

PUBLIC NOTICE

DRAFT ENVIRONMENTAL ASSESSMENT Addressing Realignment of Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland Air Force Base, New Mexico

A Draft Environmental Assessment (EA) was developed to evaluate the proposal to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland Air Force Base (AFB). The current access road is a five-lane extension of Gibson Boulevard. The Proposed Action would close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress route farther south of Louisiana Boulevard. The new four-lane roadway would be approximately 1,500 linear feet and include installation of street lights and appropriate stormwater drainage controls. The route to the Gibson Gate from Louisiana Boulevard no longer would be a straight roadway, but rather a serpentine roadway. Construction of the new roadway would be phased in order to allow continued access to the installation and Wherry Elementary using the current extension of Gibson Boulevard during construction activities. Upon completion of the new roadway, the extension of Gibson Boulevard and associated street lights would be removed and curbing would be installed at the intersection of Gibson and Louisiana Boulevards to close the roadway. The purpose of the Proposed Action is to better control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. The Proposed Action is needed because of an increase in security incidents at the Gibson Gate.

Copies of the Draft EA and the proposed Finding of No Significant Impact (FONSI) are available now at <http://www.kirtland.af.mil/Home/Environment/> or at the San Pedro Public Library located at 5600 Trumbull Avenue SE, Albuquerque, NM 87108.

The comment period is from August 27, 2018 through September 10, 2018. All comments must be received by September 10, 2018. Individuals wishing further information, or to contribute comments, should contact the NEPA Program Manager, 377 MSG/CEIEC, 2050 Wyoming Boulevard SE, Suite 116, Kirtland AFB, NM 87117 or send an email to KirtlandNEPA@us.af.mil.

DRAFT
FINDING OF NO SIGNIFICANT IMPACT (FONSI)
FOR THE
ENVIRONMENTAL ASSESSMENT
ADDRESSING REALIGNMENT OF GIBSON BOULEVARD
FROM LOUISIANA BOULEVARD TO THE GIBSON GATE AT
KIRTLAND AIR FORCE BASE, NEW MEXICO

Pursuant to provisions of the National Environmental Policy Act, 42 United States Code §§ 4321 to 4347, as amended; implementing Council on Environmental Quality Regulations, 40 Code of Federal Regulations (CFR) §§ 1500–1508; and 32 CFR § 989, *Environmental Impact Analysis Process*, the United States Air Force (USAF) prepared an Environmental Assessment (EA) to address the proposed realignment of Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland Air Force Base (AFB), Bernalillo County, New Mexico.

The purpose of the Proposed Action is to better control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. The Proposed Action is needed because of an increase in security incidents at the Gibson Gate.

The EA addressing realignment of Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland AFB, New Mexico, attached hereto and incorporated herein, analyzes the potential impacts of the roadway realignment. The EA considers all potential impacts of the Proposed Action and the No Action Alternative. The EA also considers cumulative environmental impacts with other projects within the Region of Influence.

PROPOSED ACTION (EA § 2.1, page 2-1)

USAF proposes to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland AFB, New Mexico, because of an increase in security incidents at the Gibson Gate. The current access road is a five-lane extension of Gibson Boulevard. Kirtland AFB is proposing to close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress routes farther south on Louisiana Boulevard. A median break would be constructed to allow traffic exiting Kirtland Federal Credit Union (FCU) along Louisiana Boulevard full-movement to proceed north or south onto Louisiana Boulevard. The eastbound left turn lane at the Gibson and Louisiana Boulevard intersection would be converted from one to two lanes, which would resolve current queue length issues. Design of the roadway would take into consideration the high pressure gas pigging station and Bulk Fuels Facility remediation project influent conveyance lines located underneath the proposed roadway realignment. The design would demonstrate an engineered solution that would be protective of the pigging station and influent conveyance lines and prevent the possibility of any potential damage to these lines.

The new four-lane roadway would be approximately 1,500 linear feet and include installation of street lights and appropriate stormwater drainage controls. The route to the Gibson Gate from Louisiana Boulevard no longer would be a straight roadway, but rather a serpentine roadway. Construction of the new roadway would be phased in order to allow continued access to the installation and Wherry Elementary using the current extension of Gibson Boulevard during construction activities. Upon completion of the new roadway, the extension of Gibson Boulevard and associated street lights would be removed and curbing would be installed at the intersection of Gibson and Louisiana boulevards to close the roadway. Construction is anticipated to begin the first quarter of fiscal year 2019 and take approximately 6 months to complete. The Proposed

1 Action would include approximately 200,000 square feet of disturbance, 100,000 square feet of
2 new pavement, 95,000 square feet of pavement removal, and 30,000 square feet of trenching.
3 The change in impervious surface would be negligible (i.e., <5,000 square feet).

4 **NO ACTION ALTERNATIVE (EA § 2.3, pages 2-3 to 2-4)**

5 The No Action Alternative was analyzed to provide a baseline of the existing environmental,
6 social, and economic conditions the Proposed Action was compared against. Under the No
7 Action Alternative, the USAF would take no action. Kirtland AFB would not realign Gibson
8 Boulevard from the Gibson Gate to Louisiana Boulevard. The No Action Alternative would
9 maintain the current ingress and egress from the Gibson Gate and safety and security issues
10 would continue.

11 **SUMMARY OF FINDINGS**

12 Based on the scope of the Proposed Action, the following environmental resource areas were
13 eliminated from detailed analysis: airspace management, land use, visual resources, geological
14 resources, water resources, biological resources, and cultural resources (**EA § 3, pages 3-1 to**
15 **3-3**). Under the Proposed Action, none of the activities would result in a change to current
16 airspace types, flight activities, or training and no changes to current aircraft operations would
17 occur. The proposed activities would not result in a change in current land use designations or
18 adversely affect the existing visual landscape. Both the current extension of Gibson Boulevard
19 and the proposed new roadway are located in areas designated as Community in the 2016
20 Installation Development Plan and the Proposed Action would result in no change to that
21 designation. The Proposed Action would not change or result in impacts on regional geological
22 features of cause an existing geological feature to become unstable.

23 The Proposed Action would not result in impacts on groundwater, surface water, or floodplains.
24 Although the project area is adjacent to the previously approved Louisiana-Gibson Regional
25 Drainage Facility, it is not in a floodplain and would not result in impacts on that facility. In
26 accordance with the installation Stormwater Pollution Prevention Plan, project activities would
27 be reviewed to ensure proper erosion and sediment control measures are considered and
28 incorporated into project design. Design of the new roadway would include appropriate
29 stormwater drainage controls; therefore, no adverse impacts on surface water are anticipated.
30 Additionally, should project activities individually or cumulatively disturb 1 acre or more of land,
31 coverage under the 2017 National Pollutant Discharge Elimination System Construction General
32 Permit would be obtained prior to construction. All ground-disturbing activities would adhere to
33 federal, state, and local regulations, obtain all necessary permits, and comply with all best
34 management practices (BMPs) listed therein.

35 The Proposed Action would not result in impacts on sensitive wildlife or sensitive habitat. In
36 accordance with Section 7 of the Endangered Species Act, the installation conducted an effect
37 determination for this project. All interrelated and interdependent actions were analyzed during
38 that review. The 2018 United States Fish and Wildlife Service Information for Planning and
39 Consultation Official Species and Habitat List was received on 10 July 2018 under Consultation
40 Code 02ENNM00-2018-SLI-1061 and it was determined that there are no federally listed
41 threatened or endangered species or critical habitat and no state-listed threatened or
42 endangered species occurring within the project area. However, to ensure no impact, an
43 updated species list is required to be obtained within 90 days of starting construction. There are
44 no wetlands within the project area and ground-disturbing activities associated with installation
45 of electrical lines and poles would take into consideration the potential for small mammals to

1 become trapped if holes or trenches would be left open overnight. Additionally, disturbed areas
2 would be revegetated following construction.

3 The Proposed Action would not result in impacts on known cultural resources within the Area of
4 Potential Effect of the realignment of Gibson Boulevard. In accordance with Section 106 of the
5 National Historic Preservation Act, Kirtland AFB transmitted a consultation letter to the State
6 Historic Preservation Office, which concluded that the undertaking would not adversely affect
7 any historic properties. Cultural resources surveys were conducted within the project area in
8 1984 and 1999 and no archaeological sites or traditional cultural properties were identified.
9 Concurrence that the undertaking has no potential to affect historic properties was received on
10 1 August 2018 (HPD Log 108278).

11 As a result, USAF anticipates no short- or long-term impacts on airspace management, land
12 use, visual resources, geological resources, water resources, biological resources, or cultural
13 resources at Kirtland AFB. Environmental analyses within the EA focused on the following
14 resource areas:

15 **Noise (EA § 3.1, pages 3-3 to 3-9).** The Proposed Action would result in short- and long-term
16 impacts on the noise environment adjacent to the project area. A short-term, negligible to
17 minor, adverse impact would result from construction noise. Given the temporary nature of the
18 proposed construction and demolition activities and the existing noise environment,
19 off-installation noise sensitive receptors might experience short-term, minor, adverse impacts.
20 Construction workers would implement BMPs to reduce adverse noise impacts on sensitive
21 noise receptors as needed. Noise from construction equipment could be managed by ensuring
22 that all equipment has the manufacturer's recommended noise abatement measures installed,
23 and inspecting all construction equipment at periodic intervals to ensure proper maintenance
24 and presence of noise control devices. Because Kirtland AFB is adjacent to the Albuquerque
25 International Sunport and is an active military installation that supports aircraft and live-fire
26 weapons training, the intermittent increase in construction noise would be a fraction of the noise
27 generated routinely on and off the installation.

28 Long-term, negligible, adverse impacts associated with the Proposed Action would occur based
29 on the relocation of the Gibson Gate access road and ingress and egress locations along
30 Louisiana Boulevard. The ingress and egress intersections, as well as portions of the access
31 road, would be farther from the Trumbull Village and Elder Homestead residential areas and the
32 New Mexico Veterans' Memorial, which would reduce long-term noise impacts on these areas
33 from vehicles accessing the installation via the Gibson Gate. The distance of Wherry
34 Elementary and Christ United Methodist Church from the proposed access road and ingress
35 and egress intersections would not change; therefore, the Proposed Action would have no long-
36 term noise impacts on these two sensitive noise receptors. It is anticipated that the Proposed
37 Action would result in long-term vehicle noise of approximately 66.3 A-weighted decibels (dBA)
38 (hourly equivalent sound level) for the Siesta Hills residence closest to the proposed ingress
39 intersection and approximately 54.7 dBA (hourly equivalent sound level) for the New Day Youth
40 and Family Services Safe Home facility during peak morning hours (0715 to 0815). Both values
41 are below or within the 60 to 70 dBA noise range for urban residential areas and would
42 minimally increase the noise environment for these two sensitive noise receptors.

43 **Air Quality (EA § 3.2, pages 3-9 to 3-13).** The Proposed Action would result in a short-term,
44 negligible, adverse impact on air quality. Kirtland AFB is within Bernalillo County, New Mexico,

which is in attainment status for all criteria pollutants, except carbon monoxide. Emissions of criteria pollutants and greenhouse gases would be directly produced from activities such as operation of heavy equipment, workers commuting daily to and from the project area in their personal vehicles, heavy duty diesel vehicles hauling materials and debris to and from the project area, and ground disturbance. However, such emissions would only be temporary in nature and produced only when construction activities are occurring. Estimated air emissions from the Proposed Action can be compared to the 100 tons per year (tpy) *de minimis* level. Emissions of all criteria pollutants would be well below the 100 tpy threshold. Projected carbon monoxide emissions are 2.387 tpy; therefore, no conformity determination is required for the Proposed Action. A fugitive dust control construction permit would be obtained, and a fugitive dust control plan that outlines specific dust control measures that would be implemented during construction would be developed. These BMPs and environmental control measures could reduce uncontrolled particulate matter emissions from a construction site by approximately 50 percent depending upon the number of BMPs and environmental control measures required and the potential for particulate matter air emission.

Infrastructure (EA § 3.3, pages 3-13 to 3-19). The Proposed Action is not anticipated to change or result in short- or long-term impacts on the natural gas and propane, liquid fuel, sanitary sewer/wastewater, stormwater handling, and communications systems. The Proposed Action would result in short- and long-term impacts on the transportation system. During construction, the number of construction-related vehicles accessing the installation would increase, and installation roadways would be used by haul and delivery trucks; however, transportation is not expected to occur during peak travel times. Early coordination would ensure necessary safety precautions are taken and would allow ample advance notice to affected commuters and personnel.

Long-term, negligible to moderate, adverse impacts would result on the transportation system. The 2018 traffic study for the Proposed Action included the modeling of traffic conditions for four intersections: Gibson/Louisiana Boulevard; Louisiana Boulevard/Kirtland FCU access; Louisiana Boulevard/Kirtland AFB Exit, hereafter referred to as Louisiana Boulevard egress; and Louisiana Boulevard/Kirtland AFB Entrance, hereafter referred to as Louisiana Boulevard ingress. The long-term traffic impacts are based on future conditions associated with Alternative 2 of the 2018 traffic study, which is very similar to the Proposed Action. The overall level of service (LOS) for the Gibson and Louisiana Boulevard intersection would decrease from LOS C and B for the morning and evening peak hours, respectively, to LOS D for both the morning and evening peak hours. The decrease would result from changes in lane geometry; however, LOS D is considered acceptable. The LOS, queues, volume to capacity ratios, and delays for all movements under both morning and evening peak hours at the Gibson and Louisiana Boulevard intersection also would be at acceptable levels, which would improve the current evening peak hour northbound and southbound movement LOS and eastbound left turn queue length.

The overall LOS for the Louisiana Boulevard and Kirtland FCU ingress intersection would improve from LOS A and B in the morning and evening peak hours, respectively, to LOS A for both the morning and evening peak hours, and the LOS, queues, volume to capacity ratios, and delays for all movements would remain acceptable. The Proposed Action would not affect access to or from the Kirtland FCU access on Louisiana Boulevard; however, drivers exiting the Kirtland FCU access to travel north on Louisiana Boulevard would encounter a stop sign at the

1 Louisiana Boulevard egress intersection. The Louisiana Boulevard egress intersection would
2 operate at LOS A and F for the morning and evening peak hours, respectively. The Louisiana
3 Boulevard ingress intersection would operate at LOS A for both morning and evening peak
4 hours.

5 The Proposed Action would not affect access to or from the Elder Homestead residential area to
6 the northwest of the Gibson and Louisiana Boulevard intersection. Additionally, the Proposed
7 Action would not affect access to or from the Siesta Hills residential area or the New Day Youth
8 and Family Services Safe Home facility to the southwest of the Gibson and Louisiana Boulevard
9 intersection; however, the Proposed Action would realign and add two stop signs to the
10 northbound lane of Louisiana Boulevard between Ridgecrest Drive and Gibson Boulevard. The
11 LOS for drivers traveling north on Louisiana Boulevard would decrease from LOS A to LOS F at
12 both of these intersections in the morning and evening peak hours. Alternatively, these drivers
13 could access Louisiana Boulevard via driving northwest on Ridgecrest Drive, north on San
14 Pedro Drive, and east on Gibson Boulevard during morning and evening peak hours. The
15 Proposed Action is anticipated to have little to no impact on Ridgecrest Drive or the intersection
16 of Ridgecrest Drive and Louisiana Boulevard.

17 The Proposed Action would result in short-term, negligible, adverse impacts on the electrical
18 system, water supply system, and solid waste management. Electrical service interruptions may
19 be experienced when connecting the new street lights and disconnecting the current street
20 lights from the installation electrical distribution system. No increase in electrical demand on the
21 installation is anticipated because the new street lights would be more energy efficient.
22 Proposed construction activities would require minimal amounts of water for dust suppression;
23 however, this increase would be temporary and is not expected to exceed existing capacity on
24 the installation. Construction activities associated with the Proposed Action would generate
25 minimal amounts of solid waste. Construction debris would consist primarily of recyclable and
26 reusable building materials such as concrete, metals (e.g., piping and wiring), and removed
27 vegetation. To reduce the amount of waste disposed, materials that could be recycled or reused
28 would be diverted from landfills to the greatest extent possible. Site-generated scrap materials
29 would be separated and recycled off site. Clean fill material, ground-up asphalt, and broken-up
30 cement would be diverted from the landfills and reused whenever possible.

31 **Hazardous Materials and Wastes (EA § 3.4, pages 3-19 to 3-25).** The Proposed Action would
32 result in short-term, negligible, adverse impacts on hazardous materials and wastes.
33 Construction personnel would be made aware of the Environmental Management System
34 program, implement standard BMPs, and comply with existing standard operating procedures
35 and applicable federal and state laws governing the use, generation, storage, and transportation
36 of hazardous materials. Construction equipment would be maintained according to
37 manufacturer's specifications and drip mats would be placed under parked equipment as
38 needed. All hazardous and petroleum wastes generated would be handled, stored, and
39 disposed of in accordance with all federal, state, and local regulations.

40 It is possible that unknown, potentially hazardous wastes could be discovered or unearthed
41 during ground-disturbing activities. In such cases, construction contractors would immediately
42 cease work, contact appropriate installation personnel, and await sampling and analysis results
43 before taking any further action. Any unknown wastes determined to be hazardous would be
44 managed or disposed of in accordance with applicable laws and regulations. The Proposed
45 Action would not result in an impact on or from Environmental Restoration Program, Military

Munitions Response Program, and Department of Energy Environmental Restoration sites; however, influent conveyance lines associated with the Bulk Fuels Facility remediation project are located within the project area. Design of the roadway would take these lines into consideration and demonstrate an engineered solution that would protect the lines and prevent the possibility of any potential damage to them.

Safety (EA § 3.5, pages 3-25 to 3-28). The Proposed Action would result in short- and long-term impacts on the safety of contractors, military personnel, and the public. A short-term, negligible, adverse impact would result on contractor safety. Construction and demolition activities would slightly increase the health and safety risk to personnel within the project area. The selected construction contractor would be required to develop a comprehensive health and safety plan for each individual project containing site-specific guidance and direction to prevent or minimize potential risks. Construction personnel would be responsible for compliance with applicable federal, state, and local safety regulations and would be educated through daily briefings to review daily activities and potential hazards. Project areas would be appropriately delineated and posted with access limited to construction personnel.

Long-term, minor to moderate, beneficial impacts would be expected because the Proposed Action would result in better control of accidental or inadvertent access to the installation by unauthorized individuals. Changing the route to Gibson Gate from a straight roadway to a serpentine roadway would better meet Unified Facilities Criteria guidelines and antiterrorism standards.

