found in association with these species include the coyote, badger, kit fox, striped skunk, mountain lion, and bobcat (Kirtland AFB 2018b).

Reptiles and amphibians commonly found on the installation include the New Mexico whiptail lizard, short-horned lizard, lesser earless lizard, bull snake, western diamondback rattlesnake, prairie rattlesnake, desert massasauga, glossy snake, western box turtle, Woodhouse's toad, and red spotted toad. Many of the amphibian species have extensive periods of dormancy during dry conditions and rapid breeding cycles when temporary ponds occur after rains (Kirtland AFB 2018b).

Birds that could commonly occur on the installation include the horned lark, scaled quail, mourning dove, greater roadrunner, American crow, northern mockingbird, western meadowlark, wild turkey, brown-headed cowbird, and house finch. Raptor species known to occur or that may potentially occur include the northern harrier, red-tailed hawk, Swainson's hawk, ferruginous hawk, American kestrel, and western burrowing owl. Additionally, turkey vultures are common scavengers in the area (Peterson 2010). The nesting season for most bird species that occur at Kirtland AFB runs from 1 March to 30 September.

The EIAP Study Area is habitat for a variety of migratory birds, rodents, and small mammals. Common mammal species observed at the EIAP Study Area include the desert cottontail and Gunnison's prairie dog (Kirtland AFB 2008). Coyotes have been known to feed on the Gunnison's prairie dogs at various developed areas around the base (Kirtland AFB 2018b). Typical bird species that could occur at the site include the mourning dove, northern flicker, red-tailed hawk,

rock dove, and Swainson's hawk. In addition, bull snakes and Western rattlesnakes have been observed in developed landscaped areas on base (Kirtland AFB 2018b).

Threatened and Endangered Species and State Listed. The USFWS and NMDGF maintain lists of plant and animal species that have been classified, or are potential candidates for classification, as threatened or endangered in Bernalillo County (**Table 3-12**). According to the 2019 USFWS Information for Planning and Consultation (IPaC) Report, five threatened or endangered species could occur on Kirtland AFB or in the surrounding region (USFWS 2019b). All five of these species have final designated or proposed critical habitat; however, there are no critical habitats on or near Kirtland AFB. No federally threatened or endangered species have been identified on the installation. Based on the data provided in the Biota Information System of New Mexico (BISON-M), there are 16 species listed by NMDGF as state threatened or endangered (BISON-M 2019).

Table 3-12. Threatened and Endangered Species in Bernalillo County

Common Name	Scientific Name	NMDGF	USFWS	Critical Habitat
Spotted Bat	*Euderma maculatum*	T	-	-
Meadow Jumping Mouse	*Zapus luteus luteus*	E	E	Y
Brown Pelican	*Pelecanus occidentalis*	E	-	-
Common Black Hawk	*Buteogallus anthracinus*	T	-	-
Bald Eagle	*Haliaeetus leucocephalus*	T	-	-
Aplomado Falcon	*Falco femoralis*	E	-	-
Peregrine Falcon	*Falco peregrinus*	T	-	-
Least Tern	*Sternula antillarum*	E	-	-
Neotropic Cormorant	*Phalacrocorax brasilianus*	T	-	-
Yellow-billed Cuckoo (western pop)	*Coccyzus americanus occidentalis*	-	T	Proposed
Mexican Spotted Owl	*Strix occidentalis lucida*	-	T	Y
Broad-billed Hummingbird	*Cynanthus latirostris*	T	-	-
White-eared Hummingbird	*Hylocharis leucotis*	T	-	-
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E	E	Y
Bell's Vireo	*Vireo bellii*	T	-	-
Gray Vireo	*Vireo vicinior*	T	-	-
Baird's Sparrow	*Ammodramus bairdii*	T	-	-
Rio Grande Silvery Minnow	*Hybognathus amarus*	E	E	Y

Sources: USFWS 2019a,b; BISON-M 2019

Notes:
E=Endangered; NMDGF = New Mexico Department of Game and Fish; T=Threatened; USFWS = United States Fish and Wildlife Service; Y=Yes

The five federally listed species that are in the region, the New Mexico meadow jumping mouse, Mexican spotted owl, southwestern willow flycatcher, yellow-billed cuckoo, and Rio Grande silvery minnow, have not been identified on the installation (Kirtland AFB 2018b). The Rio Grande silvery minnow is now only found in the Rio Grande from Cochiti Pueblo, downstream to the in-stream flow of Elephant Butte Reservoir (USFWS 2019a). The New Mexico meadow jumping mouse prefers large wet meadows within floodplains. A 2016 survey conducted at Kirtland AFB did not detect the mouse or find desirable habitat for the species (Kirtland AFB 2018b). The Mexican spotted owl may migrate through Kirtland AFB at certain times of the year; however, this species is not known to utilize Kirtland AFB for extended periods of time. The southwestern willow flycatcher and yellow-billed cuckoo have not been document on the installation (Kirtland AFB 2018b).

The 2019 USFWS IPaC Official Species and Habitat List was received on 2 May 2019 under Consultation Code 02ENNM00-2019-SLI-0721. It was determined that there are no federally listed threatened or endangered species or critical habitat occurring within the project area (USFWS 2019b); however, to ensure no impact, an updated species list from USFWS is required to be obtained within 90 days of starting construction activities.

Of state listed species known to occur in Bernalillo County, two state threatened species have the potential to occur on Kirtland AFB (Kirtland AFB 2018b). Biological surveys are conducted annually in order to monitor federal listed, state listed, and other special status species presence on Kirtland AFB. **Table 3-13** and the following text discuss species that are known to occur on the installation and are excerpted from the 2018 INRMP and validated with current USFWS and BISON-M status listings.

Table 3-13. Kirtland Air Force Base Species with Special Status

Species	Federal Status	State Status
Gray Vireo	-	Threatened
Peregrine Falcon	Species of Concern	Threatened
Loggerhead Shrike	-	New Mexico Species of Greatest Conservation Need
Mountain Plover	-	New Mexico Species of Greatest Conservation Need
Western Burrowing Owl	Species of Concern	-
Gunnison's Prairie Dog	-	New Mexico Species of Greatest Conservation Need
Golden Eagle	Bald/Golden Eagle Protection Act	-

- **Gray Vireo**. The Gray Vireo, a state threatened species, is a small migratory songbird. They occur in colonies in several locations on Kirtland AFB throughout the withdrawn area. The highest density of colonies are located within lower elevation piñon-juniper habitat from Coyote Canyon south to the Isleta boundary at elevations ranging from 5,900 ft to 6,600 ft. Gray Vireo populations have increased on Kirtland AFB due to fire suppression activities and subsequent increase of piñon-juniper stands.
- **Peregrine Falcon.** The Peregrine Falcon, a state threatened species and federal species of concern, is a medium to large sized raptor. On Kirtland AFB, suitable nesting cliffs are located in the canyons of the withdrawn area. The species is observed hunting throughout

the entire base. Threats to Peregrine Falcons include use of pesticides, predation, electrical line electrocution and noise impacts from base activities.

- **Loggerhead Shrike.** The Loggerhead Shrike, a state species of greatest conservation need, is a small migratory songbird that occurs in grasslands west of the withdrawn area. The species is a year-round resident of Kirtland AFB; however, nesting Shrikes are no longer found on base. The species breeds in grazed areas which have exposed ground and sparse vegetation and are not located in close proximity to developed areas. The species is commonly encountered adjacent to Manzano Base and along the southern portion of the installation near SOR, GRABS and the Chestnut sites.
- **Mountain Plover**. The Mountain Plover, a state species of greatest conservation need, is a small migratory songbird. The Plover occurs in grasslands, typically within prairie dog towns. Potential nesting and brood-rearing habitat for the Mountain Plover at Kirtland AFB is limited to the southern grasslands directly north of Pueblo of Isleta. Impacts to the Mountain Plover population on Kirtland AFB are a result of decreased Gunnison's Prairie Dog towns/colonies within the southern portion of the installation.
- **Western Burrowing Owl.** The Western Burrowing Owl, a state species of greatest conservation need, is a small ground owl. Burrowing owls are migratory; however, some owls may occur on the installation during mild winters. The species is found on Kirtland AFB within developed areas where grasses are less dense and afford a greater line of sight for protection from predators and prey detection. Populations of Burrowing Owls have greatly decreased on the installation. Threats to the population include a decrease of the Gunnison's Prairie Dog population and incompatible land use.
- **Gunnison's Prairie Dog.** The Gunnison's Prairie Dog, a state species of greatest conservation need, are rodents within the squirrel family which occur in colonies or towns. They are located primarily within grasslands in the northern half of Kirtland AFB and in the cantonment area. Threats to the population include periodic plague epidemics and loss of habitat.
- **Golden Eagle.** The Golden Eagle is a raptor, federally protected under the Bald and Golden Eagle Protection Act, which occurs on Kirtland AFB. Because of the size of the golden eagle they are ranked at the top of the food chain as apex predators of avian species. Golden eagles have been observed during avian surveys conducted on the installation and nests have been identified on cliffs within the withdrawn area. Threats to the species include use of pesticides, predation, electrical line electrocution and noise impacts from base activities.
- **Desert Massasauga.** The desert massasauga is a state species of greatest conservation need. Desert massasauga are pit vipers commonly found in shortgrass prairies habitat dominated by sand sage, buffalograss, and blue grama. It is more common in intact shortgrass prairie that have been heavily grazed or tilled. On Kirtland, the desert massasauga is expected to be found in large tracts of low elevation grassland habitats.

No federal or state listed threatened or endangered species occur at the EIAP Study Area. While the state-listed species, gray vireo, has been observed on Kirtland AFB, habitat for the gray vireo is not present at the EIAP Study Area (Kirtland AFB 2008). Suitable nesting habitat for the Mountain Plover is limited and is not known to occur anywhere on Kirtland AFB or the project area. Habitat for the Santa Fe milkvetch does not occur in the EIAP Study Area. With the presence of Gunnison's prairie dog towns in the EIAP Study Area, there is the potential for the presence of western burrowing owl during nesting season.

Critical Habitat. Critical habitats are those areas of land, air, or water that are essential for maintaining or restoring threatened or endangered plant or animal populations. Surveys and literature indicate that important habitats on the installation include wetlands, which are rare in this region, providing water in an otherwise arid environment. Other important habitats on the installation include prairie dog towns, which provide nesting habitat for the burrowing owl, and areas between 5,900 and 6,600 ft containing open juniper woodlands, which are used as nesting habitat by the gray vireo (Kirtland AFB 2018b).

Neither the NMDGF nor the USFWS has designated or identified any critical habitat on Kirtland AFB.

3.7.2 Environmental Consequences

3.7.2.1 Proposed Action

Vegetation. Construction associated with the Proposed Action would require the development of a 77-ac area and potentially an additional 23 ac in the Study Area. During construction activities, soil surfaces, including existing vegetation, would be cleared. Adverse impacts on the majority of land would be long-term due to the permanent removal of vegetation and construction of buildings and installation of parking. The vegetation at the EIAP Study Area is mostly invasive and nonnative species typically associated with disturbed land and the development of this land would not have significant impacts on vegetation. Some areas would be landscaped after construction completion using xeriscaping techniques that are designed to eliminate or reduce the need for irrigation, as well as using drought-tolerant native plants adapted to the region's climate that would provide long-term, moderate, beneficial impacts.

Wildlife Species and Habitat. Construction activities associated with the Proposed Action could cause moderate, short-term disturbances to wildlife that may inhabit the EIAP Study Area. Most of the wildlife species found on base are common and adapted to semiurban settings. Because the entire area proposed for development would be cleared prior to construction, most wildlife using this area would likely flee once construction activities begin. Some smaller, less mobile species may be adversely impacted from land clearing and construction activities; however, should mortalities occur, long-term, negligible, adverse impacts to wildlife populations would be expected.

Prior to construction, the construction contractor would contact the Kirtland AFB Natural Resource Manager to arrange migratory bird surveys no more than 2 days prior to all ground disturbances when construction is proposed during the nesting season (1 March through 30 September). If any nests are found during surveys, mitigation measures may include relocation of nests to avoid impacts or the delay of vegetation clearing until fledging is complete. If migratory birds are found to be present, the construction contractor would consult with the Kirtland AFB Natural Resources Manager to determine what action is necessary. If mitigation is determined to be the only option, it would be accomplished by qualified and permitted biologists.

The Kirtland AFB Natural Resources Manager would determine if other wildlife is present in the project area. If wildlife is present, measures to mitigate impacts would take place.

Implementation of the Proposed Action would create long-term, minor, adverse impacts to some wildlife species as a result of the loss of habitat; however, this impact would not be significant. The habitat on the EIAP Study Area is not optimal habitat for many wildlife species and most would be able to relocate to other areas. Surveying and avoiding construction activities during nesting seasons, as well as mitigation actions, if required, would also reduce the potential for

mortalities from activities under the Proposed Action. Implementation of the Proposed Action is not expected to cause significant impacts to wildlife species or their associated habitat.

Threatened and Endangered Species. As discussed in **Section 3.7.1**, no federally listed species have been documented on Kirtland AFB. The two state listed threatened species that have been documented on base, the gray vireo and peregrine falcon, would not occur at the EIAP Study Area since this location lacks suitable habitat for these species. In addition, there are no critical habitats within the EIAP Study Area. There would be no impact to threatened or endangered species or critical habitat from implementation of the Proposed Action.

Suitable habitat also is not present in the EIAP Study Area for the loggerhead shrike, mountain plover, or desert massasauga. With the presence of Gunnison's prairie dog towns in the EIAP Study Area, there is the potential for the presence of the New Mexico Species of Greatest Conservation Need western burrowing owl, although past surveys have not documented western burrowing owls in the EIAP Study Area. Base-wide burrowing owl surveys for 2019 are currently underway; however, surveys within the EIAP Study Area have been completed. Survey results concluded that no burrowing owls were present within the EIAP Study Area (Reynolds, 2019). Prior to construction, the construction contractor would contact the Kirtland AFB Natural Resource Manager to arrange surveys for burrowing owls no more than 2 days prior to all ground disturbances. If active nests are found during surveys, mitigation measures may include relocation of owls to avoid impacts. The golden eagle is typically located on the cliffs within the DOE and DOD withdrawn lands on the eastern region of the base. While the golden eagle may forage above the EIAP Study Area, no impacts are expected to this species since there is no nesting habitat at this location and it would avoid this area as a result of the development associated with the Proposed Action.

The USAF made a determination that the Proposed Action is not likely to adversely affect any species and critical habitat. A letter requesting concurrence from the USFWS was mailed on 21 February 2019. To date, a response with concurrence has not been received.

3.7.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in **Section 2.1** would not be implemented and the existing conditions discussed in **Section 3.7.1** would continue. Implementation of the No Action Alternative would not result in any new or additional impacts to biological resources.

3.8 INFRASTRUCTURE

Infrastructure consists of the systems and physical structures that enable a population in a specified area to function. Infrastructure is wholly man-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as "urban" or developed. The availability of infrastructure and its capacity to support growth are generally regarded as essential to the economic growth of an area. The infrastructure information in this section was primarily obtained from the 2016 IDP and provides a brief overview of each infrastructure component and comments on its existing general condition.

The infrastructure components discussed in this section include transportation, utilities, and solid waste management. Transportation is defined as the system of roadways, highways, and transit services that are in the vicinity of the installation and could be reasonably expected to be potentially affected by the Proposed Action. Utilities include electrical, natural gas, liquid fuel,

water supply, sanitary sewage/wastewater, stormwater handling, and communications systems. Solid waste management primarily relates to the availability of landfills to support a population's residential, commercial, and industrial needs.

3.8.1 Affected Environment

Transportation. Numerous modes of transportation are available at Kirtland AFB, including air, mass transit, and federal and state highway access. The Sunport, located along the western boundary of the installation, provides commercial and public aviation and military support, particularly for USAF and Air Force Reserve units. The airfield at the Sunport consists of two commercial carrier runways and one runway dedicated to general aviation (ABQ Sunport 2018). The Albuquerque Transit Department, ABQ RIDE, provides and operates public bus services throughout the city. Several bus routes regularly service Kirtland AFB (ABQ RIDE 2019).

Kirtland AFB is situated approximately 4 mi east of Interstate (I) 25 and approximately 1.5 mi south of I-40. The installation is served from interstate highways and many state and local roads. The city of Albuquerque street grid includes a number of major arterials that tie directly into the installation, including Eubank Boulevard, Wyoming Boulevard, Carlisle Boulevard, and Truman Street. These roadways serve north-south traffic flows. The east-west-trending major arterial directly to the north of the installation is Gibson Boulevard. Other east-west arterials north of the installation include Zuni Boulevard and Central Avenue, the historic Route 66.

There are currently seven gated entrances from the city of Albuquerque to Kirtland AFB: Carlisle Gate, Truman Gate, Truman Visitor Control Center (VCC), Maxwell Gate, Gibson Gate, Eubank Gate, and the Hickam Gate. The Hickam Gate, also known as the Contractor Gate, is the truck inspection gate. All other gates are entry/egress points for personnel working or living on the installation. The Carlisle, Gibson, and Hickam Gates currently have restricted hours; the Eubank, Truman, Truman VCC, and Maxwell Gates are open 24 hours/7 days a week. (Kirtland AFB 2019).

There are approximately 430 mi of paved roads and 230 mi of unpaved roads on Kirtland AFB. Major arterials include Wyoming Boulevard, Gibson Boulevard, and Frost Street. Major east-west routes consist of Hardin Boulevard, Randolph Avenue, and Aberdeen Avenue. Minor arterials include Pennsylvania Street and 20th Street, which serve the SNL facilities. The primary transportation route to the southern portion of the installation is via Pennsylvania Street (Kirtland AFB 2016b).

Automobiles are the primary mode of transportation in the EIAP Study Area. Gibson Boulevard is north of the EIAP Study Area and is considered a major east-west arterial for the Kirtland AFB. It is a six-lane, access-controlled roadway and would provide the main access to the EIAP Study Area. Carlisle Boulevard flanks the western boundary of the EIAP Study Area and San Mateo Boulevard bounds the eastern edge. Truman Street crosses between the 77-ac project area and the 23-ac developable site from north to south into Kirtland AFB. There are three gated entrances to Kirtland AFB secured areas near the EIAP Study Area: Carlisle, Truman, and Maxwell Gates.

The City of Albuquerque's bus transit system, ABQ RIDE, serves the Kirtland AFB and EIAP Study Area. Route 96, a commuter route, operates during peak traffic hours to the EIAP Study Area. Routes 16, 140/141, and 157 are regular routes and provide frequent transit services all day. Route 217 operates as a regular route, with some service variation (City of Albuquerque 2018).

Electrical System. Kirtland AFB purchases electrical power from the Western Area Power Administration. Electric lines are placed above and below ground, feeding 20 substations on the

installation. The installation's average yearly consumption is approximately 407,010 kilowatt hours (Kirtland AFB 2016b).

Since the demolition of the MFH development, electrical use at the EIAP Study Area is minimal. The communications (ham radio) building and recreational fields continue to require electric service. Electric power to the EIAP Study Area is provided by Kirtland AFB. Overhead electric distribution lines are located on the north and south of Gibson Boulevard, east side of Maxwell Street, and north side of Aberdeen Street.

Natural Gas and Propane. Natural gas is supplied by Coral Energy and delivered in New Mexico Gas Company pipelines supplying the industrial complex, family housing, and heating plants on the installation. There are approximately 496,000 ft of natural gas mains (Kirtland AFB 2016b). Rural portions of the installation do not receive natural gas service and rely on propane, which is delivered to and stored in local propane storage tanks.

New Mexico Gas Company delivers natural gas to the EIAP Study Area. There are existing buried natural gas pipelines located on the north and south of Gibson Boulevard, the east side of Maxwell Street, and along the eastern boundary. Natural gas pipelines also are located across from the former MFH as well as distribution lines within the MFH area. An additional buried natural gas pipeline is located west of the parcourse in the recreation area.

Liquid Fuel. Liquid fuels are supplied to Kirtland AFB by contractors. The primary liquid fuels supplied include JP-8 (jet propellant [fuel] – type 8), diesel, and unleaded gasoline. Fuels are purchased in bulk, delivered to the installation by tanker truck, and stored in various-sized storage tanks across the installation. Liquid fuels at Kirtland AFB are primarily used to power military aircraft and ground-based vehicles (Kirtland AFB 2016b). There currently are no liquid fuels distribution facilities or storage tanks at the EIAP Study Area.

Water Supply System. Water is supplied to Kirtland AFB by six groundwater wells and two distribution systems that have a collective water-pumping maximum capacity of 8.1 million gallons per day (MGD). The installation pumps an average of 5.5 MGD of treated, potable water through 160 mi of distribution mains (Kirtland AFB 2016b). There are also approximately 50 mi of nonpotable water pipeline serving the Tijeras Golf Course and providing water for fire protection. Within the EIAP Study Area, buried water lines that delivered water to the former MFH facilities still remain.

Kirtland AFB has the right to divert approximately 6,400 ac-ft per year from the underground aquifer, which is equal to approximately 2 billion gallons of water (Kirtland AFB 2016b). In 2017, Kirtland AFB pumped a total of 744 million gallons (2,285 ac-ft) of water from these wells. The installation can also purchase water from the ABCWUA to meet demand during peak periods; however, the amount of water purchased from the city has been negligible since 1998, and Kirtland AFB did not purchase any water from the city in 2017 (Kirtland AFB 2017).

Sanitary Sewer/Wastewater System. Kirtland AFB does not have its own sewage treatment facility. Instead, the sanitary sewer system on the installation, which consists of approximately 491,000 ft of collection mains, transports wastewater to the city of Albuquerque treatment facility. The permissible discharge rate for Kirtland AFB is fixed at 70,805,000 gallons per month. The installation discharges an average of approximately 1.4 MGD, or approximately 42 million gallons per month (Kirtland AFB 2016b). Some facilities in remote areas and other portions of the installation are not serviced by the sanitary sewer system; these facilities use isolated, on-site septic systems to dispose of wastewater.

There are existing buried sewer lines located on the EIAP Study Area. These lines are located on the southern side of Gibson Boulevard; western side of Maxwell Street; northern side of Ivy Place; northern and western sides of Buildings 590, 592, and 593; northern side of Aberdeen Avenue between Building 585 and 595; as well as the northern side of Aberdeen Avenue between Buildings 585 and 595. Additionally, buried sewer lines remain from the former MFH facilities.

Stormwater Handling. Most stormwater on the installation flows through the drainage patterns created by the natural topography and terrain. When required by project design, a retention basin is typically installed to maintain and collect stormwater. The northern portion of the installation, including housing, discharges by sheet flow and culverts toward Gibson Boulevard along the Kirtland AFB and city of Albuquerque boundary. Most of the stormwater collected on the installation is discharged through sheet flow, culverts, or open channel flow towards Tijeras Arroyo on the southern portion of the installation. Kirtland AFB is included in the existing MSGP, MS4, and CGP for authorization for stormwater discharge (Kirtland AFB 2016b). The EIAP Study Area experiences sheet flow and open channel flow discharge to the southeast; culverts are situated under Truman Street SE from Gibson Boulevard SE to Abderdeen Drive SE (Kirtland AFB 2019).

Communications System. The communication network on Kirtland AFB was originally constructed as two separate systems that were later connected to provide redundancy. The main information transfer node is located on the west side of the installation. This facility is in need of additional capacity and expansion if Kirtland AFB expands mission requirements. The Communication Main Switch Facility is located on the eastern side of the installation. There are future projects to upgrade the copper cables. The network fiber in the installation communication system is currently in the process of being upgraded (Kirtland AFB 2016b). CenturyLink and Comcast provide communication services to the EIAP Study Area and Kirtland AFB. In addition, military communications pathways are located within the EIAP Study.

Solid Waste Management. Solid waste generated at Kirtland AFB is collected by a contractor and disposed of at the city of Albuquerque's Cerro Colorado Landfill. The Cerro Colorado Landfill receives approximately 1,775 tpy from Kirtland AFB.

Kirtland AFB operates a construction and demolition waste-only landfill on the installation. This landfill accepts only construction and demolition waste from permitted contractors working on the installation, has a total gross capacity of 10.2 million cubic yards, and has a net waste capacity of 7.2 million cubic yards. As of 30 September 2018, the remaining capacity of this landfill was 2.34 million cubic yards. In 2017 and 2018, an average of 67,825 tons of construction and demolition waste per year was deposited in this landfill. As of June 2012, the recycling of construction and demolition waste at Kirtland AFB has been codified into the Construction Waste Management specification (Section 01 74 19) for all USAF construction and demolition projects on the installation.

Green waste generated from land clearing or ground maintenance on the installation is brought to the Kirtland AFB landfill for chipping. A Memorandum of Agreement with the ABCWUA has been established to exchange this chipped green waste for finished compost, which is used across the installation for landscaping purposes.

Kirtland AFB manages a recycling program to reduce the amount of solid waste sent to landfills. The installation recycles scrap metal under the Qualified Recycling Program and collects corrugated cardboard from over 70 drop-off points across the installation. Per the DOD Strategic Sustainability Performance Plan, the diversion rate goal is 60 percent by FY 2015 and thereafter through FY 2020.

Since demolition of the MFH development, solid waste services at the EIAP Study Area are minimal. The existing ham radio building which is currently occupied and the buildings at the recreational facilities would continue to require solid waste services.

3.8.2 Environmental Consequences

3.8.2.1 Proposed Action

Transportation. The Proposed Action would require traffic improvements. During development, these traffic improvements could include construction of new entrances/exits to the project site, new traffic signals, new sidewalks for pedestrian access, and parking facilities. These improvements would enhance traffic flow along Gibson Boulevard and other roadways in and around the EIAP Study Area as well as improve safety for drivers and pedestrians. The Proposed Action would increase traffic to and from the development by 50 percent, however, but is not expected to exceed the capacity of existing infrastructure. Impacts to transportation resulting from the development of the Proposed Action would represent a long-term, moderate, beneficial impact.

Electrical System. New electrical infrastructure would be constructed to support the increase use of electrical power. New substations would be constructed in various locations throughout the EIAP Study Area to step down voltage to distribution lines supplying power to the individual buildings. The distribution lines would be buried. Electrical service would be provided by Public Service Company of New Mexico and would tap from existing transmission lines to provide permanent power. Rooftop solar panels would be installed on select buildings to offset utility costs. Disruption of service to surrounding areas could occur during construction and interconnection; however, this is expected to be a short-term inconvenience. No impacts from connection of electrical power to the proposed development is anticipated since the power supply is currently available.

Natural Gas and Propane. New Mexico Gas Company would provide natural gas to the proposed development. Buried natural gas lines would be constructed to provide service to the individual facilities proposed for construction and connected from existing lines under and along Gibson Boulevard. Disruption of gas service to surrounding areas could occur during construction and connection to existing natural gas lines; however, this would be a short-term inconvenience. No impacts from construction and connection to natural gas supplies are anticipated.

***Liquid Fuel*.** The Proposed Action includes the potential for the construction of a gasoline station. The gas station would provide additional gasoline fuel options for area residents and commuters in the EUL area. The local distribution of liquid fuels would be a beneficial supply source to area residents, visitors to the development site, and workers.

***Water Supply System*.** The Proposed Action would require the installation of new water lines to the EIAP study Area. Water lines would connect to the ABCWUA system currently located beneath Gibson Boulevard. The water distribution system would be constructed in accordance with ABCWUA standards for pipe materials, joints, block restraints, trenching, bedding and backfilling, testing, and sterilization. Impacts related to the construction of new water lines would result in short-term, minor, adverse impacts. Once construction is complete, the proposed development would receive water from the ABCWUA system; no water would be obtained from the Kirtland AFB drinking water system. No long-term, adverse impacts to Kirtland AFB drinking water supplies are anticipated.

***Sanitary Sewer/Wastewater System*.** The Proposed Action would require the installation of new wastewater lines at the EIAP Study Area to replace obsolete and inadequate infrastructure for full development of the proposed project. Existing buried lines would be excavated and new wastewater lines installed. Wastewater system construction would meet ABCWUA standards for pipe materials, joints, manholes, trenching, bedding and backfilling, and testing. TKD would arrange for wastewater disposal and treatment service with the ABCWUA. No significant, adverse impacts from construction and connection with ABCWUA wastewater systems are anticipated.

***Communications System*.** The Proposed Action would require new communications infrastructure for servicing the area. New buried lines would be installed to accommodate the buildout development at the EIAP Study Area. TKD would coordinate and arrange for service with CenturyLink and Comcast independent of Kirtland AFB. Potential impacts to Kirtland AFB communication paths in tracts 1B, 1D, 1F, and 5A could occur; however, prior to construction, the developer will coordinate with Kirtland AFB personnel to avoid and protect these communication lines.

***Solid Waste Management*.** Solid waste generated from the Proposed Action would be collected by a private solid waste company and disposed at a licensed landfill through the City of Albuquerque. TKD would coordinate with the City of Albuquerque and local contractor for disposal of construction waste and solid waste generated during full buildout of the Proposed Action. No significant, adverse impacts are expected from collection and disposal of solid waste generated from construction of the Proposed Action.

3.8.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in Section 2.1 would not be implemented and the existing conditions discussed in Section 3.9.1 would continue. Implementation of the No Action Alternative would not result in any new or additional impacts to utilities and infrastructure. In addition, the beneficial impact of increased liquid fuel supply and improved transportation would not be realized.

3.9 HAZARDOUS MATERIALS AND WASTES

Hazardous materials are defined by 49 CFR § 171.8 as “hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR § 172.101), and materials that meet the defining criteria for hazard classes and divisions” in 49 CFR Part 173. Transportation of hazardous materials is regulated by the U.S. Department of Transportation regulations within 49 CFR Parts 105–180.

Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA) at 42 U.S.C. § 6903(5), as amended by the Hazardous and Solid Waste Amendments, as: “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in, mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.” Certain types of hazardous wastes are subject to special management provisions intended to ease the management burden and facilitate the recycling of such materials. These are called universal wastes and their associated regulatory requirements are specified in 40 CFR Part 273. Four types of waste are currently covered under the universal waste regulations: hazardous waste batteries, hazardous

waste pesticides that are either recalled or collected as part of waste pesticide collection programs, hazardous waste thermostats, and hazardous waste lamps.

A toxic substance is a chemical or mixture of chemicals that may present an unreasonable risk of injury to health or the environment. These substances include ACMs, polychlorinated biphenyls (PCBs), and lead-based paint (LBP). USEPA is given authority to regulate these special hazard substances by the Toxic Substances Control Act (15 U.S.C. § 53). USEPA has established regulations regarding asbestos abatement and worker safety under 40 CFR Part 763, with additional regulations concerning emissions at 40 CFR Part 61. The disposal of PCBs is addressed in 40 CFR Parts 750 and 761. Whether from LBP abatement or other activities, depending on the quantity or concentration, the disposal of the LBP waste from nonresidential facilities is regulated by the RCRA in 40 CFR Parts 262-265. The presence of toxic substances, including describing their locations, quantities, and condition, assists in determining the significance of a proposed action.