Socioeconomics (EA § 3.6, pages 3-28 to 3-30). The Proposed Action would result in a short-term, negligible, beneficial impact on socioeconomics. Direct and indirect, beneficial impacts on the local economy of the Albuquerque Metropolitan Statistical Area would result from increased payroll tax revenue and the purchase of construction materials and goods in the area.

Environmental Justice and Sensitive Receptors (EA § 3.7, pages 3-30 to 3-35). The Proposed Action would result in short- and long-term impacts on environmental justice populations from minor noise and traffic experienced by those within 0.5 mile of the project area. Construction noise impacts would be temporary, lasting only for the length of construction time and during daytime hours. There would be a temporary increase in traffic on roadways near the project area during construction; however, construction traffic is not expected to occur during peak travel times and roadways would remain open during construction activities. Additionally, early coordination would ensure necessary safety precautions are taken and nearby residents, commuters, and installation personnel have been notified of the construction. Therefore, while the short-term noise and traffic impacts on the minority and low-income populations within Block Group 7 in Census Tract 9.01 (Trumbull Village residential area) and the low-income populations within Block Group 3, Census Tract 9.03 (New Day Youth and Family Services Safe Home) and Block Group 3, Census Tract 9.04 (Elder Homestead residential area) would be considered disproportionate, the impacts would not be significant.

Long-term changes in traffic patterns and associated changes in noise generation would be concentrated at the intersection of Gibson and Louisiana boulevards and south of the intersection along Louisiana Boulevard. Residents within Block Group 1, Census Tract 9.04 (Siesta Hills residential area) most likely would experience these long-term impacts due to the proximity of the block group to these areas. Additionally, the New Day Youth and Family Services Safe Home facility in Block Group 3, Census Tract 9.03 could experience a minimal

1 increase in the noise environment. Long-term impacts on Block Group 1, Census Tract 9.04 and
2 Block Group 3, Census Tract 9.03 would not be considered disproportionate or significant.

3 Wherry Elementary is adjacent to the east of the project area. The closest building at Wherry
4 Elementary is approximately 400 feet from the project area and could experience increased
5 noise and traffic during construction. Standard construction safety BMPs (e.g., fencing and other
6 security measures) would reduce potential risks to surrounding populations to minimal levels
7 and any potential impacts on children would be short term and negligible because of these
8 BMPs and the distance of the project area to the school. Although the Proposed Action would
9 have short-term, adverse noise impacts, the impact on children would not be disproportionate or
10 significant because the effect from additional noise and traffic would be negligible and would not
11 be an environmental health or safety risk. No long-term impacts would be expected on Wherry
12 Elementary or other sensitive receptors.

13 **Cumulative Impacts (EA § 4, pages 4-1 to 4-11).** USAF has concluded that no significant
14 adverse cumulative impacts would result from activities associated with implementation of the
15 Proposed Action when considered with past, present, and reasonably foreseeable future
16 projects at Kirtland AFB and the region of influence.

17 **CONCLUSION**

18 Based on the description of the Proposed Action as set for in the EA, all activities were found to
19 comply with the criteria or standards of environmental quality and were coordinated with the
20 appropriate federal, state, and local agencies. The attached EA and this FONSI were made
21 available to the public for a 15-day review period. Agencies have been coordinated with
22 throughout the EA development process and their comments were incorporated into the
23 analysis of potential environmental impacts performed as part of the EA as appropriate.

24 **FINDING OF NO SIGNIFICANT IMPACT**

25 Based on my review of the facts and analyses contained in the attached EA, conducted under
26 the provisions of National Environmental Policy Act, Council on Environmental Quality
27 Regulations, and 32 CFR § 989, I conclude that the Proposed Action would not have a
28 significant environmental impact, either by itself or cumulatively, with other known projects.
29 Accordingly, an Environmental Impact Statement is not required. The signing of this Finding of
30 No Significant Impact completes the environmental impact analysis process.

BRIAN C. LEE, GS-15, DAF
Senior Civil Engineer, Air Force Global Strike Command

Date

31 Attachment: *Environmental Assessment Addressing Realignment of Gibson Boulevard from*
32 *Louisiana Boulevard to the Gibson Gate, Kirtland Air Force Base, New Mexico.*



Draft

Environmental Assessment

Addressing Realignment of Gibson
Boulevard from Louisiana Boulevard
to the Gibson Gate

Kirtland Air Force Base, New Mexico

August
2018

ACRONYMS AND ABBREVIATIONS

ABCWUA	Albuquerque-Bernalillo County Water Utility Authority	NAAQS	National Ambient Air Quality Standards
ABW	Air Base Wing	NEPA	National Environmental Policy Act
ACAM	Air Conformity Applicability Model	NMAC	New Mexico Administrative Code
ACM	asbestos-containing material	NMDOT	New Mexico Department of Transportation
AEHD-AQD	Albuquerque Environmental Health Department Air Quality Division	NMED	New Mexico Environment Department
AFB	Air Force Base	NOA	Notice of Availability
AFI	Air Force Instruction	NO _x	nitrogen oxides
AFRL	Air Force Research Laboratory	O ₃	ozone
AMAFCA	Albuquerque Metropolitan Arroyo Flood Control Authority	OSH	occupational safety and health
AT	antiterrorism	OSHA	Occupational Safety and Health Administration
BFF	Bulk Fuels Facility	PCB	polychlorinated biphenyl
BLM	Bureau of Land Management	PJ/CRO	Pararescue/Combat Rescue Officer
BMP	best management practice	PM _{2.5}	particulate matter equal to or less than 2.5 microns in diameter
CEQ	Council on Environmental Quality	PM ₁₀	particulate matter equal to or less than 10 microns in diameter
CFR	Code of Federal Regulations	PPE	personal protective equipment
CO	carbon monoxide	RCRA	Resource Conservation and Recovery Act
dB	decibels	ROI	region of influence
dba	A-weighted decibel	RTI	Regional Training Institute
DNL	day/night sound level	SFG	Security Forces Group
DoD	Department of Defense	SHPO	State Historic Preservation Officer
DOE	Department of Energy	SNL	Sandia National Laboratories
EA	Environmental Assessment	SO ₂	sulfur dioxide
EIS	Environmental Impact Statement	TEAMS	Technical Evaluation Assessment Monitor Site
EMS	Environmental Management System	tpy	tons per year
EO	Executive Order	UFC	Unified Facilities Criteria
ER	Environmental Restoration	US	United States
ERP	Environmental Restoration Program	USAF	United States Air Force
FCU	Federal Credit Union	USC	United States Code
FY	fiscal year	USEPA	United States Environmental Protection Agency
GHG	greenhouse gas	USFS	United States Forest Service
HWMP	Hazardous Waste Management Plan	USFWS	United States Fish and Wildlife Service
I	Interstate	UTC	Urban Training Compound
LBP	lead-based paint	VOC	volatile organic compound
L _{max}	maximum sound level		
LOS	level of service		
mgd	million gallons per day		
MMRP	Military Munitions Response Program		
MSA	Metropolitan Statistical Area		
MSG/CEIEC	Mission Support Group/Civil Engineering Installation Management - Environmental Management - Compliance		

1 **Cover Sheet**

2 **Draft Environmental Assessment**
3 **Addressing Realignment of Gibson Boulevard**
4 **from Louisiana Boulevard to the Gibson Gate at**
5 **Kirtland Air Force Base, New Mexico**

6 **Responsible Agencies:** United States Air Force (USAF), Air Force Global Strike Command,
7 377th Air Base Wing

8 **Cooperating Agencies:** USAF invited the participation of the New Mexico Department of
9 Transportation, the National Highway Traffic Safety Administration, and the city of Albuquerque
10 Planning Department in the preparation of this Environmental Assessment (EA). The city of
11 Albuquerque Planning Department has agreed to be a Cooperating Agency.

12 **Affected Location:** Kirtland Air Force Base (AFB), New Mexico

13 **Report Designation:** Draft Environmental Assessment

14 **Abstract:** USAF proposes to realign Gibson Boulevard from Louisiana Boulevard to the Gibson
15 Gate at Kirtland AFB, New Mexico, because of an increase in security incidents at the Gibson
16 Gate. The current access road is a five-lane extension of Gibson Boulevard. The Proposed
17 Action would close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute
18 the Gibson Gate ingress/egress routes farther south on Louisiana Boulevard. The route to the
19 Gibson Gate would change from a straight roadway to a serpentine roadway.

20 Under the No Action Alternative, USAF would take no action. Kirtland AFB would not realign
21 access to the Gibson Gate. The No Action Alternative would maintain the current ingress and
22 egress from the Gibson Gate via Gibson and Louisiana boulevards, which would continue the
23 current safety and security concerns.

24 This EA analyzes the potential environmental impacts associated with the Proposed Action and
25 alternatives, including the No Action Alternative, and aids in determining whether a Finding of
26 No Significant Impact can be prepared or an Environmental Impact Statement is required.

27 Written comments and inquiries regarding this document should be directed by mail to the
28 Kirtland AFB National Environmental Policy Act Program Manager, 377 MSG/CEIEC,
29 2050 Wyoming Boulevard SE, Suite 116, Kirtland AFB, New Mexico 87117-5270, or by email to
30 *KirtlandNEPA@us.af.mil*.

Draft

ENVIRONMENTAL ASSESSMENT
ADDRESSING REALIGNMENT OF GIBSON BOULEVARD
FROM LOUISIANA BOULEVARD TO THE GIBSON GATE AT
KIRTLAND AIR FORCE BASE, NEW MEXICO

UNITED STATES AIR FORCE
Kirtland Air Force Base, New Mexico

AUGUST 2018

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Appendix

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1. Purpose of and Need for the Proposed Action

1.1 Introduction

Because of an increase in security incidents at the Gibson Gate, the United States Air Force (USAF) proposes to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland Air Force Base (AFB), New Mexico. The current access road is a five-lane extension of Gibson Boulevard. Kirtland AFB is proposing to close the extension of Gibson Boulevard east of Louisiana Boulevard and shift the access road farther south on Louisiana Boulevard. The route to the Gibson Gate no longer would be a straight roadway, but rather a serpentine roadway. This Environmental Assessment (EA) evaluates the potential environmental impacts resulting from the Proposed Action and No Action Alternative.

This EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] § 4321 et seq.) and the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] §§ 1500–1508). USAF is also required to consider USAF NEPA-implementing regulations, 32 CFR § 989, as amended.

1.2 Project Location and Kirtland AFB Background

Kirtland AFB is in Bernalillo County, southeast of the city of Albuquerque, New Mexico (see **Figure 1-1**). The installation encompasses 51,585 acres with elevations that range from 5,200 to almost 8,000 feet above mean sea level. The Manzanita Mountains on its eastern boundary rise to over 10,000 feet (KAFB 2018a). The land within the installation is owned by multiple entities (see **Table 1-1**). The northwestern portion of Kirtland AFB is developed. The remaining portion of the installation is relatively undeveloped and is used for training and testing missions.

Table 1-1. Kirtland AFB Land Ownership

Kirtland AFB Lands	Acres
USAF Fee Owned	25,612
United States Forest Service (USFS) withdrawn to the Department of Defense (DoD)	15,891
Bureau of Land Management (BLM) withdrawn to DoD	2,549
USAF Total	44,052
Department of Energy (DOE) Fee Owned	2,938
USFS withdrawn to DOE	4,595
DOE Total	7,533
GRAND TOTAL	51,585

Source: KAFB 2012a

Surrounding land uses adjacent to Kirtland AFB include the USFS Cibola National Forest to the northeast and east; the Isleta Pueblo Reservation 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 project area is in the northern portion of the installation (see **Figure 1-1**).

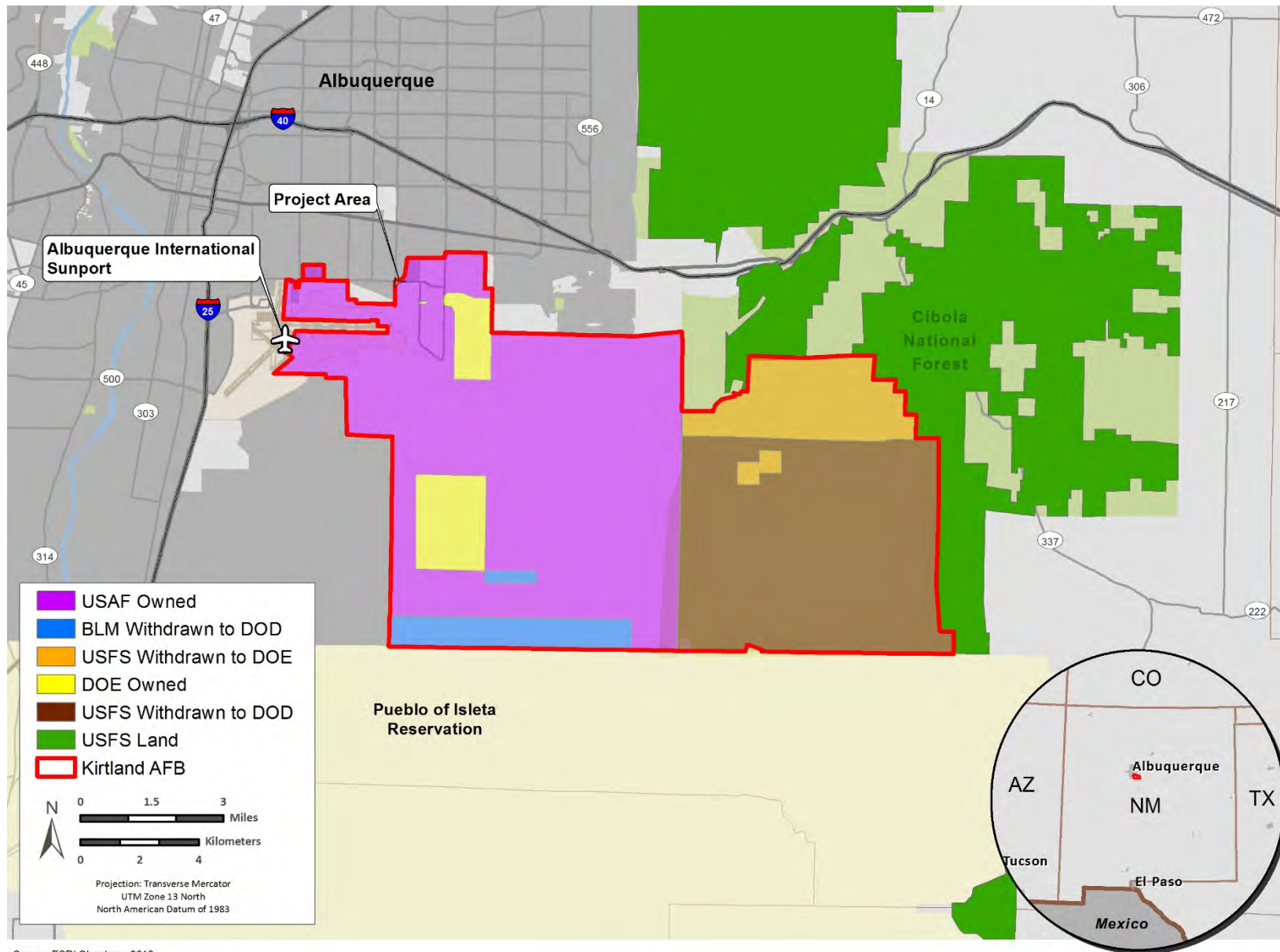


Figure 1-1. Kirtland AFB Vicinity Map with Land Ownership and Withdrawn Areas

Kirtland AFB was established in the late 1930s as a training installation for the United States (US) Army Air Corps. At that time, the installation was known as the Albuquerque Army Air Base. The installation 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 US Army Air Corps established a training base, later to be known as Sandia Base, just east of Kirtland Army Air Field. In 1947, the US 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 eventually became Phillips Laboratory and subsequently the Air Force Weapons Laboratory (now the Air Force Research Laboratory [AFRL]). A majority of the test and evaluation activities were conducted on a 46,000-acre 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 DOE research, testing, and development activities. The establishment of these activities at Kirtland AFB was considered ideal due to its proximity to 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 377th Air Base Wing (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 and Need

The purpose of the Proposed Action is to better control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. The Proposed Action is needed because of an increase in security incidents at the Gibson Gate.

1.4 Scope of the Environmental Assessment

The scope of this EA includes the actions proposed; 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 considered are presented in **Section 2**. USAF NEPA-implementing regulations, 32 CFR § 989 (as amended), require consideration of the No Action Alternative, which is analyzed to provide the baseline against which the environmental impacts of implementing the range of alternatives addressed can be compared. This EA identifies appropriate measures that are not already included in the Proposed Action or alternatives in order to avoid, minimize, or reduce adverse environmental impacts, if necessary.

This EA identifies the 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 alternatives are analyzed. The following resource areas are analyzed and discussed for potential impacts from implementation of the Proposed Action and No Action Alternative: Noise, Air Quality, Infrastructure, Hazardous Materials and Wastes, Safety, Socioeconomics, and Environmental Justice and Sensitive Receptors.

1.4.1 NEPA Compliance Requirements

NEPA is a federal law requiring the analysis of potential environmental impacts associated with proposed federal actions before the actions are taken. The intent of NEPA is to make decisions informed by potential environmental consequences and take actions to protect, restore, or enhance the environment. NEPA established the CEQ, which is responsible for ensuring federal agency compliance with NEPA. CEQ regulations mandate all federal agencies use a prescribed approach to environmental impact analysis. The approach includes an evaluation of the potential environmental consequences associated with a proposed action and considers alternative courses of action.

The process for implementing NEPA is outlined in 40 CFR §§ 1500–1508, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*. These CEQ regulations specify that an EA be prepared to determine whether a Finding of No Significant Impact is appropriate or if preparation of an Environmental Impact Statement (EIS) is necessary. An EA considers the effects (direct, indirect, and cumulative) of a proposed action on the human environment. It uses a systematic, interdisciplinary approach to evaluate a proposed action and possible alternatives and must disclose all considerations to the public. An EA can aid in an agency's compliance with NEPA when an EIS is unnecessary and facilitate preparation of an EIS when one is required.

USAF regulations under 32 CFR § 989 provide procedures for environmental impact analysis for the USAF to comply with NEPA and CEQ NEPA regulations. Air Force Policy Directive 32-70, *Environmental Quality*, states the USAF will comply with applicable federal, state, and local environmental laws and regulations, including NEPA. If significant impacts are predicted 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. This EA would also be used to guide the USAF in implementing the Proposed Action in a manner consistent with USAF standards for environmental stewardship should the Proposed Action be approved for implementation.