The DOD developed the Environmental Restoration Program (ERP) to facilitate thorough investigation and cleanup of contaminated sites on military installations (i.e., active installations, installations subject to Base Realignment and Closure, and Formerly Used Defense Sites). The Installation Restoration Program and Military Munitions Response Program (MMRP) are components of the ERP. The Installation Restoration Program required each DOD installation to identify, investigate, and clean up hazardous waste disposal or release sites. The MMRP addressed nonoperational rangelands that are suspected or known to contain unexploded ordnance (UXO), discarded military munitions, or munitions constituent contamination. A description of ERP activities provides a useful gauge of the condition of soils, water resources, and other resources that might be affected by contaminants. It also aids in the identification of properties and their usefulness for given purposes (e.g., activities dependent on groundwater usage might be restricted until remediation of a groundwater contamination plume has been completed).

The DOE developed the Office of Environmental Restoration and Waste Management in 1989. The goal of this office is to implement DOE's policy of ensuring that past, present, and future operations do not threaten human health or environmental health and safety. The Environmental Management Office was reorganized in 1999 to implement procedures to meet these goals through five underlying offices. The Office of Site Closure is responsible for achieving closure of Environmental Restoration (ER) sites in a manner that is safe, cost-effective, and coordinated with stakeholders. As a facility operated for DOE under the Albuquerque Operations Office, SNL is part of this program. The current investigation being conducted at SNL under the ER program is intended to determine the nature and extent of hazardous and radioactive contamination and to restore any sites where such materials pose a threat to human health or the environment.

For the USAF, Air Force Policy Directive 32-70, *Environmental Quality*, and Air Force Regulation 32-7000 series incorporate the requirements of all federal regulations and other AFIs and DOD Directives for the management of hazardous materials, hazardous wastes, and special hazards.

3.9.1 Affected Environment

Environmental Management System. Kirtland AFB has implemented an Environmental Management System (EMS) program in accordance with International Organization for Standardization 14001 Standards; EO 13834, *Regarding Efficient Federal Operations* [revoking EO 13693]); and AFI 32-7001, *Environmental Management*. The EMS policy prescribes to protect

human health, natural resources, and the environment by implementing operational controls, pollution prevention environmental action plans, and training.

All personnel, to include contractors, are made aware of the Kirtland AFB EMS program. All project-related activities should be conducted in a manner that is consistent with relevant policy and objectives identified in the installation's EMS program. Project Managers shall ensure that all personnel are aware of environmental impacts associated with their activities and reduce those impacts by practicing pollution prevention techniques.

Hazardous Materials, Petroleum Products, and Wastes. AFI 32-7086, *Hazardous Materials Management*, establishes procedures and standards that govern management of hazardous materials throughout the USAF to be in compliance with the Emergency Planning and Community Right to Know Act. AFI 32-7086 applies to all USAF personnel who authorize, procure, issue, use, or dispose of hazardous materials, and to those who manage, monitor, or track any of those activities.

Kirtland AFB has identified the 377 MSG/CEIEC as the responsible entity to oversee hazardous material tracking on the installation. Part of their responsibilities is to control the procurement and use of hazardous materials to support USAF missions, ensure the safety and health of personnel and surrounding communities, and minimize USAF dependence on hazardous materials. Contractors bringing hazardous materials onto the installation must notify the 377 MSG/CEIEC Hazardous Material Program Team by submitting a completed Hazardous Material Worksheet and a list of all materials along with their associated Safety Data Sheets.

The installation's Pest Management Plan establishes the strategy and methods for conducting a safe, effective, and environmentally sound integrated pest management program that reduces pollution and other risk factors associated with the use of pesticides (Kirtland AFB 2016a). The Kirtland AFB Spill Prevention, Control, and Countermeasures Plan provides operating procedures to prevent the occurrence of spills, control measures to prevent spills from entering surface waters, and countermeasures to contain and cleanup the effects of an oil spill that could impact surface waters (Kirtland AFB 2012b).

The USAF maintains a Hazardous Waste Management Plan (HWMP) as directed by AFI 32-7042, *Waste Management*. This plan describes the roles and responsibilities of all entities at Kirtland AFB with respect to the waste stream inventory, waste analysis plan, hazardous waste management procedures, training, emergency response, and pollution prevention. While numerous units are responsible for various functions of generation and management of hazardous waste, it is ultimately the waste generators (host and tenant organizations and on-base contractors) who are responsible for ensuring hazardous waste management functions comply with the HWMP (Kirtland AFB 2018a). The HWMP establishes the procedures to comply with applicable federal, state, and local standards for solid waste and hazardous waste management.

Kirtland AFB is a large-quantity generator of hazardous waste (USEPA ID #NM9570024423). Kirtland AFB and DOE/SNL maintain separate RCRA permits for all current operations that generate hazardous waste. The hazardous waste program at Kirtland AFB provides guidance for waste identification, storage, transportation, and disposal.

Since the past and present use of the EIAP Study Area was mainly used for residences and recreation, there is no indication that hazardous materials or petroleum products were used in large quantities within this area. If there was a spill, it would have been minimal. The EIAP Study Area was not likely historically utilized for agricultural purposes; however, chlordane was sold until

1988 as an insecticide for treating termites within residential homes. Low levels of chlordane have been identified in soil samples at various housing areas throughout Kirtland AFB. The western portion of the EIAP Study Area was a former housing area, but no records were located that indicate sampling for pesticides has occurred at that location; therefore, it is possible that residual chlordane may be present in on-site soils. If chlordane was used intentionally as a pesticide, the soil would not be affected if it is left in place (Kirtland AFB, 2017). Any hazardous waste created by residential or recreational areas would have been characterized as household waste and not subject to RCRA.

Toxic Substances. Buildings 2555 and 509 have the potential to contain ACM (e.g., insulation, floor tiles, drywall), LBP, and PCBs (**Figure 3-6**). Prior to demolition, these buildings would be surveyed, and all ACM, LBP, and PCBs would be abated and disposed of in accordance with all applicable regulations.

Environmental Restoration Program. Kirtland AFB has 58 active ERP sites that include known and suspected soil and groundwater contamination associated with landfills, oil/water separators, drainage areas, septic systems, fire training areas, and spill areas (**Figure 3-7**). Kirtland AFB is working to cleanup most sites to residential standards and to obtain no further action required approval from NMED. Once sites achieve the no further action required approval, they no longer represent constraints for land use and are closed. While active ERP sites are in various stages of remediation and some sites, such as the former landfills, may require more than 30 years of monitoring before closure can be obtained, this does not present a significant constraint to present or future development (Kirtland AFB 2016b).

Kirtland AFB has seven active MMRP sites, occupying almost 3,240 ac of the Base (**Figure 3-7**). These sites are former impact areas that are primarily located along the outer perimeter and center of the installation. The sizes, types of munitions debris, and potential for UXO varies by location (Kirtland AFB 2013a, Kirtland AFB 2013b).

The DOE actively manages 11 open ER sites on Kirtland AFB that require or may require corrective action (**Figure 3-7**). These sites are on DOE-leased lands and include eight solid waste management units and three groundwater areas of concern. When such sites are no longer active, DOE personnel determine if a site meets NMED criteria for acceptable levels of risk to human health and the environment. If the criteria are met, DOE submits a Corrective Action Complete proposal to NMED to modify its RCRA permit accordingly. As necessary, remediation is performed to meet NMED criteria for Corrective Action Complete status (SNL 2017).

ST-279, a sanitary sewer system (System B) that serviced Maxwell Housing, was recommended for No Further Action from the NMED in 2006. Site ST-287, a former septic tank near Bowler Field, was recommended for No Further Action from the NMED in 2008. No other underground or aboveground storage tanks are located in the EIAP Study Area. No active ERP, MMRP, or DOE ER sites exist within or adjacent to the project area. It is not known if the sewer system nor the septic tank have been removed from their respective properties.

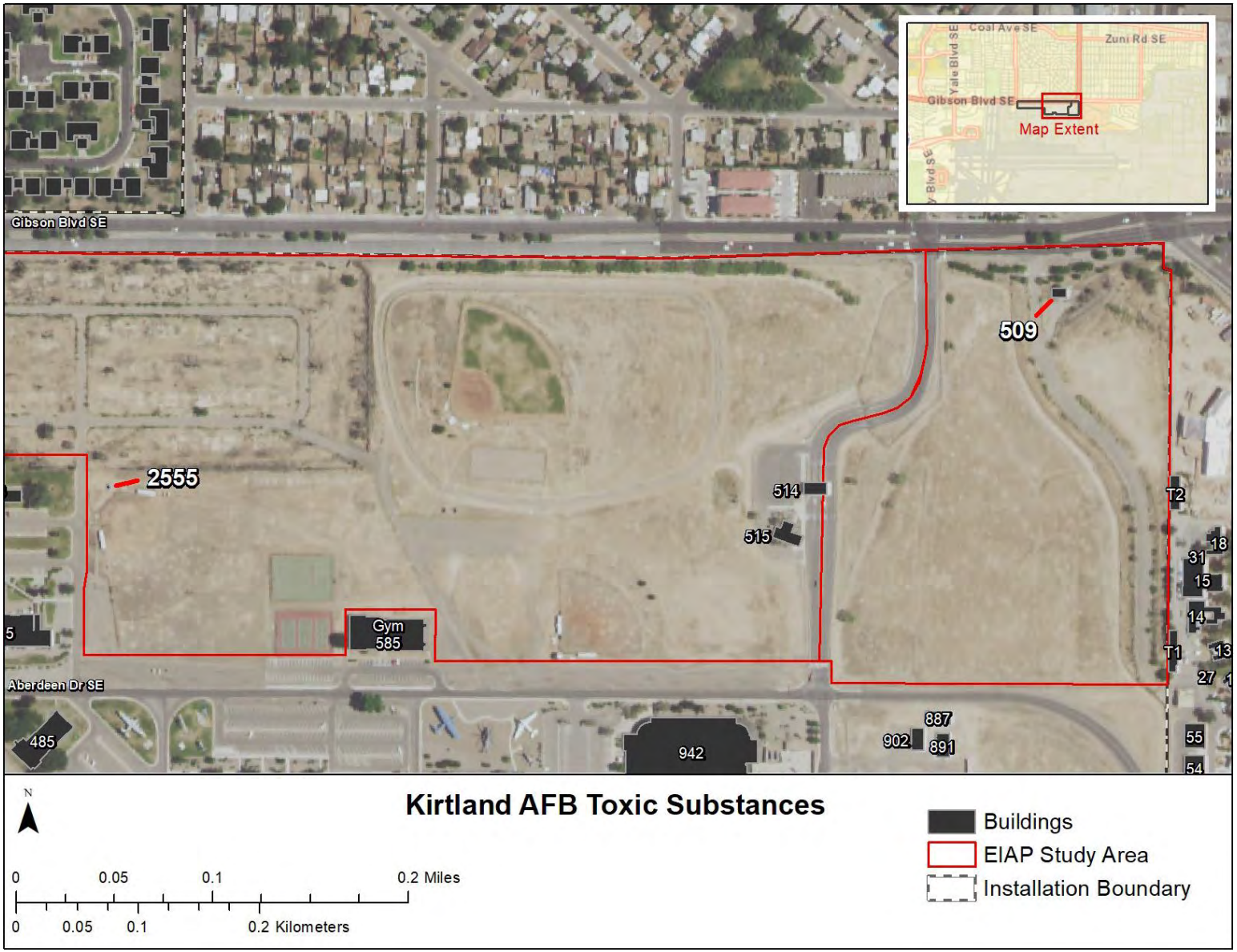

Figure 3-6. Environmental Impact Analysis Process Study Area Buildings with Potential Toxic Substances.

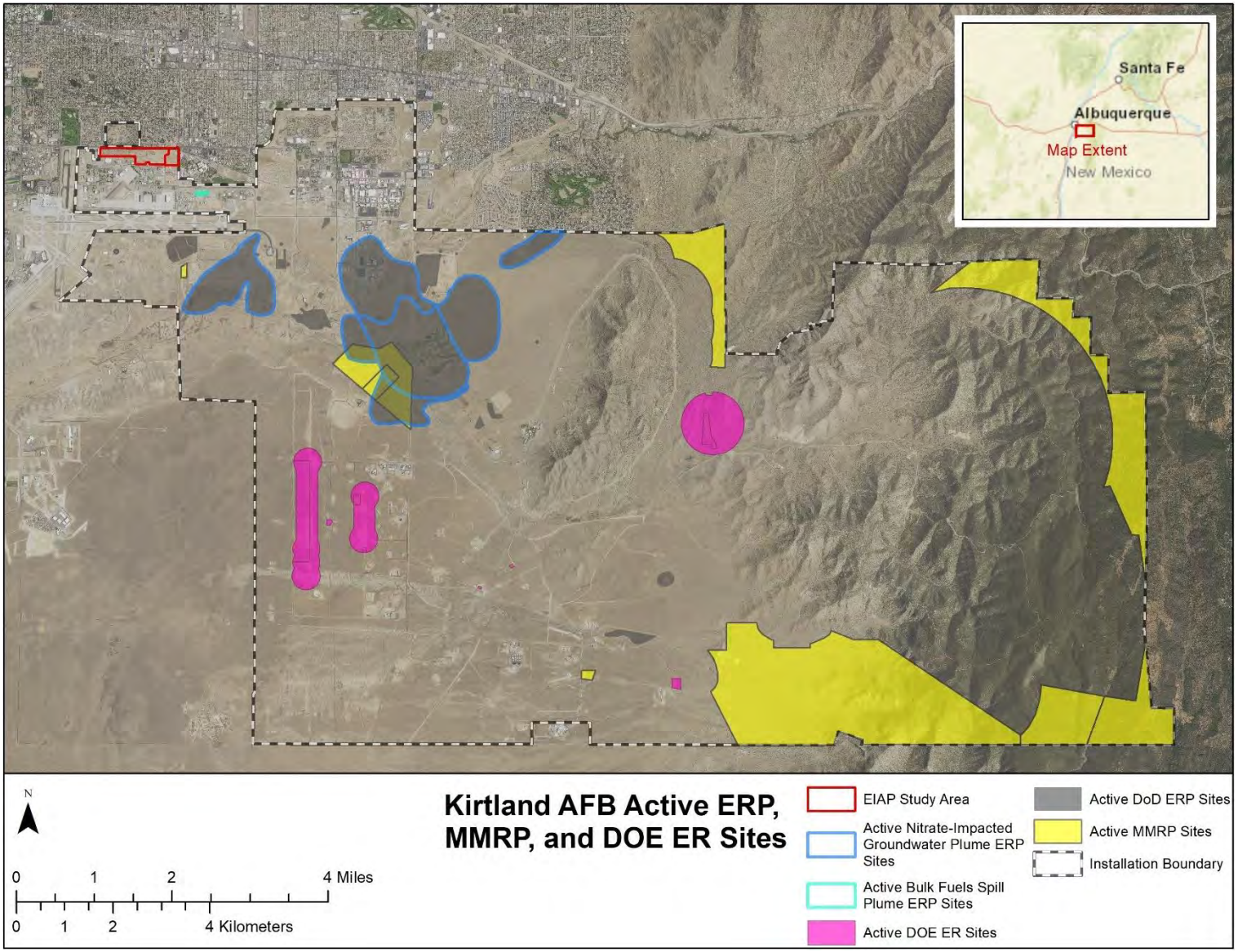

Figure 3-7. Kirtland Air Force Base Active Environmental Restoration Program, Military Munitions Response Program, and Department of Energy Environmental Restoration Sites.

3.9.2 Environmental Consequences

3.9.2.1 Proposed Action

Environmental Management System. Contractors associated with construction activities would be made aware of the installation's EMS program by reviewing the environmental commitment statement and ensuring construction activities are conducted in accordance with the policy and objectives of the EMS program. All contractors would be made aware of environmental impacts and would reduce those impacts by practicing pollution prevention techniques and complying with existing standard operating procedures and applicable federal and state laws governing the use, generation, storage, and transportation of hazardous materials; therefore, there would be no adverse impacts to the EMS program resulting from implementation of the Proposed Action.

Hazardous Materials, Petroleum Products, and Wastes. Construction equipment would utilize hazardous materials and petroleum products such as fuel, solvents, hydraulic fluid, oil, antifreeze, and other hazardous materials in small quantities. These products might also be used for minor equipment servicing and repair activities. Under the Proposed Action, the handling and storage of any hazardous materials and petroleum products would be carried out in compliance with applicable laws and regulations. Implementation of the Proposed Action would adhere to applicable management plans. The severity of a potential impact from an accidental release would vary based upon the extent of a release and the substance(s) involved. The Proposed Action would result in a short-term, negligible, adverse impacts should any hazardous materials or petroleum products be released into the environment.

During operation of the potential gasoline station, similar hazardous materials and petroleum products would remain on site, including fuels and cleaning products. TKD would adhere to the typical safety guidelines and standards for the storage and handling of these products; therefore, no potentially adverse impacts from hazardous materials used during operation of the gasoline station are unlikely.

Even though no storage tanks or hazardous materials and petroleum products storage areas are located in the EIAP Study Area, construction activities under the Proposed Action may require the temporary use of aboveground storage tanks on site for power generation or equipment fuel. The potential gasoline station would require permanent underground storage tanks for fuel. Regardless of the temporary or permanent status, the use and maintenance of storage tanks, hazardous materials, and petroleum products would be handled, stored, and disposed of in accordance with federal, state, and local regulations and laws; therefore, the Proposed Action would not be expected to result in a significant impact on hazardous materials management.

Construction activities requiring the use of hazardous materials and petroleum products results in the generation of hazardous wastes and used petroleum products. Under the Proposed Action, hydraulic fluids and petroleum products, such as diesel and gasoline, would be used in the vehicles and equipment supporting construction. Implementation of BMPs and environmental protection measures would reduce the potential for an accidental release of these materials. All construction equipment would be maintained according to the manufacturer's specifications and drip mats would be placed under parked equipment as needed. Unknown, potentially hazardous wastes could possibly be discovered or unearthed during implementation of the Proposed Action. In such cases, contractors would immediately cease work, contact appropriate Base personnel, and await sampling and analysis results before taking any further action. All generated or unknown hazardous and petroleum wastes would be handled, stored, and disposed of in accordance with applicable laws, regulations, and management plans. The Proposed Action would result in a short-term, negligible, adverse impact on the generation of hazardous and petroleum wastes.

Toxic Substances. All buildings should be evaluated for ACM, PCB, and LBP abatement prior to their demolition (see **Figure 3-6**). Prior to initializing demolition activity, notification would be provided in compliance with the AEHD-AQD regulations for National Emissions Standards for Hazardous Air Pollutants related to asbestos. Any regulated ACM, PCB, and/or LBP from demolition activities would be disposed of in accordance with state and federal laws. With BMPs in place, no adverse impacts are anticipated.

Environmental Restoration Program. Sites ST-279 and ST-287 could still potentially be affected by the Proposed Action if they are found in place. The construction under the Proposed Action may require removal of these systems if they are still in place in order to install new infrastructure; however, their closure indicates minimal, if any, contamination if disturbed. With BMPs in place, no adverse impacts are anticipated. The Proposed Action is not anticipated to occur within or immediately adjacent to any other ERP, MMRP, or DOE ER sites.

3.9.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in **Section 2.1** would not be implemented and the existing conditions discussed in **Section 3.9.1** would continue. Implementation of the No Action Alternative would not result in any new or additional impacts on hazardous materials and wastes.

3.10 SAFETY

A safe environment is one in which there is no, or an optimally reduced, potential for death, serious bodily injury or illness, or property damage. Human health and safety address workers' and public health and safety during and following construction, demolition, and training activities.

Site safety requires adherence to regulatory requirements imposed for the benefit of employees and the public. Site safety includes implementation of engineering and administrative practices that aim to reduce risks of illness, injury, death, and property damage. The health and safety of on-site military and civilian workers are safeguarded by numerous DOD and military branch-specific requirements designed to comply with standards issued by federal OSHA, USEPA, and state occupational safety and health agencies. These standards specify health and safety requirements, the amount and type of training required for workers, the use of personal protective equipment (PPE), administrative controls, engineering controls, and permissible exposure limits for workplace stressors.

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

3.10.1 Affected Environment

Contractor Safety. All contractors performing construction and demolition activities are responsible for following federal and state of New Mexico safety regulations and are required to conduct construction and demolition activities in a manner that does not increase risk to workers or the public.

New Mexico is one of several states that administer their own occupational safety and health (OSH) program according to the provision of the federal OSHA of 1970, which permits a state to administer its own OSH program if it meets all of the federal requirements regarding the program's structure and operations. The New Mexico Occupational Health and Safety Bureau program has the responsibility of enforcing Occupational Health and Safety Regulations within the state of New Mexico. Its jurisdiction includes all private and public entities such as city, county, and state government employees. Federal employees are excluded as they are covered by federal OSHA regulations.

OSH programs address the health and safety of people at work. OSH regulations cover potential exposure to a wide range of chemical, physical, and biological hazards and ergonomic stressors. The regulations are designed to control these hazards by eliminating exposure to the hazards via administrative or engineering controls, substitution, or use of PPE. Occupational health and safety is the responsibility of each employer, as applicable. Employer responsibilities are to review potentially hazardous workplace conditions; monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous substances), physical (e.g., noise propagation, falls), and biological (e.g., infectious waste, wildlife, poisonous plants) agents and ergonomic stressors; recommend and evaluate controls (e.g., prevention, administrative, engineering, PPE) to ensure exposure to personnel is eliminated or adequately controlled; and ensure a medical surveillance program is in place to perform occupational health physicals for those workers subject to the use of respiratory protection, engaged in hazardous waste work, asbestos, lead, or other work requiring medical monitoring.

Military Personnel Safety. Each branch of the military has its own policies and regulations that act to protect its workers, despite their work location. AFI 91-202, *The U.S. Air Force Mishap Prevention Program,* "establishes mishap prevention program requirements, assigns responsibilities for program elements, and contains program management information." In order to meet the goals of minimizing loss of USAF resources and protecting military personnel, mishap prevention programs should address groups at increased risk for mishaps, injury, or illness; a process for tracking incidents; funding for safety programs; metrics for measuring performance; safety goals; and methods to identify safety BMPs.

As discussed in **Section 3.9**, the ham radio building (Building 509) may contain ACM and/or LBP and may also have PCBs in the light ballasts and would be evaluated prior to the implementation of the Proposed Action. If present, these are contained in building materials or are encapsulated and do not currently pose exposure risks. Asbestos may also be present along buried utility lines on the property. This area once contained MFH in which the chemical chlordane may have used as a pesticide; therefore, it may be present in the soil of both areas of the EIAP Study Area. No active ERP sites are in the Study Area. Site ST-287, a former septic tank, is in the project area and was recommended for No Further Action from the NMED and removed in 2012.

The Explosive Movement Route on Kirtland AFB for the transportation of explosives on and off base uses the Truman Gate. Typically, the transportation of explosives through the gate are sporadic, but there are times when explosives-laden trucks pass through the gate daily. There is a pull-off area for trucks at the gate waiting escort.

Public Safety. The EUL development area is considered concurrent jurisdiction. As such, agreements have been negotiated to provide emergency services fire and police protection) to the EUL development. A number of hospitals and clinics, which are devoted to the public, are located off-installation in the City of Albuquerque. These facilities include the Heart Hospital of New Mexico, University of New Mexico Hospital, and Kaseman Presbyterian Hospital (Google 2019).

The Albuquerque Fire Rescue (AFR) provides fire suppression, crash response, rescue, emergency medical response, and hazardous substance response to the nearby city of Albuquerque. The AFR has 644 full-time, uniformed firefighter/emergency medical technicians; 22 fire engine companies; 7 fire ladder companies; 5 wildland fire or brush trucks; 2 Hazardous Materials Task Force; 1 mobile command unit; and 21 medical response ambulances (AFR 2018). The city of Albuquerque also has approximately 831 sworn police officers available to provide law enforcement services (APD 2017). The Southeast Area Command (Phil Chacon Memorial Substation) borders the northwestern corner of Kirtland AFB. A mutual service agreement is in place between the city of Albuquerque and Kirtland AFB.

3.10.2 Environmental Consequences

3.10.2.1 Proposed Action

Under the Proposed Action, the development of the EIAP Study Area may generate effects on human health and safety associated with land clearing and construction activities. Likewise, the conversion of open space and recreation areas to a commercial area with the potential for increased use along an Explosive Movement Route may increase the potential for adverse impacts to safety.

Land clearing, demolition, and construction activities have inherent risks such as falls, electrocution, collisions with equipment, etc. Implementing the Proposed Action is not expected to result in adverse impacts to health and safety, as activities would comply with requirements outlined in OSHA Standards 29 CFR Parts 1910 and 1926, as well as New Mexico Occupational Health and Safety Bureau directives.

Prior to the demolition of existing buildings and removal of existing utility lines in the EIAP Study Area, an evaluation would be completed to determine the presence of ACM, LBP, or PCB-containing ballasts and transformers. If these materials are identified, the developer would be responsible for hiring hazardous waste certified technicians for the removal and disposal of ACM, LBP, or PCB-containing ballasts and transformers at permitted locations. Performance of this work would be overseen by 377 MSG/CEIEC.

Since there is the potential for the presence of chlordane in the soil in the western portion of the EIAP Study Area, soils samples would be tested. Levels would be screened in accordance with the NMED *Risk Assessment Guidance for Site Investigations and Remediation, Volume I Soil Screening Guidance for Human Health Risk Assessments* (NMED 2017). If it is determined that levels exceed acceptable site usage standards or that exceed limits for disposal at a special waste landfill as defined in 20.9.2 NMAC, then remediation actions would be initiated in accordance with the NMED *Voluntary Remediation Program* as outlined in 20.6.3 NMAC. Potential short-term, minor, adverse impacts would be expected, however, and would end upon completion of construction activities. No long-term, adverse impacts to health and safety are expected.

Transportation of explosives through the Truman gate would continue under the Proposed Action. While the probability for an accident is low and the impact from an accident could be catastrophic, the addition of a mixed-use development in the EIAP Study Area would not be significant in the

already highly urbanized route transport trucks currently travel to reach Kirtland AFB and the Truman Gate. All trucks and drivers must comply with the requirements of OSHA Standard 1926.902, *Surface Transportation of Explosives*, before transporting explosives; therefore, potential long-term, negligible, adverse impacts are expected.

There are adequate emergency services available on Kirtland AFB and in the City of Albuquerque to respond to emergencies that may occur during construction of the mixed-use development and once operations begin. There would be no impacts to public safety under the Proposed Action.

3.10.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in **Section 2.1** would not be implemented and the existing conditions discussed in **Section 3.10.1** would continue. Implementation of the No Action Alternative would not result in any new or additional impacts to human health and safety. There would be no activities associated with land preparation or construction. Building demolition or excavation of old utility lines that may require remediation for ACM, LBP, PCBs, and chlordane would not occur. The potential risk from the use of Truman Gate for explosives transport would not change from the current condition. Similarly, there would be no changes in the APZs. Since the land in the EIAP Study Area would remain undeveloped, there would not be an increase in need for emergency services.

3.11 SOCIOECONOMICS

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

3.11.1 Affected Environment

Socioeconomics. The Albuquerque Metropolitan Statistical Area (MSA) is considered the ROI for socioeconomic effects of the Proposed Action. The population of the Albuquerque MSA, defined by the U.S. Census Bureau (USCB) as Bernalillo, Sandoval, and Valencia Counties, was 887,077 people in the 2010 U.S. Census. This represents a 24.5 percent increase from the 2000 U.S. Census for the Albuquerque MSA population (USCB 2010 [V2017]).

The state of New Mexico's population totaled 2,059,207 in 2010. The population of Bernalillo County was 662,532 in 2010, representing 32 percent of the total population for the state of New Mexico. Based on 2000 and 2010 U.S. Census data, the population of Bernalillo County grew 16 percent from 2000 to 2010. The growth rate in the Albuquerque MSA from 2000 to 2010 (24.5 percent) was almost twice the growth rate of the state of New Mexico (12 percent) and much greater than that of the United States (14 percent) over the same time period. See **Table 3-14** for 2000 and 2010 (V2017) population data (USCB 2010 [V2017]).

Table 3-14. Population in the Region of Influence as Compared to New Mexico and the United States (2000 and 2010 [V2017])

Location	2000	2010 (V2017)	Percent Change
United States	281,421,906	325,719,178	14.0%
New Mexico	1,819,046	2,059,207	12.0%
Albuquerque MSA	712,738	887,077	24.5%
Bernalillo County	556,678	662,532	16.0%

Source: USCB 2010 (V2017)
Note:
MSA = Metropolitan Statistical Area

Employment Characteristics. The three largest industries in the Albuquerque MSA in terms of percentage of the workforce employed within the industry are administrative services, sales-related services, and food preparation services (36 percent) and the health care, education, and business industries (17 percent). The construction industry represents 4.9 percent of the workforce (BLS 2018b). In August 2018, the Bureau of Labor Statistics (BLS) reported a 4.7 percent unemployment rate in the Albuquerque MSA while the United States had a lower unemployment rate of 3.7 percent (BLS 2018a).

Kirtland AFB. During fiscal year *2016*, *22,010* individuals were employed by Kirtland AFB, of which *4,173 were active-duty personnel*. Direct payroll expenditures from the installation totaled over $2.4 billion (Kirtland AFB 2016c). When nonpayroll expenditures associated with Kirtland AFB are included, total expenditures exceeded $*6.6 billion*, with DOD expenditures representing approximately *$3.3 billion of that total* (Kirtland AFB 2016c).

3.11.2 Environmental Consequences

3.11.2.1 Proposed Action

During construction of the Proposed Action, there would be a temporary increase in construction jobs. Most workers would come from the Albuquerque area, so there would be no impacts to schools, housing, or demand for government services and infrastructure from relocated workers. The construction jobs would have a temporary benefit to the Albuquerque economy and result in tax revenues directly and indirectly from development of the Proposed Action. Overall, the impact to socioeconomics during construction would be short-term, minor, and beneficial from temporary job creation and tax revenues generated from project development.

The Proposed Action would develop new business and create new jobs. New businesses would employ individuals to work in the retail, hotel, restaurant, and business establishments. Indirect benefits would be realized to companies providing services such as office supply companies, food services, hospitality services, and computer/technology services. The state of New Mexico would receive tax revenues from development of new business. In addition, Kirtland AFB would see an economic benefit from leasing fees generated through the EUL Agreement. New hotels and restaurants proposed in the EIAP Study Area would compete with existing hotels and restaurants in the vicinity and could create reduced profits and lower occupancies for those existing establishments. Impacts to socioeconomics under full project development would be long-term, moderate, and beneficial with job creation, business expansion, and increases to the local economy and tax revenues.

3.11.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in **Section 2.1** would not be implements and the existing conditions discussed in **Section 3.11.1** would continue. The economy would continue at current levels at the EIAP Study Area. No new businesses would be created and short-term construction jobs or long-term employment opportunities would not occur. Increased tax revenues for the state of New Mexico and the indirect benefits generated for service companies would not be realized. Additionally, Kirtland AFB would not benefit from lease revenues. Long-term, moderate, adverse impacts to socioeconomics are anticipated under the No Action Alternative.

3.12 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (11 February 1994), pertains to environmental justice issues and relates to various socioeconomic groups and disproportionate impacts that could be imposed on them. The EO requires that federal agencies' actions substantially affecting human health or the environment do not exclude persons, deny persons benefits, or subject persons to discrimination because of their race, color, or national origin. The EO was enacted to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Consideration of environmental justice concerns includes race, ethnicity, and the poverty status of populations in the vicinity of a proposed action.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (23 April 1997), states that each federal agency "(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks."

3.12.1 Affected Environment

Six census tracts, located adjacent to the EIAP Study Area, were identified as the ROI for the environmental justice analysis; Tracts 9.01, 9.03, 9.04, 11.01, 11.02, and 12 (**Figure 3-8**). Bernalillo County was used as the Community of Comparison (COC). The population of Bernalillo County is 674,777 of which 7.9 percent of the population is Hispanic and 4.8 percent is Native American (**Table 3-15**) (USCB 2010 [V2017]). Of the six tracts, Tracts 9.01, 9.03, and 11.02 have minority populations of 49, 57, and 42 percent, respectively.

The average median household income for Bernalillo County is $48,994, which is less than the U.S. average of $55,322 (see **Table 3-12**) (USCB 2010). All of the census tracts, with the exception of Tract 11.01, show a percentage of low-income populations well above the Bernalillo County of 14.5 percent.

There are two gathering places for children in the vicinity of the EIAP Study Area. Kirtland Elementary School is located on the southwestern corner of the Carlisle Boulevard and Gibson Boulevard intersection, west of the EUL land. In addition, there are children living in nearby neighborhoods.

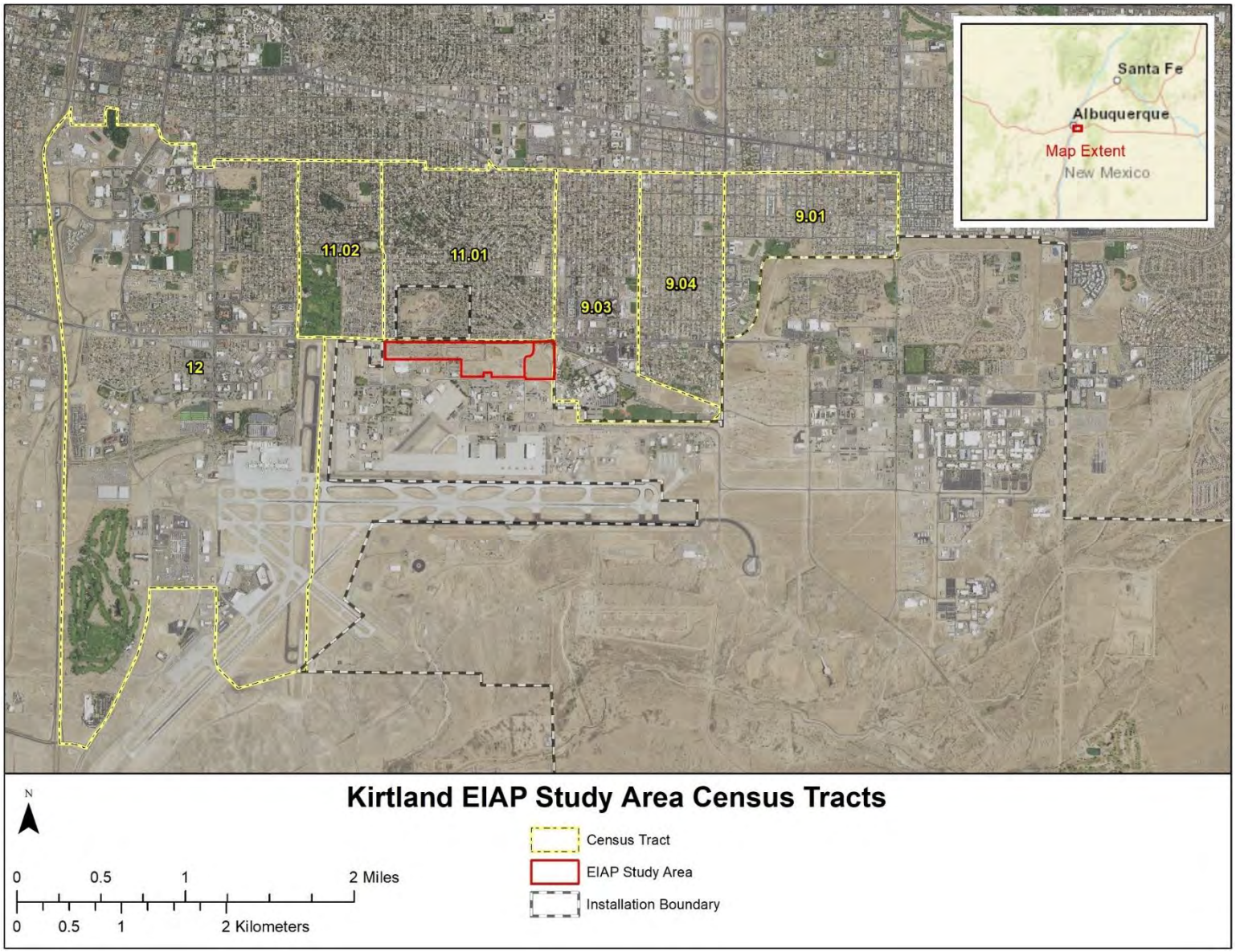

Figure 3-8. Environmental Impact Analysis Process Study Area Census Tracts.

Table 3-15. Minority and Low-Income Characteristics (2010 [V2017])

Race and Origin	Bernalillo County	New Mexico	United States
Total Population	674,777	2,082,669	318,558,162
Percent Under 5 Years of Age	6.1	6.4	6.2
Percent Over 65 Years of Age	14.2	15.3	17.9
Percent White	69.4	68.4	72.4
Percent Black or African American	3.0	2.1	12.6
Percent American Indian and Alaska Native	4.8	9.4	0.9
Percent Asian	2.3	1.4	4.8
Percent Native Hawaiian and Other Pacific Islander	0.1	0.1	0.2
Percent Other Race	16.0	15.0	6.2
Percent Two or More Races	4.4	3.7	2.9
Percent Hispanic or Latino	47.9	46.3	16.3
Estimated Median Household Income	$48,994	$45,674	$55,322
Estimated Percent of Families Living Below Poverty	14.5	15.9	11.0

3.12.2 Environmental Consequences

The Environmental Justice impacts analysis was prepared in accordance with the USAF's *Guide for Environmental Justice Analysis under the Environmental Impact Analysis Process* (2014). The process identifies potential environmental impacts from implementing the Proposed Action on Environmental Justice populations and communities that could be affected. Six census tracts adjacent to the EIAP Study Area define the ROI and were individually compared with data from Bernalillo County (COC) to identify the potential for disproportionately high Environmental Justice populations. Disproportionately high minority and/or low-income populations within a census tract are present if the census tract percentage is greater than or equal to the COC – Bernalillo County (**Table 3-16**).

Table 3-16. Environmental Justice Analysis

Geographic Unit	Percent Minority	Disproportionate[(1)]	Percent Low-Income[(2)]	Disproportionate[(1)]
United States	24.0	-	11.0	-
New Mexico	31.6	-	15.9	-
Bernalillo County (COC)	34.0	-	14.5	-
Affected Census Tracts (ROI)				
9.01	49	Yes	48.2	Yes
9.03	57	Yes	21.9	Yes
9.04	29	No	26.6	Yes
11.01	21	No	12.9	No
11.02	42	Yes	16.1	Yes
12.0	28	No	34.5	Yes

Source: USCB 2010 (V2017)

Notes:

(1) A census tract is deemed to have disproportionately high minority and/or low-income populations if the Census tract percentage is greater than or equal to the County percentage.

(2) Low income is defined as below the poverty level as defined by the United States Department of Health and Human Service poverty guidelines.

COC = Community of Comparison; ROI = Region of Influence

3.12.2.1 Proposed Action

Tracts 9.01, 9.03, and 11.02 have disproportionately high minority populations and disproportionately low-income populations when compared with Bernalillo County (see **Table 3-13**). Tract 11.01 is the only tract showing no minority or low-income populations. Potential adverse impacts identified in this EA could result in a disproportionate impact to these Environmental Justice populations. During construction, impacts to these populations would be short-term and minor. Elevated noise from construction activities, interrupted traffic flows, and increased air emissions from construction dust would create minor inconveniences, but these short-term impacts would not be significant. During the operational phase, these populations would realize potential long-term, moderate, beneficial impacts such as improved employment opportunities and economic growth. The developed parcel would replace the underutilized land and create a more pleasing aesthetic environment with development plantings and landscaping. In addition, newly constructed sidewalks and traffic signals with pedestrian crossings would improve pedestrian safety.

No disproportionate impacts are anticipated to children during construction. Construction noise levels would increase, but this increase would be short-term and remain within the acceptable range for schools at 50 to 65 dBA. Any potential short-term construction impacts to children from construction-related dust would be mitigated with dust-control measures. During the operational phase of the Proposed Action, there potentially could be a disproportionate impact to children from increased traffic; however, with improved pedestrian access and additional crosswalks, no disproportionate impacts to children are anticipated.

3.12.2.2 No Action Alternative

Under the No Action Alternative, the proposed demolition, land preparation, and construction activities for the construction of the mixed-use development described in **Section 2.1** would not be implemented and the existing conditions discussed in **Section 3.12.1** would continue. Implementation of the No Action Alternative would result in no disproportionate impacts to minority and low-income populations and the protection of children; however, under the No Action Alternative, the benefits of increased employment opportunities, improved aesthetic environment and pedestrian safety would not be realized.

4.0 CUMULATIVE IMPACTS

The CEQ defines cumulative impacts as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR § 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time by various agencies (i.e., federal, state, and local) or individuals. Informed decision-making is served by consideration of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future. Reasonably foreseeable future actions consist of activities that have been approved and can be evaluated with regard to their impacts.

This section briefly summarizes past, present, and reasonably foreseeable future projects within the same general geographic and time scope as the Proposed Action. The geographic scope of the analysis varies by resource area. For example, the geographic scope of the cumulative impacts on noise, geology and soils, and safety is very narrow and focused on the location of the resource. The geographic scope of land use, air quality, infrastructure, and socioeconomics is much broader and considers more county- or region-wide activities.

The past, present, and reasonably foreseeable projects, identified below, make up the cumulative impact scenario for the Proposed Action. The cumulative impact scenario is then added to the Proposed Action's impacts on the individual resource areas analyzed in **Sections 3.1** through **3.12** to determine the cumulative impacts of the Proposed Action. In accordance with CEQ guidance, the current impacts of past actions are considered in aggregate as appropriate for each resource area without delving into the historical details of individual past actions.

4.1 IMPACT ANALYSIS

4.1.1 Past Actions

Kirtland AFB has been used for military missions since the 1930s and has continuously been developed as DOD missions, organizations, needs, and strategies have evolved. Development and operation of training ranges have impacted thousands of acres with synergistic and cumulative impacts on soil, wildlife habitats, water quality, and noise. Beneficial impacts also have resulted from the operation and management of the installation including increased employment and income for Bernalillo County, the city of Albuquerque, and its surrounding communities; restoration and enhancement of sensitive resources such as Coyote Springs wetland areas; consumptive and nonconsumptive recreation opportunities; and increased knowledge of the history and prehistory of the region through numerous cultural resources surveys and studies.

4.1.2 Present and Reasonably Foreseeable Actions

Kirtland AFB is a large military installation that is continually evolving. Projects that were examined for potential cumulative impacts are summarized in **Table 4-1**.

Table 4-1. Present and Reasonably Foreseeable Actions at Kirtland Air Force Base

Project Name	Description	Potential Relevance to Proposed Action
Military Projects		
New Military Training Activities	The 210 RHS would construct a permanent laydown yard on the Base Exercise Evaluation and Skills Training Area to store equipment to be used during monthly training activities. Monthly training activities involve the disturbance of up to 40 acres of ground and include the use of the abandoned dirt airstrip to practice demolishing, denying access to, and reconstructing airstrips; construction of forward operating bases to allow other units to train, with 210 RHS tearing them down; and dirt movement for heavy-equipment training. This recurring training could last up to 5 days and involve approximately 120 personnel. The PJ/CRO school is proposing to construct an UTC on 25 acres within the Coyote Canyon Training Area. The UTC would consist of the placement of connexes on a gravel base to simulate a mock village similar to those found in the Middle East. Training activities would include helicopter pararescue and insertion/extraction operations. Other training activities would include small team tactics, climbing, and emergency medical. During training activities at the UTC, personnel would use smokes, ground burst simulators, trip flares, flash-bang pyrotechnics, booby trap simulators, and blanks/simulations. When the UTC is not scheduled for use by PJ/CRO, it would be open for use by other groups; therefore, it is anticipated that the UTC could be used on a monthly basis. The USAF is proposing to begin firing .50-caliber M107 Barrett sniper rifles and M2 machine guns at SAR East. An existing building located south of FR 44 would be demolished in order to provide line of sight from the firing point to the target array. Approximately 240 acres would be cleared by tree removal and thinning to create firebreaks along FRs 40, 40B, 530B, and 53. SAR East would continue to be available for training operations and deployment qualification 24 hours a day, 7 days a week.	Not in project vicinity; however, potential for construction overlap

Table 4-1. Present and Reasonably Foreseeable Actions at Kirtland Air Force Base

Project Name	Description	Potential Relevance to Proposed Action
New Military Training Activities (*continued*)	The 377th Security Forces Group (377 SFG) would begin using the M583A1 parachute illumination round at the M203 Range. This round has a burst height of 500 to 700 feet above ground surface when fired vertically, a candle burn rate of approximately 40 seconds, and an average candlepower of 90,000. The average class using the illumination round would consist of 15 to 30 students, once per month. It is anticipated that an average of 250 to 500 rounds would be dispensed per year. Training would occur during early morning hours, approximately 0300 to 0500, dependent upon coordination with the Federal Aviation Administration and air traffic scheduling. Prior to initial use of this round, firebreaks consisting of cleared paths totaling approximately 8 acres would need to be created. The cleared paths would also be used for emergency vehicle access in case of an accidental fire.	
Demolition and Construction of Military Support Facilities	The USAF proposes to demolish and construct, operate, and maintain several military personnel support facilities in the northwestern portion of the installation. The areas include the Visiting Officer Quarters, the Main Enlisted Dormitory Campus, the Noncommissioned Officer Academy, and Dormitory Campus 2. This project would include the demolition of facilities totaling approximately 498,000 square feet and construction of facilities totaling approximately 389,000 square feet, resulting in a net decrease of approximately 109,000 square feet of building space on the installation. Approximately 36 acres would be impacted by construction and demolition activities.	Not in project vicinity; however, potential for construction overlap
Construction, Operation, and Maintenance of a New Fire Station	The USAF proposes to construct, operate, and maintain a new Fire Station south of the intersection of Pennsylvania Street and Powerline Road. The proposed structure would be approximately 7,300 square feet and one story with three high-bay drive-through apparatus stalls.	Not in project vicinity and no potential construction overlap

Table 4-1. Present and Reasonably Foreseeable Actions at Kirtland Air Force Base

Project Name	Description	Potential Relevance to Proposed Action
Additional Development, Testing, Use, and Associated Training at the TEAMS	The Defense Threat Reduction Agency and USAF propose to enhance the testing and training capabilities and use, as well as the functionality of the TEAMS. Specifically, the proposed facilities and activities include a new radiological source storage facility, a mock train station, in-kind replacement of current TEAMS temporary buildings with permanent buildings, and potential increase in testing and training event personnel levels by up to 50 percent. Approximately 2.7 acres would be affected during construction activities.	Not in project vicinity; however, a potential for construction overlap
Building Demolition at Kirtland AFB	The USAF is in the process of demolishing 23 buildings totaling approximately 105,000 square feet to make space available for future construction and to fulfill its mission as installation host through better site utilization. None of the buildings proposed for demolition are currently occupied or used by installation personnel.	Not in project vicinity; no potential for construction overlap
Security Forces Complex	The USAF proposes to construct, operate, and maintain a 42,500-square-foot security forces complex to provide adequate space and modern facilities to house all 377 SFG administrative and support functions in a consolidated location. The 377 SFG functions that would be transferred to the new security forces complex include a base operations center with command and control facility, administration and office space, training rooms, auditorium or assembly room, guard mount, hardened armory for weapons and ammunition storage, confinement facilities, law enforcement, logistics warehouse, general storage, vehicle garage with maintenance area, and associated communications functions. One existing building (879 square feet) within the footprint of the security forces complex would be demolished. This project would result in an increase of 41,621 square feet of building space on the installation.	Not in project vicinity and no potential for construction overlap
Construct New MWD Facility	The USAF proposes to construct, operate, and maintain a new MWD facility that consists of 14 indoor/outdoor kennels, 4 isolation kennels, storage and staff space, restrooms, food storage room, a covered walkway, and a veterinarian examining room, totaling 8,000 square feet. A parking area with 25 spaces and new access roads would also be constructed as part of the project. Demolition of facilities totaling 2,520 square feet would also be included in this project, resulting in a net increase of 5,480 square feet of building space on the installation.	Not in project vicinity and no potential for construction overlap

Table 4-1. Present and Reasonably Foreseeable Actions at Kirtland Air Force Base

Project Name	Description	Potential Relevance to Proposed Action
21st Explosive Ordnance Division Expansion	The 21st Explosive Ordnance Division proposes facility expansion and site improvements for the Weapons of Mass Destruction Company Complex. This unit currently operates from a 90-acre property leased by the United States Army within Kirtland AFB. The current site has seven structures, six of which are substandard and do not have adequate fire protection. The 21st Explosive Ordnance Division proposes to expand this site to a total of 280 acres, add three permanent structures totaling 40,000 square feet, demolish five of the six substandard structures (75,000 square feet), add two temporary storage containers, tie in to nearby utilities, construct water tanks for fire suppression, and construct several concrete pads for training activities. This project would result in a decrease of 35,000 square feet of building space on the installation.	Not in project vicinity; however, potential for construction overlap
New Deployable Structures Laboratory	AFRL is proposing to construct a new 4,125-square-foot high-bay addition to the southeast corner of Building 472. Proposed new construction would include structural pads on columns and trusses for anchoring active gravity off-load support frame; high precision environmental controls (temperature and humidity with low air currents); Gantry crane; and optically diffuse wall coatings for high precision optical motion meteorology system (videogrammetry).	Not in project vicinity; however, potential for construction overlap
High Power Joint Electromagnetic Nonkinetic Strike Laboratory	AFRL is proposing to construct a 5,000-square-foot addition to Building 332 to include a heavy lab with shielding, a light lab, and office space to support new electromagnetics research.	Not in project vicinity; however, potential for construction overlap
Navigation Technology Satellite Integration Laboratory	AFRL is proposing to construct a 10,000-square-foot high bay laboratory south of Building 590. The facility would contain office space; Near Field Antenna Range and control room; vault; security vestibule; restrooms; loading dock; and conference, break, storage, comm, and mechanical rooms.	Not in project vicinity; however, potential for construction overlap
Kirtland Exhaust Helium Gas Recovery Facility	AFRL is proposing to construct a 3,700-square-foot facility between Buildings 580 and 581 to recover helium gas exhaust from experiments occurring within these buildings. The recovered gas would be reliquefied for reuse in the labs.	Not in project vicinity; however, potential for construction overlap

Table 4-1. Present and Reasonably Foreseeable Actions at Kirtland Air Force Base

Project Name	Description	Potential Relevance to Proposed Action
Renewable Energy Projects	The USAF proposes to develop renewable energy projects at Kirtland AFB. The proposed project would include the installation of various renewable energy technologies installation-wide, up to a 20 megawatt solar photovoltaic array, and rooftop/carport solar photovoltaic systems.	Not in project vicinity; no potential for construction overlap
Upgrade, Develop, and Maintain the Storm Drainage System	The USAF proposes to develop, upgrade, and maintain storm drainage systems and conduct arroyo erosion repair and damage avoiding measures across the installation. Storm drainage system activities could include constructing stormwater system upgrades and components including cleaning, regrading, ditching, trenching, trench lining, backfilling, bedding, reinforced concrete pipe, culverts, vegetation, rip-rap, drop inlets, and retention and outlet structures. Arroyo repair activities could include excavating, filling, and lining arroyo banks and constructing and repairing box culverts, bank protection, and grade control structures to assist in stabilizing the arroyo bed towards a stable slope.	Not in project vicinity; however, potential for construction overlap
Zia Park Area Development Plan	Zia Park is comprised of land bounded by Gibson Boulevard to the north, Pennsylvania Street to the east, Hardin Boulevard to the south, and Kirtland Road and Louisiana Boulevard to the west. Zia Park encompasses approximately 300 acres of land east of the airfield, in the center of the installation. Within the next 5 years, the NMArmyNG's 515th RTI proposes to relocate from Santa Fe to the area adjacent to the PJ/CRO Campus within Zia Park. The plan for Zia Park also includes the creation of an east-west vehicular connection for the installation in order to establish a cohesive community core. Proposed projects include relocation of the 515 RTI; expansion of the PJ/CRO Campus; development of vehicular, pedestrian, and bicycle circulation; parking; and community facilities such as the medical/dental clinics, pharmacy, dining facility, unaccompanied housing, outdoor recreational facilities, and a state-of-the art physical fitness center. Proposed activities are projected to occur up to 20 years into the future and would complete the long-term vision for Zia Park.	Not in project vicinity; however, potential for construction overlap

Table 4-1. Present and Reasonably Foreseeable Actions at Kirtland Air Force Base

Project Name	Description	Potential Relevance to Proposed Action
NMArmyNG 515th RTI	The NMArmyNG proposed to relocate their 515th RTI from the Onate Training Complex in Santa Fe to Kirtland AFB. Construction includes a 366,000-square-foot main campus in the former Zia Park housing area and a 40-acre maneuver and driver's training course with motor pool and classroom near the Tijeras Arroyo Golf Course. The main campus would include an educational facility, billeting, dining facilities, and associated parking	Not in project vicinity; however, potential for construction overlap
Combat Rescue Helicopter Recapitalization	The USAF proposes a one-to-one replacement of the existing HH-60G helicopter fleet at Kirtland AFB with the new HH-60W model. Associated projects include construction of a two-story, 11,000-square-foot addition to Building 957, and demolition of Building 957 and 960 (8,277 square feet) to construct a new 35,973-square-foot flight simulator facility.	Potential construction overlap
UH-1N Helicopter Transition	The USAF proposes to replace the existing 6 UH-1N helicopters at Kirtland AFB with 10 MH-139 helicopters. Associated projects include construction of a 35,776-square-foot addition containing three 60-by-60-foot-high bays to Building 951, a 4,800-square-foot addition to Building 957, a 75,000-square-foot facility near Hangar 1001, a 23,400-square-foot parking lot, and demolition of Buildings 953 and 924 (29,235 square feet).	Potential construction overlap
Nonmilitary Projects		
Sunport South Business Park *(formerly Valle del Sol)*	A proposed 330-acre business park expected to attract manufacturing, fabrication, warehousing, and distribution centers. It would be multimodal to include access to the Sunport and an active rail spur. An additional 200 acres would be reserved for bike trails and walking paths. The site is located south of the Sunport.	Not in project vicinity; no potential for construction overlap; potential for regional impacts to water resources and infrastructure demands
ABCWUA Water Treatment Facility on Kirtland AFB	To accommodate future growth in Bernalillo County, ABCWUA proposes to construct a wastewater treatment plant on Kirtland AFB. This project is proposed to occur between 2027 and 2037 on approximately 60 acres of land near the western boundary of the installation, south of Tijeras Arroyo.	Potential construction overlap

Table 4-1. Present and Reasonably Foreseeable Actions at Kirtland Air Force Base

Project Name	Description	Potential Relevance to Proposed Action
Juan Tabo Hills West	Juan Tabo Hills West is Phase 4 of the Voltera Village community and sits on approximately 25 acres near Juan Tabo Boulevard and the Tijeras Arroyo. Phase 4 would consist of 250 single-family lots.	Not in project vicinity; no potential for construction overlap; potential for regional impacts to water resources and infrastructure demands
Albuquerque International Sunport Projects	The Sunport began the Terminal Improvement Project in February 2017. This project would refurbish and upgrade the ticketing, baggage claim, and exterior areas of the terminal. It is anticipated to take approximately 15 months to complete. Development began on Destination Sunport project in March 2017. The project would transform decommissioned Runway 17/35, approximately 80 acres, into space for aviation and aerospace businesses, high tech companies, and retail. The Aviation Center of Excellence is the centerpiece of the development, which also features "The Landing" a 10-acre strip along Gibson Boulevard that will contain retail businesses. Future projects planned for the Sunport over the next 20 years include rehabilitation of various runways, taxiways, and aprons; installation/expansion of aprons and taxiways; removal/closure of taxiways; construction of an Aircraft Rescue Firefighting Facility; removal of the Belly Freight Building; construction of an addition to Concourse B; and construction of a Federal Inspection Services/ International Terminal.	Potential for construction overlap with the Proposed Action
I-25 and Rio Bravo Interchange	The NMDOT is reconstructing the I-25 and Rio Bravo Interchange and the Rio Bravo roadway corridor from University to the AMAFCA channel. Improvements include a new intersection layout at I-25/Rio Bravo and new roadway pavement and features within the right-of-way infrastructure including multimodal improvements.	Not in project vicinity; potential for construction overlap
Sunport Boulevard Extension	NMDOT has proposed an expansion project for Sunport Boulevard from Broadway Boulevard to I-25, consisting of constructing a four-lane median divided urban arterial roadway. The roadway is approximately 0.5 miles in length and would contain twin bridges over the existing AMAFCA South Diversion Channel and twin bridges over Edmunds Street.	Not in project vicinity; potential for construction overlap

Table 4-1. Present and Reasonably Foreseeable Actions at Kirtland Air Force Base

Project Name	Description	Potential Relevance to Proposed Action
Valle de Oro Phase II	The USFWS is proposing to conduct restoration, development, and management activities on Valle de Oro National Wildlife Refuge in Bernalillo County. The refuge is 570 acres primarily located between 2nd Street SW and the Rio Grande in the South Valley, approximately 3.5 miles southwest of the Sunport and Kirtland AFB. Proposed activities include habitat restoration; construction of a visitor's center, a parking lot, trails, and roads; vegetation and wildlife management; construction and management of AMAFCA stormwater drainage facilities, including a swale and water quality structures; and in partnership with Mid-Rio Grande Conservancy District align the Barr Interior Drain.	Not in project vicinity; potential for construction overlap
AMAFCA Louisiana - Gibson Regional Drainage Facility	AMAFCA is constructing a 30-acre-foot drainage facility on Kirtland AFB at the southeast quadrant of the Louisiana/Gibson intersection in order to collect and limit stormwater runoff. Currently, stormwater flow off Kirtland AFB is not controlled and causes damage downstream of the installation, contributing to flooding in the San Pedro/Gibson area. Proposed to begin in the fourth quarter of FY 2018.	Not in project vicinity; potential for construction overlap
PERCHAs Project.	USFWS, through the Valle de Oro NWR, in cooperation with Bernalillo County, is proposing to develop native habitat areas on County properties within existing County-owned and County-maintained drainage facilities. The County and Valle de Oro NWR are working together to establish forage and habitat areas for wildlife with the goal of linking County properties and the Albuquerque South Valley with the Valle de Oro NWR, so the PERCHAs are viewed as one whole system of habitat areas. There are approximately 15 PERCHA properties on lands owned by the County, but the initial phase of this project focuses on habitat improvements at the following four properties: approximately 8 acres at Los Padillas Community Center, 2 acres at McEwen Pond, 5 acres at Mountain View Community Center, and 14 acres at Sanchez Farms. Habitat improvements include removal of nonnative and invasive vegetation; replanting native wetland and upland grass species; installing songbird and pollinator habitat areas; creating appealing recreation space for Albuquerque residents; increasing existing drainage basins; and installing erosion control measures to include revegetation of slopes. Work at the properties is proposed to begin in June 2019 and continue for approximately 5 years.	Not in project vicinity, but project implementation would overlap with Proposed Action development.

Table 4-1. Present and Reasonably Foreseeable Actions at Kirtland Air Force Base

Project Name	Description	Potential Relevance to Proposed Action
Mesa Del Sol Master Plan	Mesa del Sol is a 12,900-acre, mixed-use master planned community. It is bound by the Sunport along the northwestern edge, Kirtland AFB on the north and east, the Isleta reservation to the south, and I-25 to the west. The community would be built over 40 years and would cover 9,000 of the 12,900 acres. It is proposed to include 3,200 acres for park and open space; 4,400 acres for residential and supporting retail; 413 acres of office space; and 800 acres for schools, including university branches.	Not in project vicinity; potential for construction overlap and regional impacts to water resources and new infrastructure demands
South I-25 Corridor Study	Corridor Study conducted to identify improvements and enhance the operational performance of South I-25 for long- and near-term planning through 2040. The limits of the study include I-25 from NM 47/Broadway Boulevard interchange south to I-40/I-25 interchanges. Improvements include highway widening, construction of acceleration and deceleration lanes as well as ramp-to-ramp auxiliary lanes, and multimodal improvements	Not in the immediate project vicinity; some planning components could result in construction overlap

Sources: NMDOT 2016, 2019

Notes:
377 SFG = 377th Security Forces Group; ABCWUA = Albuquerque-Bernalillo County Water Utility Authority; AFB = Air Force Base ; AFRL = Air Force Research Laboratory; AMAFCA = Albuquerque Metropolitan Arroyo Flood Control Authority; CRO = Combat Rescue Officer; FR = Forest Road; I = Interstate; MWD = Military Working Dog; NMArmyNG = New Mexico Army National Guard; NMDOT = New Mexico Department of Transportation; NWR = National Wildlife Refuge; PERCHA = Prescribed Endemic Refuge Connected Habitat Area; PJ = Pararescue Jumper; RHS = RED HORSE Squadron; RTI = Regional Training Institute; SAR = Small Arms Range; TEAMS = Technical Evaluation Assessment Monitor Site; USAF = United States Air Force; USFWS = United States Fish and Wildlife Service; UTC = Urban Training Complex

4.2 CUMULATIVE IMPACT ANALYSIS BY RESOURCE AREA

The following analysis considers how projects identified in **Table 4-1** could cumulatively result in potential environmental consequences with the Proposed Action.

4.2.1 Noise

The Proposed Action would incrementally increase short-term, moderate and intermittent impacts to the existing noise environment during construction. Once the mixed-use development is built, increased traffic to the site area would increase noise but would remain within accepted noise levels. When added to past, present, and reasonably foreseeable future projects, any cumulative increase in noise and effects on sensitive noise receptors would not be noticeable as the anticipated increase in noise levels would be less than 2 dBA. A doubling of the traffic volumes within the corridor would be required to generate a noticeable increase in noise levels. Additionally, future project construction may or may not overlap in time with construction of the Proposed Action.

4.2.2 Land Use

Under the Proposed Action, the EIAP Study Area would be converted from open space and recreational use to a multiuse development that could include commercial, residential, and industrial land use. Construction of buildings would be coordinated with the Kirtland AFB Community Planner, City of Albuquerque, and Bernalillo County to avoid conflicts with the FAA Departure Surface for Runway 03/21. The Proposed Action would result in short-term, negligible, adverse impacts associated with construction activities; however, converting underutilized land to office, commercial, and residential use would result in a long-term, beneficial impact to land use. Development would not conflict with installation land use or land use in the surrounding area which is primarily commercial, retail, and residential. The Proposed Action, when combined with other past, present, and reasonably foreseeable project on the installation (see **Table 4-1**), would not result in significant cumulative impacts to land use but, in fact, would represent an enhancement to the existing area use of land.