1.4.2 Intergovernmental and Stakeholder Coordination

NEPA requirements help ensure environmental information is made available to the public during the decision-making process and prior to an action's implementation. A premise of NEPA is that the quality of federal decisions will be enhanced if the public is involved in the planning process. Executive Order (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 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 § 800), and Section 7 of the Endangered Species Act and implementing regulations (50 CFR § 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 United States Fish and Wildlife Service (USFWS). Concurrence indicating a primary finding of no adverse effect was received from SHPO on 1 August 2018 (HPD Log 108278). On 10 July 2018, concurrence indicating a primary finding of no effect was received from USFWS under Consultation Code 02ENNM00-2018-SL11061. Correspondence regarding the findings and concurrence are included in **Appendix A**.

The National Historic Preservation Act requires federal agencies to consult with federally recognized Native American tribes on proposed undertakings that have the potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation or the intergovernmental coordination process, and it requires separate consultation with all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The Kirtland AFB point-of-contact for Native American tribes is the Installation Commander. The Native American tribal governments coordinated or consulted with regarding the Proposed Action are listed in **Appendix A** along with all USAF correspondence. Comments received from the various stakeholders and Native American tribes will be considered during preparation of the EA and included in **Appendix A**.

Scoping letters were provided to relevant federal, state, and local agencies and Native American tribes notifying them that the USAF is preparing an EA to evaluate the proposal to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate (see **Appendix A**). The agencies and tribes 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 the EA.

1.4.3 Public and Agency Review of Draft EA

A Notice of Availability (NOA) for the Draft EA will be published in the *Albuquerque Journal* announcing the availability of the Draft EA. The publication of the NOA will initiate a 15-day review period. A copy of the Draft EA will be made available for review at the 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, applicable 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 the EA, where applicable, and included in **Appendix A** of the Final EA.

1.5 Cooperating Agencies

In accordance with CEQ regulations (40 CFR § 1508.5), a cooperating agency may be any federal agency that has jurisdiction by law or special expertise with respect to environmental impacts expected from a proposal. An agency's jurisdiction by law (40 CFR § 1508.15) refers to an agency's authority to approve, veto, or finance all or part of a proposal. An agency's special expertise (40 CFR § 1508.26) refers to its statutory responsibility, agency mission, or program experience. Responsibilities of a cooperating agency (40 CFR § 1501.6b) include early participation in the NEPA process; developing information and preparing portions of the EA for which the cooperating agency has special expertise, at the request of the lead agency; and providing staff support to enhance the lead agency's interdisciplinary capability. USAF has invited the participation of the New Mexico Department of Transportation (NMDOT), the National Highway Traffic Safety Administration, and the city of Albuquerque Planning Department in the preparation of the EA. The city of Albuquerque Planning Department has agreed to be a Cooperating Agency. Correspondence between Kirtland AFB and the Cooperating Agencies is included in **Appendix A**.

2. Proposed Action and Alternatives

As discussed in **Section 1.4.1**, the NEPA process provides for an evaluation of potential environmental consequences associated with a proposed action and considers alternative courses of action. Reasonable alternatives must satisfy the purpose of and need for the Proposed Action, as defined in **Section 1.3**. In addition, CEQ guidance recommends the inclusion of a No Action Alternative against which potential impacts can 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 USAF NEPA-implementing regulations (32 CFR § 989, as amended).

2.1 Proposed Action

USAF proposes to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland AFB, New Mexico, because of an increase in security incidents at the Gibson Gate. The current access road is a five-lane extension of Gibson Boulevard. As presented in **Figure 2-1**, Kirtland AFB is proposing to close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress routes farther south on Louisiana Boulevard. A median break would be constructed to allow traffic exiting Kirtland Federal Credit Union (FCU) along Louisiana Boulevard full-movement to proceed north or south onto Louisiana Boulevard. The eastbound left turn lane at the Gibson and Louisiana Boulevard intersection would be converted from one to two lanes, which would resolve current queue length issues. Design of the roadway would take into consideration the high pressure gas pigging station and Bulk Fuels Facility (BFF) remediation project influent conveyance lines located underneath the proposed roadway realignment. The design would demonstrate an engineered solution that would be protective of the pigging station and influent conveyance lines and prevent the possibility of any potential damage to these lines.

The new four-lane roadway would be approximately 1,500 linear feet and include installation of street lights and appropriate stormwater drainage controls. The route to the Gibson Gate from Louisiana Boulevard no longer would be a straight roadway, but rather a serpentine roadway. Construction of the new roadway would be phased in order to allow continued access to the installation and Wherry Elementary using the current extension of Gibson Boulevard during construction activities. Upon completion of the new roadway, the extension of Gibson Boulevard and associated street lights would be removed and curbing would be installed at the intersection of Gibson and Louisiana boulevards to close the roadway. Construction is anticipated to begin the first quarter of fiscal year (FY) 2019 and take approximately 6 months to complete. The Proposed Action would include approximately 200,000 square feet of disturbance, 100,000 square feet of new pavement, 95,000 square feet of pavement removal, and 30,000 square feet of trenching. The change in impervious surface would be negligible (i.e., <5,000 square feet).

2.2 Selection Standards

In accordance with 32 CFR § 989.8(c), the use of selection standards is an effective mechanism for the identification, comparison, and evaluation of reasonable alternatives. The following selection standards were developed to be consistent with the purpose of and need for the Proposed Action and to address pertinent mission, environmental, safety, and health factors.



Figure 2-1. Proposed Realignment of Gibson Boulevard at Kirtland AFB

The following selection standards are used to identify reasonable alternatives for analysis in the EA:

- Meet current criteria/scope specified in the following guidance:
 - o Air Force Manual 32-1017, *DoD Transportation Engineering Program*
 - o Air Force Instruction (AFI) 10-245, *Antiterrorism (AT)*
 - o Unified Facilities Criteria (UFC) 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*
 - o UFC 4-022-01, *Entry Control Facilities Access Control Points*.
- Increase security and ensure installation and security forces personnel safety:
 - o Incorporate traffic calming and AT/force protection measures. Traffic calming measures involve physically altering the layout or appearance of a roadway to actively or passively reduce traffic speeds, visual changes to encourage attentive driving and reduced speeds, and physical devices such as speed humps, speed cushions, and speed tables.
- Result in no adverse impact on BFF remediation project influent conveyance lines for the BFF treatment system.
- Be compatible with future development needs identified in Kirtland AFB's 2016 Installation Development Plan.
- Result in no significant adverse impacts on adjacent communities and properties:
 - o Albuquerque Public School District's Wherry Elementary on Gibson Boulevard between Louisiana Boulevard and the Gibson Gate
 - o Kirtland FCU access driveway on Louisiana Boulevard
 - o Residential areas (i.e., Siesta Hills, Elder Homestead, and Trumbull Village)
 - o New Day Youth and Family Services Safe Home facility at Louisiana Boulevard and Ridgecrest Drive.
- Result in no adverse impacts on the previously approved Louisiana-Gibson Regional Drainage Facility.
- Maximize the flow of traffic without compromising safety and security.
- Avoid environmental resources such as protected plant or animal species or their habitat, known cultural resources, and restoration sites.

2.3 No Action Alternative

Under the No Action Alternative, the USAF would take no action. Kirtland AFB would not realign Gibson Boulevard from the Gibson Gate to Louisiana Boulevard. The No Action Alternative would maintain the current ingress and egress from the Gibson Gate and safety and security issues would continue.

The No Action Alternative would not meet the purpose of and need for the Proposed Action as described in **Section 1.3**; however, the USAF Environmental Impact Analysis Process

(32 CFR § 989.8[d]) requires consideration of the No Action Alternative. In addition, CEQ guidance recommends inclusion of the No Action Alternative in an EA to assess any environmental consequences that may occur if the Proposed Action is not implemented. Therefore, this alternative is carried forward for detailed analysis in this EA. The No Action Alternative also serves as a baseline against which the Proposed Action can be compared.

2.4 Alternatives Considered but Eliminated from Detailed Analysis

Alternative realignment layouts were considered for some of the components of the Proposed Action; however, after considering the purpose of and need for the action, applying the selection standards, and opposition received during public meetings, these alternatives were not considered viable alternatives.

2.4.1 Roundabout

As presented in **Figure 2-2**, this alternative includes construction of a single-lane roundabout south of the Kirtland FCU on Louisiana Boulevard, approximately 900 feet south of Gibson Boulevard. This single-lane roundabout would provide ingress only to the Gibson Gate. Egress from the gate would continue to utilize the existing westbound lanes of Gibson Boulevard. Traffic exiting Kirtland FCU from the current exit along Louisiana Boulevard would be restricted to right-in/right-out only, requiring the use of the roundabout for northbound traffic (Lee Engineering 2018). Placing a roundabout at this location would result in the potential for traffic from adjacent residential areas to be impacted and queued with traffic accessing the installation or Wherry Elementary during peak travel times. Maintaining the current egress route would continue to leave Kirtland AFB susceptible to accidental or inadvertent access to the installation, which would not meet the purpose of and need for the Proposed Action or the selection standards identified in **Section 2.2**. Additionally, this alternative would result in a safety concern from the potential for a catastrophic accident (i.e., head-on collision) caused by a wrong-way driver attempting to continue east on Gibson Boulevard past Louisiana Boulevard. Therefore, this alternative will not be carried forward for analysis in the EA.

2.4.2 Revise Ingress Only

As presented in **Figure 2-3**, this alternative includes construction of an ingress-only access road to the Gibson Gate from a T-intersection on Louisiana Boulevard approximately 500 feet south of Gibson Boulevard. Egress from the gate would continue to utilize the existing westbound lanes of Gibson Boulevard. Traffic exiting Kirtland FCU from the current exit along Louisiana Boulevard would be restricted to right-in/right-out only and a new, full-movement exit from Kirtland FCU would be constructed south of the current driveway on Louisiana Boulevard (Lee Engineering 2018). Maintaining the current egress point would continue to leave Kirtland AFB susceptible to accidental or inadvertent access to the installation, which would not meet the purpose of and need for the Proposed Action or the selection standards identified in **Section 2.2**. Additionally, this alternative would result in a safety concern from the potential for a catastrophic accident (i.e., head-on collision) caused by a wrong-way driver attempting to continue east on Gibson Boulevard past Louisiana Boulevard. Therefore, this alternative will not be carried forward for analysis in the EA.



1

Figure 2-2. Roundabout Alternative



Figure 2-3. Revise Ingress Only Alternative

2.5 Comparative Summary of Impacts

Table 2-1 presents a summary of the impacts anticipated under the Proposed Action and the No Action Alternative.

Table 2-1. Summary of Potential Impacts

Affected Resource	Proposed Action	No Action Alternative
Noise	The Proposed Action would result in a short-term, negligible to minor, adverse impact on the noise environment. Project activities would require the use of heavy equipment generating temporary increases in noise near the project area. Noise impacts would be temporary in nature, lasting only the length of the construction period, and would occur during the daytime hours of 0700 to 1700. Construction workers would implement best management practices (BMPs) to reduce adverse noise impacts. Because Kirtland AFB is adjacent to the Sunport and is an active military installation that supports aircraft and live-fire weapons training, the intermittent increases in construction noise would be a fraction of the noise generated routinely on and off the installation. Long-term, negligible, adverse impacts associated with the Proposed Action would occur based on the relocation of the Gibson Gate access road and ingress/egress locations along Louisiana Boulevard, which would be moved south on Louisiana Boulevard. Therefore, the ingress and egress routes, as well as portions of the access road, would be further from the Trumbull Village and Elder Homestead residential areas and the New Mexico Veterans Memorial, which would reduce long-term noise impacts on these areas from vehicles accessing the installation via the Gibson Gate. The distance of Wherry Elementary and Christ United Methodist Church from the proposed access road and ingress/egress route locations would not change; therefore, the Proposed Action would have no long-term impacts on these two sensitive noise receptors. The closest home in the Siesta Hills residential area is approximately 200 feet southwest of the proposed ingress intersection on Louisiana Boulevard, and the New Day Youth and Family Services Safe Home facility is approximately 1,600 feet to the south. Conservatively assuming that all vehicles using the Gibson Gate ingress intersection would be medium-sized trucks traveling at 30 miles per hour, the Proposed Action would result in long-term vehicle noise of approximately 66.3 A-weighted decibels (dBA) for the residence closest to the proposed ingress intersection and approximately 54.7 dBA for the New Day Youth and Family Services Safe Home facility during peak morning hours (0715 to 0815). Both values are below or within the 60 to 70 dBA noise range for urban residential areas and would result in a negligible increase to the noise environment for these two sensitive noise receptors.	The No Action Alternative would not result in any new or additional impacts.

Table2-1. Summary of Potential Impacts (Continued)

Affected Resource	Proposed Action	No Action Alternative
Air Quality	The Proposed Action would result in a short-term, negligible, adverse impact on air quality. Emissions would be directly produced from activities such as operation of heavy equipment, workers commuting daily to and from the project area in their personal vehicles, heavy duty diesel vehicles hauling materials and debris to and from the project area, and ground disturbance. However, such emissions would be temporary in nature and produced only when construction activities occur. Construction activities would incorporate BMPs and environmental control measures (e.g., wetting the ground surface) to minimize fugitive particulate matter air emissions. Additionally, work vehicles are assumed to be well maintained and to use diesel particulate filters to reduce particulate matter air emissions.	The No Action Alternative would not result in any new or additional impacts.
Infrastructure	The Proposed Action would result in short- and long-term impacts on the transportation system. Short-term, negligible to minor, adverse impacts would result on the transportation system because of construction activities and the temporary increase in the number of construction-related vehicles accessing the project area. However, early coordination would ensure necessary safety precautions are taken and would allow ample advance notice to affected commuters and personnel. Haul and delivery truck transportation is not expected to occur during peak travel times. Construction of the new roadway would be phased, which would allow continued access to the installation and Wherry Elementary via the current extension of Gibson Boulevard, resulting in no adverse impact on local transportation routes. Long-term, negligible to moderate, adverse impacts would result from the Proposed Action. The overall level of service (LOS) for the Gibson and Louisiana Boulevard intersection would decrease from LOS C and B for the morning and evening peak hours, respectively, to LOS D for both. However, the LOS, queues, volume to capacity ratios, and delays for all movements under both morning and evening peak hours at this intersection would be at acceptable levels, which would improve the current evening peak hour northbound and southbound movement LOS and eastbound left turn queue length. The overall LOS for the Louisiana Boulevard and Kirtland FCU ingress intersection would improve from LOS A and B in the morning and evening peak hours, respectively, to LOS A for both. The Proposed Action would not affect access to or from Kirtland FCU on Louisiana Boulevard; however, drivers exiting Kirtland FCU to travel north on Louisiana Boulevard would encounter a stop sign at the Louisiana Boulevard egress point. The Louisiana Boulevard egress intersection would operate at overall LOS A and F for morning and evening peak hours, respectively. The Louisiana Boulevard ingress intersection would operate at overall LOS A for both morning and evening peak hours. The Proposed Action would not affect access to or from the Elder Homestead residential area northwest of the Gibson and Louisiana Boulevard intersection. Additionally, the Proposed Action would not affect access to or from the Siesta Hills residential area or the New Day Youth and Family Services Safe Home facility; however, it would realign and add two stop signs to the northbound lane of Louisiana Boulevard between Ridgecrest Drive and Gibson Boulevard. The LOS for drivers traveling north on Louisiana Boulevard would decrease from LOS A to LOS F at both of these intersections in the morning and evening peak hours. Little to no impact is anticipated on Ridgecrest Drive or the intersection of Ridgecrest Drive and Louisiana Boulevard.	The No Action Alternative would not result in any new or additional impacts.

Table2-1. Summary of Potential Impacts (Continued)

Affected Resource	Proposed Action	No Action Alternative
Infrastructure (continued)	The Proposed Action is not anticipated to change or result in short- or long-term impacts on the natural gas and propane, liquid fuel, sanitary sewer/wastewater, stormwater handling, and communications utility systems. Short-term, negligible, adverse impacts are expected on the electrical system, water supply system, and solid waste management. Electrical service interruptions may be experienced when connecting the new street lights and disconnecting the current street lights from the installation electrical distribution system. No increase in electrical demand on the installation is anticipated because the new street lights would be more energy efficient. Ground-disturbing activities would require minimal amounts of water, primarily for dust suppression; however, this increase would be temporary and would not be expected to exceed existing capacity. Minimal amounts of solid waste would be generated; however, construction debris would consist primarily of recyclable and reusable building materials and vegetation. Materials that could be recycled or reused would be diverted from landfills to the greatest extent possible.	
Hazardous Materials and Wastes	The Proposed Action would result in short-term, negligible, adverse impacts on hazardous materials and wastes. Activities would require using small quantities of hazardous materials and petroleum products. Construction contractors would ensure the handling and storage of any hazardous materials and petroleum products is carried out in compliance with applicable laws and regulations. No short- or long-term impacts are expected on the installation's Environmental Management System program or toxic substances. The Proposed Action would not result in an impact on or from Environmental Restoration Program sites. Project activities are not anticipated to occur within or adjacent to any sites; however, influent conveyance lines associated with the BFF remediation project are located within the project area. Design of the roadway would take these lines into consideration and demonstrate an engineered solution that would protect the lines and prevent the possibility of any potential damage to them. Short-term, negligible, adverse impacts on the generation of hazardous and petroleum wastes would result. However, implementation of BMPs and environmental protection measures would reduce the potential for accidental release or unintentional disturbance of hazardous and petroleum wastes. All materials would be handled, stored, and disposed of in accordance with federal, state, and local regulations.	The No Action Alternative would not result in any new or additional impacts.
Safety	The Proposed Action would result in short- and long-term impacts on the safety of contractors, military personnel, and the public. Short-term, negligible, adverse impacts would be expected because construction and demolition activities associated with the Proposed Action would slightly increase the health and safety risk to personnel within the project area. Construction activities would comply with all applicable safety requirements and installation-specific protocols and procedures therein. The project area would be appropriately delineated and posted with access limited to construction personnel. Long-term, minor to moderate, beneficial impacts would be expected because the Proposed Action would result in better control of accidental or inadvertent access to the installation by unauthorized individuals. Changing the route to Gibson Gate from a straight roadway to a serpentine roadway would better meet Unified Facilities Criteria guidelines and antiterrorism standards.	The No Action Alternative would not result in any new or additional impacts. Safety and security issues at the Gibson Gate would continue.