4.2.3 Visual Resources

The Proposed Action would replace open, undeveloped lands with buildings, facilities, parking, and development landscaping. These changes to the landscape would blend in with surrounding areas and would be aesthetically pleasing to the sensitive viewer. Proposed projects on Kirtland AFB would conform with the existing development at the installation. There would be a gradual loss of open vistas; however, distant landscape views of the mountains would remain. Urban, off-installation developments would be designed to enhance the surrounding environment. The Proposed Action, when combined with other past, present, and reasonably foreseeable project on the installation (see **Table 4-1**), would not result in significant cumulative impacts to visual resources.

4.2.4 Air Quality

During construction, the proposed development would generate dust; however, dust control measures would be implemented to reduce the short-term effects of dust to local air quality. Once the development is operational, there would be an increase in vehicle emissions from traffic primarily along Gibson Boulevard traveling to the developed site. When added to past, present, and reasonably foreseeable future projects, air quality impacts would incrementally increase over

the next several years as new emission sources gradually are added to the regional airshed. With continued emission controls in place, cumulative impacts to air quality are expected to be less than significant.

4.2.5 Geology and Soils

The Proposed Action would involve excavation of rocks and soil material for site preparation and building construction. Project development would result in short- and long-term, adverse impacts to soils; however, with implementation of BMPs, these impacts would be less that significant. Soil disturbance would occur during construction of most of the projects listed in **Table 4-1**. Large-scale installation projects such as the Security Forces Complex and AFRL, as well as off-installation projects such as construction of the Sunport South Business Park and Mesa Del Sol Master Plan, would result in incremental impacts to soils in the region. Present and future projects, including the Proposed Action would implement BMPs to reduce soil erosion and sediment transport as outlined in project-specific SWPPPs. Incremental impacts to soils from the Proposed Action when added to present and future projects would result in adverse cumulative impacts to soils in the regional area; however, those impacts would be less than significant with the implementation of BMPs as stipulated in the project-specific SWPPPs.

4.2.6 Water Resources

The Proposed Action would not result in adverse impacts to water resources. Any potential impacts from stormwater runoff would be managed under a project-specific SWPPP and BMPs. Water for construction and full development would be obtained through a direct contract with ABCWUA and separate from Kirtland AFB's court order[2] granting rights to divert groundwater. As such, no impacts are expected to the installation's agreement for diversion of water from ABCWUA. When added to past, present, and reasonably foreseeable future projects, water demand and use would increase, particularly with a substantial demand from the Mesa del Sol proposed development. These cumulative impacts, however, would not be significant as conservation measures would be put in place during development to reduce impacts to water supplies (low flow faucets and toilets, drip irrigation, xeriscape landscaping). Additionally, cumulative impacts associated with stormwater runoff during construction would be managed under project-specific SWPPPs and construction BMPs.

4.2.7 Biological Resources

The Proposed Action when added to past, present, and reasonably, foreseeable future projects would reduce habitat for some species; other common species would find suitable habitat elsewhere at project locations. While the gradual loss of native vegetation communities and wildlife habitat would result in a minor cumulative impact to biological resources, the impact would not be significant. No critical habitat for threatened or endangered species would be affected by the Proposed Action when combined with other past, present, and reasonably foreseeable projects (see **Table 4-1**).

[2] On 27 November 1973, the U.S. District Court for the District of New Mexico issued a Judgment and Order granting Kirtland AFB a right to divert 6,398 ac-ft of groundwater from two wells within the Rio Grande Underground Water Basin (4,500 ac-ft and 1,898 ac-ft) as well as three minor decrees to divert 3 ac-ft per year of groundwater from three domestic wells.

4.2.8 Infrastructure

The Proposed Action would require additional infrastructure for water, wastewater, electricity, natural gas, communications, and solid waste removal. While the proposed development would increase the volume of water, electricity, and natural gas use, these increases would be less than significant as existing regional utility providers have sufficient supply. When added to the Proposed Action, projects listed in **Table 4-1** would increase the need for additional infrastructure and utility services, particularly large development projects such Mesa del Sol. The immediate area would benefit from improved utility services; however, there would be an increased demand on utility supplies. Cumulative impacts associated with infrastructure and utility services would be both beneficial and adverse but less than significant.

4.2.9 Hazardous Materials and Waste

The Proposed Action is not expected to result in significant to impacts associated with the use, handling, transportation, or disposal of hazardous materials or waste. Contractors would comply with standard operating procedures and applicable federal and state laws related to managing hazardous materials and toxic substances. The present and future projects listed in **Table 4-1** would generate some hazardous waste during construction; however, the same regulations that would apply to the Proposed Action would be required for these actions. As such, cumulative impacts to hazardous materials and waste management are expected to be less than significant.

4.2.10 Safety

The Proposed Action would result in no significant impacts to public safety. Construction activities would comply with requirements outlined in OSHA standards; hazardous waste identified during any demolition activities would be managed and disposed of by licensed contractors. Transportation of explosives through the Truman Gate would continue to comply with OSHA standards for transporting explosives and buildings constructed under the Proposed Action would be built to heights that would not violate requirements for APZs. Future construction projects would be required to comply with the same standards as the Proposed Action. As such, cumulative impacts to public health and safety would be less than significant.

4.2.11 Socioeconomics

During construction of the Proposed Action, there would be a temporary increase in construction-related employment, resulting in a beneficial impact that would be short-term in duration. Construction jobs would hire local workers; therefore, there would be no impacts to schools, housing, or demand for government services. Under full project development, the Proposed Action would generate new business and jobs. The state of New Mexico would receive tax revenues and Kirtland AFB would realize and economic benefit from leasing fees generated through the EUL Agreement. The Proposed Action, when combined with other past, present, and reasonably foreseeable projects on the installation and in the vicinity (see **Table 4-1**), would result in beneficial impacts to socioeconomics through increased employment opportunities and tax revenues.

4.2.12 Environmental Justice and Protection of Children

The Proposed Action would result in beneficial impacts to disproportionately high-minority and low-income populations in the vicinity of the proposed development site. No disproportionate impacts are expected to children. The Proposed Action when added to past, present, and

reasonably foreseeable future projects are not expected to result in adverse cumulative effects. None of the projects identified in **Table 4-1** would displace high-minority or low-income populations but rather enhance the quality of living in the area.

4.3 UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts would result from implementation of the Proposed Action. None of these impacts would be significant.

Energy. The Proposed Action would require the use of nonrenewable resources such as fossil fuels during construction and operational activities. This impact would represent an unavoidable adverse impact but would be less than significant because the demand would not exceed the existing supply.

Biological Resources. The Proposed Action would permanently remove existing vegetation for the construction of buildings and parking. This unavoidable adverse impact would be less than significant since existing vegetation in the EIAP Study Area is mostly invasive and nonnative species and is not expected to permanently affect native vegetation.

Water Resources. During construction, the Proposed Action would use water for dust suppression and cleaning. The use of this nonrenewable resource would be an unavoidable adverse impact but represents an insignificant impact to the overall water supply. Once the development is complete, water use would increase as demand for drinking water, irrigation, and cleaning would increase; however, this increase would be less than significant in relation to the overall water supply.

4.4 COMPATIBILITY OF THE PROPOSED ACTION WITH THE OBJECTIVES OF FEDERAL, REGIONAL, AND LOCAL LAND USE PLANS, POLICIES, AND CONTROLS

The Proposed Action would occur on underutilized land located on Kirtland AFB through the EUL Agreement, under Title 10 U.S.C. § 2667 and EO 13327. The EIAP Study Area would be located outside of the Kirtland AFB secured area. Activities associated with the construction and full development of the Proposed Action would not be incompatible with current land use on or off installation. The Proposed Action would follow all applicable local, state, and federal permits, standards, ordinances, and/or processes as well as conditions set forth in the USAF EUL Agreement.

4.5 RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

The relationship between short-term uses and enhancement of long-term productivity from implementation of the Proposed Action is evaluated from the standpoint of short-term effects and long-term effects. The Proposed Action would require the clearing of underutilized land for project site development. Short-term effects include impacts associated with construction activities such as the short-term increase to noise and air quality. The Proposed Action would result in an enhancement to long-term productivity as underutilized land would be converted to productive utilization, benefiting both the USAF and general public. The negative effects of short-term impacts would be minor compared to the positive benefits realized after full development of the Proposed Action.

4.6 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the impacts that the use of these resources would have on future generations. Irreversible impacts primarily result from use or destruction of a specific resource that cannot be replaced within a reasonable timeframe (e.g., energy and minerals). The irreversible and irretrievable commitments of resources that would result from implementation of the Proposed Action involve the consumption of material resources used for construction, energy resources, biological resources, and human labor resources. The use of these resources is considered to be permanent.

Material Resources. Material resources used for the Proposed Action would potentially include building materials, concrete, asphalt, and various construction materials and supplies. While there are several unrelated construction projects on and off Kirtland AFB, the materials used for construction are not in short supply. The Proposed Action would represent a small fraction of the overall construction material demand in relation to the regional supply and, therefore, would not result in an irretrievable, irreversible commitment to material resources.

Energy Resources. Energy resources used for the Proposed Action would be irretrievably lost. This includes petroleum-based products (e.g., gasoline and diesel). During construction and operational activities, gasoline and diesel would be used for the operation of construction vehicles and equipment. Additionally, during operation, the electrical energy demand would increase; however, electrical generation in the region is adequate to supply power for operation of the Proposed Action. Consumption of these energy resources would not place a significant demand on their availability in the region; therefore, less than significant impacts to the irretrievable, irreversible commitment of energy resources would be expected.

Biological Resources. The Proposed Action would result in a negligible loss of vegetation and wildlife habitat. Because the project area consists primarily of previously disturbed ground with minimal vegetation, the loss would be negligible and not considered significant; therefore, a less than significant impact to the irretrievable loss of vegetation and wildlife habitat is expected.

Human Resources. The use of human resources for construction and operation activities is considered an irretrievable loss only in that it would preclude such personnel from engaging in other work activities; however, the use of human resources for construction and operation of the Proposed Action represents employment opportunities and would be considered beneficial.

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APPENDIX A
INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING AND PUBLIC INVOLVEMENT MATERIALS

Appendix A

Interagency and Intergovernmental Coordination for Environmental Planning and Public Involvement Materials

The 377th Air Base Wing (377 ABW) solicited comments on the Environmental Assessment (EA) by distributing letters (example follows) to potentially interested federal, state, and local agencies; Native American tribes; and other stakeholder groups or individuals. The following is a list of potentially interested parties:

Federal, State, and Local Agencies – Scoping Letter

Ms. Amy Leuders, Regional Director
U.S. Fish & Wildlife Service Southwest
Regional Office
PO Box 1306
Albuquerque NM 87103-1306

Dr. Jeff Pappas, PhD., State Historic
Preservation Officer and Director
New Mexico Historic Preservation Division,
Department of Cultural Affairs
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe NM 87501

Mr. Craig Johnson, Assistant
Commissioner for Commercial Resources
New Mexico State Land Office
PO Box 1148
Santa Fe NM 87504

Development Management/Department
Director
Bernalillo County Planning Section
111 Union Square SE, Suite 100
Albuquerque NM 87102

City of Albuquerque Planning Department
PO Box 1293
Albuquerque NM 87103

Mr. Matt Wunder, Chief
Conservation Services
New Mexico Department of Game and Fish
PO Box 25112
Santa Fe NM 87504

Regional Director
Bureau of Indian Affairs
Southwest Regional Office
1001 Indian School Road NW
Albuquerque NM 87104

Ms. Danita Burns, District Manager
Bureau of Land Management New Mexico
State Office
Albuquerque District Office
Pan American Building
100 Sun Avenue NE, Suite 330
Albuquerque NM 87109-4676

Mr. Stephen Spencer, Regional
Environmental Officer
U.S. Department of Interior
Office of Environmental Policy and
Compliance, Albuquerque Region
1001 Indian School Road NW, Suite 348
Albuquerque NM 87104

Mr. Terry Biggio, Regional Administrator
Federal Aviation Administration
Southwest Region
10101 Hillwood Parkway
Fort Worth TX 76177-1524

Ms. Pearl Armijo, District Conservationist
Natural Resources Conservation Service
Albuquerque Service Center
100 Sun Avenue NE, Suite 160
Albuquerque NM 87109

Mr. George MacDonell
Chief of Environmental Resources Section
U.S. Army Corps of Engineers
4101 Jefferson Plaza NE
Albuquerque NM 87109

Ms. Anne L. Idsal
Regional Administrator
U.S. Environmental Protection Agency, Region 6
Fountain Place, 12th Floor, Suite 1200
1445 Ross Avenue
Dallas TX 75202-2733

Ms. Cheryl Prewitt
Regional Environmental Coordinator
U.S. Forest Service
Southwestern Region
333 Broadway Boulevard SE
Albuquerque NM 87102-3407

Board of Directors
Mid-Region Council of Governments
809 Copper Avenue NW
Albuquerque NM 87102

Mr. Jeff M. Witte
Director/Secretary
New Mexico Department of Agriculture
3190 S. Espina
Las Cruces NM 88003

Ms. Jennifer L. Hower
Office of General Counsel & Environmental Policy
New Mexico Environment Department
1190 St. Francis Drive, Suite N4050
Santa Fe NM 87505

Ms. Julie Morgas Baca
Bernalillo County Manager
Bernalillo County Manager's Office
One Civic Plaza NW, 10th Floor
Albuquerque NM 87102

Ms. Alicia Manzano
Director of Communications
City of Albuquerque Office of the Mayor
PO Box 1293
Albuquerque NM 87103

Ms. Susan Lacy
Department of Energy/National Nuclear Security Administration
Sandia Field Office
PO Box 5400
Albuquerque NM 87187

Mr. John Weckerle
Department of Energy/National Nuclear Security Administration
Office of General Counsel
PO Box 5400
Albuquerque NM 87187

The Honorable Martin Heinrich, Senator
United States Senate
400 Gold Avenue SW, Suite 1080
Albuquerque NM 87102

The Honorable Tom Udall, Senator
United States Senate
400 Gold Avenue SW, Suite 300
Albuquerque NM 87102

The Honorable Xochitl Torres Small, Representative
United States House of Representatives
430 Cannon HOB
Washington DC 20515

The Honorable Debra Haaland, Representative
United States House of Representatives
400 Gold Avenue SW, Suite 680
Albuquerque NM 87102

The Honorable Ben R. Luján, Representative
United States House of Representatives
1611 Calle Lorca, Suite A
Santa Fe NM 87505

Ms. Stephanie Garcia Richard, Commissioner of Public Lands
New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe NM 87501

Ms. Sarah Cottrell Propst, Cabinet Secretary
New Mexico Energy, Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe NM 87505

Commissioner
Bernalillo County Board of Commissioners
One Civic Plaza NW, 10th Floor
Albuquerque NM 87102

Councilmember
Albuquerque City Councilmembers
One Civic Plaza NW, 9th Floor, Suite 9087
Albuquerque NM 87102

Example Scoping Letter

DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)

JAN 2 8 2019

Colonel Richard W. Gibbs, USAF
Commander
377th Air Base Wing
2000 Wyoming Boulevard SE
Kirtland Air Force Base NM 87117

Ms. Amy Leuders, Regional Director
US Fish & Wildlife Service
Southwest Regional Office
PO Box 1306
Albuquerque NM 87103-1306

Dear Ms. Leuders

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the United States Air Force (USAF) NEPA regulations, the USAF is preparing an Environmental Assessment (EA) to evaluate redeveloping an underutilized portion of land on Kirtland Air Force Base (AFB) through an Enhanced Use Lease (EUL). The proposed action would develop a 77-acre underutilized site and evaluate a 23-acre developable site for future use into a mixed-use development that could include office, retail/commercial, multifamily housing, hotel, gasoline station, and restaurant space uses. The Environmental Impact Analysis Process (EIAP) study area is located on the northwestern edge of Kirtland AFB, south of Gibson Boulevard, extending from Carlisle Boulevard on the west to the Veterans Affairs Hospital property on the east. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities at the EIAP study area. The Proposed Action is needed to return underutilized land to a productive use that would result in an economic benefit for Kirtland AFB and the community.

Pursuant to Section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 United States Code 1531 et seq.), the USAF is requesting concurrence from the United States Fish and Wildlife Service that the Proposed Action is not likely to adversely affect any species or critical habitat. We reviewed your agency's Section 7 Consultation website for a list of species and critical habitat that "may be present" within the project area and have found none. For these reasons, we conclude that the Proposed Action is not likely to adversely affect any species or critical habitat and we request your concurrence with our determination. A copy of the Final Description of the Proposed Action and Alternatives for the Enhanced Use Lease Redevelopment EA at Kirtland AFB, New Mexico, is available at *http://www.kirtland.af.mil* under the "Environment" button at the bottom of the webpage. As we move forward through this process, we welcome your participation and input.

Please send your written responses to the NEPA Program Manager, 377 MSG/CEIEC, 2050 Wyoming Boulevard SE, Suite 116, Kirtland AFB, NM 87117 or via email to KirtlandNEPA@us.af.mil.

Sincerely

Richard W. Gibbs

RICHARD W. GIBBS, Colonel, USAF
Commander

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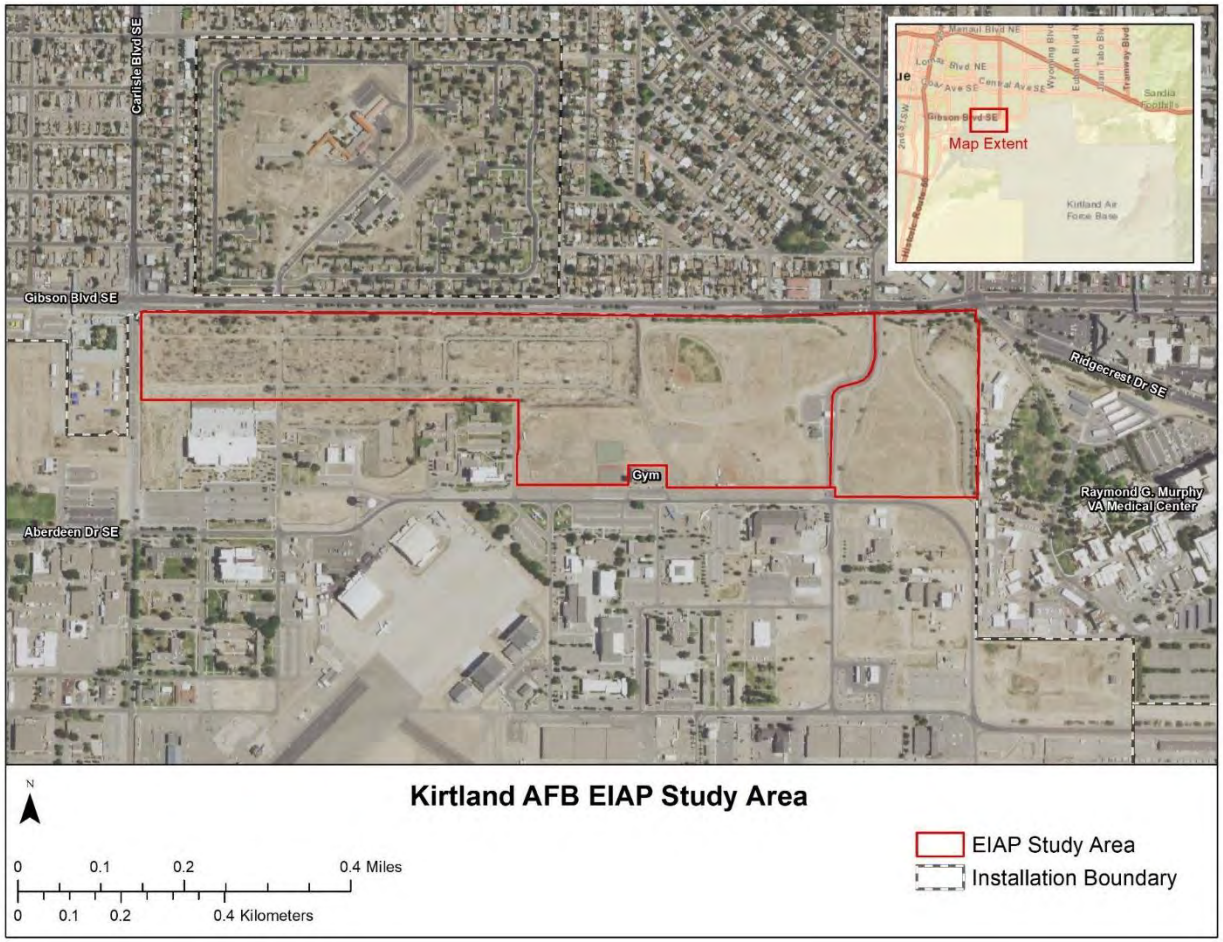
2. Kirtland AFB EUL Conceptual Site Leasing Plan
3. Proposed Development Site Density and Mix on Enhanced Use Lease Land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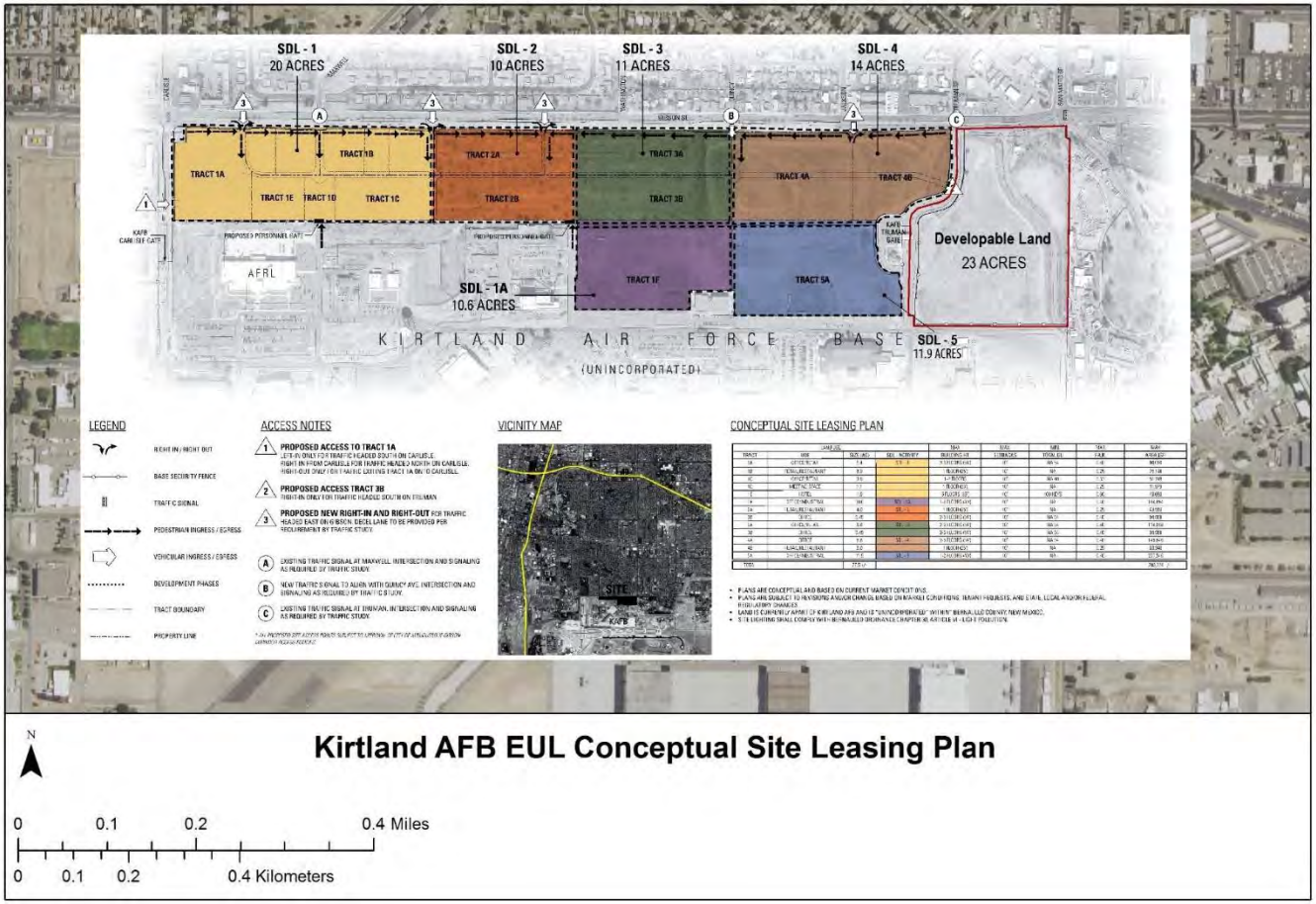
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DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)

JAN 2 8 2019

Colonel Richard W. Gibbs, USAF
Commander
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland Air Force Base NM 87117

Dr. Jeff Pappas, PhD
State Historic Preservation Officer and Director
New Mexico Historic Preservation Division
Department of Cultural Affairs
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe NM 87501

Dear Dr. Pappas

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the United States Air Force (USAF) NEPA regulations, the USAF is preparing an Environmental Assessment (EA) to evaluate redeveloping an underutilized portion of land on Kirtland Air Force Base (AFB) through an Enhanced Use Lease (EUL). The proposed action would develop a 77-acre underutilized site and evaluate a 23-acre developable site for future use into a mixed-use development that could include office, retail/commercial, multifamily housing, hotel, gasoline station, and restaurant space uses. The Environmental Impact Analysis Process (EIAP) study area is located on the northwestern edge of Kirtland AFB, south of Gibson Boulevard, extending from Carlisle Boulevard on the west to the Veterans Affairs Hospital property on the east. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities at the EIAP study area. The Proposed Action is needed to return underutilized land to a productive use that would result in an economic benefit for Kirtland AFB and the community.

Pursuant to Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations Part 800), the USAF would like to initiate consultation concerning the Proposed Action to allow you the opportunity to identify any comments, concerns, and suggestions you might have. A copy of the Final Description of the Proposed Action and Alternatives for the Enhanced Use Lease Redevelopment EA at Kirtland AFB is available at *http://www.kirtland.af.mil* under the "Environment" button at the bottom of the webpage. As we move forward through this process, we welcome your participation and input.

Please contact my office at (505) 846-7377 if you would like to meet to discuss the Proposed Action or proceed with the Section 106 consultation.

Sincerely

Richard W. Gibbs

RICHARD W. GIBBS, Colonel, USAF
Commander

3 Attachments:
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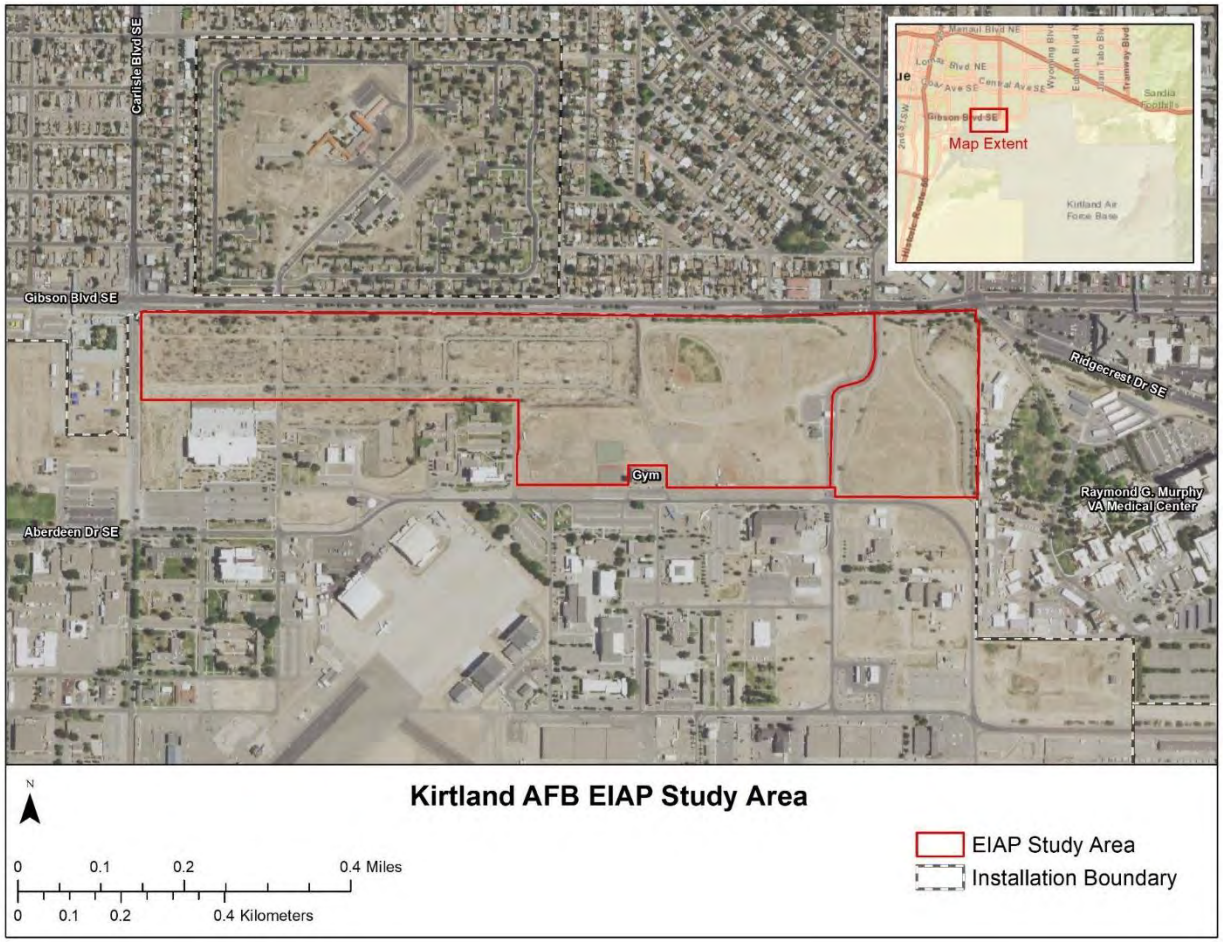
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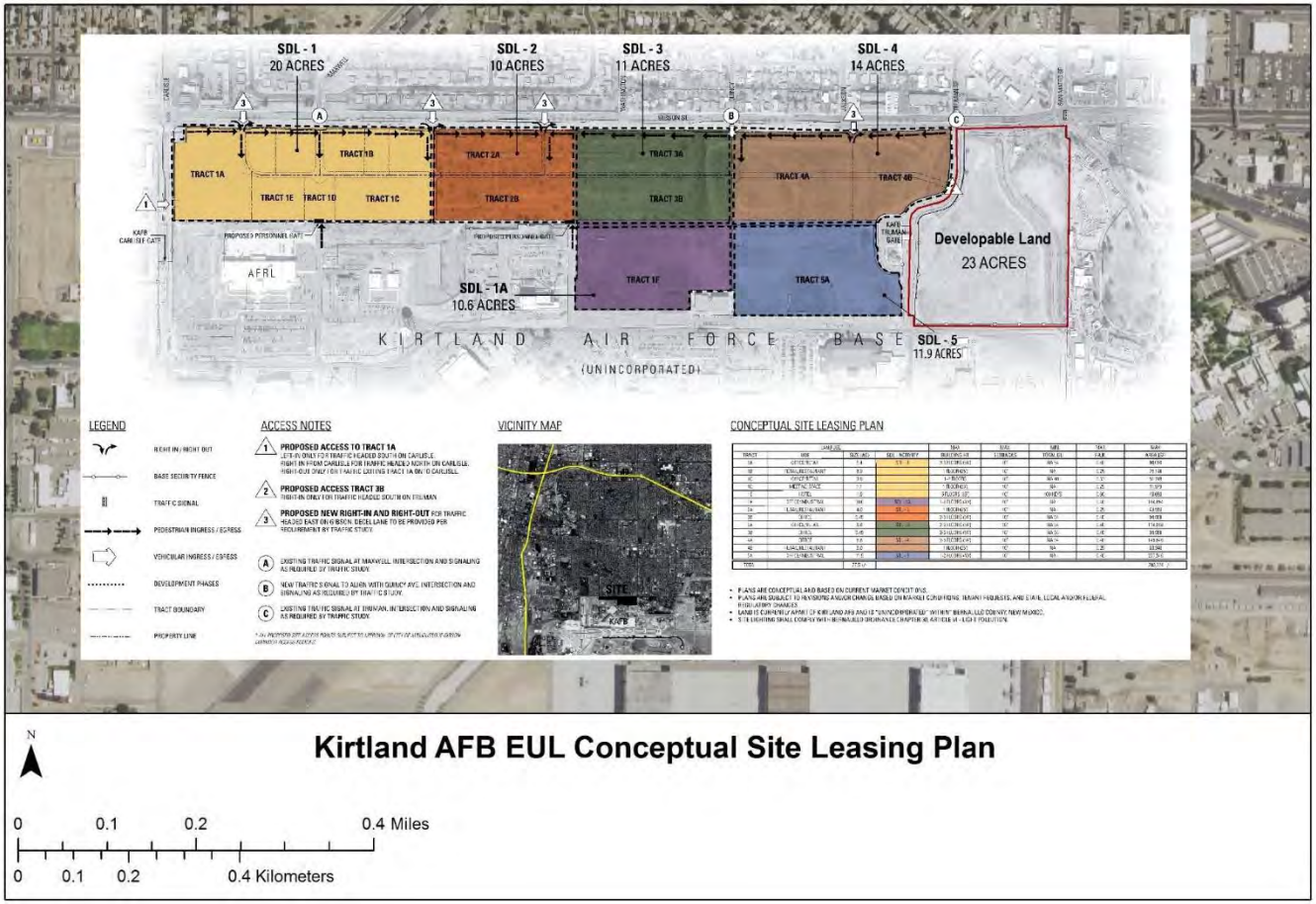
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Proposed Development Site Density and Mix on Enhanced Use Lease Land*

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SDL-4	Office Retail/Restaurant	2-3 floors 1 floor	149,846 63,340
SDL-5	Office/Industrial	1-2 floors	207,346

*Depending on market conditions at the time of construction, building type, and location could change.

DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)

JAN 2 8 2019

Colonel Richard W. Gibbs, USAF
Commander
377th Air Base Wing
2000 Wyoming Boulevard SE
Kirtland Air Force Base NM 87117

Mr. Clyde Ward
Assistant Commissioner for Commercial Resources
New Mexico State Land Office
PO Box 1148
Santa Fe NM 87504

Dear Mr. Ward

As set forth in the Kirtland Air Force Base (AFB) – New Mexico State Land Office Joint Land Use Study Memorandum of Understanding, and as required by the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the United States Air Force (USAF) NEPA regulations, the USAF is preparing an Environmental Assessment (EA) to evaluate redeveloping an underutilized portion of land on Kirtland Air Force Base (AFB) through an Enhanced Use Lease (EUL). The proposed action would develop a 77-acre underutilized site and evaluate a 23-acre developable site for future use into a mixed-use development that could include office, retail/commercial, multifamily housing, hotel, gasoline station, and restaurant space uses. The Environmental Impact Analysis Process (EIAP) study area is located on the northwestern edge of Kirtland AFB, south of Gibson Boulevard, extending from Carlisle Boulevard on the west to the Veterans Affairs Hospital property on the east. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities at the EIAP study area. The Proposed Action is needed to return underutilized land to a productive use that would result in an economic benefit for Kirtland AFB and the community.

If you have additional information regarding potential impacts of the Proposed Action on the natural environment or other environmental aspects of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA compliance process. A copy of the Final Description of the Proposed Action and Alternatives for the Enhanced Use Lease Redevelopment EA at Kirtland AFB, New Mexico, is available at *http://www.kirtland.af.mil* under the "Environment" button at the bottom of the webpage. We look forward to and welcome your participation in this process. Please respond within 30 days of receipt of this letter to ensure your concerns are adequately addressed in the EA.

Please send your written responses to the NEPA Program Manager, 377 MSG/CEIEC, 2050 Wyoming Boulevard SE, Suite 116, Kirtland AFB, NM 87117 or via email to KirtlandNEPA@us.af.mil.

Sincerely

Richard W. Gibbs

RICHARD W. GIBBS, Colonel, USAF
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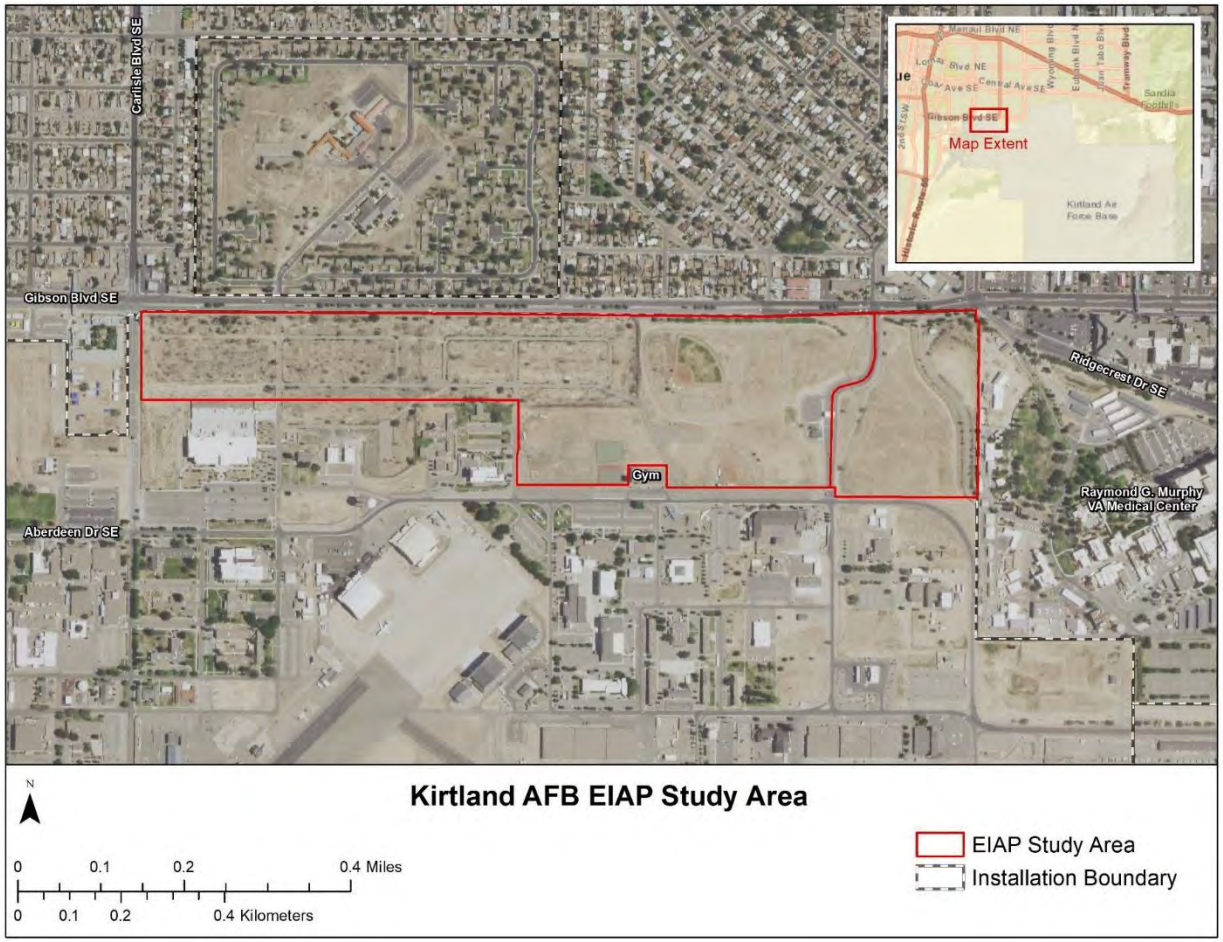
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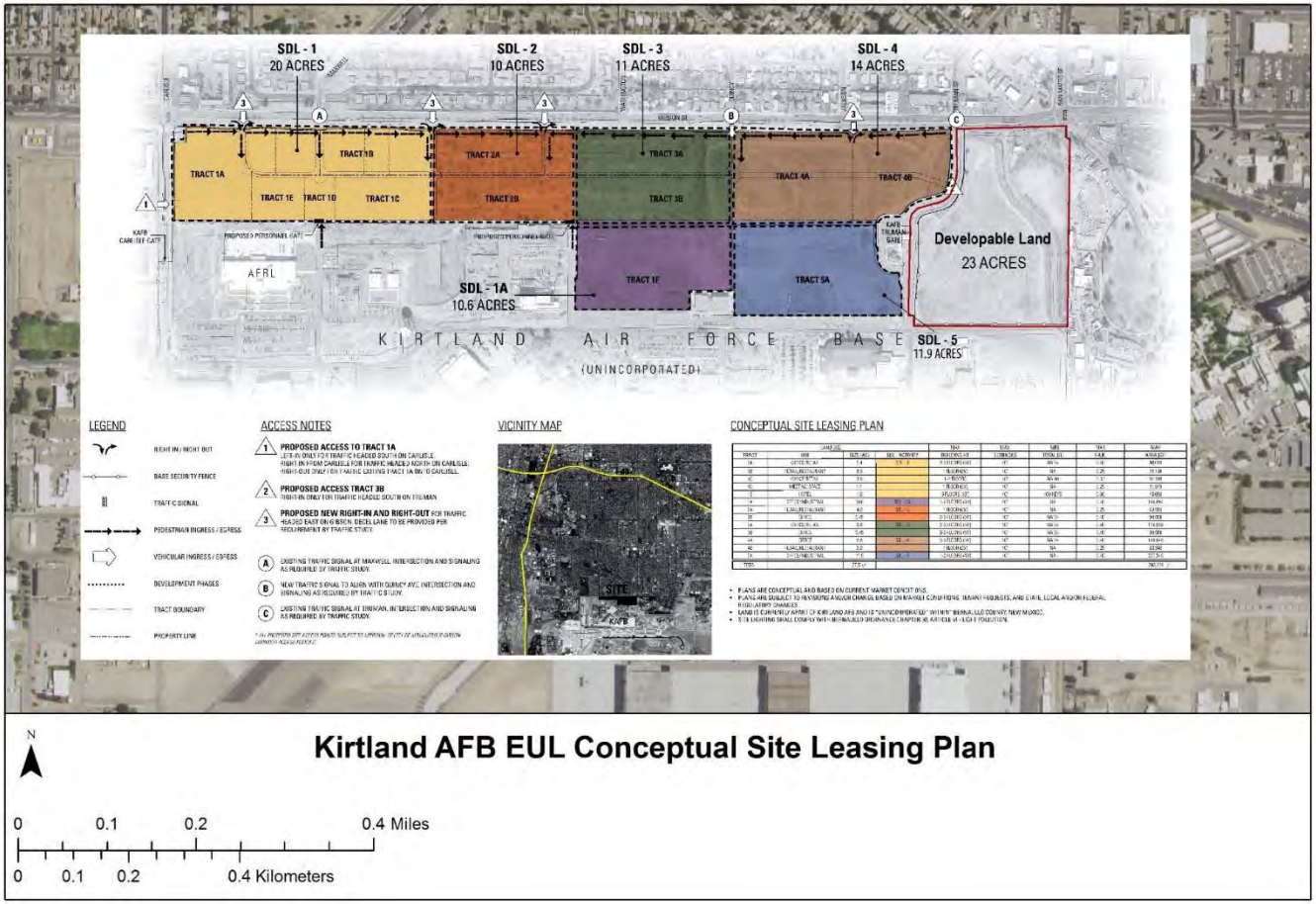
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*Depending on market conditions at the time of construction, building type, and location could change.

DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)

JAN 2 8 2019

Colonel Richard W. Gibbs, USAF
Commander
377th Air Base Wing
2000 Wyoming Boulevard SE
Kirtland Air Force Base NM 87117

Ms. Priscilla J. Avila
Acting Regional Director and Regional Environmental Protection Specialist
Bureau of Indian Affairs
Southwest Regional Office
1001 Indian School Road NW
Albuquerque NM 87104

Dear Ms. Avila

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the United States Air Force (USAF) NEPA regulations, the USAF is preparing an Environmental Assessment (EA) to evaluate redeveloping an underutilized portion of land on Kirtland Air Force Base (AFB) through an Enhanced Use Lease (EUL). The proposed action would develop a 77-acre underutilized site and evaluate a 23-acre developable site for future use into a mixed-use development that could include office, retail/commercial, multifamily housing, hotel, gasoline station, and restaurant space uses. The Environmental Impact Analysis Process (EIAP) study area is located on the northwestern edge of Kirtland AFB, south of Gibson Boulevard, extending from Carlisle Boulevard on the west to the Veterans Affairs Hospital property on the east. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities at the EIAP study area. The Proposed Action is needed to return underutilized land to a productive use that would result in an economic benefit for Kirtland AFB and the community.

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Please send your written responses to the NEPA Program Manager, 377 MSG/CEIEC, 2050 Wyoming Boulevard SE, Suite 116, Kirtland AFB, NM 87117 or via email to KirtlandNEPA@us.af.mil.

Sincerely

Richard W. Gibbs

RICHARD W. GIBBS, Colonel, USAF
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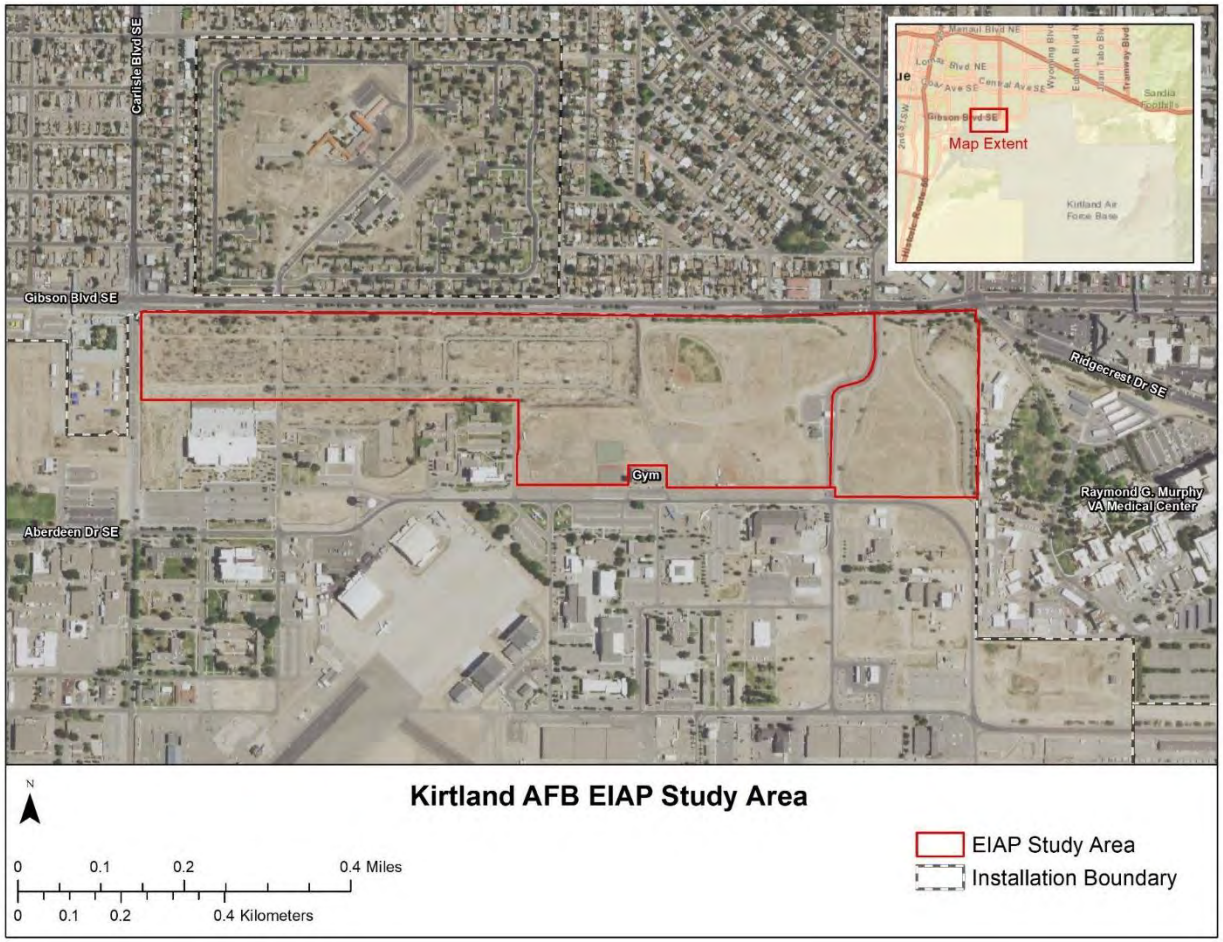
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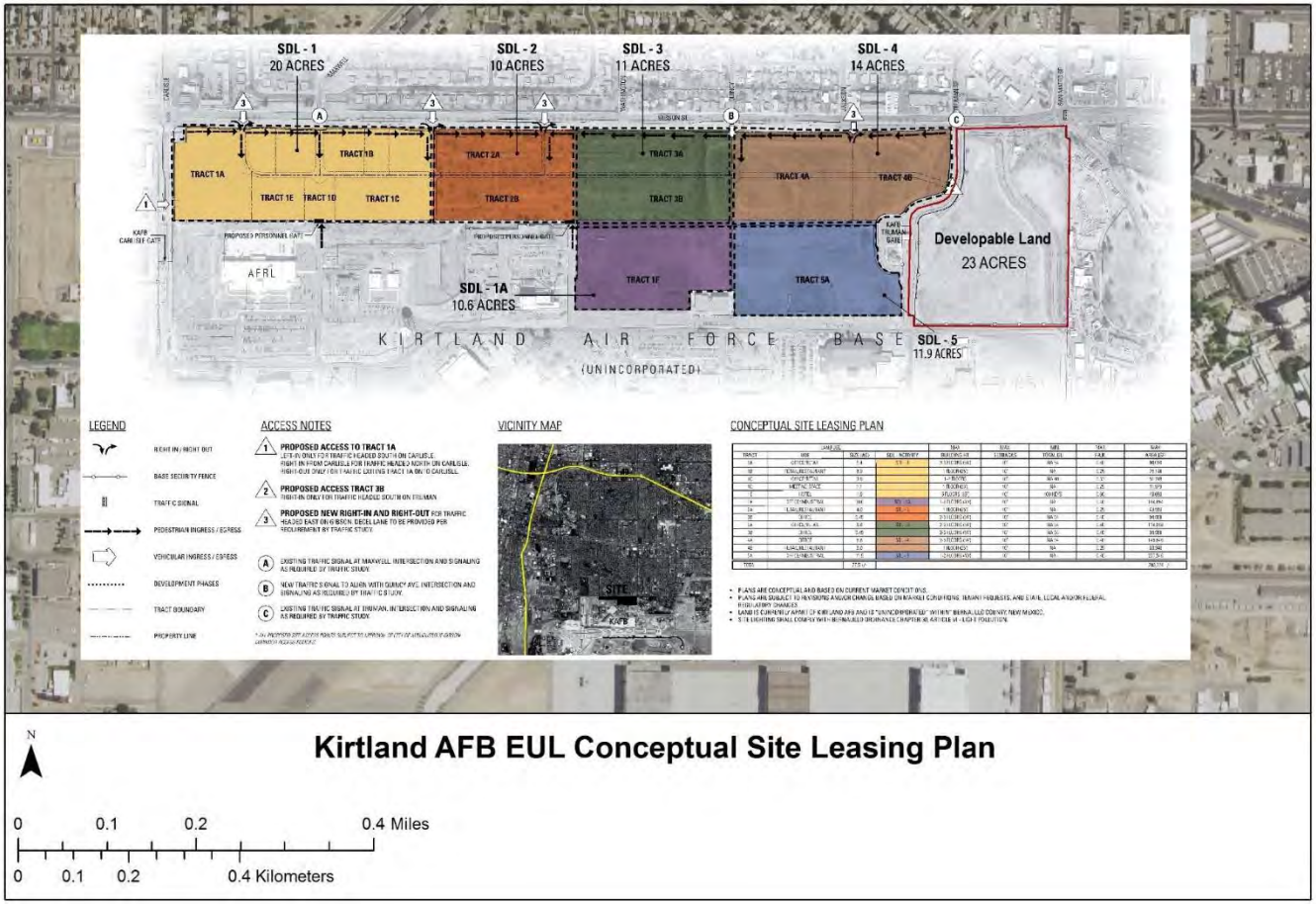
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*Depending on market conditions at the time of construction, building type, and location could change.

Scoping Response Letters

From: [redacted]
To: 377 MSG/CEIE NEPA Environmental
Subject: [Non-DoD Source] Kirtland Air Force Base NM Letter received 02-27-2019 regarding an EA to evaluate redeveloping an underutilized portion of land on Kirtland Air Force Base
Date: Thursday, February 28, 2019 6:43:18 AM
Attachments: image001.png
Kirtland Air Force Base NM - Letter received 02-27-2019 regarding an EA to evaluate redeveloping an underutilized portion of land on Kirtland Air Force Base.pdf

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Dear Sir,

The attached letter from Kirtland Air Force Base NM regarding an Environmental Assessment (EA) to evaluate an underutilized portion of land on Kirtland Air Force Base was received by the FAA Obstruction Evaluation Group yesterday, 02/27/2019. The following information is provided regarding the development of the proposed area:

As stated in Title 14 of the Code of federal Regulations (14 CFR) Part 77, Objects that Affect the Navigable Airspace, the primary objectives of the Federal Aviation Administration (FAA) are to promote air safety and the efficient use of the navigable airspace.

To accomplish this mission, aeronautical studies are conducted based on information provided by proponents on FAA Form 7460-1, Notice of Proposed Construction or Alteration. Within the EA area if any construction or alteration proposals meet FAA notice filing criteria, the FAA requests FAA Forms 7460-1 be filed ELECTRONICALLY via https://oeaaa.faa.gov/oeaaa/external/portal.jsp as necessary for each of the proposals. The website contains instructions for using the program and contains a "Notice Criteria Tool" to determine if notice to the FAA is required for locations included in the proposal. If notice to the FAA is required, instructions are available at the website for electronically filing proposals.

For future reference, you may contact the Obstruction Evaluation Group at 10101 Hillwood Parkway, Fort Worth, Texas 76177 or (817) 222-5934.

Thank you,

Doug Felix
Federal Aviation Administration
Obstruction Evaluation Group
AJV-15
Tetra Tech AMT Support
10101 Hillwood Parkway
Fort Worth, TX 76177

[redacted]

Please visit our website:
https://oeaaa.faa.gov

From: [redacted]
To: 377 MSG/CEIE NEPA Environmental
Cc: [redacted]
Subject: [Non-DoD Source] Enhanced Use Lease Redevelopement
Date: Thursday, February 28, 2019 3:29:47 PM
Attachments: image001.png
image002.png
image003.png
image004.png

Good Afternoon,

I have reviewed the Description of the Proposed Action and Alternatives for the EA the Enhanced Use Lease Redevelopment. I have no additional information regarding impacts of the proposed action on the natural environment nor any environmental aspects.

Cheryl Prewitt
Regional Environmental Coordinator
Forest Service
Southwestern Region
[redacted]
333 Broadway Blvd SE
Albuquerque, NM 87102
www.fs.fed.us
Caring for the land and serving people

USDA

United States Department of Agriculture

March 4, 2019

NEPA Program Manager
Department of the Air Force
377 MSG/CEIEC
2050 Wyoming Boulevared SE, Suite 116,
Kirkland AFB, New Mexico 87117

Dear Sir:

Thank you for providing the Natural Resources Conservation Service (NRCS) the opportunity to review the Enhaced Use Lease Project, Bernilillo County, New Mexico.

The Farmland Protection Policy Act (FPPA) authorizes the NRCS to provide review of proposed projects that have the potential to irreversibly convert farmlands to non-farmland or irreversibly converting hydric areas to non-hydric uses as the result of programs funded by the federal government. In review of the information provided on the project, it is determined that the entire project is located in an urban or development area in an existing easement, or is in an area not designated as Prime or Important Farmland. The FPPA rules define farmland conversion to be "to the extent that it irreversibly converts farmland to other purposes", this project is not expected to have that effect. With this acknowledged, the proposed project will not cause Prime or Important Farmlands or hydric soils to be converted to non-agricultural or non-hydric uses, and is not subject to the Act.

If you have any questions concerning soils information, please contact Richard Strait, State Soil Scientist, at [redacted]

Sincerely,

J. XAVIER MONTOYA
State Conservationist

cc:
Pearl Armijo, District Conservationist for Team 2, NRCS, Los Lunas, NM
Richard Strait, State Soil Scientist, NRCS, Albuquerque, NM

Natural Resources Conservation Service
New Mexico State Office
100 Sun Avenue NE, Suite 602, Albuquerque, New Mexico 87109
Voice: (505) 761-4400 Fax: (855) 538-6003

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

Michelle Lujan Grisham
Governor

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE (505) 827-6320 FAX (505) 827-6338

March 13, 2019

Colonel Richards W. Gibbs
Commander
377 Air Base Wing
2000 Wyoming Blvd. SE
Kirtland AFB, NM 87117

Re: Environmental Impact Analysis Process (EIAP) for Enhanced Use Lease (EUL) at Kirtland Air Force Base (KAFB) (HPD log 109912)

Dear Colonel Gibbs,

On behalf of the New Mexico State Historic Preservation Officer (SHPO) I want to thank Kirtland Air Force Base (KAFB) for giving us another opportunity to comment on the aforementioned EIAP for the proposed EUL.

Our records show that the most of the area of potential effect (APE) has been inventoried to identify and evaluate historic properties. The unsurveyed areas include the athletic fields in the eastern part of the APE, and the open areas bordering the Truman Gate.

No historic properties have been identified in the direct effects and it is the SHPO's opinion that the historic properties are unlikely to be present in the areas that haven't been surveyed.

The SHPO has no concerns about the proposed undertaking. However, during the development Environmental Assessment (EA) the Finding of No Significant Impact (FONSI) should include a statement that the KAFB with the SHPO in the event that there are post-review discoveries during development.

Thanks again for giving us the opportunity to review and comment on this undertaking. We appreciate all the work KAFB does in the defense of our nation and to protect the cultural resources in your care. If you have any question or comments, please feel free to call me directly at [redacted]

Sincerely,

Bob Estes Ph.D.
HPD Staff Archaeologist

NEPA Program Manager
377MSG/CEIE
2050Wyoming, Blvd. SE
Suite 116
Kirtland AFB 87117

United States Department of the Interior
Bureau of Indian Affairs
Southwest Region
1001 Indian School Road N.W.
Albuquerque, New Mexico 87104-2303

TAKE PRIDE IN AMERICA

In Reply Refer To:
620-Division of Environmental, Safety,
and Cultural Resources Management

MAR 14 2019

National Environmental Policy Act (NEPA) Program Manager
377 MSG/CEIEC
2050 Wyoming Boulevard SE, Suite 116
Kirtland Air Force Base (AFB), New Mexico 87117

Dear NEPA Program Manager,

Our office has received your request for information regarding the preparation of an Environmental Assessment to evaluate to evaluate redeveloping an underutilized portion of land on Kirtland AFB through an Enhanced Use Lease. We appreciate that the United States Air Force (USAF) acknowledges its trust responsibility in contacting the Bureau of Indian Affairs (BIA) on a government-to-government basis regarding environmental issues for the fore mentioned proposed project. It is our understanding that the Section 106 of the National Historic Preservation Act (NHPA) compliance will be completed for the proposed action.

As is, the proposed action does not impact any trust resources under the jurisdiction of the BIA. Therefore, at this time we do not have any comments. However, we do request that USAF consult with any local Pueblo or Tribe regarding Section 106 consultation of NHPA.

Thank you for the opportunity to participate and comment on the proposed action. If you have any questions or concerns, please contact Mrs. Priscilla J Avila at [redacted]

Sincerely,

Patricia L. Mattingly

Acting Regional Director

GOVERNOR
Michelle Lujan Grisham

DIRECTOR AND SECRETARY
TO THE COMMISSION
Michael B. Sloane

DEPUTY DIRECTOR
Vacant

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

One Wildlife Way, Santa Fe, NM 87507
Post Office Box 25112, Santa Fe, NM 87504
Tel: (505) 476-8000 | Fax: (505) 476-8123
For information call: (888) 248-6866

www.wildlife.state.nm.us

21 March 2019

NEPA Program Manager
377 MSG/CEIEC
2050 Wyoming Blvd. SE, Suite 116
Kirtland Air Force Base, NM 87117

Re: Final Description of Proposed Action and Alternatives for the Enhanced Use, Lease and Re-development Environmental Assessment Scoping; NMDGF No. 18987

Dear NEPA Program Manager:

The Department of Game and Fish (Department) has reviewed the above-referenced document. The proposed action would develop a 77 acre underutilized site, and evaluate a 23 acre developable site for future use as a mixed-use development. The 77 acre site was previously developed with housing that has since been removed.

The Department requests that pre-construction surveys be conducted at both of the proposed development sites for burrowing owls (*Athene cunicularia*) and Gunnison's prairie dogs (*Cynomys gunnisoni*). Surveys should be conducted by qualified biologists during the summer activity season for both species. The Department requests that the draft environmental assessment (DEA) include a discussion of the findings of these surveys. If burrowing owls and/or Gunnison's prairie dogs are detected at one of both of these sites, the Department requests that mitigation strategies be proposed within the DEA to avoid disturbance to and mortality of owls and/or prairie dogs from development activities. The Department's *Guidelines and Recommendations for Burrowing Owl Surveys and Mitigation* can be found on the Department's website at http://www.wildlife.state.nm.us/download/conservation/habitat-handbook/project-guidelines/Burrowing-Owl-Surveys-and-Mitigation-2007.pdf. If no burrowing owls or prairie dogs are found to occupy the site, the Department does not anticipate adverse effects to wildlife or habitats from implementation of this project.