Table2-1. Summary of Potential Impacts (Continued)

Affected Resource	Proposed Action	No Action Alternative
Socioeconomics	The Proposed Action would result in a short-term, negligible, beneficial impact on socioeconomics because of construction activities. Direct and indirect, beneficial impacts would result from increased payroll tax revenue and the purchase of construction materials and goods in the area. The temporary increase of construction workers at Kirtland AFB would represent a small increase in the total number of persons working on the installation, but no additional facilities would be necessary to accommodate the workforce.	The No Action Alternative would not result in any new or additional impacts. Safety and security issues at the Gibson Gate would continue.
Environmental Justice and Sensitive Receptors	The Proposed Action would result in short- and long-term, negligible to minor, adverse impacts to people within 0.5 mile of the project area. The percentages of minority and low-income populations within the environmental justice region of influence (ROI) were lower than those of Bernalillo County, the community of comparison. Within the ROI, Block Group 7 in Census Tract 9.01 (Trumbull Village residential area) had a larger percentage of minority and low-income populations than Bernalillo County and New Mexico. The percentages of low-income residents in Block Group 3 in Census Tract 9.03 and Block Group 3 in Census Tract 9.04 (Elder Homestead residential area) were slightly higher than Bernalillo County and the percentage of low-income residents in Block Group 3 in Census Tract 9.04 (Elder Homestead residential area) was lower than that of New Mexico. The closest residences to the project area are approximately 100 feet north in Block Group 7 in Census Tract 9.01 (Trumbull Village residential area), 100 feet west/southwest in Block Group 1 in Census Tract 9.04 (Siesta Hills residential area), and 150 feet northwest in Block Group 3 in Census Tract 9.04 (Elder Homestead residential area). These residences could experience noise between 74 and 84 dBA at 100 feet and between 68 and 74 dBA at 150 feet during construction. The closest residences in Block Group 1 in Census Tract 8.01 (the Kirtland AFB Pershing Park residential area) are approximately 1,300 feet east. The New Day Youth and Family Services Safe Home facility is the only residential use in Block Group 3, Census Tract 9.02 within the ROI, and is approximately 1,600 feet from the project area. Lower noise levels to no noise would be experienced in these areas, especially as construction activities are moved to the western portion of the project area. However, construction noise impacts would be temporary, lasting only the length of construction, and during daytime hours. A temporary increase in traffic on roadways near the project area would occur during construction; however, construction traffic is not expected to occur during peak travel times and roadways would remain open during construction activities. Additionally, early coordination would ensure necessary safety precautions are taken and nearby residents, commuters, and installation personnel have been notified of the construction. Therefore, while short-term noise and traffic impacts on the minority and low-income populations within Block 7 in Census Tract 9.01 (Trumbull Village residential area) and low-income populations within Block 3 in Census Tracts 9.03 (New Day Youth and Family Services Safe Home) and 9.04 (Elder Homestead residential area) would be considered disproportionate, the impacts would not be significant.	The No Action Alternative would not result in any new or additional impacts. Safety and security concerns that could affect sensitive receptor populations (children) at nearby Wherry Elementary would continue.

Table2-1. Summary of Potential Impacts (Continued)

Affected Resource	Proposed Action	No Action Alternative
Environmental Justice and Sensitive Receptors (continued)	Long-term changes in traffic patterns and associated changes in noise generation would be concentrated at the Gibson and Louisiana Boulevard intersection and south of the intersection along Louisiana Boulevard. Residents within Block Group 1 in Census Tract 9.04 (Siesta Hills residential area) would most likely experience these long-term impacts due to the proximity of the block group to these areas. Additionally, the New Day Youth and Family Services Safe Home facility in Block Group 3, Census Tract 9.03 could experience a minimal increase in the noise environment. Impacts on the Siesta Hills and New Day Youth and Family Services Safe Home residential areas would not be considered disproportionate or significant. Wherry Elementary is adjacent to the east of the project area. The closest building at the school is approximately 400 feet from the project area and could experience increased noise and traffic during construction. However, standard construction safety BMPs (e.g., fencing and other security measures) would reduce potential risks to surrounding populations to minimal levels and any potential impacts on children would be short-term and negligible due to these BMPs and the distance of the project area. Although the Proposed Action would have short-term, adverse noise impacts, the impacts on children would not be disproportionate or significant because the effect of additional noise and traffic would be negligible and would not be an environmental health or safety risk. No long-term impacts would be expected on Wherry Elementary or other sensitive noise receptor locations. Therefore, the Proposed Action would not result in an increased exposure of children to environmental health or safety risks. No disproportionate impacts on elderly persons would be anticipated.	

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3. Affected Environment and Environmental Consequences

This section of the EA describes the natural and human environments that exist within Kirtland AFB and the 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.

Based upon the scope of the Proposed Action, resource areas with no impacts were identified through a preliminary screening process. The following bullets describe 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, flight activities, or training and no changes to current aircraft operations would occur. 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.
- **Land Use.** Land use is not addressed in this EA because the Proposed Action would not result in a change in the current land use designations identified in the 2016 Installation Development Plan. Both the current extension of Gibson Boulevard and the proposed new roadway are located in areas designated as Community in the Installation Development Plan and the Proposed Action would result in no change to that designation. As a result, the USAF anticipates no short- or long-term impacts on land use at Kirtland AFB. Therefore, land use will not be carried forward for detailed analysis.

- 1 • **Visual Resources.** Visual resources are not addressed in this EA because the
2 Proposed Action would not adversely affect the existing visual landscape on the
3 installation. As a result, the USAF anticipates no short- or long-term impacts on visual
4 resources at Kirtland AFB. Therefore, visual resources will not be carried forward for
5 detailed analysis.
- 6 • **Geological Resources.** Geological resources are not addressed in this EA because the
7 Proposed Action would not result in impacts on the regional geology and soils. The
8 Proposed Action would not change or result in impacts on regional geological features or
9 cause an existing geologic feature to become unstable. The underlying soil type in the
10 project area is Wink-Embudo complex, which consists of fine sandy loam to sandy loam,
11 well drained soils, with 1 to 5 percent slopes and very low runoff. This soil type is not a
12 prime farmland or farmland of statewide or local importance (USDA-NRCS 2018). The
13 attributes of this soil type would be taken into consideration in the design of the new
14 roadway. All ground-disturbing activities would adhere to federal, state, and local
15 regulations, obtain all necessary permits, and comply with all best management
16 practices (BMPs) listed therein. As a result, the USAF anticipates no short- or long-term
17 impacts on geological resources at Kirtland AFB. Therefore, geological resources will not
18 be carried forward for detailed analysis.
- 19 • **Water Resources.** Water resources are not addressed in this EA because the Proposed
20 Action would not result in impacts on groundwater, surface water, or floodplains.
21 Although the project area is adjacent to the previously approved Louisiana-Gibson
22 Regional Drainage Facility, it is not in a floodplain and the Proposed Action would not
23 result in impacts on that facility. In accordance with the Kirtland AFB Stormwater
24 Pollution Prevention Plan, project activities would be reviewed to ensure proper erosion
25 and sediment control measures are considered and incorporated into project designs. As
26 stated in **Section 2.1**, design of the roadway would include appropriate stormwater
27 drainage controls; therefore, no adverse impacts on surface water are anticipated.
28 Additionally, should project activities individually or cumulatively disturb 1 acre or more
29 of land, coverage under the 2017 National Pollutant Discharge Elimination System
30 Construction General Permit would be obtained prior to construction. The Construction
31 General Permit requires preparation and implementation of a site-specific Stormwater
32 Pollution Prevention Plan. All ground-disturbing activities would adhere to federal, state,
33 and local regulations, obtain all necessary permits, and comply with all BMPs listed
34 therein. The use of water for dust suppression during ground-disturbing activities is
35 discussed under **Section 3.3**. As a result, the USAF anticipates no short- or long-term
36 impacts on water resources at Kirtland AFB. Therefore, water resources will not be
37 carried forward for detailed analysis.
- 38 • **Biological Resources.** Biological resources are not addressed in this EA because the
39 Proposed Action would not result in impacts on sensitive wildlife or sensitive habitat. In
40 accordance with Section 7 of the Endangered Species Act of 1973, Kirtland AFB
41 conducted an effect determination for this project. All interrelated and interdependent
42 actions were analyzed during that review. The 2018 USFWS Information for Planning
43 and Consultation Official Species and Habitat List was received on 10 July 2018 under
44 Consultation Code 02ENNM00-2018-SLI-1061. It was determined that there are no

federally listed threatened or endangered species or critical habitat and no state-listed threatened or endangered species occurring within the project area (USFWS 2018). However, to ensure no impact, an updated species list from USFWS is required to be obtained within 90 days of starting construction activities. There are no wetlands within the project area. Ground-disturbing activities associated with the installation of electrical lines and poles would take into consideration the potential for reptiles, amphibians, and small mammals to become trapped in holes and trenches if left open overnight. Holes would be covered and ramps, at no more than 45 degrees, would be installed in trenches to allow trapped animals to exit. Disturbed areas would be revegetated following construction activities. As a result, the USAF anticipates no short- or long-term impacts on biological resources at Kirtland AFB. Therefore, biological resources 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 within the Area of Potential Effect of the realignment of Gibson Boulevard. In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, Kirtland AFB transmitted a consultation letter to SHPO, which concluded that the undertaking would not adversely affect any historic properties. Cultural resources surveys were conducted within the project area in 1984 and 1999 and no archaeological sites or traditional cultural properties were identified. SHPO concurrence that the undertaking has no potential to affect historic properties was received on 1 August 2018 (HPD Log 108278) (Estes 2018). While the Proposed Action would have no impact on known cultural resources, any ground-disturbing activities would take into consideration the potential for the discovery of previously undiscovered cultural resources. Should an inadvertent discovery of human or cultural remains occur during construction, all project activities would stop, the Kirtland AFB Cultural Resources Program Manager 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 a particular auditory impact produced by a given source, for example, the sound of rain on a rooftop. Noise is any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Noise and sound share the same physical aspects, but noise is considered a disturbance while sound is defined as an auditory impact. Noise can be intermittent or continuous, steady or impulsive, and can involve any number of sources and frequencies. Noise can be readily identifiable or generally nondescript. Human response to increased sound levels varies according to the source type, characteristics of the sound source, distance between the source and receptor, receptor sensitivity, and time of day. Affected receptors are specific (e.g., residential areas, schools, places of worship, hospitals) or broad (e.g., nature preserves, designated districts) areas in which occasional or persistent sensitivity or noise above ambient levels exists. These receptors 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 sound environment, 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}). However, 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 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 levels can be measured with instruments that record instantaneous sound levels in decibels (dB). A-weighted decibels (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 lower 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 shows how they rank in terms of auditory impacts. As shown, a whisper is normally 30 dBA and considered to be very quiet while an air conditioning unit 20 feet away is considered an intrusive noise at 60 dBA. Noise levels can become annoying at 80 dBA and very annoying at 90 dBA. To the human ear, each 10 dBA increase seems twice as loud (USEPA 1981b).

Table 3-1. Sound Levels and Human Response

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

Source: USEPA 1981a

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 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 reduces sound levels to acceptable limits.

The average day/night sound level (DNL) metric is a measure of the total community noise environment. DNL is the average A-weighted sound level over a 24-hour period, with a 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 US Environmental Protection Agency (USEPA) for use by federal agencies and was adopted by the US 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.

The federal government established noise guidelines and regulations for the purpose of protecting citizens from potential hearing damage and from various other adverse physiological, psychological, and social effects associated with noise. According to the US Army, Federal Aviation Administration, and US Department of Housing and Urban Development criteria, residential units and other noise-sensitive land uses are “clearly unacceptable” in areas where noise exposure exceeds 75 dBA, “normally unacceptable” in regions exposed to noise between 65 and 75 dBA, and “normally acceptable” in areas exposed to noise of 65 dBA or less. For outdoor activities, USEPA recommends 55 dBA as the sound level below which there is no reason to suspect that the general population would be at risk from any of the effects of noise (USEPA 1974).

3.1.1 Affected Environment

The ambient sound 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 65 to 75 dBA DNL. The project area is not within DNL noise contours for the Sunport. 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.

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

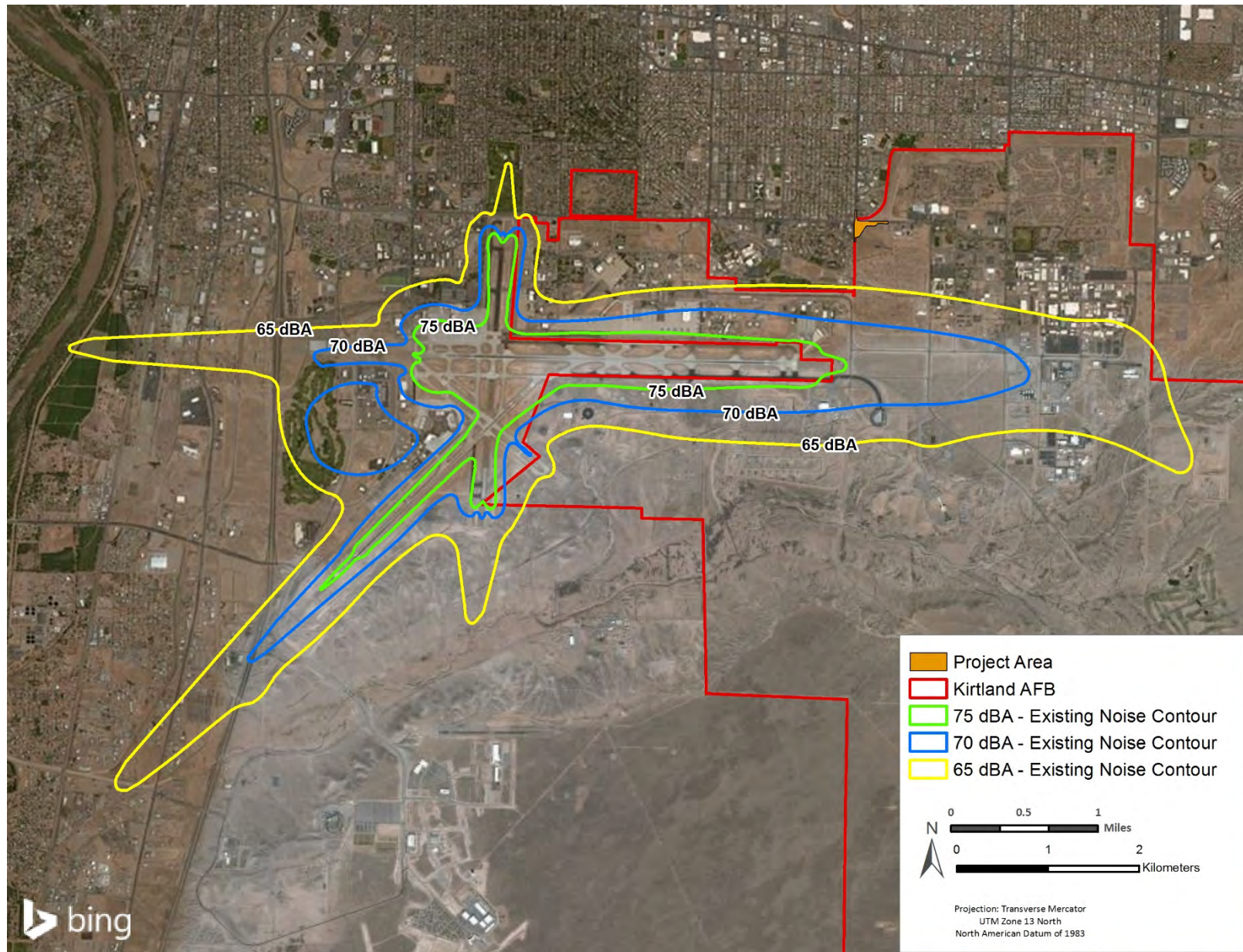


Figure 3-1. DNL Noise Contours for the Albuquerque International Sunport

Kirtland AFB housing and community functions are within the northwestern portion of the installation and several residential areas in the city of Albuquerque are proximate to the northwest and northern boundaries of the installation (KAFB 2016a).

Sensitive noise receptors within the proximity of the project area include the following:

- Trumbull Village residential area (100 feet north of the project area)
- Siesta Hills residential area (100 feet west of the project area; 200 feet southwest of the proposed Louisiana Boulevard and Kirtland AFB ingress intersection)
- Elder Homestead residential area (150 feet northwest of the project area)
- Wherry Elementary (400 feet southeast of the project area)
- New Mexico Veterans Memorial (500 feet north of the project area)
- Christ United Methodist Church (1,100 feet west of the project area)
- New Day Youth and Family Services Safe Home facility (1,400 feet south of the project area; 1,600 feet south of the proposed Louisiana Boulevard and Kirtland AFB entrance intersection).

All of the sensitive noise receptors are within the southern portion of the city of Albuquerque and near the Sunport and Kirtland AFB and therefore are impacted by noise from those sources. The New Day Youth and Family Services Safe Home facility is adjacent to the 65 dBA noise contour for the Sunport (see **Figure 3-1**). Additionally, Trumbull Village residential area, Elder Homestead residential area, Christ United Methodist Church, and the New Mexico Veterans Memorial are adjacent to Louisiana Boulevard, a five-lane road, or Gibson Boulevard, a six-lane road. Both roads have a speed limit of 40 miles per hour. The existing noise environment for these sensitive noise receptors is that of an urban residential area, which is approximately 60 to 70 dBA (USEPA 1974).

3.1.2 Environmental Consequences

3.1.2.1 PROPOSED ACTION

Realignment of Gibson Boulevard would result in short- and long-term impacts on the noise environment adjacent to the project area. A short-term, negligible to minor, adverse impact would result from construction activities associated with the Proposed Action. These activities would require the use of heavy construction equipment, which would generate temporary increases in noise near the project area. Individual pieces of heavy equipment typically generate noise levels between 80 and 90 dBA at a distance of 50 feet. Sound levels drop by 6 dB with each doubling of the distance from the noise source. Therefore, the construction noise would be between 74 and 84 dBA for the two closest sensitive noise receptors, which are 100 feet from the project area, and lower for the remaining sensitive noise receptors. Given the temporary nature of the proposed construction and demolition activities and the existing noise environment, off-installation noise sensitive receptors might experience short-term, minor, adverse impacts.

Noise decreases with distance; therefore, adverse impacts from construction noise are typically confined to within 0.5 mile of a project area. **Table 3-2** presents noise levels associated with

common types of construction equipment that can exceed the ambient sound levels by 20 to 25 dBA in an urban environment and up to 30 to 35 dBA in a remote area. Construction-related noise impacts would be temporary in nature, lasting only the length of the construction period, and would occur during the daytime hours of 0700 to 1700. Noise levels would vary depending on the type of equipment being used on a given day and the distance between the receptor and the project area.