We appreciate the opportunity to comment on this project. Should you have any questions regarding our comments, please contact Mark Watson, Terrestrial Habitat Specialist, at [redacted]

Sincerely,

Matt Wunder, Ph.D.
Chief, Ecological and Environmental Planning Division

NEW MEXICO
ENVIRONMENT DEPARTMENT

Harold Runnels Building
1190 Saint Francis Drive, PO Box 5469
Santa Fe, NM 87502-5469
Telephone (505) 827-2855
www.env.nm.gov

Michelle Lujan Grisham
Governor

Howie C. Morales
Lt. Governor

James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

March 22, 2019

NEPA Program Manager
377 MSG/CEIEC
22050 Wyoming Blvd SE Suite 116
Kirtland AFB, NM 87117
By email: kirtlandnepa@us.af.mil

Dear Colonel Richard,

The New Mexico Environment Department (NMED) has reviewed the scoping letter for the proposed KAFB Mixed use development Projects and offers the following comments:

NMED Ground Water Quality Bureau Comments

If domestic wastewater is to be discharged to an on-site wastewater disposal system, then the on-site system must operate under the appropriate permit from the NMED (either a liquid waste permit issued pursuant to 20.7.3 NMAC or a ground water discharge permit issued pursuant to 20.6.2 NMAC) depending upon the daily discharge volume. The developer is encouraged to contact NMED's Liquid Waste Program Albuquerque Office at (505) 222-9500 for assistance in determining the appropriate permit for the proposed project. However, if domestic wastewater is to be delivered offsite to a municipal or regional wastewater treatment system, then a permit for the discharge domestic wastewater will not be required.

The proposed project is not expected to have any adverse impacts on ground water quality in the area of the project. However, implementation of the project may involve the use of heavy equipment, thereby leading to a possibility of contaminant releases (e.g., fuel, hydraulic fluid, etc.) associated with equipment malfunctions. The GWQB advises all parties involved in the project to be aware of notification requirements for accidental discharges contained in 20.6.2.1203 NMAC. Compliance with the notification and response requirements will further ensure the protection of ground water quality in the vicinity of the project.

A copy of the Ground and Surface Water Protection Regulations, 20.6.2 NMAC, is available at http://164.64.110.239/nmac/parts/title20/20.006.0002.pdf.

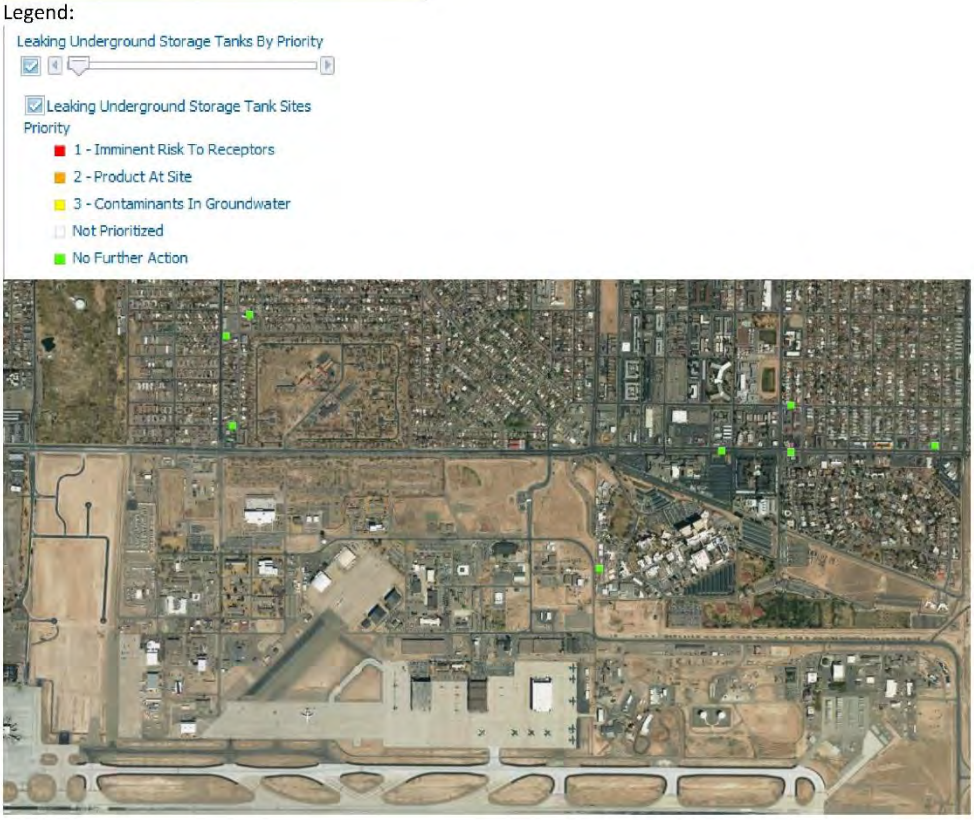
NMED Petroleum Storage Tank Bureau Comments

PSTB Release Sites:

GoNM - OpenEnviroMap

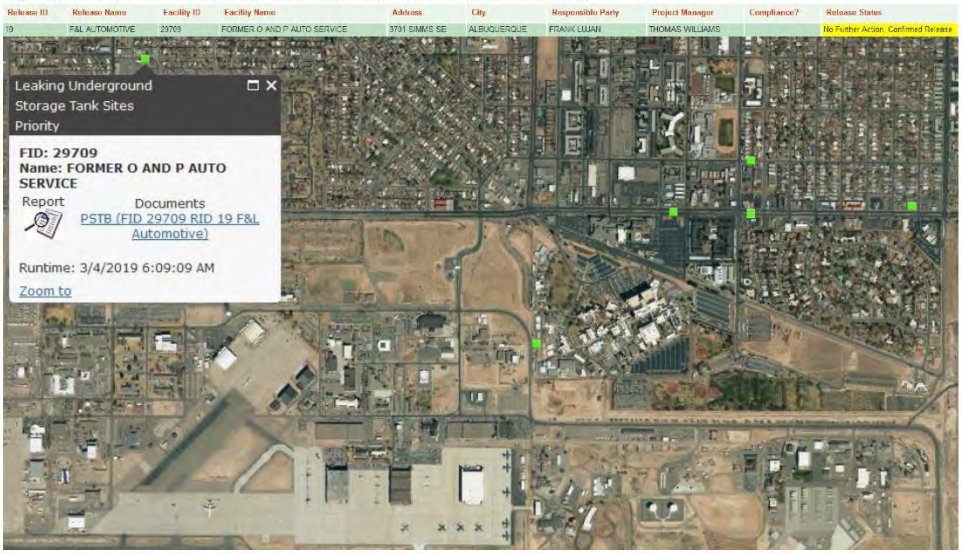
https://gis.web.env.nm.gov/oem/?map=gonm

Legend:

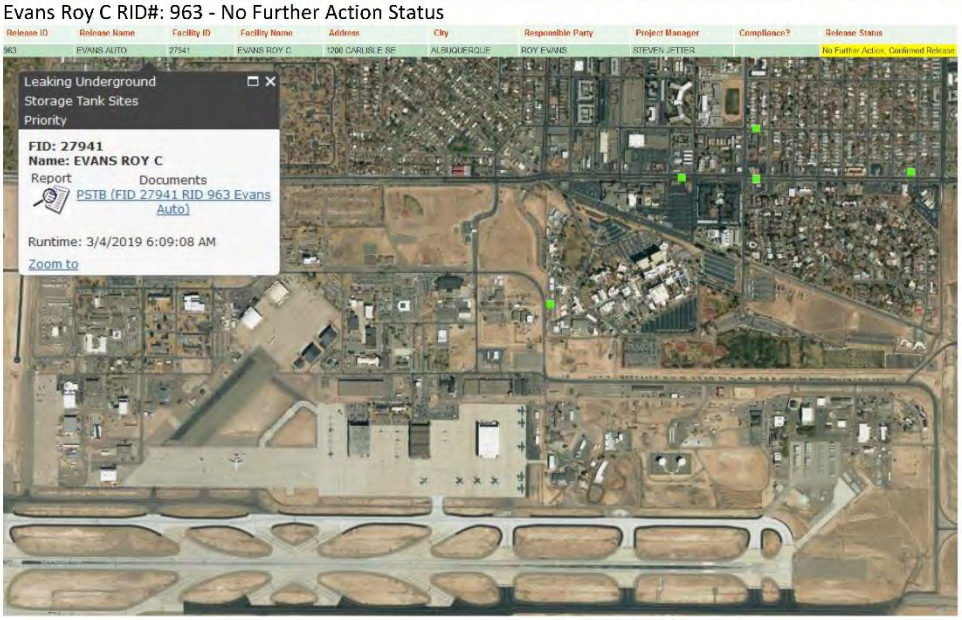


Science | Innovation | Collaboration | Compliance 2

Former O and P Auto Service RID#: 19 - No Further Action Status



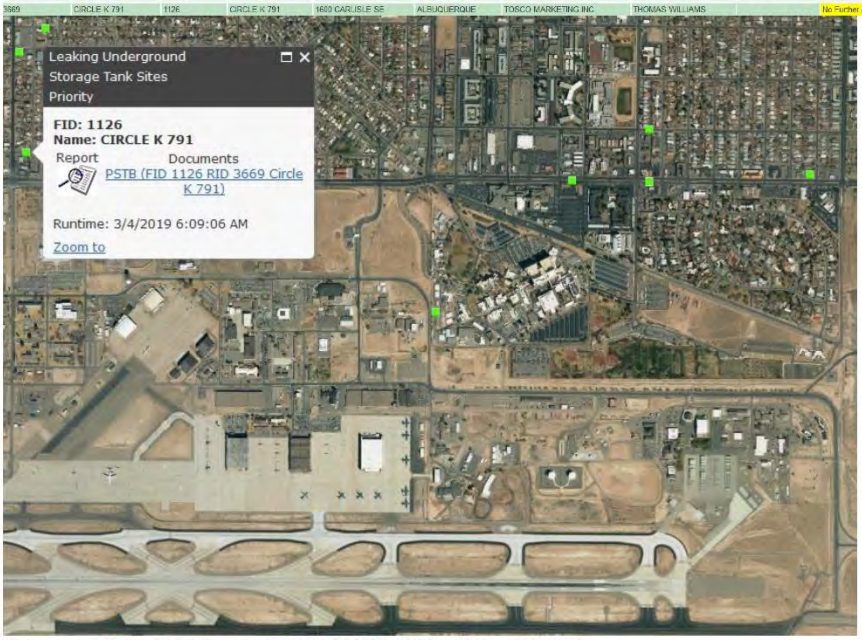
Evans Roy C RID#: 963 - No Further Action Status



Science | Innovation | Collaboration | Compliance 3

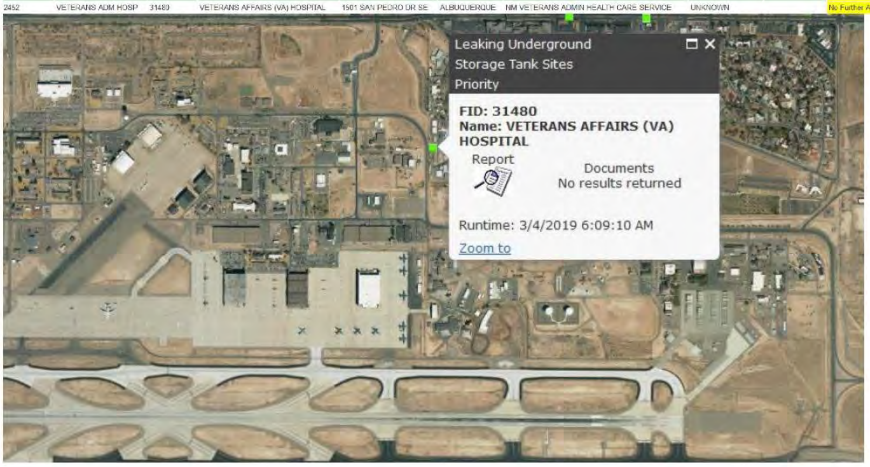
Circle K 791 RID#: 3669 – No Further Action Status

Release ID	Release Name	Facility ID	Facility Name	Address	City	Responsible Party	Project Manager	Compliance?	Release Status
3669	CIRCLE K 791	1126	CIRCLE K 791	1600 CARLISLE SE	ALBUQUERQUE	TOSCO MARKETING INC	THOMAS WILLIAMS		No Further Action, Confirmed Release

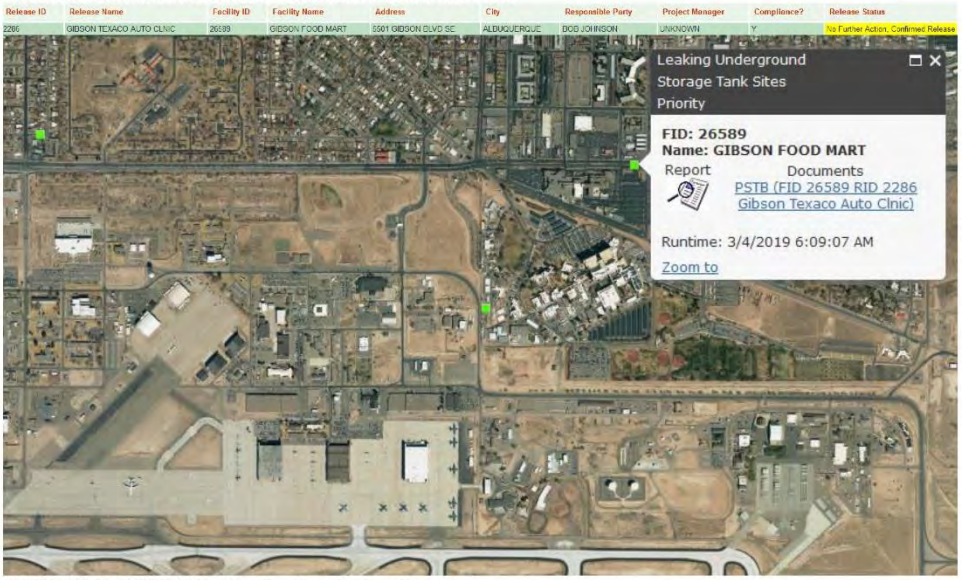


Veterans Affairs (VA) Hospital FID#: 31480, RID#: 2046 and 2452

Release ID	Release Name	Facility ID	Facility Name	Address	City	Responsible Party	Project Manager	Compliance?	Release Status
2046	VETERANS ADMIN	31480	VETERANS AFFAIRS (VA) HOSPITAL	1501 SAN PEDRO DR SE	ALBUQUERQUE	NM VETERANS ADMIN HEALTH CARE SERVICE	UNKNOWN		No Further Action, Confirmed Release
2452	VETERANS ADM HOSP	31480	VETERANS AFFAIRS (VA) HOSPITAL	1501 SAN PEDRO DR SE	ALBUQUERQUE	NM VETERANS ADMIN HEALTH CARE SERVICE	UNKNOWN		No Further Action, Confirmed Release



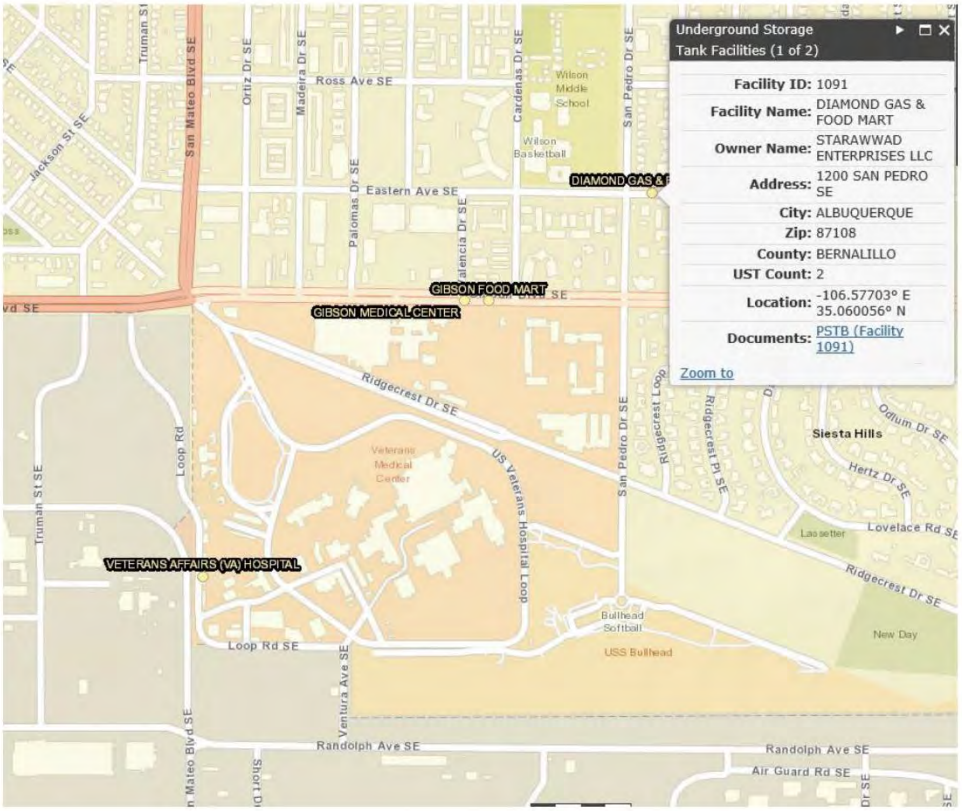
Gibson Food Mart RID#: 2286 – No Further Action Status

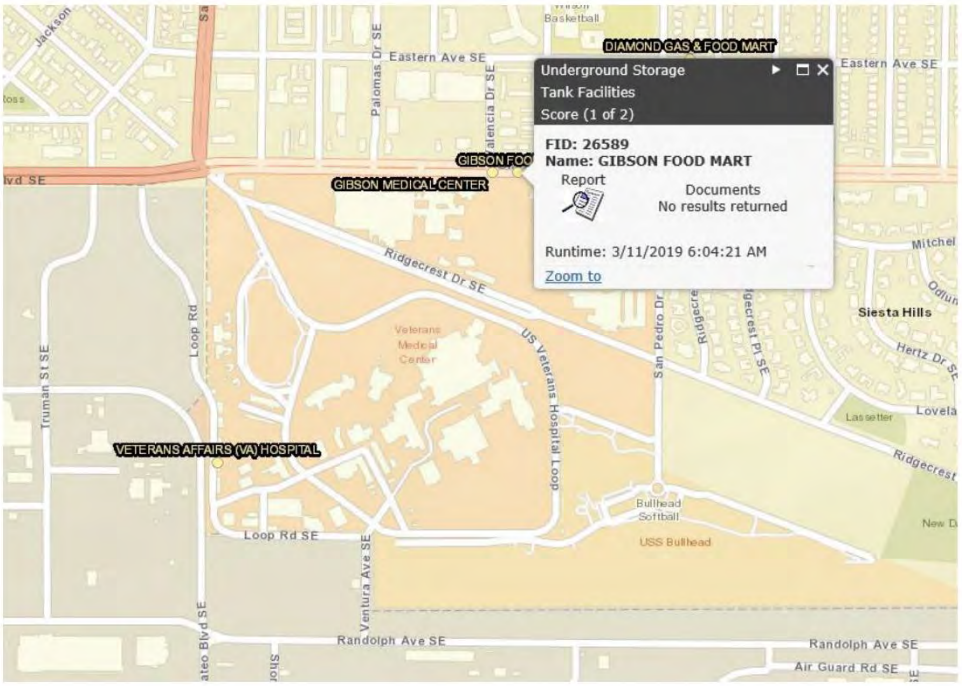


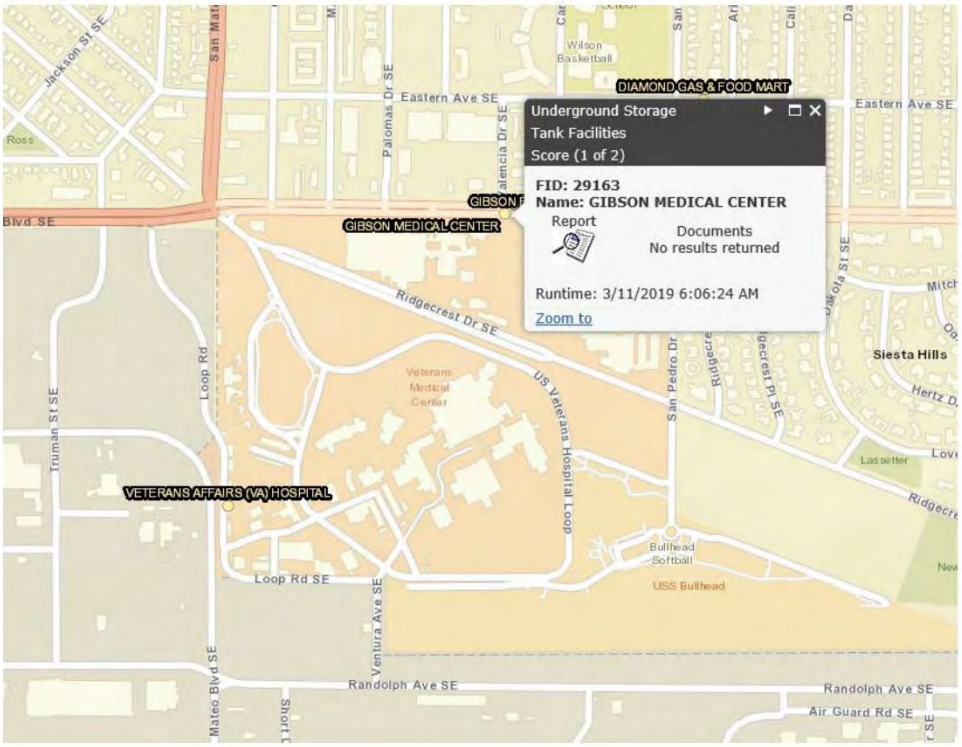
ATEX 129 K RID#:2127 – No Further Action Status

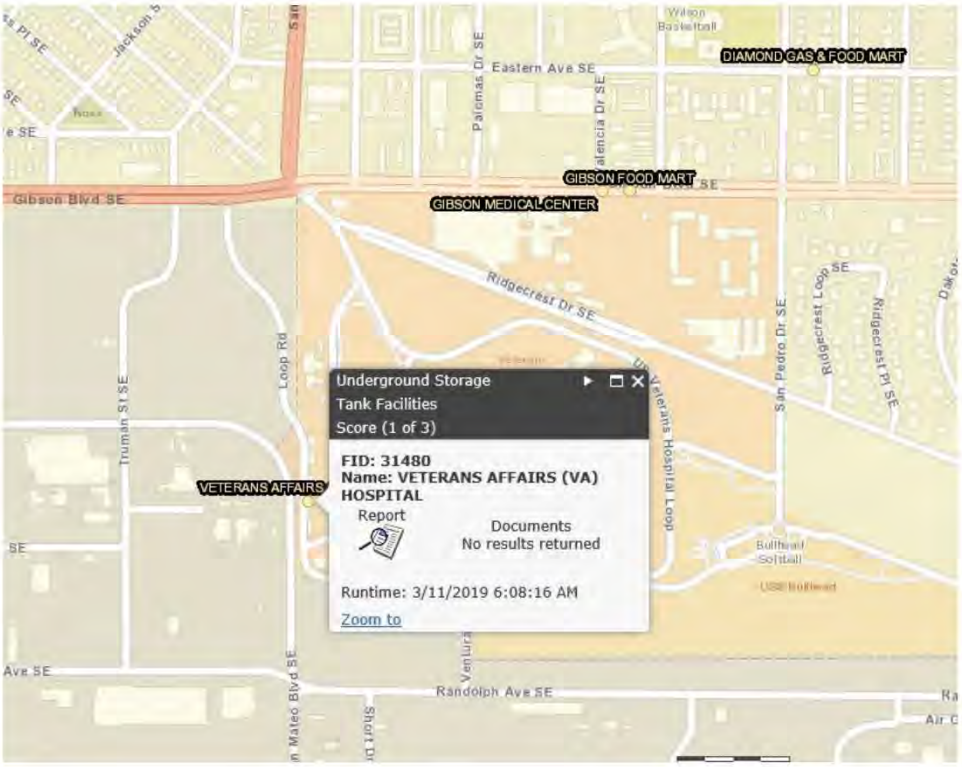
ATEX 351 RID#: 510 – No Further Action Status

PSTB Facilities:




DIAMOND GAS & FOOD MART
Underground Storage
Tank Facilities
Score (1 of 2)
FID: 26589
Name: GIBSON FOOD MART
Report
Documents
No results returned
Runtime: 3/11/2019 6:04:21 AM
Zoom to
GIBSON MEDICAL CENTER
VETERANS AFFAIRS (VA) HOSPITAL
Eastern Ave SE
Ridgecrest Dr SE
Loop Rd SE
Randolph Ave SE
Air Guard Rd SE
Siesta Hills
Veterans Medical Center
US Veterans Hospital Loop
Bullhead Softball
USS Bullhead


Underground Storage
Tank Facilities
Score (1 of 2)
FID: 29163
Name: GIBSON MEDICAL CENTER
Report
Documents
No results returned
Runtime: 3/11/2019 6:06:24 AM
Zoom to
DIAMOND GAS & FOOD MART
GIBSON MEDICAL CENTER
VETERANS AFFAIRS (VA) HOSPITAL
Eastern Ave SE
Ridgecrest Dr SE
Loop Rd SE
Randolph Ave SE
Air Guard Rd SE
Siesta Hills
Veterans Medical Center
US Veterans Hospital Loop
Bullhead Softball
USS Bullhead
Wilson Basketball
Jackson St SE
Truman St SE
Loop Rd
Palomas Dr SE
Ventura Ave SE
Mateo Blvd SE
San Pedro Dr
Lassetter



Facilities for which PSTB records show there are no longer petroleum storage tanks that we regulate and there has not been a release are not included in these comments. There are a number of reasons that there could be tanks present or a release, but the Petroleum Storage Tank Bureau does not have a record of it in our database. For further information, please consult our online resources. Many of the records requested from the Petroleum Storage Tank Bureau are available online, and you can access them quickly yourself by following the directions below.

If you'd like a further response from this bureau, please reply with the information you find (say no information if none; say whether you found info on leaks or not; and if possible, say whether there are tanks and whether they are underground or aboveground). In addition, please use any FID's (facility identification numbers) or RID's (release identification numbers) you've found in these searches for the facilities or releases you are seeking information on, and please state specifically which records you're looking for. If you want to see all records for a facility, you're welcome to arrange a time with us to come look at the files. If you need any help using the online resources, please let me know.

Please review the lists on the webpage, https://www.env.nm.gov/ust/lists.html. Click on the Active Leaking and NFA Sites link. The first document lists NFA sites (sites for which no further action is currently required) by county and city. The third document lists active sites alphabetically by priority (the second and fourth documents are pdfs). Click on the document you need, then click Download for the option you choose in the window that opens. You can search the Active Leaking or NFA Sites spreadsheets (or any other spreadsheet) by holding down the ctrl key on your keyboard and then hitting the F key, or by going to Find & Select (all the way to the right) on the Home tab of the spreadsheet, selecting Find, and entering an address or part of an address, a name, or any

information you'd like to search on and then clicking on Find Next repeatedly to find all records that fit your search. You can download the No Further Action letter for many of these records by clicking the link in the last column of the NFA spreadsheet. If the No Further Action letter is not online and you need it or any other information, let us know.

If you are looking for information about the presence of underground or aboveground storage tanks at an address, please download the All Storage Tank list, also at https://www.env.nm.gov/ust/lists.html. This lists all storage tanks in the state that fall or fell under our regulations and have been registered with us, whether they are still present or not. This spreadsheet can be searched the same way as the above ones. If you only need to know about tanks that are currently in use or temporarily out of use, download the Active Storage Tank list.

The GoNM map link also enables you to locate quite a bit of information that will facilitate your search, including NFA letters. Not all information about each site has been uploaded there, but ***recently many site documents have been added***. Instructions for Go NM: Go to https://www.env.nm.gov/ust/lists.html. Click on the GoNM link at the bottom left of the page. Documents may download more easily if you use Internet Explorer. When you are in the GoNM Mapper, you can use the zoom slider at the upper left of the map to zoom in. Colored and white shapes represent facilities that have or had tanks and/or have been involved in a release. To find out more about a facility, click on the white i inside the blue circle at top of the screen and then click on the shape that represents that facility. When the dialog box pops up, you can click on either the Report or any link under Documents If it is a leaking site, there will usually be a link under Documents. Many No Further Action letters and other documents are accessible and downloadable this way. If you click on the icon under Report at the left of the dialogue box, there is also quite a bit of information there. If there is a triangle (like a "play" symbol on a media player) at the top right of the dialog box, click on it, and a second page of information will open.

If you have questions or need further information, please call the Petroleum Storage Tank Bureau at 505-476-4397.

NMED Solid Waste Bureau Comments

This proposed action involves mixed-use development of multiple acres of underutilized or developable land through leasing upon KAFB, to include mixed-use development for office, retail/commercial, multifamily housing, hotel, gasoline station, and restaurant space. The NMED's Solid Waste Bureau (SWB) advises that such work has the potential to result in the knowing or inadvertent excavation of buried solid waste due to necessary trenching, excavation or surface development activities. If more than 120 cubic yards of solid waste from any one contiguous area is identified and requires excavation, the SWB will require submission of a Waste Excavation Plan (WEP) pursuant to the SWR, 20.9.2.10.A(15) NMAC. Under these circumstances, any ongoing excavation would need to cease until a WEP has been approved in writing.

NMED Surface Water Quality Bureau Comments

NPDES MS4 Permit

Kirtland Air Force base is an operator under the U.S. Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) Middle Rio Grande Watershed Municipal Separate Storm Sewer System (MS4) General Permit tracking number NMR04A009. The Storm Water Management Plan (SWMP) may need to be updated to reflect these activities.

NPDES Construction General Permit

The U.S. Environmental Protection Agency (USEPA) administers the National Pollutant Discharge Elimination System (NPDES) program under Section 402 of the Federal Clean Water Act (CWA) in the State of New Mexico. Any "construction activity" that will disturb, or that is part of a common plan of development or sale that will disturb, one or more acres of land and discharges stormwater to waters of the U.S. must obtain NPDES Construction General Permit (CGP) coverage. The CGP was re-issued January 11, 2017 effective February 16, 2017 and includes requirements for endangered species and historic properties, and additional state and tribal

requirements in Part 9 of the permit.

An "operator" is any party associated with a construction project that meets either of the following two criteria: The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or the party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions. Where there are multiple operators associated with the same project, all operators must obtain permit coverage.

Among other things, the CGP requires that a SWPPP be prepared for the site and that appropriate Best Management Practices (BMPs) be installed and maintained both during and after construction to prevent, to the extent practicable, pollutants (primarily sediment, oil & grease and construction materials from construction sites) in storm water runoff from entering waters of the U.S. This permit also requires that permanent stabilization measures, and permanent storm water management measures be implemented post construction to minimize, in the long term, pollutants in storm water runoff from entering these waters. In addition, permittees must ensure that there is no increase in sediment yield and flow velocity from the construction site (both during and after construction) compared to pre-construction, undisturbed conditions.

More information on the CGP as well as links to the eReporting tool (NeT-CGP) to apply for coverage or waivers is available at: https://www.epa.gov/npdes/2017-construction-general-permit-cgp.

USACE Section 404 Dredge and Fill Permits

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Federal Clean Water Act (CWA). The USACE issues or authorizes Standard Individual Permits (IPs), Nationwide Permits (NWPs), and the Emergency Regional General Permit (RGP) for activities such as earth-moving work within wetlands, lakes, and streams (including ephemeral streams or arroyos) that are waters of the United States. If you have questions about activities within watercourses or wetlands that may require coverage under a CWA Section 404 permit, then more information is available on-line from the USACE, Albuquerque District, Regulatory Division at http://www.spa.usace.army.mil/Missions/Regulatory-Program-and-Permits/.

A water quality certification is required under Section 401 of the Federal CWA for activities regulated under Section 404. More information on the permitting and certification requirements is available on-line from NMED at https://www.env.nm.gov/surface-water- quality/dredgeandfillactivities/.

Thank you for providing NMED with the opportunity to review and comment on this proposed project.

Sincerely,

Michaelene Kyrala
Director of Policy
New Mexico Environment Department
[redacted]

Native American Tribes – Consultation Letters

Governor Brian Vallo
Pueblo of Acoma
PO Box 309
Acoma Pueblo NM 87034

Governor Eugene Herrera
Pueblo of Cochiti
PO Box 70
Cochiti Pueblo NM 87072

Chairman Timothy L. Nuvangyaoma
Hopi Tribal Council
PO Box 123
Kykotsmovi AZ 86039

Governor Max A. Zuni
Pueblo of Isleta
PO Box 1270
Isleta NM 87022

Governor David M. Toledo
Pueblo of Jemez
PO Box 100
Jemez Pueblo, NM 87024

President Levi Pesata
Jicarilla Apache Nation
PO Box 507
Dulce NM 87528

Governor Wilfred Herrera, Jr.
Pueblo of Laguna
PO Box 194
Laguna NM 87026

President Arthur "Butch" Blazer
Mescalero Apache Tribe
PO Box 227
Mescalero NM 88340

Governor Phillip A. Perez
Pueblo of Nambe
Route 1 Box 117-BB
Santa Fe NM 87506

President Jonathan Nez
Navajo Nation
PO Box 7440
Window Rock AZ 86515

Governor Ron Lovato
Ohkay Owingeh Pueblo
PO Box 1099
San Juan Pueblo NM 87566

Governor Craig Quanchello
Pueblo of Picuris
PO Box 127
Peñasco NM 87553

Governor Joseph M. Talachy
Pueblo of Pojoaque
78 Cities of Gold
Santa Fe NM 87506

Governor Issac Lujan
Pueblo of Sandia
481 Sandia Loop
Bernalillo NM 87004

Governor James Candelaria
Pueblo of San Felipe
PO Box 4339
San Felipe Pueblo NM 87001

Governor Perry Martinez
Pueblo of San Ildefonso
02 Tunyo Po
Santa Fe NM 87506

Governor Timothy Menchego
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo NM 87004

Governor J. Michael Chavarria
Pueblo of Santa Clara
PO Box 580
Española NM 87532

Governor Joseph Aquilar
Pueblo of Santo Domingo
PO Box 99
Santo Domingo Pueblo NM 87052

Governor Richard Aspenwind
Pueblo of Taos
PO Box 1846
Taos NM 87571

Governor Milton Herrera
Pueblo of Tesuque
Route 42 Box 360-T
Santa Fe NM 87506

Chairwoman Gwendena Lee-Gatewood
White Mountain Apache Tribe
PO Box 700
Whiteriver AZ 85941

Governor E. Michael Silvas
Ysleta del Sur Pueblo
117 S Old Pueblo Road
PO Box 17579
El Paso TX 79907

Governor Antonio Medina
Pueblo of Zia
135 Capitol Square Drive
Zia Pueblo NM 87053-6013

Governor Val R. Panteah, Sr.
Pueblo of Zuni
PO Box 339
Zuni NM 87327

Chairwoman Lori Gooday-Ware
Fort Sill Apache Tribe of Oklahoma
Rt 2, Box 121
Apache OK 73006

Chairman Harold Cuthair
Ute Mountain Ute Tribe
PO Box JJ
Towaoc CO 81334-0248

Chairman Matthew Komalty
Kiowa Tribe of Oklahoma
PO Box 369
Carnegie OK 73015

Chairman William Nelson
Comanche Nation of Oklahoma
PO Box 908
Lawton OK 73502

President Bruce Pratt
Pawnee Nation of Oklahoma
PO Box 470
Pawnee OK 74058

Chairman Terry Rambler
San Carlos Apache Tribe
PO Box 0
San Carlos AZ 85550

Chairwoman Christine Sage
Southern Ute Indian Tribe
PO Box 737
Ignacio CO 81137

President Terri Parton
Wichita & Affiliated Tribes
Wichita Executive Committee
PO Box 729
Anadarko OK 73005

Example Tribal Consultation Letter

DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)

Colonel Richard W. Gibbs, USAF
Commander
377th Air Base Wing
2000 Wyoming Boulevard SE
Kirtland Air Force Base NM 87117

Governor Brian Vallo
Pueblo of Acoma
PO Box 309
Acoma Pueblo NM 87034

Dear Governor Vallo

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the United States Air Force (USAF) NEPA regulations, the USAF is preparing an Environmental Assessment (EA) to evaluate redeveloping an underutilized portion of land on Kirtland Air Force Base (AFB) through an Enhanced Use Lease (EUL). The proposed action would develop a 77-acre underutilized site and evaluate a 23-acre developable site for future use into a mixed-use development that could include office, retail/commercial, multifamily housing, hotel, gasoline station, and restaurant space uses. The Environmental Impact Analysis Process (EIAP) study area is located on the northwestern edge of Kirtland AFB, south of Gibson Boulevard, extending from Carlisle Boulevard on the west to the Veterans Affairs Hospital property on the east. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities at the EIAP study area. The Proposed Action is needed to return underutilized land to a productive use that would result in an economic benefit for Kirtland AFB and the community.

Pursuant to Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations Part 800) and Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, the USAF would like to initiate government-to-government consultation to allow you and your designee the opportunity to identify any comments, concerns, and suggestions relevant to the NEPA compliance process concerning the Proposed Action. A copy of the Final Description of the Proposed Action and Alternatives for the Enhanced Use Lease Redevelopment EA at Kirtland AFB, New Mexico is available at *http://www.kirtland.af.mil* under the "Environment" button at the bottom of the webpage. For technical information, please contact my NEPA Program Manager, Ms. Martha E. Garciá, directly at (505) 846-6446 or martha.garcia.3@us.af.mil.

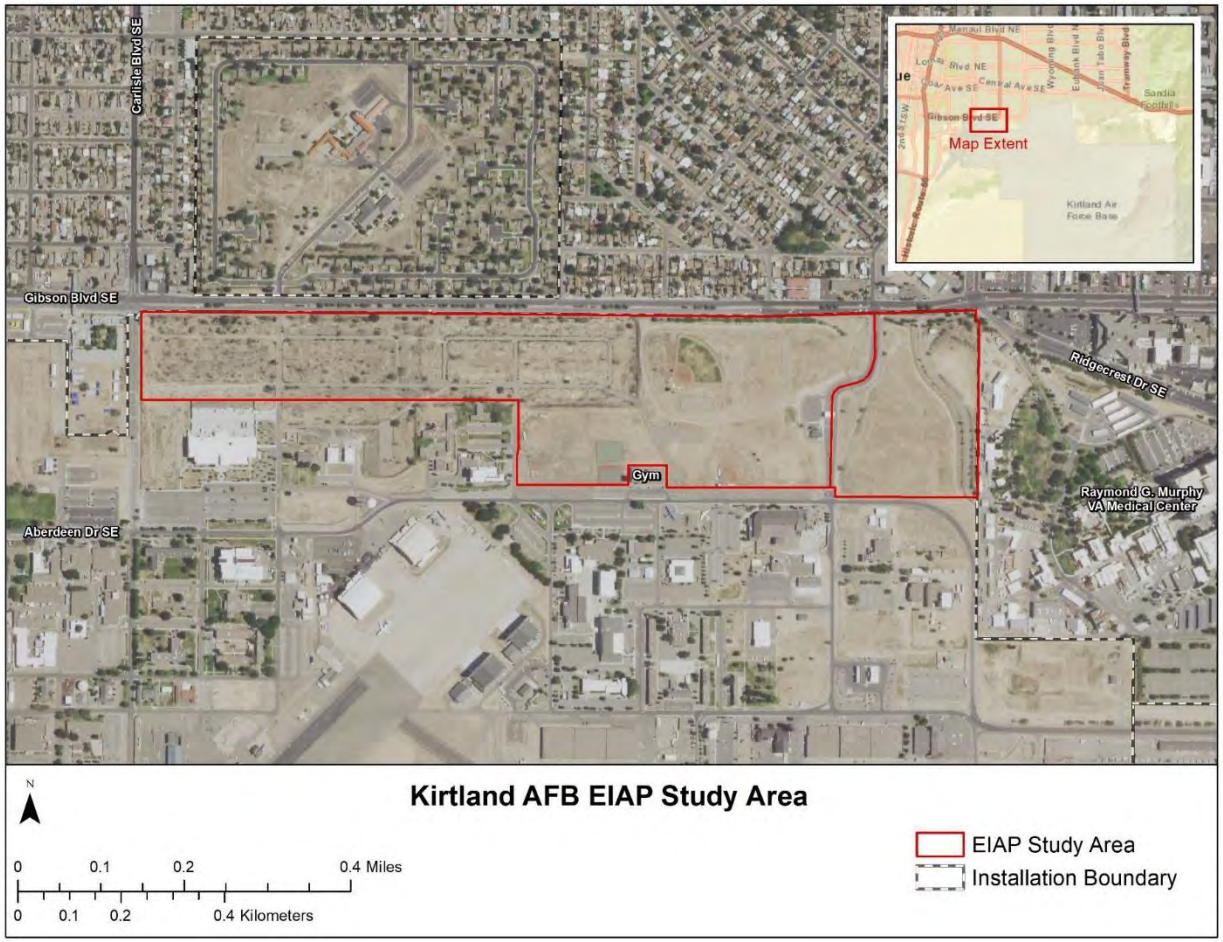
Please contact my office at (505) 846-7377 if you would like to meet to discuss the proposed project or proceed with Section 106 consultation.

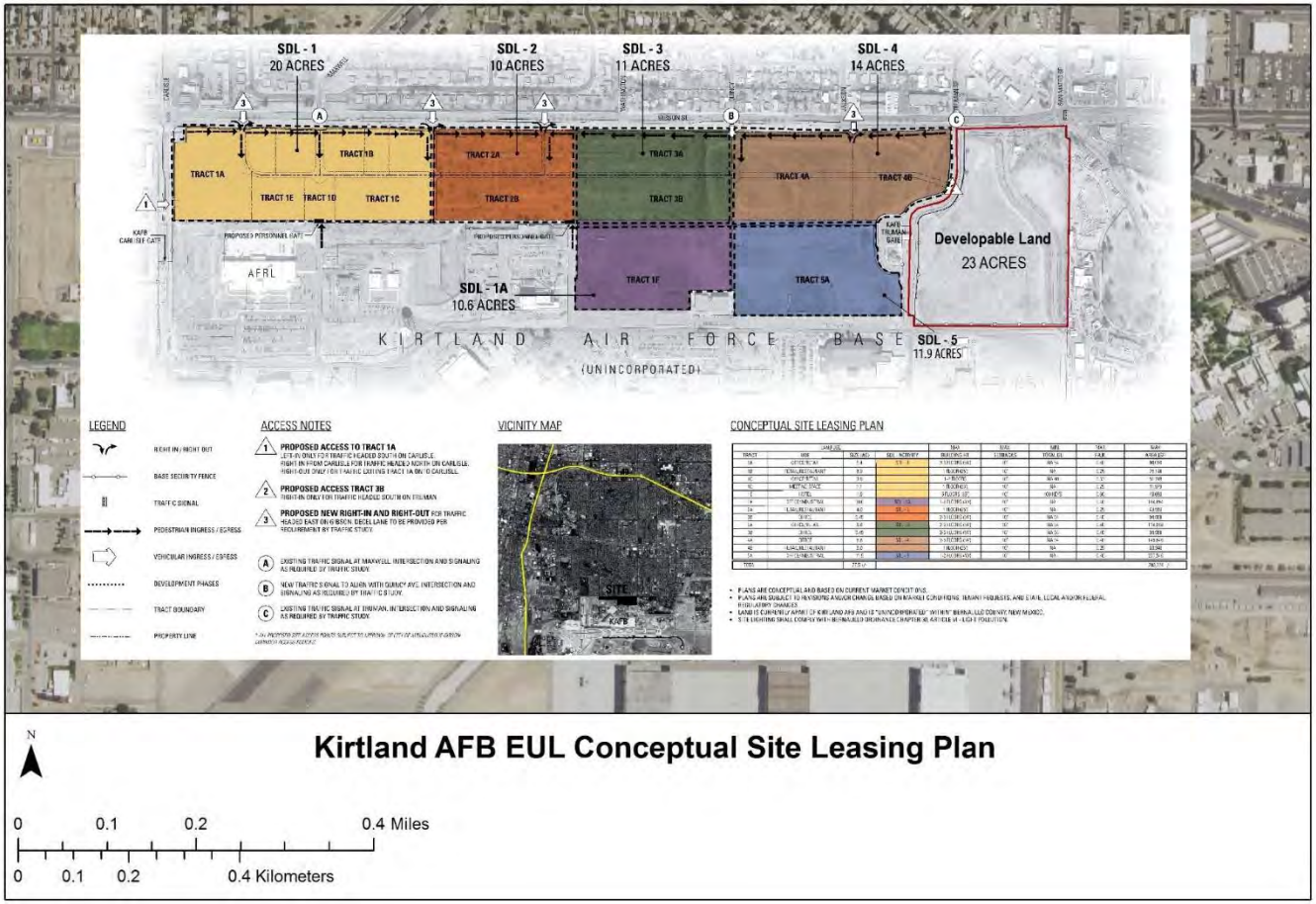
Sincerely

Richard W. Gibbs

RICHARD W. GIBBS, Colonel, USAF
Commander

3 Attachments:
1. Kirtland AFB EIAP Study Area
2. Kirtland AFB EUL Conceptual Site Leasing Plan
3. Proposed Development Site Density and Mix on Enhanced Use Lease Land


Carlisle Blvd SE
Gibson Blvd SE
Ridgecrest Dr SE
Gym
Raymond G. Murphy VA Medical Center
Aberdeen Dr SE
Map Extent
Kirtland AFB EIAP Study Area
N
0 0.1 0.2 0.4 Miles
0 0.1 0.2 0.4 Kilometers
EIAP Study Area
Installation Boundary


SDL - 1
20 ACRES
SDL - 2
10 ACRES
SDL - 3
11 ACRES
SDL - 4
14 ACRES
TRACT 1A
TRACT 1B
TRACT 1C
TRACT 1D
TRACT 1E
TRACT 2A
TRACT 2B
TRACT 3A
TRACT 3B
TRACT 4A
TRACT 4B
TRACT 1F
TRACT 5A
Developable Land
23 ACRES
SDL - 1A
10.6 ACRES
SDL - 5
11.9 ACRES
AFRL
KIRTLAND AIR FORCE BASE
(UNINCORPORATED)
LEGEND
ACCESS NOTES
VICINITY MAP
CONCEPTUAL SITE LEASING PLAN
Kirtland AFB EUL Conceptual Site Leasing Plan
N
0 0.1 0.2 0.4 Miles
0 0.1 0.2 0.4 Kilometers

Proposed Development Site Density and Mix on Enhanced Use Lease Land*

Site Development Lease (SDL) Number	Proposed Use	Building Height	Square Feet
SDL-1	Office/Retail Retail/Restaurant Office/Retail Meeting Space Hotel	3 floors 1 floor 1-2 floors 1 floor 5 floors	94,090 75,141 51,749 11,979 49,658
SDL-1A	Office/Industrial	1-2 floors	184,694
SDL-2	Retail/Restaurant Office	1 floor 2-3 floors	43,560 94,960
SDL-3	Office/Retail Office	2-3 floors 2-3 floors	114,998 94,961
SDL-4	Office Retail/Restaurant	2-3 floors 1 floor	149,846 63,340
SDL-5	Office/Industrial	1-2 floors	207,346

*Depending on market conditions at the time of construction, building type, and location could change.

Tribal Consultation Response Letters

Ysleta del Sur Pueblo
Tribal Council

119 South Old Pueblo Road * P.O. Box 17579 * El Paso, Texas 79917 * (915) 859-8053 * Fax: (915) 859-4252

February 28, 2019,

Colonel Richard W. Gibbs, USAF
Commander
377th Air Base Wing
2000 Wyoming Boulevard SE
Kirtland Air Force Base NM 87117

Dear Colonel Gibbs,

This letter is in response to the correspondence received in our office in which you provide Ysleta del Sur Pueblo the opportunity to comment the Supplemental Environmental Assessment (SEA) for the Proposed Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol El Paso Sector, Deming Station, New Mexico.

While we do not have any comments on the proposed undertaking and believe that this project will not adversely affect traditional, religious or culturally significant sites of our Pueblo and have no opposition to it; we would like to request consultation should any human remains or artifacts unearthed during this project be determined to fall under NAGPRA guidelines. Copies of our Pueblo's Cultural Affiliation Position Paper and Consultation Policy are available upon request.

Thank you for allowing us the opportunity to comment on the proposed project.

Sincerely,

Javier Loera
War Captain/THPO
Ysleta del Sur Pueblo

DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)

RECEIVED
FEB 25 2019
BY:

Colonel Richard W. Gibbs, USAF
Commander
377th Air Base Wing
2000 Wyoming Boulevard SE
Kirtland Air Force Base NM 87117

Governor E. Michael Silvas
Ysleta del Sur Pueblo
117 S Old Pueblo Road
El Paso TX 79907

Dear Governor Silvas

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the United States Air Force (USAF) NEPA regulations, the USAF is preparing an Environmental Assessment (EA) to evaluate redeveloping an underutilized portion of land on Kirtland Air Force Base (AFB) through an Enhanced Use Lease (EUL). The proposed action would develop a 77-acre underutilized site and evaluate a 23-acre developable site for future use into a mixed-use development that could include office, retail/commercial, multifamily housing, hotel, gasoline station, and restaurant space uses. The Environmental Impact Analysis Process (EIAP) study area is located on the northwestern edge of Kirtland AFB, south of Gibson Boulevard, extending from Carlisle Boulevard on the west to the Veterans Affairs Hospital property on the east. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities at the EIAP study area. The Proposed Action is needed to return underutilized land to a productive use that would result in an economic benefit for Kirtland AFB and the community.

Pursuant to Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations Part 800) and Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, the USAF would like to initiate government-to-government consultation to allow you and your designee the opportunity to identify any comments, concerns, and suggestions relevant to the NEPA compliance process concerning the Proposed Action. A copy of the Final Description of the Proposed Action and Alternatives for the Enhanced Use Lease Redevelopment EA at Kirtland AFB, New Mexico is available at *http://www.kirtland.af.mil* under the "Environment" button at the bottom of the webpage. For technical information, please contact my NEPA Program Manager, Ms. Martha E. Garciá, directly at (505) 846-6446 or martha.garcia.3@us.af.mil.

White Mountain Apache Tribe

Office of Historic Preservation
PO Box 1032
Fort Apache, AZ 85926
Ph: (928) 338-3033 Fax: (928) 338-6055

To: Richard W. Gibbs, Colonel, USAF Commander

Date: March 15, 2019

Re: *Environmental Assessment to evaluate Redeveloping Lands on Kirtland Air Force Base*

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the proposed project, dated February 2019 . In regards to this. please attend to the following statement below.

Thank you for allowing the White Mountain Apache tribe the opportunity to review and respond to the Environmental Assessment for the proposed redevelopment of land through the Enhance Use Lease on the USAF lands at Kirtland AFB, New Mexico. Upon reviewing the document/reports we have determined the proposed project plans ***"will not have an impact"*** on the White Mountain Apache tribe's historic properties and/or traditional cultural properties

Thank you for your continued collaborations in protecting and preserving places of cultural and historical importance. No further consultation will be necessary.

Sincerely,

Mark T. Altaha

White Mountain Apache Tribe – THPO
Historic Preservation Office

COMANCHE NATION

377th Air Base Wing
Attn: Ms. Martha E. Garcia
2000 Wyoming Boulevard SE
New Mexico 87117

May 21, 2019

Re: USAF is preparing an Environmental Assessment (EA) to evaluate redeveloping
An underutilized portion of land on Kirkland Air Force Base (AFB)

Dear Ms. Garcia :

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

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

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

Regards

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

COMANCHE NATION P.O. BOX 908 / LAWTON, OK 73502
PHONE: 580-492-4988 TOLL FREE:1-877-492-4988

Tribe	*Date*	*Contact*	*Response*
White Mountain Apache Tribe			Received letter: No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested.
Ysleta del Sur Pueblo			Received letter: No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested.
Pueblo of Zia	16 October 2019	Spoke with Mr. Jesse Young (Environment Department)	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested.
Pueblo of Zuni	16 October 2019	Spoke to the THPO's Administrative Assistant. Message was left for the THPO	No response
Ute Mountain Ute Tribe	17 October 2019	Left message for THPO	No response
Fort Sill Apache Tribe of Oklahoma	16 October 2019	Spoke with Ms Jennifer Heminokeky (Environment Department)	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested. Ms Jennifer Heminokeky requested electronic copies of EA correspondence
Fort Sill Apache Tribe of Oklahoma	16 October 2019	Emailed Ms. Jennifer Heminokeky (Environment Department) project descriptions	No response
Apache Tribe of Oklahoma	17 October 2019	The phone number did not work	N/A
Apache Tribe of Oklahoma	18 October 2019	Emailed Chairman Bobby Komardley project descriptions	No Response
Kiowa Tribe of Oklahoma	17 October 2019	Left message for Ms. Kellie J. Poolaw (Acting THPO)	No response

Tribe	*Date*	*Contact*	*Response*
Pueblo of San Felipe	15 October 2019	Called Environmental Department and spoke with Administrative Assistant. Left message for Ms. Pinu'u Stout	The THPO no longer works there. No additional response was received.
Pueblo of San Felipe	15 October 2019	Called Environmental Department and left voicemail	No response
Pueblo of San Ildefonso	15 October 2019	Left message for Dr. Brad Vierra (THPO)	No response
Pueblo of Santa Ana	15 October 2019	Spoke with Mr. Joe Pena (Executive Assistant, Governor's Office). Mr. Pena will return call if any issues are identified	No response
Pueblo of Santa Clara	15 October 2019	Left message for Mr. Ben Chavarria (THPO)	No response
Pueblo of Santo Domingo	15 October 2019	Spoke with Ms. Cynthia Naja (Environment Department)	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested. Ms. Naja requested electronic files of documents for future projects.
Pueblo of Taos	15 October 2019	Spoke with Governor's Office	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested.
Pueblo of Taos	15 October 2019	Left voicemail for Cherylyn Atcity (Environment Department)	No response
Pueblo of Tesuque	15 October 2019	Spoke with Mr. Mark Mitchell (THPO)	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested. Mr. Mitchell requested electronic copy of EA
Pueblo of Tesuque	18 October 2019	Emailed EA documentation to Mr. Mark Mitchell (THPO)	No response

Tribe	*Date*	*Contact*	*Response*
Jicarilla Apache Nation	15 October 2019	Spoke with Dr. Blyth (THPO)	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested.
Pueblo of Laguna	15 October 2019	Left message for the THPO	No response
Mescalero Apache Tribe	15 October 2019	Spoke with Ms. Ms. Holly Houghton (THPO)	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested. The Mescalero Apache Tribe expressed interest in visiting Kirtland AFB at a later date.
Pueblo of Nambe	18 October 2019	Emailed Mr. D. Martinez (Assistant to the Governor). Nambe has previously requested communications with staff to be sent via email.	No response
Navajo Nation	15 October 2019	Spoke with Environment Department staff. The staff left a message for Timothy Begay (THPO).	No response
Ohkay Owingeh	15 October 2019	Left message for Larry Philips (Director of Natural Resources)	No response
Pueblo of Picuris	15 October 2019	Spoke with Levi Lementino (Environment Department)	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested. Mr. Lementino requested an electronic copy of EA letters.
Pueblo of Picuris	15 October 2019	Emailed project descriptions to Mr. Levi Lementino (Environment Department)	No response
Pueblo of Pojoaque	15 October 2019	Phone line was out of service	
Pueblo of Sandia	15 October 2019	Left voicemail with Administrative Assistant	No response

Call Log for Kirtland AFB EUL EA Scoping Letters

Tribe	*Date*	*Contact*	*Response*
Pueblo of Acoma	15 October 2019	Left message for the THPO, call was returned from Francine Torivio (Environment Department)	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested.
Pueblo of Cochiti	15 October 2019	Spoke with Jeanine Drywater (Governor's Office Administrative Assistant)	Ms. Drywater contacted the Governor and submitted the project information to him.
Pueblo of Cochiti	15 October 2019	Governor Herrera called back and left a voicemail	
Pueblo of Cochiti	16 October 2019	David Reynolds returned the Governor's call and left a voicemail	No response
Pueblo of Cochiti	21 October 2019	David Reynolds returned the Governor's call and left a voicemail	No response
The Hopi Tribe	15 October 2019	Spoke with Ms. Georgie Pongyesva (Cultural Resources Administrative Assistant) and will follow up with Terry Mogart (Legal).	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested. If any issues are identified by the Hopi Tribe, Terry Mogart will contact Kirtland AFB.
Pueblo of Isleta	18 October 2019	Emailed Dr. Henry Walt (THPO)	No response
Pueblo of Isleta	30 October 2019	Dr. Henry Walt (THPO) returned call	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested.
Pueblo of Jemez	15 October 2019	Spoke with Mr. Chris Toya (THPO)	No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested. Mr. Toya requested a copy of the Flyover MOU and website.
Pueblo of Jemez	18 October 2019	Emailed Mr. Chris Toya (THPO) the Flyover MOU	No response

Tribe	*Date*	*Contact*	*Response*
Comanche Nation of Oklahoma	17 October 2019	Spoke to Ms. Dana Key (Environment Department)	Ms. Key requested the project documentation be sent to Mr. Villicana. No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested.
Comanche Nation of Oklahoma	17 October 2019	Emailed Mr. Villicana. project descriptions	No response
Pawnee Nation of Oklahoma	17 October 2019	Left message for Mr. Matt Reed (THPO)	No response
San Carlos Apache Tribe	17 October 2019	Left message for Ms. Vernelda Grant (THPO)	No response
Southern Ute Indian Tribe			Received letter: No issues related to cultural resources or traditional cultural properties were identified. No further consultation was requested.
Wichita & Affiliated Tribes	17 October 2019	Left message for Ms. Mary Botone (Environment Department)	No response

Federal, State, and Local Agencies – Notice of Availability Letters

Ms. Amy Leuders, Regional Director
U.S. Fish & Wildlife Service Southwest
Regional Office
PO Box 1306
Albuquerque NM 87103-1306

Dr. Jeff Pappas, PhD., State Historic
Preservation Officer and Director
New Mexico Historic Preservation Division,
Department of Cultural Affairs
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe NM 87501

Mr. Craig Johnson, Assistant
Commissioner for Commercial Resources
New Mexico State Land Office
PO Box 1148
Santa Fe NM 87504

Development Management/Department
Director
Bernalillo County Planning Section
111 Union Square SE, Suite 100
Albuquerque NM 87102

City of Albuquerque Planning Department
PO Box 1293
Albuquerque NM 87103

Mr. Matt Wunder, Chief
Conservation Services
New Mexico Department of Game and Fish
PO Box 25112
Santa Fe NM 87504

Regional Director
Bureau of Indian Affairs
Southwest Regional Office
1001 Indian School Road NW
Albuquerque NM 87104

Ms. Danita Burns, District Manager
Bureau of Land Management New Mexico
State Office
Albuquerque District Office
Pan American Building
100 Sun Avenue NE, Suite 330
Albuquerque NM 87109-4676

Mr. Stephen Spencer, Regional
Environmental Officer
U.S. Department of Interior
Office of Environmental Policy and
Compliance, Albuquerque Region
1001 Indian School Road NW, Suite 348
Albuquerque NM 87104

Mr. Terry Biggio, Regional Administrator
Federal Aviation Administration
Southwest Region
10101 Hillwood Parkway
Fort Worth TX 76177-1524

Ms. Pearl Armijo, District Conservationist
Natural Resources Conservation Service
Albuquerque Service Center
100 Sun Avenue NE, Suite 160
Albuquerque NM 87109

Mr. George MacDonell
Chief of Environmental Resources Section
U.S. Army Corps of Engineers
4101 Jefferson Plaza NE
Albuquerque NM 87109

Ms. Anne L. Idsal
Regional Administrator
U.S. Environmental Protection Agency,
Region 6
Fountain Place, 12th Floor, Suite 1200
1445 Ross Avenue
Dallas TX 75202-2733

Ms. Cheryl Prewitt
Regional Environmental Coordinator
U.S. Forest Service
Southwestern Region
333 Broadway Boulevard SE
Albuquerque NM 87102-3407

Board of Directors
Mid-Region Council of Governments
809 Copper Avenue NW
Albuquerque NM 87102

Mr. Jeff M. Witte
Director/Secretary
New Mexico Department of Agriculture
3190 S. Espina
Las Cruces NM 88003

Ms. Jennifer L. Hower
Office of General Counsel & Environmental Policy
New Mexico Environment Department
1190 St. Francis Drive, Suite N4050
Santa Fe NM 87505

Ms. Julie Morgas Baca
Bernalillo County Manager
Bernalillo County Manager's Office
One Civic Plaza NW, 10th Floor
Albuquerque NM 87102

Ms. Alicia Manzano
Director of Communications
City of Albuquerque Office of the Mayor
PO Box 1293
Albuquerque NM 87103

Ms. Susan Lacy
Department of Energy/National Nuclear Security Administration
Sandia Field Office
PO Box 5400
Albuquerque NM 87187

Mr. John Weckerle
Department of Energy/National Nuclear Security Administration
Office of General Counsel
PO Box 5400
Albuquerque NM 87187

The Honorable Martin Heinrich, Senator
United States Senate
400 Gold Avenue SW, Suite 1080
Albuquerque NM 87102

The Honorable Tom Udall, Senator
United States Senate
400 Gold Avenue SW, Suite 300
Albuquerque NM 87102

The Honorable Xochitl Torres Small, Representative
United States House of Representatives
430 Cannon HOB
Washington DC 20515

The Honorable Debra Haaland, Representative
United States House of Representatives
400 Gold Avenue SW, Suite 680
Albuquerque NM 87102

The Honorable Ben R. Luján, Representative
United States House of Representatives
1611 Calle Lorca, Suite A
Santa Fe NM 87505

Ms. Stephanie Garcia Richard, Commissioner of Public Lands
New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe NM 87501

Ms. Sarah Cottrell Propst, Cabinet Secretary
New Mexico Energy, Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe NM 87505