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

Construction workers would implement BMPs to reduce adverse noise impacts on sensitive noise receptors, as needed. Noise from construction equipment could be managed by temporarily placing noise dampening barriers (e.g., sound screens) around construction sites, ensuring that all equipment has the manufacturer's recommended noise abatement measures installed, and inspecting all construction equipment at periodic intervals to ensure proper maintenance and presence of noise control devices.

Because Kirtland AFB is adjacent to the Sunport and is an active military installation that supports aircraft and live-fire weapons training, the intermittent increases in construction noise would be a fraction of the noise generated routinely on and off the installation.

Long-term, negligible, adverse impacts associated with the Proposed Action would occur based on the relocation of the Gibson Gate access road and ingress and egress locations along Louisiana Boulevard. The ingress and egress locations would be moved approximately 500 and 260 feet south on Louisiana Boulevard, respectively. Therefore, the ingress and egress intersections, as well as portions of the access road, would be farther from the Trumbull Village and Elder Homestead residential areas and the New Mexico Veterans' Memorial, which would

reduce long-term noise impacts on these areas from vehicles accessing the installation via the Gibson Gate. The distance of Wherry Elementary and Christ United Methodist Church from the proposed access road and ingress and egress intersections would not change; therefore, the Proposed Action would have no long-term noise impacts on these two sensitive noise receptors.

As noted in **Section 3.1.1**, the closest home in the Siesta Hills residential area would be approximately 200 feet southwest of the proposed ingress intersection on Louisiana Boulevard, and the New Day Youth and Family Services Safe Home facility would be approximately 1,600 feet to the south. Louisiana Boulevard south of Gibson Boulevard has a 30 mile per hour speed limit. Conservatively assuming that all vehicles using the Gibson Gate ingress intersection would be medium trucks traveling at 30 miles per hour, the Proposed Action would result in long-term vehicle noise of approximately 66.3 dBA (hourly equivalent sound level) for the Siesta Hills residence closest to the proposed ingress intersection and approximately 54.7 dBA (hourly equivalent sound level) for the New Day Youth and Family Services Safe Home facility during peak morning hours (0715 to 0815) (FHWA 2017). Both values are below or within the 60 to 70 dBA noise range for urban residential areas and would minimally increase the noise environment for these two sensitive noise receptors. Therefore, the Proposed Action would not be expected to result in a significant impact on sensitive noise receptors or the local noise environment.

3.1.2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, Kirtland AFB would not realign Gibson Boulevard and the existing conditions discussed in **Section 3.1.1** would remain unchanged. No new noises would be introduced to the on- and off-installation noise environments; therefore, no new noise impacts would occur.

3.2 Air Quality

Air quality is defined by the concentration of various pollutants in the atmosphere at a given location. Under the Clean Air Act, the six pollutants defining air quality, called "criteria pollutants," include carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide, ozone (O₃), suspended particulate matter (measured less than or equal to 10 microns in diameter [PM₁₀] and less than or equal to 2.5 microns in diameter [PM_{2.5}]), and lead. CO, SO₂, and some particulates are emitted directly into the atmosphere from emissions sources. Nitrogen dioxide, O₃, and some particulates are formed through atmospheric chemical reactions that are influenced by weather, ultraviolet light, and other atmospheric processes. Volatile organic compounds (VOCs) and nitrogen oxides (NO_x) emissions are used to represent O₃ generation because they are precursors of O₃.

USEPA has established National Ambient Air Quality Standards (NAAQS) (40 CFR § 50) for criteria pollutants. NAAQS are classified as primary or secondary. Primary standards protect against adverse health effects; secondary standards protect against welfare effects, such as damage to farm crops and vegetation and damage to buildings. Some pollutants have short-term and long-term standards. Short-term standards are designed to protect against acute, or short-term, health effects, while long-term standards were established to protect against chronic health effects. The state of New Mexico has established its own ambient air quality standards for the criteria pollutants, which in some cases are more stringent than the NAAQS.

Areas that are and have historically been in compliance with the NAAQS or have not been evaluated for NAAQS compliance are designated as attainment areas. Areas that violate a federal air quality standard are designated as nonattainment areas. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to adhere to maintenance plans to ensure continued attainment. The maintenance designation can be removed from an area if the area demonstrates to the USEPA it can consistently remain below NAAQS for more than 20 years.

The USEPA General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The emissions thresholds that trigger requirements for a conformity analysis are called *de minimis* levels. *De minimis* levels (in tons per year [tpy]) vary by pollutant and also depend on the severity of the nonattainment status for the air quality management area in question.

The New Mexico Environment Department (NMED) Air Quality Bureau oversees programs for permitting the construction and operation of new or modified stationary source air emissions in the state of New Mexico. 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).

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 acre or more and 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.

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

3.2.1 Affected Environment

Kirtland AFB is in Bernalillo County, New Mexico, which is within the Albuquerque-Mid Rio Grande Intrastate Air Quality Control Region 152. The Albuquerque-Mid Rio Grande Intrastate Air Quality Control Region also includes portions of Sandoval and Valencia counties, New Mexico (NMED 2017). Bernalillo County is designated by USEPA as unclassified/attainment for all criteria pollutants, except CO. The county was designated as nonattainment for CO until 1996 when it was redesignated as maintenance because CO concentrations decreased and no

longer exceeded NAAQS (USEPA 2017). CO concentrations continued to steadily decrease in the region over the next 20 years, so the AEHD-AQD submitted a CO Limited Maintenance Plan to USEPA. The CO Limited Maintenance Plan is an option provided by USEPA for areas that demonstrated CO levels will remain below 85 percent of the CO NAAQS. Bernalillo County is still under a CO maintenance plan and a CO conformity applicability analysis is required.

Kirtland AFB manages a number of air quality permits including: 20.11.41 NMAC, *Construction Permits*; 20.11.21 NMAC, *Open Burning*; 20.11.20 NMAC, *Fugitive Dust Control*; and 20.11.40 NMAC, *Source Registrations*. All of these permits include operating or emissions limits to ensure compliance with the Clean Air Act. Kirtland AFB must also comply with all 20.11 NMAC requirements to include 20.11.42 NMAC Title V Operating Permit #527-RN1, which covers most of the permitted stationary emission sources on the installation. These sources include 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 and research and development. **Table 3-3** presents the 2017 stationary air emissions inventory for Kirtland AFB.

Table 3-3. Calendar Year 2017 Stationary Air Emissions Inventory for Kirtland AFB

Actual Emissions	NO _x (tpy)	VOC (tpy)	CO (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)
	6.03	41.15	5.60	0.34	0.68

Kirtland AFB also holds a Fugitive Dust Control Programmatic Permit, Permit No. 8091-P, with 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.

Climate Change and Greenhouse Gases. Ongoing global climate change has the potential to increase average temperatures and cause more frequent, intense, and prolonged droughts in the southwest United States including New Mexico (Garfin et al. 2014). These changes to regional climate patterns could result in regional changes to flooding frequency, vegetation types, vegetation growth rates, wildfire potential, groundwater depth, and potable water availability.

3.2.2 Environmental Consequences

3.2.2.1 PROPOSED ACTION

Realignment of Gibson Boulevard would result in a short-term, negligible, adverse impact on air quality. Emissions of criteria pollutants and GHGs would be directly produced from activities such as operation of heavy equipment, workers commuting daily to and from the project area in their personal vehicles, heavy duty diesel vehicles hauling materials and debris to and from the project area, and ground disturbance. However, such emissions would only be temporary in nature and produced only when construction activities are occurring.

The air pollutant of greatest concern is particulate matter, such as fugitive dust. The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of activity. Fugitive dust emissions would be produced from the

ground disturbance associated with the Proposed Action. Fugitive dust air emissions would be greatest during the initial site grading and excavation and would vary daily depending on the work phase, level of activity, and prevailing weather conditions. Particulate matter emissions would also be produced from the combustion of fuels in vehicles and equipment needed for construction.

Construction activities would incorporate BMPs and environmental control measures (e.g., wetting the ground surface) to minimize fugitive particulate matter air emissions. Additionally, work vehicles are assumed to be well maintained and to use diesel particulate filters to reduce particulate matter air emissions. Construction activities would comply with 20.11.20 NMAC, *Fugitive Dust Control*, to prevent the release of fugitive dust. USAF would obtain a fugitive dust control construction permit from AEHD-AQD.

Application for the fugitive dust control construction permit would require USAF to develop a fugitive dust control plan, which would outline specific dust control measures that would be implemented during construction. These BMPs and environmental control measures could reduce uncontrolled particulate matter emissions from a construction site by approximately 50 percent depending upon the number of BMPs and environmental control measures required and the potential for particulate matter air emissions. Kirtland AFB's existing fugitive dust control programmatic permit for routine heavy equipment activities, Permit No. 8091-P, would provide coverage for future maintenance activities associated with the new roadway. Per 20.11.20.12 NMAC, the USAF would also use reasonably available fugitive dust control measures during any construction activity associated with the Proposed Action, whether or not a fugitive dust control permit was required.

USAF's Air Conformity Applicability Model (ACAM) was used to estimate the annual air emissions from construction activities associated with the Proposed Action. **Table 3-4** summarizes the anticipated air emissions from construction activities, and **Appendix B** contains the summary ACAM report.

Table 3-4. Estimated Annual Air Emissions from Proposed Action Construction Activities

Estimated Annual Air Emissions	NO _x (tpy)	VOC (tpy)	CO (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	GHG (tpy)
	2.770	0.427	2.387	0.005	6.482	0.066	535.6

Notes: Lead emissions are not included because they are negligible for the types of emission sources under this Proposed Action.

All air emissions have been estimated using USAF ACAM. A 50 percent control factor to PM₁₀ and PM_{2.5} emissions has been applied because fugitive dust emissions would be reduced with BMPs and environmental control measures specified in the project's fugitive dust control plan.

As noted in **Section 3.2.1**, Bernalillo County is designated by USEPA as unclassified/attainment for all criteria pollutants, except CO. Therefore, the Federal General Conformity Rule applies to the Proposed Action for CO, and a conformity applicability analysis is required for CO. For informational purposes, the estimated air emissions from the Proposed Action can be compared to the 100 tpy *de minimis* level. Emissions of all criteria pollutants would be well below the 100 tpy threshold. Projected CO emissions would be 2.387 tpy; therefore, no conformity determination is required for the Proposed Action. Fugitive dust emissions would be reduced with BMPs and environmental control measures specified in a fugitive dust control plan.

Therefore, the Proposed Action would not be expected to result in a significant impact on air quality.

Climate Change and Greenhouse Gases. Construction associated with the Proposed Action would emit approximately 536 tons of carbon dioxide equivalent during a given year. By comparison, this amount of carbon dioxide equivalent is approximately the GHG footprints of 26 single family houses with two cars per home (USEPA 2018). As such, this one-time emission of GHGs would not meaningfully contribute to the potential effects of global climate change. Therefore, the Proposed Action would not be expected to result in a significant impact on climate change.

Ongoing changes to climate patterns in the southwestern United States are described in **Section 3.2.1**. These climate changes are unlikely to affect USAF's ability to implement the Proposed Action, and the Proposed Action would not appreciably contribute to the regional (i.e., southwestern United States) impacts from global climate change because of insignificant carbon dioxide equivalent emissions.

3.2.2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, Kirtland AFB would not realign Gibson Boulevard and the existing conditions discussed in **Section 3.2.1** would remain unchanged and no new air emissions would be produced. The No Action Alternative would not result in any new or additional impacts on air quality.

3.3 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 Installation Development Plan 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 near 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 sewer/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.

The Highway Capacity Manual evaluates the level of service (LOS) of individual lane groups and signalized intersections based on control delay. Control delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. Control delay is based on many variables, including signal phasing and coordination, signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. **Table 3-5** presents general descriptions of LOS A through LOS F.

1 **Table 3-5. Level of Service Indicators**

Level of Service	Description	Average Delay (seconds/vehicle)
A	Free flow	≤ 10
B	Stable flow (slight delays)	> 10–20
C	Stable flow (acceptable delays)	> 20–35
D	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)	> 35–55
E	Unstable flow (intolerable delay)	> 55–80
F	Forced flow (congested and queues fail to clear)	> 80

Source: TRB 2010

2 **3.3.1 Affected Environment**

3 **Transportation**

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

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

18 There are currently eight gated entrances from the city of Albuquerque to Kirtland AFB including
19 Carlisle Gate, Truman Gate, Maxwell Gate, Gibson Gate, Wyoming Gate, Eubank Gate, and
20 Hickam Gate. The eighth gate is the South Valley Gate, which is at Ira Sprecker Road south of
21 the Sunport. The Hickam Gate, also known as the Contractor Gate, is the truck inspection gate.
22 All other gates are entry/egress points for personnel working or living on the installation
23 (KAFB 2016a). The Gibson, Wyoming, Carlisle, Hickam, and South Valley gates currently have
24 restricted hours.

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

The project area includes portions of Gibson Boulevard and Louisiana Boulevard (see **Figure 2-1**). The 2018 traffic study for the project area included the collection of existing traffic conditions for two intersections (i.e., Gibson/Louisiana Boulevard and Louisiana Boulevard/Kirtland FCU access). The Gibson and Louisiana Boulevard intersection operates with overall LOS C for the morning peak hour (0715 to 0815) and overall LOS B for the evening peak hour (1545 to 1645), both of which are acceptable. The morning peak hour movement (direction- and turn-specific) LOS, delays, volume to capacity ratios, and queue lengths also are acceptable. However, the evening peak hour northbound and southbound movement operates at LOS E, which is a greater than acceptable delay. The queue length for the eastbound left turn also exceeds existing storage capacities during evening peak hours. These delays likely are due to constraints generated by the split phasing configuration of the traffic signal, which reduces the overall capacity of the intersection. All other movements for the evening peak hour operate within acceptable LOS, queues, volume to capacity ratios, and delays (Lee Engineering 2018).

The Louisiana Boulevard and Kirtland FCU access intersection operates with overall LOS A for the morning peak hour and LOS B for the evening peak hour, and has acceptable LOS, queues, volume to capacity ratios, and delays for all movements under both morning and evening peak hours (Lee Engineering 2018).

Utility Systems

Electrical System. Kirtland AFB purchases electrical power from the Western Area Power Administration. Electric lines are placed above and below ground, feeding the 20 substations on the installation. The installation's average yearly consumption is approximately 407,010 kilowatt hours (KAFB 2016a). Electrical systems within the project area include street lights along the northern and southern sides of Gibson Boulevard and overhead electrical lines along the eastern side of Louisiana Boulevard.

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 linear feet of natural gas mains on the installation (KAFB 2016a). As stated in **Section 2.1**, design of the new roadway would take the high pressure pigging station into consideration and provide an engineered solution to protect it and all associated lines in the project area. 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. There are no propane storage tanks within the project 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 (KAFB 2016a). There are no liquid fuel storage tanks within the project 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 miles of distribution mains (KAFB 2016a). There are also approximately 50 miles of non-potable water pipeline serving the Tijeras Golf Course and providing water for fire protection.

Kirtland AFB has the right to divert approximately 6,400 acre-feet per year from the underground aquifer, which is equal to approximately 2 billion gallons of water (KAFB 2016a). In 2017, Kirtland AFB pumped a total of 744 million gallons (2,283 acre-feet) of water. The installation can also purchase water from the Albuquerque-Bernalillo County Water Utility Authority (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 (KAFB 2018b). There are no water lines within the project area.

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 linear feet 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 (KAFB 2016a). Some facilities in remote areas and other portions of the installation are not serviced by the sanitary sewer system; these facilities use isolated, onsite septic systems to dispose of wastewater. There are no sanitary sewer/wastewater lines within the project area. There is a wastewater manhole on Gibson Boulevard just east of Louisiana Boulevard.

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 subject to the existing Multi-Sector General Permit, Municipal Separate Storm Sewer System Permit, and Construction General Permit for authorization for stormwater discharge (KAFB 2016a). There are no stormwater lines or collection points within the project area.

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 on the west side of the installation. This facility is in need of additional capacity and expansion if the installation expands mission requirements. The Communication Main Switch Facility is on the east side of the installation. There are future projects to upgrade the copper cable. The network fiber in the installation communication system is currently in the process of being upgraded (KAFB 2016a). There are no communication lines within the project area.

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 1,700 tpy from Kirtland AFB (Wheelock 2018).

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 31 December 2017, the remaining capacity of the landfill is 2.47 million cubic yards. In 2016 and 2017, an average of 30,834 tons of construction and demolition waste per year was deposited into this landfill (Wheelock 2018). As of June 2012, the recycling of construction and demolition waste at Kirtland AFB has been codified into the installation's 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. There are no solid waste facilities within the project area.

3.3.2 Environmental Consequences

3.3.2.1 PROPOSED ACTION

Transportation

Realignment of Gibson Boulevard would result in short- and long-term impacts on the transportation system. The Proposed Action would result in a short-term, negligible to minor, adverse impact on area roadways because of construction activities and the temporary increase in the number of construction-related vehicles accessing the project area. However, early coordination with Kirtland AFB organizations and adjacent city of Albuquerque residents would ensure necessary safety precautions are taken and allow ample advance notice to affected commuters and personnel. Typical construction-related traffic would include delivery trucks, haul trucks, and passenger vehicles.

It is anticipated that all haul and delivery vehicles for the Proposed Action would access the project area at Gibson and Louisiana boulevards. During construction, city of Albuquerque and installation roadways would be used by haul and delivery trucks; however, transportation is not expected to occur during peak travel times. Because the existing roadway to the Gibson Gate would remain open during construction activities, no disruption in the flow of traffic entering or exiting the installation is expected.

Long-term, negligible to moderate, adverse impacts would result from the Proposed Action. The 2018 traffic study for the Proposed Action included the modeling of traffic conditions for four intersections: Gibson/Louisiana Boulevard; Louisiana Boulevard/Kirtland FCU access; Louisiana Boulevard/Kirtland AFB Exit, hereafter referred to as Louisiana Boulevard egress; and Louisiana Boulevard/Kirtland AFB Entrance, hereafter referred to as Louisiana Boulevard ingress. The long-term traffic impacts are based on future conditions associated with Alternative 2 of the

2018 traffic study, which is very similar to the Proposed Action. The overall LOS for the Gibson and Louisiana Boulevard intersection would decrease from LOS C and B for the morning and evening peak hours, respectively, to LOS D for both the morning and evening peak hours. The decrease would result from changes in lane geometry; however, LOS D is considered acceptable. The LOS, queues, volume to capacity ratios, and delays for all movements under both morning and evening peak hours at the Gibson and Louisiana Boulevard intersection also would be at acceptable levels, which would improve the current evening peak hour northbound and southbound movement LOS and eastbound left turn queue length (Lee Engineering 2018).

The overall LOS for the Louisiana Boulevard and Kirtland FCU ingress intersection would improve from LOS A and B in the morning and evening peak hours, respectively, to LOS A for both, and the LOS, queues, volume to capacity ratios, and delays for all movements would remain acceptable (Lee Engineering 2018). The Proposed Action would not affect access to or from the Kirtland FCU access on Louisiana Boulevard; however, drivers exiting the Kirtland FCU access to travel north on Louisiana Boulevard would encounter a stop sign at the Louisiana Boulevard egress intersection. The Louisiana Boulevard egress intersection would operate at overall LOS A and F for morning and evening peak hours, respectively. The Louisiana Boulevard ingress intersection would operate at overall LOS A for both morning and evening peak hours (Lee Engineering 2018).

The Proposed Action would not affect access to or from the Elder Homestead residential area to the northwest of the Gibson and Louisiana Boulevard intersection. Additionally, the Proposed Action would not affect access to or from the Siesta Hills residential area or the New Day Youth and Family Services Safe Home facility to the southwest of the Gibson and Louisiana Boulevard intersection; however, the Proposed Action would realign and add two stop signs to the northbound lane of Louisiana Boulevard between Ridgecrest Drive and Gibson Boulevard. The LOS for drivers traveling north on Louisiana Boulevard would decrease from LOS A to LOS F at both of these intersections in the morning and evening peak hours. Alternatively, these drivers could access Louisiana Boulevard via driving northwest on Ridgecrest Drive, north on San Pedro Drive, and east on Gibson Boulevard during morning and evening peak hours. The Proposed Action is anticipated to have little to no impact on Ridgecrest Drive or the intersection of Ridgecrest Drive and Louisiana Boulevard. Therefore, the Proposed Action would not be expected to result in a significant impact on the on- or off-installation transportation system.

Utility Systems

Realignment of Gibson Boulevard is not anticipated to result in short- or long-term impacts on the following utility systems: natural gas and propane, liquid fuel, sanitary sewer/wastewater, stormwater handling, and communications. As stated in **Section 2.1**, design of the roadway would include appropriate stormwater drainage controls and take into consideration the high pressure gas pigging station and BFF remediation project influent conveyance lines located underneath the proposed roadway realignment. The design would demonstrate an engineered solution that would be protective of the pigging station and influent conveyance lines and prevent the possibility of any potential damage to these lines. No equipment or construction vehicles would utilize the installation's liquid fuel supply. Therefore, these utility systems are not discussed further.

Electrical System. The Proposed Action would result in a short-term, negligible, adverse impact on the electrical system. Electrical service interruptions may be experienced when connecting the new street lights and disconnecting the current street lights from the installation electrical distribution system. No increase in electrical demand on the installation is anticipated because the new street lights would be more energy efficient. Therefore, the Proposed Action would not be expected to result in a significant impact on the electrical distribution system.

Water Supply System. The Proposed Action would result in a short-term, negligible, adverse impact on the water supply system. Construction activities would require minimal amounts of water, primarily for dust suppression. Although water demand would increase slightly from construction activities, this increase would be temporary and would not be expected to exceed existing capacity. Kirtland AFB is allowed to divert up to 6,000 acre-feet (2 billion gallons) of water per year and in 2017 pumped only 2,283 acre-feet (744 million gallons) of water, which is less than half of what is permitted; therefore, sufficient water resources would be available on the installation. Therefore, the Proposed Action would not be expected to result in a significant impact on the water supply system.

Solid Waste Management

The Proposed Action would result in a short-term, negligible, adverse impact on solid waste management. Construction activities associated with the Proposed Action would generate minimal amounts of solid waste. Construction debris would consist primarily of recyclable and reusable building materials, such as concrete, metals (e.g., piping and wiring), and removed vegetation. To reduce the amount of waste disposed, materials that could be recycled or reused would be diverted from landfills to the greatest extent possible. Site-generated scrap materials would be separated and recycled off site. Clean fill material, ground-up asphalt, and broken-up cement would be diverted from the landfills and reused whenever possible.

The weights of all materials diverted for recycling or reuse would be reported to the Kirtland AFB Quality Recycling Program to be credited toward the DoD-mandated construction and demolition diversion rate of 60 percent. Nonhazardous construction and demolition waste that is not recyclable or reusable would be transported to the Kirtland AFB construction and demolition waste landfill for disposal. Therefore, the Proposed Action would not be expected to result in a significant impact on solid waste management.

3.3.2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, Kirtland AFB would not realign Gibson Boulevard and the existing conditions discussed in **Section 3.3.1** would remain unchanged.

3.4 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 § 173. Transportation of hazardous materials is regulated by the US Department of Transportation regulations within 49 CFR §§ 105–180.

Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA) at 42 USC § 6903(5), as amended by the Hazardous and Solid Waste Amendments, as: “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (a) cause, or significantly contribute to an increase in, mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.” 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 § 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 asbestos-containing materials (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 USC § 53). USEPA has established regulations regarding asbestos abatement and worker safety under 40 CFR § 763, with additional regulations concerning emissions at 40 CFR § 61. Whether from LBP abatement or other activities, depending on the quantity or concentration, the disposal of the LBP waste is regulated by the RCRA at 40 CFR § 260. The disposal of PCBs is addressed in 40 CFR §§ 750 and 761. The presence of toxic substances, including describing their locations, quantities, and condition, assists in determining the significance of a proposed action.

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 addresses non-operational rangelands that are suspected or known to contain unexploded ordnance, 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).

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.

3.4.1 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 13693, *Planning for Federal Sustainability in the Next Decade*; 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 and Petroleum Products. 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 377th Mission Support Group/Civil Engineering Installation Management - Environmental Management - Compliance (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. 377 MSG/CEIEC is charged with managing hazardous materials to reduce the amount of hazardous waste generated on the installation in accordance with the Kirtland AFB Hazardous Waste Management Plan (HWMP).

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 (KAFB 2016b). The Kirtland AFB Spill Prevention, Control, and Countermeasure 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 (KAFB 2012b). 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. No hazardous materials or petroleum products are stored within the project area.

Toxic Substances. The project area and components of the existing extension of Gibson Boulevard and street lights are not suspected to contain ACM, LBP, or PCBs. All electrical transformers on the installation are certified PCB-free (KAFB 2012b).

Hazardous and Petroleum Wastes. USAF maintains an 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. 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 (Handler Identification #NM9570024423). Kirtland AFB and DOE/SNL maintain separate RCRA permits for all current operations that generate hazardous waste. No hazardous or petroleum wastes are stored within the project area.

Environmental Restoration Program. There are 287 ERP sites and 6 area of concern sites throughout Kirtland AFB. These sites include known and suspected soil and groundwater contamination associated with landfills, oil/water separators, drainage areas, septic systems, fire-training areas, and spill areas. 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 are closed because they no longer represent constraints for land use. 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 (KAFB 2016a).

Kirtland AFB also has 24 MMRP sites, with 7 remaining active. 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 unexploded ordnance varies by location (KAFB 2013a, KAFB 2013b).

The DOE actively manages 11 open ER sites on Kirtland AFB that require or may require corrective action. These sites are on DOE-leased lands and include three groundwater areas of concern and eight solid waste management units. 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).

Figure 3-2 presents the location of active ERP, MMRP, and DOE ER sites on Kirtland AFB. No active ERP, MMRP, or DOE ER sites exist within or adjacent to the project area. However, influent conveyance lines associated with the BFF remediation project are located within the project area. As stated in **Section 2.1**, design of the roadway would take into consideration the BFF remediation project influent conveyance lines located underneath the proposed roadway realignment. The design would demonstrate an engineered solution that would be protective of the lines and prevent the possibility of any potential damage to them.

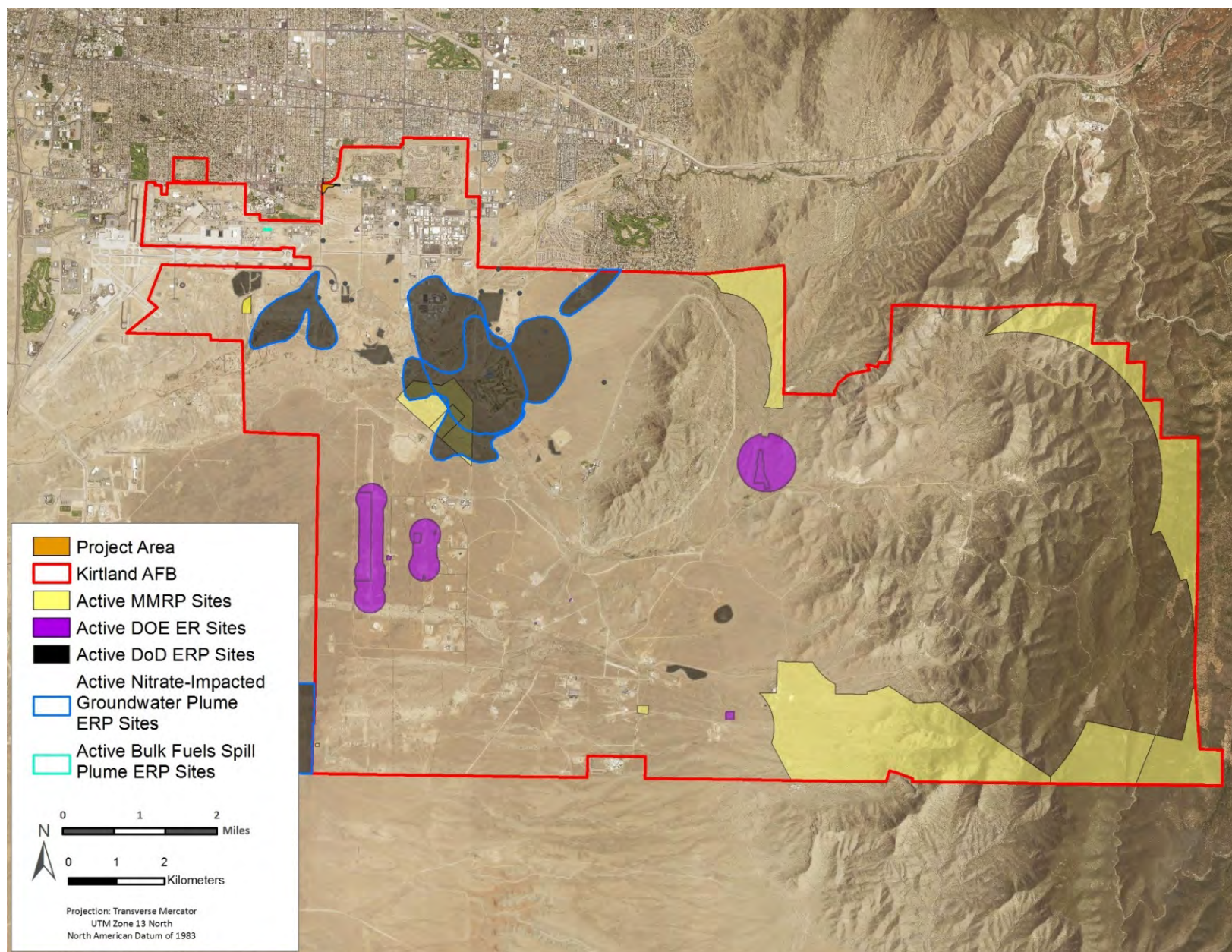


Figure 3-2. Active ERP, MMRP, and DOE ER Sites on Kirtland AFB

3.4.2 Environmental Consequences

3.4.2.1 PROPOSED ACTION

Realignment of Gibson Boulevard would result in a short-term, negligible, adverse impact on hazardous materials and wastes.

Environmental Management System. The Proposed Action would not result in a short- or long-term impact on the installation's EMS program. Contractors associated with construction activities would be made aware of the installation's EMS program by reviewing the environmental commitment statement and ensuring that construction activities are conducted in accordance with the policy and objectives of the EMS program. Contractors would ensure that employees are 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, the Proposed Action would not be expected to result in a significant impact on the EMS program.

Hazardous Materials and Petroleum Products. The Proposed Action would result in a short-term, negligible, adverse impact should any hazardous materials or petroleum products be released into the environment. Construction equipment would use small quantities of hazardous materials and petroleum products such as solvents, hydraulic fluid, oil, antifreeze, and other hazardous materials. Hazardous materials could be used for minor equipment servicing and repair activities. Under the Proposed Action, construction contractors would ensure the handling and storage of any hazardous materials and petroleum products is carried out in compliance with applicable laws and regulations¹. Implementation of the Proposed Action would adhere to applicable management plans such as the installation's Pest Management Plan and Spill Prevention, Control, and Countermeasure Plan. The severity of a potential impact from an accidental release would vary based upon the extent of a release and the substance(s) involved.

No storage tanks or hazardous materials and petroleum products storage areas would be affected under the Proposed Action. Although construction activities under the Proposed Action may require the temporary use of aboveground storage tanks onsite for power generation or equipment fuel, their use and maintenance would comply with applicable federal, state, and local laws and regulations to include secondary containment. Aboveground storage tanks would be used temporarily and removed from the project area upon project completion. Therefore, the Proposed Action would not be expected to result in a significant impact on hazardous materials management.

Toxic Substances. The Proposed Action would not result in an impact or the introduction or generation of toxic substances because the project area and components of the existing extension of Gibson Boulevard and street lights are not suspected to contain ACM, LBP, or PCBs. All electrical transformers on the installation are certified PCB-free (KAFB 2012b).

¹ Construction contractors would be subject to applicable laws and regulations pertaining to hazardous materials and wastes, as well as installation-specific protocols and procedures. These requirements would be written into contracts in accordance with the Kirtland AFB HWMP.

Hazardous and Petroleum Wastes. The Proposed Action would result in a short-term, negligible, adverse impact on the generation of hazardous and petroleum wastes. Construction activities would require the use of hazardous materials and petroleum products, which would result in the generation of hazardous wastes and used petroleum products. 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. Further, all hazardous and petroleum wastes generated from the Proposed Action would be handled, stored, and disposed of in accordance with the Kirtland AFB HWMP and all federal, state, and local regulations.

It is possible that unknown, potentially hazardous wastes could be discovered or unearthed during implementation of the Proposed Action. In such cases, construction contractors would immediately cease work, contact appropriate installation personnel, and await sampling and analysis results before taking any further action. Any unknown wastes determined to be hazardous would be managed or disposed of in accordance with applicable laws and regulations. Therefore, the Proposed Action would not be expected to result in a significant impact on hazardous and petroleum waste management.

Environmental Restoration Program. As stated in **Section 2.1**, design of the roadway would take into consideration the BFF remediation project influent conveyance lines associated with the groundwater treatment system located underneath the proposed roadway realignment. The design would demonstrate an engineered solution that would protect the lines and prevent the possibility of any potential damage to them. The Proposed Action would not result in an impact on or from ERP, MMRP, and DOE ER sites. Project activities are not anticipated to occur within or adjacent to any ERP, MMRP, or DOE ER sites.

3.4.2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, Kirtland AFB would not realign Gibson Boulevard and the existing conditions discussed in **Section 3.4.1** would remain unchanged. The No Action Alternative would not result in any new or additional impacts on hazardous materials and wastes.

3.5 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 onsite 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.

3.5.1 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 administers its 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.

The OSH program addresses the health and safety of people at work. OSH regulations cover potential exposure to a 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 or engaged in hazardous waste, 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 US 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.

Public Safety. Kirtland AFB has its own emergency services department. The emergency services department provides the installation with fire suppression, crash response, rescue, emergency medical response, hazardous substance protection, and emergency response planning and community health and safety education through the dissemination of public safety information to the installation. The Veterans Affairs Medical Center hospital and the 377th Medical Groups’ Outpatient Clinic are the primary military medical facilities at Kirtland AFB. A number of other 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 2018).

The Albuquerque Fire Department provides fire suppression, crash response, rescue, emergency medical response, and hazardous substance response to the nearby city of Albuquerque. The department has 664 full-time, uniformed firefighter/emergency medical technicians; 22 fire engine companies; 7 frontline and 2 reserve fire ladder companies; 9 wildland fire or brush trucks; 3 frontline and 1 reserve hazardous material response units; 1 mobile command unit; and 20 frontline rescue and 7 rescue reserve medical response ambulances (AFD 2017). 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 northwest corner of Kirtland AFB. A mutual service agreement is in place between the city of Albuquerque and Kirtland AFB.

3.5.2 Environmental Consequences

3.5.2.1 PROPOSED ACTION

Realignment of Gibson Boulevard would result in short- and long-term impacts on the safety of contractors, military personnel, and the public.

Contractor Safety. The Proposed Action would result in a short-term, negligible, adverse impact on contractor safety. Construction and demolition activities associated with the Proposed Action would slightly increase the health and safety risk to personnel within the project area. The selected construction contractor would be required to develop a comprehensive health and safety plan containing site-specific guidance and direction to prevent or minimize potential risks. The plan would include, at a minimum, emergency response and evacuation procedures; operational manuals; PPE recommendations (e.g., breathing and hearing protection); protocols and procedures for handling, storing, and disposing of hazardous materials and wastes; information on the effects and symptoms of potential exposures; and guidance with respect to hazard identification. Contractor personnel would be responsible for compliance with applicable federal, state, and local safety regulations and would be educated through daily briefings to review daily activities and potential hazards. Therefore, the Proposed Action would not be expected to result in a significant impact on contractor safety.

Military Personnel Safety. The Proposed Action would result in a short-term, negligible, adverse impact on the health and safety of military personnel. Construction activities associated with the Proposed Action would comply with all applicable safety requirements and installation-specific protocols and procedures therein. The project area would be appropriately delineated and posted with access limited to construction personnel.

Long-term, minor to moderate, beneficial impacts would be expected because the Proposed Action would result in better control of accidental or inadvertent access to the installation by unauthorized individuals. Changing the route to Gibson Gate from a straight roadway to a serpentine roadway would better meet UFC guidelines and AT standards. Therefore, the Proposed Action would not be expected to result in a significant impact on military personnel safety.

Public Safety. The Proposed Action would result in a short-term, negligible, adverse impact on the health and safety of the public. Construction associated with the Proposed Action would comply with all applicable safety requirements and installation-specific protocols and procedures therein. The project area would be appropriately delineated and posted with access limited to construction personnel. Therefore, the Proposed Action is not expected to result in a significant impact on public safety.