Commissioner
Bernalillo County Board of Commissioners
One Civic Plaza NW, 10th Floor
Albuquerque NM 87102

Councilmember
Albuquerque City Councilmembers
One Civic Plaza NW, 9th Floor, Suite 9087
Albuquerque NM 87102

Example Public Notice Letter

Public Notice Response Letters

Native American Tribes – Notice of Availability Letters

Governor Brian Vallo
Pueblo of Acoma
PO Box 309
Acoma Pueblo NM 87034

Governor Eugene Herrera
Pueblo of Cochiti
PO Box 70
Cochiti Pueblo NM 87072

Chairman Timothy L. Nuvangyaoma
Hopi Tribal Council
PO Box 123
Kykotsmovi AZ 86039

Governor Max A. Zuni
Pueblo of Isleta
PO Box 1270
Isleta NM 87022

Governor David M. Toledo
Pueblo of Jemez
PO Box 100
Jemez Pueblo, NM 87024

President Levi Pesata
Jicarilla Apache Nation
PO Box 507
Dulce NM 87528

Governor Wilfred Herrera, Jr.
Pueblo of Laguna
PO Box 194
Laguna NM 87026

President Arthur "Butch" Blazer
Mescalero Apache Tribe
PO Box 227
Mescalero NM 88340

Governor Phillip A. Perez
Pueblo of Nambe
Route 1 Box 117-BB
Santa Fe NM 87506

President Jonathan Nez
Navajo Nation
PO Box 7440
Window Rock AZ 86515

Governor Ron Lovato
Ohkay Owingeh Pueblo
PO Box 1099
San Juan Pueblo NM 87566

Governor Craig Quanchello
Pueblo of Picuris
PO Box 127
Peñasco NM 87553

Governor Joseph M. Talachy
Pueblo of Pojoaque
78 Cities of Gold
Santa Fe NM 87506

Governor Issac Lujan
Pueblo of Sandia
481 Sandia Loop
Bernalillo NM 87004

Governor James Candelaria
Pueblo of San Felipe
PO Box 4339
San Felipe Pueblo NM 87001

Governor Perry Martinez
Pueblo of San Ildefonso
02 Tunyo Po
Santa Fe NM 87506

Governor Timothy Menchego
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo NM 87004

Governor J. Michael Chavarria
Pueblo of Santa Clara
PO Box 580
Española NM 87532

Governor Joseph Aquilar
Pueblo of Santo Domingo
PO Box 99
Santo Domingo Pueblo NM 87052

Governor Richard Aspenwind
Pueblo of Taos
PO Box 1846
Taos NM 87571

Governor Milton Herrera
Pueblo of Tesuque
Route 42 Box 360-T
Santa Fe NM 87506

Chairwoman Gwendena Lee-Gatewood
White Mountain Apache Tribe
PO Box 700
Whiteriver AZ 85941

Governor E. Michael Silvas
Ysleta del Sur Pueblo
117 S Old Pueblo Road
PO Box 17579
El Paso TX 79907

Governor Antonio Medina
Pueblo of Zia
135 Capitol Square Drive
Zia Pueblo NM 87053-6013

Governor Val R. Panteah, Sr.
Pueblo of Zuni
PO Box 339
Zuni NM 87327

Chairwoman Lori Gooday-Ware
Fort Sill Apache Tribe of Oklahoma
Rt 2, Box 121
Apache OK 73006

Chairman Harold Cuthair
Ute Mountain Ute Tribe
PO Box JJ
Towaoc CO 81334-0248

Chairman Matthew Komalty
Kiowa Tribe of Oklahoma
PO Box 369
Carnegie OK 73015

Chairman William Nelson
Comanche Nation of Oklahoma
PO Box 908
Lawton OK 73502

President Bruce Pratt
Pawnee Nation of Oklahoma
PO Box 470
Pawnee OK 74058

Chairman Terry Rambler
San Carlos Apache Tribe
PO Box 0
San Carlos AZ 85550

Chairwoman Christine Sage
Southern Ute Indian Tribe
PO Box 737
Ignacio CO 81137

President Terri Parton
Wichita & Affiliated Tribes
Wichita Executive Committee
PO Box 729
Anadarko OK 73005

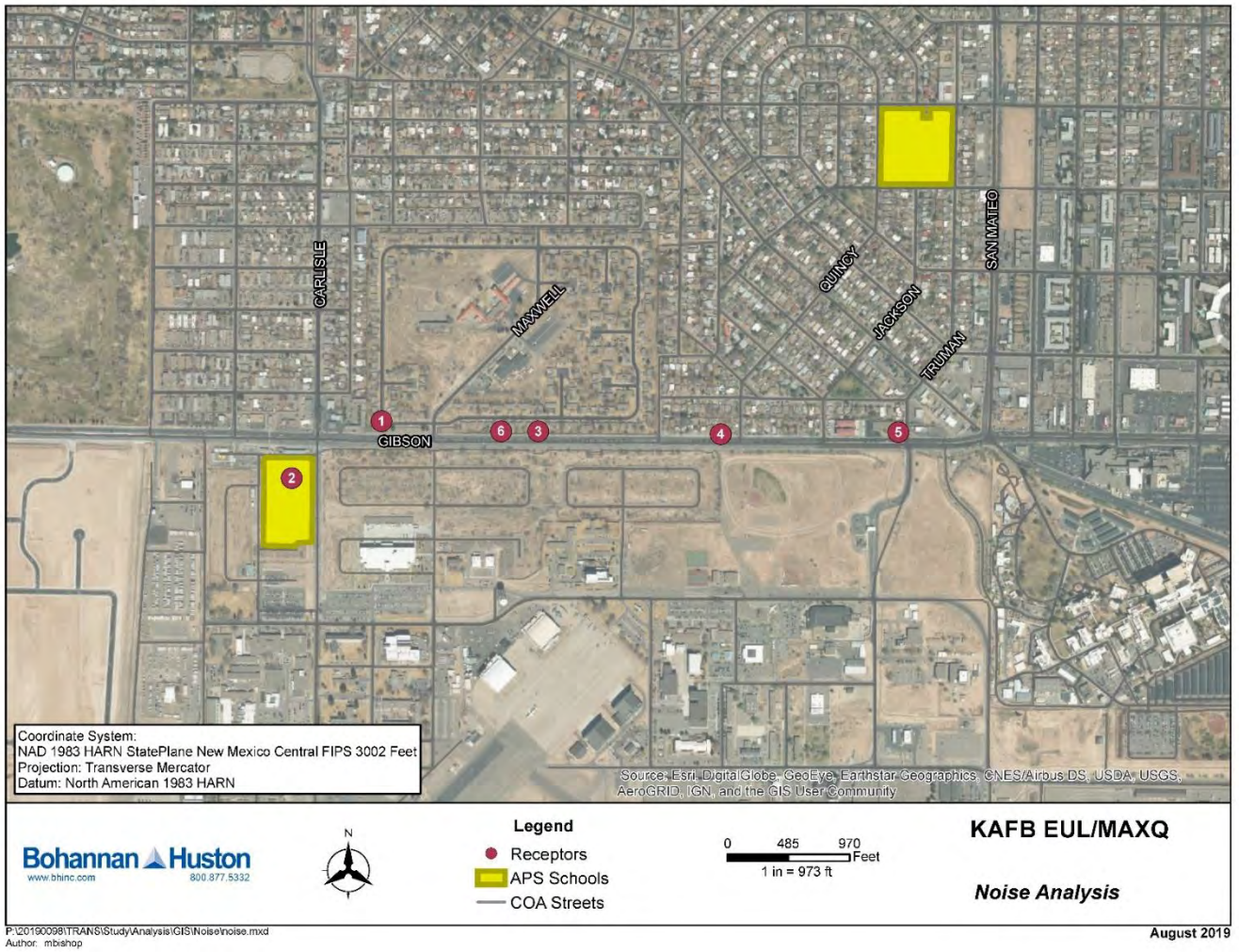
Example Tribal Public Notice Letter

Tribal Public Notice Response Letters

APPENDIX B
NOISE SUPPORT DOCUMENTATION

Appendix B

Noise Supporting Documentation



RESULTS: SOUND LEVELS KAFB EUL/MAXQ

BHI 23 August 2019
MB TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: KAFB EUL/MAXQ
RUN: Baseline 2017
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1 (single-family res)	1	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
Receiver2 (school)	2	1	0.0	65.2	66	65.2	10	----	65.2	0.0	8	-8.0
Receiver3 (single-family res)	3	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
Receiver4 (single-family res)	4	1	0.0	70.6	66	70.6	10	Snd Lvl	70.6	0.0	8	-8.0
Receiver5 (multi-family res	6	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
Receiver6 (single-family res)	8	1	0.0	70.9	66	70.9	10	Snd Lvl	70.9	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	6	0.0	0.0	0.0
All Impacted	5	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

P:\20190098\TRANS\Study\Report-Production\Report\Noise Report\TNM 2.5 Analysis\Baseline

RESULTS: SOUND LEVELS KAFB EUL/MAXQ

BHI 3 September 2019
MB TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: KAFB EUL/MAXQ
RUN: 2030 - No Development
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	No Barrier LAeq1h Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1 (single-family res)	1	1	0.0	69.7	66	69.7	10	Snd Lvl	69.7	0.0	8	-8.0
Receiver2 (school)	2	1	0.0	66.4	66	66.4	10	Snd Lvl	66.4	0.0	8	-8.0
Receiver3 (single-family res)	3	1	0.0	70.9	66	70.9	10	Snd Lvl	70.9	0.0	8	-8.0
Receiver4 (single-family res)	4	1	0.0	71.7	66	71.7	10	Snd Lvl	71.7	0.0	8	-8.0
Receiver5 (multi-family res)	6	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
Receiver6 (single-family res)	8	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	6	0.0	0.0	0.0
All Impacted	6	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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RESULTS: SOUND LEVELS KAFB EUL/MAXQ

BHI
MB

3 September 2019
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: KAFB EUL/MAXQ
RUN: 2030- Develpment Scenario
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier					With Barrier			
				LAeq1h		Increase over existing		Type Impact	Calculated LAeq1h	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1 (single-family res)	1	1	0.0	70.5	66	70.5	10	Snd Lvl	70.5	0.0	8	-8.0
Receiver2 (school)	2	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
Receiver3 (single-family res)	3	1	0.0	71.7	66	71.7	10	Snd Lvl	71.7	0.0	8	-8.0
Receiver4 (single-family res)	4	1	0.0	72.5	66	72.5	10	Snd Lvl	72.5	0.0	8	-8.0
Receiver5 (multi-family res)	6	1	0.0	71.0	66	71.0	10	Snd Lvl	71.0	0.0	8	-8.0
Receiver6 (single-family res)	8	1	0.0	72.7	66	72.7	10	Snd Lvl	72.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	6	0.0	0.0	0.0
All Impacted	6	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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APPENDIX C
AIR QUALITY SUPPORT DOCUMENTATION

Appendix C
Air Quality Supporting Documentation

Air Quality Key Notes and Assumptions for ACAM

Enhanced Use Lease Redevelopment
Environmental Assessment
at Kirtland Air Force Base, New Mexico

The emissions analysis was prepared using the USAF Conformity Applicability Model (ACAM, Version 5.0.12A) for construction and operation emissions. Gas station operating emissions were estimated manually using EPA-approved emission factors, as emission estimates from ACAM runs were unreasonably high for underground storage gasoline tanks.

The ACAM model provides individual emissions estimates from different sources associated with the construction and operational phases of the project for relevant pollutants. Emissions estimates in ACAM are separately provided for each year the project is under construction. A summary table of all relevant pollutant emissions estimated for the calendar years 2018 through 2028 is presented in the body of this report. The emissions summary table accounts for steady-state emissions for each project after its respective construction phase ends. Construction for the last project ends in 2027.Therefore, starting in 2028, the emissions represent steady state conditions for all projects.

The emissions analysis developed for the 77-acre site and the proposed construction of the gas station was based primarily on information collected during the data collection effort. Additional data gaps were filled using information contained in the DOPAA and making assumptions based on best judgements.

The following assumptions were made for emissions estimations:

- Building heights (in feet) was obtained from the Proposed Site Development Plan contained in the DOPAA. For each building proposed for construction, information on the number of floors was available. The Plan shows building heights for various floors, and this information was used for ACAM analysis.
- To be conservative we have used the higher floor number when the number of floors for a building was presented as a range (e.g. if the building was proposed to have 2-3 floors, we have assumed it to be a building with 3 floors) and have used the building height from the plan accordingly.
- Projects start dates were assumed to be in the first quarter of the month as the exact project start date was not available. Only the start month and year was available.
- Employee commute emissions are operational emissions. The start month for this activity is assumed to be the month immediately following the month when construction ends (e.g., if a proposed construction project ends July 2019, commuter activity is assumed to take place starting August 2019 and is assumed to continue until the steady-state year for all phases under the Proposed Action).

- The number of workers expected to commute to the construction site for each project were provided. However, ACAM emissions account for worker commute based on project size (square footage), project duration, and other defaults. Thus, worker commute data provided for the project was not used to estimate emissions for inclusion in this analysis.
- All comfort heating is electric. Accordingly, no emissions for comfort heating is included in this analysis.
- No backup generators are expected to be installed. Accordingly, no emissions for backup power is included in this analysis.
- Demolition of existing recreational facilities was covered under site grading in SDL-1A. Thus, they have not been accounted for under demolition activities in this project.
- The Communication (HAM radio) building (Building 509) is expected to get demolished in 2027 or 2028, if the 23 acres west side of Truman was to be developed. We have included this demolition activity along with the gas station construction as it would be located on the 23-acre site.
- The DOPAA indicates an office space and a restaurant/retail to be developed under the Site Development Lease (SDL)-4 project. However, construction data for only the office space has been provided. It is assumed that the restaurant/retail is not included as part of this Proposed Action.
- For the gas station construction project, the following was assumed as specific data was unavailable:
    - It is assumed that the entire 1-acre lot on which it is proposed to be built would be graded in one month.
    - Data on material to be hauled in and hauled out for grading and trenching was estimated based on other similar projects in this Proposed Action.
    - It is assumed that trenching would occur in one month.
    - The square-foot area for architectural coating was obtained by estimating the perimeter of the building and multiplying it by the building height. Start date and activity duration date was also assumed.
    - The start date and activity duration for asphalt paving was assumed based on other similar projects in this Proposed Action. Specific information on these were not provided. Also, start date, duration of activity and area proposed for paving was assumed for the internal roads for the gas station construction project.
    - Operating emissions from the storage and dispensing of fuel for the underground, gasoline storage tanks were estimated manually using approved emission factors as emission estimates from ACAM runs were unreasonably high. Stage 1 vapor recovery was assumed for the gas filling method when estimating emissions from the tanks.

Note on Air Quality Impacts from Employee Commutes

ACAM was used to estimate employee commute emissions based on the number of new personnel commuting to work, once each proposed project is completed. The primary air quality impacts would be from vehicles traveling to and from the project area. CO emissions, based on

ACAM estimates for employee commute activity, are high. These emissions are based on defaults (employee commute occurs 5 days per week, and the average commute distance is 20 miles per day). Even though the CO emissions are high they do not cause any significant air quality impact. The commuting activity would cause a long-term adverse impact but would not exceed any NAAQS.

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

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

a. Action Location:
Base: KIRTLAND AFB
State: New Mexico
County(s): Bernalillo
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Enhanced Use Lease (EUL) Redevelopment Environmental Assessment (EA) at Kirtland Air Force Base (Kirtland AFB), New Mexico

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 1 / 2027

e. Action Description:

The proposed action consists of mixed-use development that would include spaces for office, meeting space, retail, possibly a gas station, lodging hotel, and restaurant. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities. Buildings would have electrical, plumbing, lighting, communication lines, and heating, ventilation, and air conditioning (HVAC) systems. A maximum 664,856-square feet office space would be built, including an office mix with retail (260,837 square feet), an office mix with industrial (392,040 square feet), and meeting space (11,979 square feet). The buildings would be one to three stories tall; be constructed of concrete, wood, and steel materials; and meet all applicable building codes. Approximately 233,699 ft2 of commercial space is proposed for retail/restaurants (182,041 ft2) and a five-story hotel with 100 rooms (49,658 ft2). The 23-ac parcel would be developed for mixed-use space. Building type, mix, and density could vary but could include retail, office, industrial, multifamily housing, and potentially a gas station space.

Under the No Action Alternative, the USAF would not enter into an EUL, and the proposed mixed-use development, as described in the Proposed Action, would not be constructed. The No Action Alternative would maintain the current land uses and activities as is.

f. Point of Contact:

Name: Radhika Narayanan
Title: Contractor
Organization: Versar, LLC
Email: rnarayanan@versar.com
Phone Number: (757) 557-0810

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 CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

Pb	0.000	25	No
NH3	0.072	100	No
CO2e	1121.8		

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

Radhika Narayanan, Contractor

11/13/2019
DATE

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

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

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

Analysis Summary:

2026

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.301	100	No
NOx	1.737	100	No
CO	2.103	100	No
SOx	0.006	100	No
PM 10	10.733	100	No
PM 2.5	0.063	100	No
Pb	0.000	25	No
NH3	0.002	100	No
CO2e	552.8		

2027

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.938	100	No
NOx	1.851	100	No
CO	5.927	100	No
SOx	0.007	100	No
PM 10	0.059	100	No
PM 2.5	0.056	100	No
Pb	0.000	25	No
NH3	0.028	100	No
CO2e	804.0		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.175	100	No
NOx	1.070	100	No
CO	13.062	100	No
SOx	0.008	100	No
PM 10	0.026	100	No
PM 2.5	0.022	100	No

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

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a. Action Location:
Base: KIRTLAND AFB
State: New Mexico
County(s): Bernalillo
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Enhanced Use Lease (EUL) Redevelopment Environmental Assessment (EA) at Kirtland Air Force Base (Kirtland AFB), New Mexico

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 6 / 2026

e. Action Description:

The proposed action consists of mixed-use development that would include spaces for office, meeting space, retail, possibly a gas station, lodging hotel, and restaurant. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities. Buildings would have electrical, plumbing, lighting, communication lines, and heating, ventilation, and air conditioning (HVAC) systems. A maximum 664,856-square feet office space would be built, including an office mix with retail (260,837 square feet), an office mix with industrial (392,040 square feet), and meeting space (11,979 square feet). The buildings would be one to three stories tall; be constructed of concrete, wood, and steel materials; and meet all applicable building codes. Approximately 233,699 ft2 of commercial space is proposed for retail/restaurants (182,041 ft2) and a five-story hotel with 100 rooms (49,658 ft2). The 23-ac parcel would be developed for mixed-use space. Building type, mix, and density could vary but could include retail, office, industrial, multifamily housing, and potentially a gas station space.

Under the No Action Alternative, the USAF would not enter into an EUL, and the proposed mixed-use development, as described in the Proposed Action, would not be constructed. The No Action Alternative would maintain the current land uses and activities as is.

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Title: Contractor
Organization: Versar, LLC
Email: rnarayanan@versar.com
Phone Number: (757) 557-0810

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 CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

Pb	0.000	25	No
NH3	0.051	100	No
CO2e	798.2		

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.

Radhika Narayanan, Contractor

11/13/2019

DATE

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

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

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

Analysis Summary:

2025

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.378	100	No
NOx	2.237	100	No
CO	2.672	100	No
SOx	0.007	100	No
PM 10	12.483	100	No
PM 2.5	0.079	100	No
Pb	0.000	25	No
NH3	0.004	100	No
CO2e	701.2		

2026

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.860	100	No
NOx	1.521	100	No
CO	5.215	100	No
SOx	0.006	100	No
PM 10	0.049	100	No
PM 2.5	0.047	100	No
Pb	0.000	25	No
NH3	0.024	100	No
CO2e	680.3		

2027 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.836	100	No
NOx	0.761	100	No
CO	9.294	100	No
SOx	0.006	100	No
PM 10	0.018	100	No
PM 2.5	0.016	100	No

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

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

a. Action Location:
Base: KIRTLAND AFB
State: New Mexico
County(s): Bernalillo
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Enhanced Use Lease (EUL) Redevelopment Environmental Assessment (EA) at Kirtland Air Force Base (Kirtland AFB), New Mexico

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 3 / 2025

e. Action Description:

The proposed action consists of mixed-use development that would include spaces for office, meeting space, retail, possibly a gas station, lodging hotel, and restaurant. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities. Buildings would have electrical, plumbing, lighting, communication lines, and heating, ventilation, and air conditioning (HVAC) systems. A maximum 664,856-square feet office space would be built, including an office mix with retail (260,837 square feet), an office mix with industrial (392,040 square feet), and meeting space (11,979 square feet). The buildings would be one to three stories tall; be constructed of concrete, wood, and steel materials; and meet all applicable building codes. Approximately 233,699 ft2 of commercial space is proposed for retail/restaurants (182,041 ft2) and a five-story hotel with 100 rooms (49,658 ft2). The 23-ac parcel would be developed for mixed-use space. Building type, mix, and density could vary but could include retail, office, industrial, multifamily housing, and potentially a gas station space.

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f. Point of Contact:

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Title: Contractor
Organization: Versar, LLC
Email: rnarayanan@versar.com
Phone Number: (757) 557-0810

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 CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

Pb	0.000	25	No
NH3	0.039	100	No
CO2e	881.8		

2026 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.197	100	No
NOx	1.090	100	No
CO	13.313	100	No
SOx	0.008	100	No
PM 10	0.026	100	No
PM 2.5	0.023	100	No
Pb	0.000	25	No
NH3	0.073	100	No
CO2e	1143.3		

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.

Radhika Narayanan, Contractor

11/13/2019

DATE

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

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Analysis Summary:

2023

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.237	100	No
NOx	1.360	100	No
CO	1.526	100	No
SOx	0.004	100	No
PM 10	10.107	100	No
PM 2.5	0.057	100	No
Pb	0.000	25	No
NH3	0.001	100	No
CO2e	382.1		

2024

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.771	100	No
NOx	3.157	100	No
CO	3.560	100	No
SOx	0.009	100	No
PM 10	0.112	100	No
PM 2.5	0.109	100	No
Pb	0.000	25	No
NH3	0.007	100	No
CO2e	890.0		

2025

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.008	100	No
NOx	1.653	100	No
CO	7.953	100	No
SOx	0.007	100	No
PM 10	0.053	100	No
PM 2.5	0.051	100	No

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

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State: New Mexico
County(s): Bernalillo
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Enhanced Use Lease (EUL) Redevelopment Environmental Assessment (EA) at Kirtland Air Force Base (Kirtland AFB), New Mexico

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 6 / 2023

e. Action Description:

The proposed action consists of mixed-use development that would include spaces for office, meeting space, retail, possibly a gas station, lodging hotel, and restaurant. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities. Buildings would have electrical, plumbing, lighting, communication lines, and heating, ventilation, and air conditioning (HVAC) systems. A maximum 664,856-square feet office space would be built, including an office mix with retail (260,837 square feet), an office mix with industrial (392,040 square feet), and meeting space (11,979 square feet). The buildings would be one to three stories tall; be constructed of concrete, wood, and steel materials; and meet all applicable building codes. Approximately 233,699 ft2 of commercial space is proposed for retail/restaurants (182,041 ft2) and a five-story hotel with 100 rooms (49,658 ft2). The 23-ac parcel would be developed for mixed-use space. Building type, mix, and density could vary but could include retail, office, industrial, multifamily housing, and potentially a gas station space.

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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 CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

Pb	0.000	25	No
NH3	0.049	100	No
CO2e	755.0		

2024 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.791	100	No
NOx	0.720	100	No
CO	8.792	100	No
SOx	0.005	100	No
PM 10	0.017	100	No
PM 2.5	0.015	100	No
Pb	0.000	25	No
NH3	0.049	100	No
CO2e	755.0		

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.

Radhika Narayanan, Contractor

11/13/2019

DATE

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

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

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

Analysis Summary:

2021

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.421	100	No
NOx	2.603	100	No
CO	2.568	100	No
SOx	0.006	100	No
PM 10	9.974	100	No
PM 2.5	0.113	100	No
Pb	0.000	25	No
NH3	0.002	100	No
CO2e	609.8		

2022

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.017	100	No
NOx	3.098	100	No
CO	3.307	100	No
SOx	0.008	100	No
PM 10	0.128	100	No
PM 2.5	0.127	100	No
Pb	0.000	25	No
NH3	0.005	100	No
CO2e	762.0		

2023

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.791	100	No
NOx	0.720	100	No
CO	8.792	100	No
SOx	0.005	100	No
PM 10	0.017	100	No
PM 2.5	0.015	100	No

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

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

a. Action Location:
Base: KIRTLAND AFB
State: New Mexico
County(s): Bernalillo
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Enhanced Use Lease (EUL) Redevelopment Environmental Assessment (EA) at Kirtland Air Force Base (Kirtland AFB), New Mexico

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 6 / 2021

e. Action Description:

The proposed action consists of mixed-use development that would include spaces for office, meeting space, retail, possibly a gas station, lodging hotel, and restaurant. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities. Buildings would have electrical, plumbing, lighting, communication lines, and heating, ventilation, and air conditioning (HVAC) systems. A maximum 664,856-square feet office space would be built, including an office mix with retail (260,837 square feet), an office mix with industrial (392,040 square feet), and meeting space (11,979 square feet). The buildings would be one to three stories tall; be constructed of concrete, wood, and steel materials; and meet all applicable building codes. Approximately 233,699 ft2 of commercial space is proposed for retail/restaurants (182,041 ft2) and a five-story hotel with 100 rooms (49,658 ft2). The 23-ac parcel would be developed for mixed-use space. Building type, mix, and density could vary but could include retail, office, industrial, multifamily housing, and potentially a gas station space.

Under the No Action Alternative, the USAF would not enter into an EUL, and the proposed mixed-use development, as described in the Proposed Action, would not be constructed. The No Action Alternative would maintain the current land uses and activities as is.

f. Point of Contact:
Name: Radhika Narayanan
Title: Contractor
Organization: Versar, LLC
Email: rnarayanan@versar.com
Phone Number: (757) 557-0810

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 CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

SOx	0.007	100	No
PM 10	0.023	100	No
PM 2.5	0.020	100	No
Pb	0.000	25	No
NH3	0.064	100	No
CO2e	992.3		

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.

Radhika

Radhika Narayanan, Contractor

11/13/2019

DATE

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

Pb	0.000	25	No
NH3	0.035	100	No
CO2e	854.6		

2022

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.039	100	No
NOx	0.946	100	No
CO	11.555	100	No
SOx	0.007	100	No
PM 10	0.023	100	No
PM 2.5	0.020	100	No
Pb	0.000	25	No
NH3	0.064	100	No
CO2e	992.3		

2023

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.039	100	No
NOx	0.946	100	No
CO	11.555	100	No
SOx	0.007	100	No
PM 10	0.023	100	No
PM 2.5	0.020	100	No
Pb	0.000	25	No
NH3	0.064	100	No
CO2e	992.3		

2024

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.050	100	No
NOx	1.008	100	No
CO	11.651	100	No
SOx	0.007	100	No
PM 10	0.026	100	No
PM 2.5	0.022	100	No
Pb	0.000	25	No
NH3	0.064	100	No
CO2e	1009.7		

2025 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.039	100	No
NOx	0.946	100	No
CO	11.555	100	No

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

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

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

Analysis Summary:

2019

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.182	100	No
NOx	1.269	100	No
CO	0.929	100	No
SOx	0.002	100	No
PM 10	9.241	100	No
PM 2.5	0.054	100	No
Pb	0.000	25	No
NH3	0.000	100	No
CO2e	247.3		

2020

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.228	100	No
NOx	1.472	100	No
CO	1.384	100	No
SOx	0.003	100	No
PM 10	0.583	100	No
PM 2.5	0.064	100	No
Pb	0.000	25	No
NH3	0.002	100	No
CO2e	340.3		

2021

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.092	100	No
NOx	2.062	100	No
CO	7.160	100	No
SOx	0.007	100	No
PM 10	0.080	100	No
PM 2.5	0.078	100	No

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

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

a. Action Location:
Base: KIRTLAND AFB
State: New Mexico
County(s): Bernalillo
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Enhanced Use Lease (EUL) Redevelopment Environmental Assessment (EA) at Kirtland Air Force Base (Kirtland AFB), New Mexico

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 8 / 2019

e. Action Description:

The proposed action consists of mixed-use development that would include spaces for office, meeting space, retail, possibly a gas station, lodging hotel, and restaurant. Roadways for access and vehicular movement through the development, parking, and landscape areas would be constructed as well as utility infrastructure to support activities. Buildings would have electrical, plumbing, lighting, communication lines, and heating, ventilation, and air conditioning (HVAC) systems. A maximum 664,856-square feet office space would be built, including an office mix with retail (260,837 square feet), an office mix with industrial (392,040 square feet), and meeting space (11,979 square feet). The buildings would be one to three stories tall; be constructed of concrete, wood, and steel materials; and meet all applicable building codes. Approximately 233,699 ft2 of commercial space is proposed for retail/restaurants (182,041 ft2) and a five-story hotel with 100 rooms (49,658 ft2). The 23-ac parcel would be developed for mixed-use space. Building type, mix, and density could vary but could include retail, office, industrial, multifamily housing, and potentially a gas station space.

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f. Point of Contact:
Name: Radhika Narayanan
Title: Contractor
Organization: Versar, LLC
Email: rnarayanan@versar.com
Phone Number: (757) 557-0810

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 CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

Pb	0.000	25	No
NH3	0.015	100	No
CO2e	889.3		

2022 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.304	100	No
NOx	1.187	100	No
CO	14.494	100	No
SOx	0.009	100	No
PM 10	0.028	100	No
PM 2.5	0.025	100	No
Pb	0.000	25	No
NH3	0.080	100	No
CO2e	1244.7		

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.

Radhika Narayanan, Contractor

11/13/2019
DATE

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

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Analysis Summary:

2019

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.769	100	No
NOx	5.058	100	No
CO	4.193	100	No
SOx	0.010	100	No
PM 10	7.030	100	No
PM 2.5	0.231	100	No
Pb	0.000	25	No
NH3	0.004	100	No
CO2e	998.4		

2020

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.233	100	No
NOx	7.627	100	No
CO	7.226	100	No
SOx	0.016	100	No
PM 10	7.117	100	No
PM 2.5	0.356	100	No
Pb	0.000	25	No
NH3	0.008	100	No
CO2e	1602.2		

2021

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.665	100	No
NOx	3.004	100	No
CO	5.193	100	No
SOx	0.008	100	No
PM 10	13.581	100	No
PM 2.5	0.123	100	No

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

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c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 8 / 2019

e. Action Description:

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Title: Contractor
Organization: Versar, LLC
Email: rnarayanan@versar.com
Phone Number: (757) 557-0810

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_____ applicable
__X__ not applicable

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

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Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.390	100	No
NOx	1.956	100	No
CO	2.812	100	No
SOx	0.006	100	No
PM 10	0.964	100	No
PM 2.5	0.074	100	No
Pb	0.000	25	No
NH3	0.002	100	No
CO2e	614.2		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.005	100	No
NOx	0.004	100	No
CO	0.050	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	4.3		

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.

Radhika

Radhika Narayanan, Contractor

11/13/2019
DATE