3.5.2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, Kirtland AFB would not realign Gibson Boulevard and the existing conditions discussed in **Section 3.5.1** would remain unchanged. Additionally, the No Action Alternative would result in continued safety and security issues for the installation.

3.6 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 inter-related and non-related 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.

3.6.1 Affected Environment

Socioeconomics. The Albuquerque Metropolitan Statistical Area (MSA) is considered the region of influence (ROI) for socioeconomic effects of the Proposed Action. The population of the Albuquerque MSA, defined by the US Census Bureau for the 2010 US Census as Bernalillo, Sandoval, Tarrant, and Valencia counties, was 887,077 people. The state of New Mexico's population totaled 2,059,179 in 2010 (USCB 2010).

The population of Bernalillo County was 662,564 in 2010, representing 32 percent of the total population for the state of New Mexico. The population of Bernalillo County grew 19 percent from 2000 to 2010, while during this same period Sandoval County experienced a 46.3 percent

increase in population, Tarrant County experienced a 3.1 percent decrease, and Valencia County grew by 15.7 percent. The growth rate in the Albuquerque MSA from 2000 to 2010 (24.5 percent) was much greater than the growth rate of the state of New Mexico (13.2 percent) and of the United States (9.7 percent) over the same period. However, Tarrant County was not included in the Albuquerque MSA for the 2000 US Census; therefore, when added to the 2000 US Census data for the Albuquerque MSA this represents a 21.6 percent increase in population. **Table 3-6** presents the 2000 and 2010 population data (USCB 2000, USCB 2010).

Table 3-6. Population in the Region of Influence as Compared to New Mexico and the United States (2000 and 2010)

Location	2000	2010	Percent Change
United States	281,421,906	308,745,538	9.7%
New Mexico	1,819,046	2,059,179	13.2%
Albuquerque MSA	712,738	887,077	24.5%*
Bernalillo County	556,678	662,564	19.0%
Sandoval County	89,908	131,561	46.3%
Valencia County	66,152	76,569	15.7%
Tarrant County	16,911	16,383	-3.1%

Source: USCB 2000, USCB 2010

Note: *Tarrant County was not included in the Albuquerque MSA in the 2000 US Census. When the 2000 population of Tarrant County is added to the 2000 population of the Albuquerque MSA, this represents a 21.6 percent increase in population.

Employment Characteristics. The three largest industries in the Albuquerque MSA in terms of percentage of the workforce employed within the industry are the educational services, and health care and social assistance industry (26 percent); the professional, scientific, and management, and administrative and waste management services industry (13 percent); and the retail trade industry (12 percent). The construction industry represents 7 percent of the workforce (USCB 2012–2016). In April 2018, the Bureau of Labor Statistics reported a 4.1 percent unemployment rate in the Albuquerque MSA while the United States had an unemployment rate of 3.7 percent (BLS 2018).

Kirtland AFB. During FY 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. When non-payroll expenditures associated with Kirtland AFB are included, total expenditures exceeded \$6.7 billion, with DoD expenditures representing approximately \$3.3 billion of that total (KAFB 2017).

3.6.2 Environmental Consequences

3.6.2.1 PROPOSED ACTION

Realignment of Gibson Boulevard would result in a short-term, negligible, beneficial impact on socioeconomics because of construction activities. Direct and indirect, beneficial impacts would result from increased payroll tax revenue and the purchase of construction materials and goods in the area resulting in a short-term, negligible, beneficial impact on the local economy of the Albuquerque MSA. The proposed construction activities would only require a small number of construction workers; therefore, the existing construction industry within the Albuquerque MSA

should adequately provide enough workers to support construction activities associated with the Proposed Action. The temporary increase of construction workers at Kirtland AFB would represent a small increase in the total number of persons working on the installation, but no additional facilities (e.g., housing, schools) would be necessary to accommodate the workforce. No long-term changes in employment would result under the Proposed Action. Therefore, the Proposed Action would not be expected to result in a significant impact on the socioeconomic environment.

3.6.2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, Kirtland AFB would not realign Gibson Boulevard and the existing conditions discussed in **Section 3.6.1** would remain unchanged. The No Action Alternative would maintain the current ingress and egress from the Gibson Gate via Gibson and Louisiana Boulevard, which would continue current safety and security concerns.

3.7 Environmental Justice and Sensitive Receptors

Analysis of environmental justice evaluates impacts on environmental justice populations and communities (i.e., minority and low-income populations) and is directed by EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*. The USAF *Guide for Environmental Justice Analysis under the Environmental Impact Analysis Process (EIAP)* also provides guidance on how to fulfill the requirement for environmental justice analysis.

EO 12898 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.

Although not specifically identified as environmental justice populations, children and the elderly are considered sensitive receptors due to their inherent vulnerabilities. Analysis of potential impacts on children is directed by EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. There are no standard procedures or regulatory requirements for including the elderly in the impact analysis process; however, USEPA stresses the importance of addressing environmental issues that may adversely impact them (USEPA 2014).

EO 13045 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."

Consideration of environmental justice concerns includes race, ethnicity, poverty status, and age of populations near a proposed action. For the purposes of this EA, minority, low-income, child, and elderly populations are defined as follows:

- **Minority Population:** Minority populations are defined as members of the following population groups: Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and multi race that includes one of the aforementioned races; and Hispanic or Latino (CEQ 1997, USAF 2014). The US Census Bureau considers race and Hispanic or Latino origin (ethnicity) as two separate concepts, and these data are recorded separately.
- **Low-income Population:** Low-income populations are defined as individuals whose income is below the federal poverty threshold based on income data collected in the US Census Bureau 2012–2016 American Community Survey. In 2016, the federal poverty threshold for an individual was \$12,228 (USCB 2016a).
- **Child Population:** Children are defined as all people 17 years of age and under.
- **Elderly Population:** Elderly persons are defined as all people 65 years of age and over.

For the purpose of this analysis, the environmental justice ROI includes the areas near Kirtland AFB within which potential impacts from the Proposed Action on minority, low-income, child, and elderly populations could occur. The proposed activity most likely to disproportionately affect environmental justice populations and affect sensitive receptor populations would be exposure to increased noise and traffic during construction and operation of the realigned Gibson Boulevard. Therefore, the ROI for environmental justice and sensitive receptors includes the US Census block groups that are within 0.5 mile of the proposed realignment of Gibson Boulevard (project area). Demographic data for the ROI provide key insights into environmental justice and sensitive receptor conditions that could be affected by the Proposed Action. The community of comparison for the ROI is the smallest set of US Census data encompassing the ROI and is used to establish appropriate thresholds for comparison analysis (USAF 2014).

3.7.1 Affected Environment

The environmental justice ROI consists of Block Group 1 in Census Tract 8.01, Block Group 7 in Census Tract 9.01, Block Group 3 in Census Tract 9.03, and Block Groups 1 and 3 in Census Tract 9.04 (see **Figure 3-3**). A small portion of Block Group 2 in Census Tract 8.01 on Kirtland AFB is within 0.5 mile of the project area; however, this portion of the block group does not have housing and was not included in the ROI.

Table 3-7 presents characteristics of the minority, low-income, child, and elderly populations in the ROI, including the block groups that make up the ROI. It provides the percent of children and elderly persons within the ROI and other areas for general characterization purposes. Several sensitive receptor locations where children would be present in higher concentrations are within the ROI on-installation (Wherry Elementary, Gibson Child Development Center, Kirtland AFB Youth Center) and off-installation (New Day Youth and Family Services Safe Home). Although not exclusively used by children or elderly persons, the following on- and off-installation areas within the ROI could be visited by these populations: Marquez Park, Flag Athletic Field, and outdoor recreation areas within the Pershing Park residential area (on Kirtland AFB); and New Mexico Veterans' Memorial, Lassetter Park, USS Bullhead Memorial Park, and Phil Chacon Park (off-installation). No hospitals, community centers, senior centers, or retirement communities are located within the ROI.

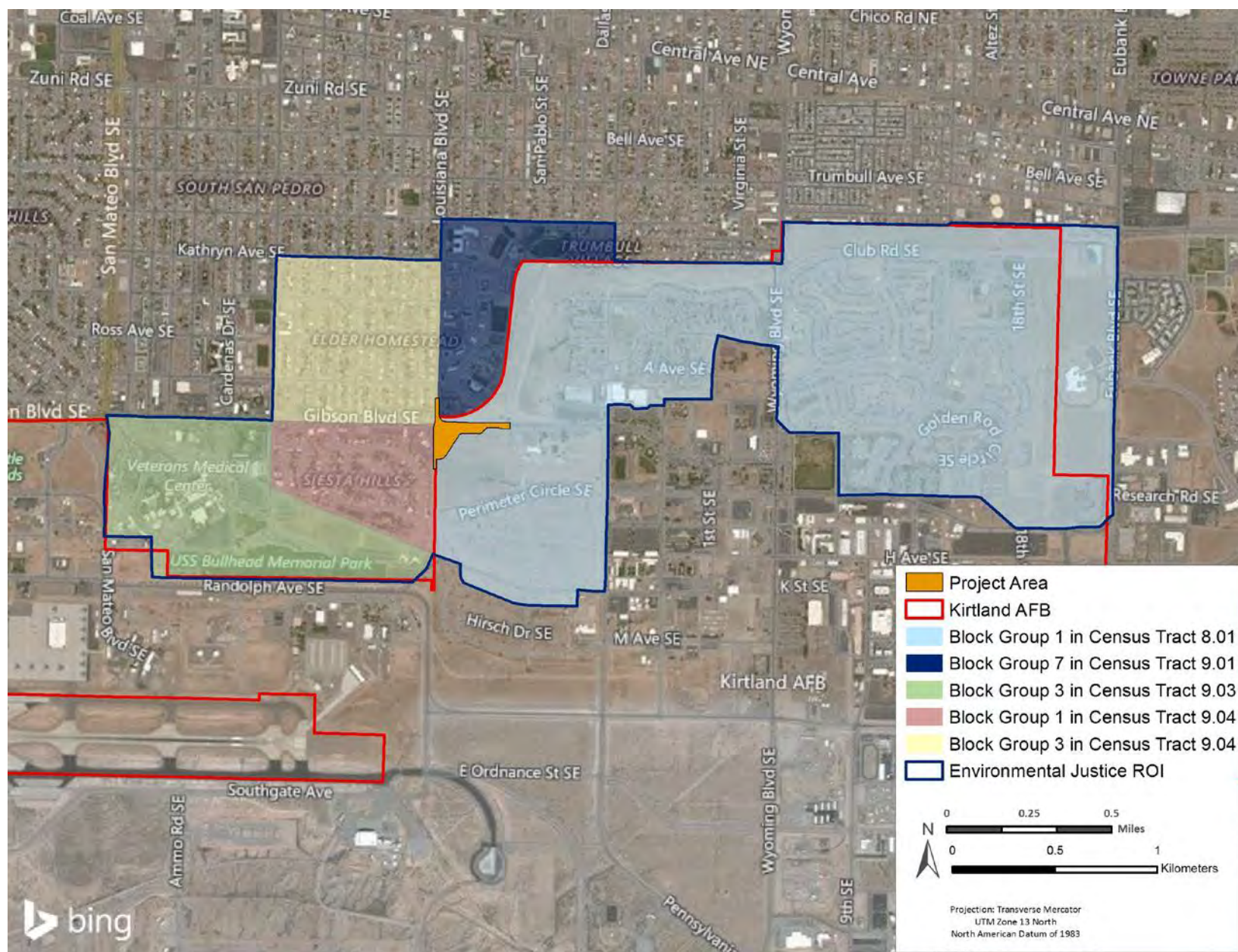


Figure 3-3. Environmental Justice ROI

Table 3-7. Minority, Low-Income, Child, and Elderly Populations in the Environmental Justice ROI (2012–2016)

Geographic Area	Total Population (for which Minority, Child, and Elderly Populations are Calculated) ^{a,b}	Percent Minority ^a	Percent Children ^b	Percent Elderly ^b	Total Population (for which Poverty is Calculated) ^c	Percent Low-Income ^c
ROI	6,979	51.1	24.8	9.1	6,945	16.9
Block Group 1, Census Tract 8.01	3,180	38.0	35.6	0	3,180	3.9
Block Group 7, Census Tract 9.01	1,086	83.5	21.1	14.6	1,086	47.9
Block Group 3, Census Tract 9.03	423	39.5	16.3	0	389	23.1
Block Group 1, Census Tract 9.04	296	45.3	6.7	44.0	298	13.1
Block Group 3, Census Tract 9.04	1,992	57.7	14.1	17.3	1,992	20.0

Sources: ^aUSCB 2016b, ^bUSCB 2016c, ^cUSCB 2016d

3.7.2 Environmental Consequences

3.7.2.1 PROPOSED ACTION

The community of comparison for the environmental justice ROI is Bernalillo County, and data for New Mexico are provided for an additional area of comparison.

For the purposes of analysis of environmental justice populations in this EA, the race, ethnicity, and poverty characteristics of the ROI are examined to determine if a minority or low-income population could be disproportionately affected by the potential noise and traffic increases resulting from the Proposed Action. The potential for disproportionate impacts on minority and low-income populations are determined by comparing the percentage of each population in the ROI with the percentage of each population in the community of comparison. If the percentage of minority or low-income population within the ROI is greater than or equal to the percentages for the community of comparison, then disproportionate impacts on that population could be present if the Proposed Action has a potential to substantially impact that population. However, if the percentage of minority or low-income population within the ROI is less than the percentages for the community of comparison, there would likely be no disproportionate impacts (USAF 2014).

For all child and elderly populations, disproportionate impacts are inherent. Child and elderly populations could be disproportionately impacted to a greater extent because of their vulnerabilities from age-related physiological differences in types and levels of exposure and, therefore, the evaluation of environmental impacts on these populations is different from the evaluation of the general environmental impacts on adults and other populations.

The percentages of minority and low-income populations within the environmental justice ROI were lower than those of Bernalillo County (the community of comparison) (see **Table 3-8**). The percentage of minority persons within the ROI (51.1 percent) was lower than Bernalillo County (60.1 percent) and New Mexico (61.3 percent) (USCB 2016b). Low-income persons made up 16.9 percent of the population of the ROI, which was lower than Bernalillo County (18.7 percent) and New Mexico (20.9 percent) (USCB 2016d). Within the ROI, Block Group 7 in Census Tract 9.01 had a much larger percentage of minority population (83.5 percent) than Bernalillo County and New Mexico (USCB 2016b). Block Group 7 in Census Tract 9.01 also had a larger percentage of low-income residents (47.9 percent) than Bernalillo County and New Mexico. The percentages of low-income residents in Block Group 3 in Census Tract 9.03 and Block Group 3 in Census Tract 9.04 (23.1 percent and 20.0 percent, respectively) were slightly higher than Bernalillo County, and the percentage of low-income persons in Block Group 3 in Census Tract 9.04 was lower than that of New Mexico (USCB 2016d)

Table 3-8. Minority, Low-Income, Child, and Elderly Populations in the Environmental Justice ROI and Community of Comparison (2012–2016)

Geographic Area	Percent Minority ^a	Disproportionate	Percent Low-Income ^b	Disproportionate
New Mexico	61.3	-	20.9	-
Bernalillo County	60.1	-	18.7	-
ROI	51.1	No	16.9	No
Block Group 1, Census Tract 8.01	38.0	No	3.9	No
Block Group 7, Census Tract 9.01	83.5	Yes	47.9	Yes
Block Group 3, Census Tract 9.03	39.5	No	23.1	No
Block Group 1, Census Tract 9.04	45.3	No	13.1	No
Block Group 3, Census Tract 9.04	57.7	No	20.0	No

Sources: ^aUSCB 2016b, ^bUSCB 2016d

With respect to environmental justice populations, realignment of Gibson Boulevard would generate short- and long-term, minor noise and traffic that could be experienced by people within 0.5 mile of the project area. The closest residences to the project area are approximately 100 feet north in Block Group 7 of Census Tract 9.01 (Trumbull Village residential area), 100 feet west/southwest in Block Group 1 in Census Tract 9.04 (Siesta Hills residential area), and 150 feet northwest in Block Group 3 in Census Tract 9.04 (Elder Homestead residential area). These residences could experience noise between 74 and 84 dBA at 100 feet and between 68 and 78 dBA at 150 feet during construction based on equipment being used. The closest residences in Block Group 1 in Census Tract 8.01 (Kirtland AFB Pershing Park residential area) are approximately 1,300 feet east. The New Day Youth and Family Services Safe Home is the only residential use area in Block Group 3, Census Tract 9.03 within the ROI and is approximately 1,600 feet from the project area. Lower noise levels to no noise would be experienced in this area, especially as construction activities are moved to the western portion

of the project area. As discussed in **Section 3.1.2.1**, construction noise impacts would be temporary lasting only the length of construction and during daytime hours. There would be a temporary increase in traffic on roadways near the project area during construction; however, construction traffic is not expected to occur during peak travel times and roadways would remain open during construction activities. Additionally, early coordination would ensure necessary safety precautions are taken and nearby residents, commuters, and installation personnel have been notified of the construction. Therefore, while the short-term noise and traffic impacts on the minority and low-income populations within Block Group 7 in Census Tract 9.01 and the low-income populations within Block Group 3, Census Tract 9.03 (New Day Youth and Family Services Safe Home) and Block Group 3, Census Tract 9.04 would be considered disproportionate, the impacts would not be significant.

Long-term changes in traffic patterns and associated changes in noise generation would be concentrated at the intersection of Gibson and Louisiana boulevards and south of the intersection along Louisiana Boulevard. Residents within Block Group 1 in Census Tract 9.04 would most likely experience these long-term impacts due to the proximity of the block group to these areas (see **Figure 3-3**). Additionally, the New Day Youth and Family Services Safe Home facility in Block Group 3, Census Tract 9.03 could experience a minimal increase in the noise environment. Impacts on Block Group 1, Census Tract 9.04 and Block Group 3, Census Tract 9.03 would not be considered disproportionate or significant.

Wherry Elementary is adjacent to the east of the project area. The closest building at Wherry Elementary is approximately 400 feet from the project area and could experience increased noise and traffic during construction. Standard construction safety BMPs (e.g., fencing and other security measures) would reduce potential risks to surrounding populations to minimal levels and any potential impacts on children would be short term and negligible because of these BMPs and the distance of the project area to the school. Although the Proposed Action would have short-term, adverse noise impacts, the impact on children would not be disproportionate or significant because the effect from additional noise and traffic would be negligible and would not be an environmental health or safety risk. No long-term impacts would be expected on Wherry Elementary or other sensitive receptor locations identified in **Section 3.7.1**. Therefore, the Proposed Action would not result in increased exposure of children to environmental health risks or safety risks. No disproportionate impacts on elderly persons would be expected.

3.7.2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, Kirtland AFB would not realign Gibson Boulevard and the existing conditions discussed in **Section 3.7.1** would remain unchanged. The No Action Alternative would maintain the current ingress and egress from the Gibson Gate via Gibson and Louisiana Boulevard, which would continue current safety and security concerns that could affect sensitive receptor populations (children) at nearby Wherry Elementary.

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4. Cumulative Impacts

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 non-federal) 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 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, geological resources, and safety is narrow and focused on the location of the resource. The geographic scope of air quality, infrastructure, and socioeconomics is broader and considers more county- or region-wide activities.

The past, present, and reasonably foreseeable future projects, identified below, make up the cumulative impact scenario for the Proposed Action. The Proposed Action’s impacts on the individual resource areas analyzed in **Sections 3.1** through **3.6** are added to the cumulative impact scenario to determine the cumulative impacts of the Proposed Action. In accordance with CEQ guidance, the 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 pre-history of the region through numerous cultural resources surveys and studies.

4.1.2 Present and Reasonably Foreseeable Future Actions

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

1 Table 4-1. Present and Reasonably Foreseeable Future Actions at Kirtland AFB

Project Name	Description	Potential Relevance to Proposed Action
Military Projects		
New Military Training Activities	The 210 RED HORSE Squadron would construct a permanent laydown yard on the Base Exercise Evaluation 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 the 210 RED HORSE Squadron 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 Pararescue/Combat Rescue Officer (PJ/CRO) school is proposing to construct an Urban Training Compound (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 the following helicopter operations: pararescue and insertion/extraction. 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/simunitions. 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. USAF is proposing to begin firing .50-caliber M107 Barrett sniper rifles and M2 machine guns at Small Arms Range East. An existing building south of Forest Road 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 Forest Roads 40, 40B, 530B, and 53. Small Arms Range East would continue to be available for training operations and deployment qualification 24 hours a day, 7 days a week. The 377th Security Forces Group (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.	Not in the project vicinity; potential for construction overlap

Table 4-1. Present and Reasonably Foreseeable Future Actions at Kirtland AFB (Continued)

Project Name	Description	Potential Relevance to Proposed Action
Military Projects (Continued)		
Additional Development, Testing, Use, and Training at the Technical Evaluation Assessment Monitor Site (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; potential for construction overlap
Construction, Operation, and Maintenance of a New Fire Station	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 in size and one story high with three high-bay drive-through apparatus stalls.	Not in project vicinity; no potential for construction overlap
Demolition and Construction of Military Support Facilities	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; potential for construction overlap
Building Demolition at Kirtland AFB	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; potential for construction overlap
Security Forces Complex	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 proposed 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; no potential for construction overlap

Table 4-1. Present and Reasonably Foreseeable Future Actions at Kirtland AFB (Continued)

Project Name	Description	Potential Relevance to Proposed Action
Military Projects (Continued)		
Construct New Military Working Dog Facility	USAF proposes to construct, operate, and maintain a new military working dog facility that consists of 14 indoor/outdoor kennels, four 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; no 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 metrology system (videogrammetry).	Not in project vicinity; potential for construction overlap
Enhanced Use Lease	Kirtland AFB is in the process of leasing 107 acres of USAF property along Gibson Boulevard to Thunderbird Kirtland Development, Ltd., to develop a research park with office, industrial, laboratory, retail, and hospital facilities.	Not in project vicinity; no 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, communications, and mechanical rooms.	Not in project vicinity; potential for construction overlap
High Power Joint Electromagnetic Non-Kinetic Strike Laboratory	AFRL is proposing to construct a 5,000-square-foot addition to Building 332 to include a heavy laboratory with shielding, a light laboratory, and office space to support new electromagnetics research.	Not in the project vicinity; potential for construction overlap
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 US 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; potential for construction overlap

Table 4-1. Present and Reasonably Foreseeable Future Actions at Kirtland AFB (Continued)

Project Name	Description	Potential Relevance to Proposed Action
Military Projects (Continued)		
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 laboratories.	Not in project vicinity; potential for construction overlap
Wildland Fire Management Plan	USAF proposes to implement the Tier 1 Wildland Fire Management Plan for Kirtland AFB. The plan includes development of a wildland fire training and certification program, funding for a wildland fire vehicle and equipment replacement program, and implementation of a fuels management program. Fuels management would reduce wildland fire hazard via prescribed fire, mechanical vegetation management, wildland fire infrastructure maintenance and development, and timber inventory monitoring.	Not in project vicinity; no potential for construction overlap
Renewable Energy Projects	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 Stormwater Drainage System and Arroyo Repair Activities	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 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; 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 New Mexico Army National Guard's 515th Regional Training Institute (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.	Project vicinity; no potential for construction overlap; increased personnel with relocation of the 515 RTI

Table 4-1. Present and Reasonably Foreseeable Future Actions at Kirtland AFB (Continued)

Project Name	Description	Potential Relevance to Proposed Action
Non-Military Projects		
Albuquerque Metropolitan Arroyo Flood Control Authority (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.	Project vicinity; potential for construction overlap
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.	Not in project vicinity; no potential for construction overlap
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; potential for construction overlap
Sunport South Business Park (formerly Valle del Sol)	Sunport South Business Park is a proposed 330-acre business park expected to attract manufacturing, fabrication, warehousing, and distribution centers. It will be multi-modal to include access to the Sunport and an active rail spur. An additional 200 acres will be reserved for bike trails and walking paths. The site is south of the Sunport.	Not in project vicinity; no 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 mile in length and would contain twin bridges over the existing AMAFCA South Diversion Channel and twin bridges over Edmunds Street.	Not in project vicinity; no potential for construction overlap
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

Table 4-1. Present and Reasonably Foreseeable Future Actions at Kirtland AFB (Continued)

Project Name	Description	Potential Relevance to Proposed Action
Non-Military Projects (continued)		
Albuquerque International Sunport Projects	The Sunport began the Terminal Improvement Project in February 2017. This project will 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 the Destination Sunport project in March 2017. The project will 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.	Not in project vicinity; potential for construction overlap
I-25 and Rio Bravo Interchange	NMDOT is currently 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 multi-modal improvements.	Not in project vicinity; potential for construction overlap
Valle de Oro Phase II	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

4.2 Cumulative Impact Analysis by Resource Area

4.2.1 Noise

The noise generated by construction activities of the Proposed Action, would be short-term and temporary in nature. By adhering to the BMPs listed within this EA and the city of Albuquerque's noise ordinance, the noise impacts generated by the Proposed Action and present and reasonably foreseeable future projects would result in only temporary increases in ambient noise levels during project activities. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects (see **Table 4-1**), would not result in significant cumulative impacts on sensitive noise receptors or the noise environment at Kirtland AFB or regionally.

4.2.2 Air Quality

Construction activities under the Proposed Action would result in low levels of air emissions, well below the *de minimis* threshold limits, would not be regionally significant, and would be short-term and temporary in nature. BMPs outlined in **Section 3.2**, including dust suppression, stabilization of previously disturbed areas, and shutting down machinery and equipment when not in use for extended periods of time, are also consistent with those adhered to within the city of Albuquerque and would minimize impacts. These BMPs are typical measures listed within fugitive dust control construction permits issued by AEHD-AQD. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects (see **Table 4-1**), would not result in significant cumulative impacts on air quality at Kirtland AFB or regionally.

4.2.3 Infrastructure

As stated in **Section 3.3.2.1**, the Proposed Action is not anticipated to result in short- or long-term impacts on the following utility systems: natural gas and propane, liquid fuel, sanitary sewer/wastewater, stormwater handling, and communications. Therefore, there is no potential for cumulative impacts to result on these utility systems from the Proposed Action. The Proposed Action has the potential to adversely impact the following infrastructure: transportation, electrical system, water supply system, and solid waste. These impacts are anticipated to be short-term and temporary in nature. BMPs outlined in **Section 3.3**, to include timing vehicle traffic to avoid peak travel hours and diverting materials that could be recycled or reused from landfills to the greatest extent possible, would further reduce any impacts. These BMPs are typical measures adhered to for construction projects on the installation and within the city of Albuquerque. Upgrade and construction of new infrastructure on and off the installation (see **Table 4-1**) would result in beneficial impacts from improved energy efficiency. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact on infrastructure.

4.2.4 Hazardous Materials and Wastes

The Proposed Action would result in short-term, temporary increases in the use of hazardous materials and petroleum products and generation of waste. BMPs outlined in **Section 3.4** to include proper vehicle maintenance, proper procurement of hazardous materials, and proper disposal of hazardous wastes would minimize impacts. The Proposed Action, as well as present

1 and reasonably foreseeable future projects at Kirtland AFB and within the city of Albuquerque
2 (see **Table 4-1**), would incorporate appropriate measures to limit or control hazardous materials
3 and waste into their design and operation plans. Therefore, the Proposed Action, when
4 combined with other past, present, and reasonably foreseeable future projects, would not result
5 in a significant cumulative impact on hazardous materials and wastes.

6 **4.2.5 Safety**

7 No adverse cumulative impacts on health and safety would be expected from the Proposed
8 Action, when combined with other past, present, and reasonably foreseeable actions. The
9 Proposed Action, as well as present and reasonably foreseeable future projects at Kirtland AFB
10 and within the city of Albuquerque (see **Table 4-1**), would continue to adhere to established
11 procedures, including the use of PPE, fencing project areas and posting signs, and compliance
12 with OSH, DoD, and OSHA standards reducing or eliminating health and safety impacts on
13 contractors, military personnel, and the general public. Therefore, the Proposed Action, when
14 combined with other past, present, and reasonably foreseeable future projects, would not result
15 in a significant cumulative impact on health and safety.

16 **4.2.6 Socioeconomics**

17 The Proposed Action, when combined with other past, present, and reasonably foreseeable
18 actions, would continue to result in short-term, beneficial impacts on the region's economy
19 through the purchase of construction materials and providing employment for construction
20 personnel during project activities. Therefore, the Proposed Action, when combined with other
21 past, present, and reasonably foreseeable future projects (see **Table 4-1**), would not result in a
22 significant cumulative impact on socioeconomics.

23 **4.2.7 Environmental Justice and Sensitive Receptors**

24 Because adverse impacts associated with the Proposed Action are localized to the ROI, and the
25 only past, present, and reasonably foreseeable actions proposed to occur within the ROI would
26 be the AMAFCA Louisiana-Gibson Regional Drainage Facility and Zia Park Area Development
27 Plan, negligible cumulative adverse impacts are anticipated. The Louisiana-Gibson Regional
28 Drainage Facility is currently under construction and construction of the Proposed Action is
29 expected to occur immediately following its completion. Development of Zia Park is anticipated
30 to begin in 5 years and it is anticipated that construction traffic would use the Hickam Gate and
31 would not occur during peak travel times. Standard construction BMPs (e.g., fencing and other
32 security measures) would also be implemented to reduce potential risks to surrounding
33 populations to minimal levels. Therefore, the Proposed Action, when combined with other past,
34 present, and reasonably foreseeable future projects (see **Table 4-1**), would not result in a
35 significant cumulative impact on environmental justice and sensitive receptors.

36 **4.3 Unavoidable Adverse Impacts**

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

Energy. The Proposed Action would require the use of fossil fuels, a non-renewable natural resource, during construction of the Proposed Action. The use of non-renewable resources is an unavoidable occurrence, although not considered significant.

Hazardous Materials and Wastes. The use and generation of hazardous materials and wastes during construction of the Proposed Action would be unavoidable; however, the materials and wastes would be handled in accordance with federal, state, and local policies and would not be expected to result in significant impacts.

4.4 Compatibility of the Proposed Action with the Objectives of Federal, Regional, and Local Land Use Plans, Policies, and Controls

Construction activities would not be incompatible with any current land uses on the installation or within the city of Albuquerque. The Proposed Action would not conflict with any applicable off-installation land use ordinances and would follow all applicable permitting, building, and safety requirements. Plans for the realignment of Gibson Boulevard were submitted to and approved by the city of Albuquerque's Design Review Committee. The Design Review Committee is comprised of representatives from the Hydrology, Transportation, Utilities, Traffic, Parks, and Legal departments within the city of Albuquerque. A city work order was obtained. Requirements of the work order included a traffic study and a drainage report. The traffic study was submitted to and approved by the city's Transportation Section and the drainage report was submitted to and approved by the Hydrology Section. Additionally, the city of Albuquerque Traffic Engineering Division reviewed and approved the proposed signal modifications (Bingham 2018).

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. Short-term uses of the biophysical components of the human environment include direct construction-related disturbances and direct impacts associated with an increase in population and activity that occurs over a period of less than 5 years. Long-term uses of the human environment include those impacts occurring over a period of more than 5 years, including permanent resource loss.

The Proposed Action would not require short-term resource uses that would result in long-term compromises of productivity. The Proposed Action would not result in intensification of land use at Kirtland AFB or within the surrounding area. Implementation of the Proposed Action would not represent a loss of open space. Therefore, it is anticipated that the Proposed Action would not result in any adverse cumulative impacts on land use or aesthetics.

4.6 Irreversible and Irretrievable Commitment of Resources

Irreversible and irretrievable resource commitments are related to the use of non-renewable resources and the impacts that the use of these resources will have on future generations.

1 Irreversible impacts primarily result from use or destruction of a specific resource that cannot be
2 replaced within a reasonable timeframe (e.g., energy and minerals). The irreversible and
3 irretrievable commitment of resources that would result from the Proposed Action involve the
4 consumption of material resources used for construction, energy resources, biological
5 resources, and human labor resources. The use of these resources is considered to be
6 permanent.

7 **Material Resources.** Material resources used for the Proposed Action would potentially include
8 concrete, asphalt, and various construction materials and supplies. The materials that would be
9 consumed are not in short supply, would not limit other unrelated construction activities, and
10 would not be considered significant.

11 **Energy Resources.** Energy resources used for the Proposed Action would be irretrievably lost.
12 This includes petroleum-based products (e.g., gasoline and diesel). During construction
13 activities, gasoline, and diesel would be used for the operation of vehicles and construction
14 equipment. Consumption of these energy resources would not place a significant demand on
15 their availability in the region; therefore, less than significant impacts would be expected.

16 **Biological Resources.** The Proposed Action would result in a negligible loss of vegetation and
17 wildlife habitat. Direct effects on vegetation from crushing and indirect effects from soil
18 compaction and potential for establishment of invasive species would occur; however,
19 revegetation of disturbed sites with native species would support a native plant community in
20 the long-term. Minimal, if any, loss of insect life could occur because of the Proposed Action;
21 this would not constitute a significant adverse impact on biological resources.

22 **Human Resources.** The use of human resources for construction activities is considered an
23 irretrievable loss only in that it would preclude such personnel from engaging in other work
24 activities. However, the use of human resources for the Proposed Action represents
25 employment opportunities and is considered beneficial.

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A

Agency Coordination and
Public Involvement



Federal, State, and Local Agencies – Cooperating Agency Letters

Mr. Tom Church, Cabinet Secretary
New Mexico Department of Transportation
1120 Cerrillos Road
Santa Fe NM 87504-1149

Mr. David S. Campbell, Director
City of Albuquerque Planning Department
Plaza del Sol Building
600 Second NW
Albuquerque NM 87102

Ms. Heidi King, Deputy Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue SE
Washington DC 20590

Cooperating Agency Letters



DEPARTMENT OF THE AIR FORCE HEADQUARTERS AIR FORCE GLOBAL STRIKE COMMAND

9 Mar18

MEMORANDUM FOR MR. TOM CHURCH, CABINET SECRETARY
NEW MEXICO DEPARTMENT OF TRANSPORTATION

FROM: HQ AFGSC/A4C
841 Fairchild Avenue
Barksdale AFB LA 71110

SUBJECT: Cooperating Agency Request, Programmatic Environmental Assessment (EA) to
Realign Gibson Boulevard from Gibson Gate to Louisiana Boulevard, Kirtland Air
Force Base (AFB), NM

1. The Air Force requests the New Mexico Department of Transportation (NMDOT)'s formal participation as a cooperating agency in the preparation of an environmental assessment (EA) to Realign Gibson Boulevard from Gibson Gate to Louisiana Boulevard. Due to an increase in security incidents at the existing Gibson Gate on Kirtland AFB, the Air Force is proposing to reroute/realign Gibson Boulevard from the gate to Louisiana Boulevard. The realignment would close off the existing stretch of Gibson Boulevard east of Louisiana Boulevard and would shift the ingress/egress access points further south on Louisiana Boulevard. The route to the Gibson Gate would no longer be a straight-away, but would instead be a serpentine roadway. Your agency has been identified as an agency that may have an interest in the proposed project as the owner of the real property, jurisdiction by law and/or special expertise.
2. This participation arrangement is described in the Council on Environmental Quality National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, *Cooperating Agencies*. As a cooperating agency, the Air Force requests that the NMDOT participate in various portions of the EA development. Specifically, the Air Force asks for your support as a cooperating agency by:
 - a. Participating in the scoping process.
 - b. Assuming responsibility, upon request by the Air Force, for developing information and preparing analyses on issues for which the NMDOT has special expertise.
 - c. Making staff support available to enhance interdisciplinary review capability, and provide specific comments within the timelines prescribed in the program milestone schedule. (40 CFR §1503.3)
 - d. Responding, in writing, to this request.
3. Our POC is Ms. Martha E. García, 377 MSG/CEIEC, (505) 846-6446, martha.garcia.3@us.af.mil.


BRIAN C. LEE, GS-15, DAF
Senior Civil Engineer

DETER...ASSURE...STRIKE!



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE GLOBAL STRIKE COMMAND

9 Mar18

MEMORANDUM FOR MR. DAVID S. CAMPBELL, DIRECTOR
CITY OF ALBUQUERQUE PLANNING DEPARTMENT

FROM: HQ AFGSC/A4C
841 Fairchild Avenue
Barksdale AFB LA 71110

SUBJECT: Cooperating Agency Request, Programmatic Environmental Assessment (EA) to
Realign Gibson Boulevard from Gibson Gate to Louisiana Boulevard, Kirtland Air
Force Base (AFB), NM

1. The Air Force requests the City of Albuquerque (COA) Planning Department's formal participation as a cooperating agency in the preparation of an environmental assessment (EA) to Realign Gibson Boulevard from Gibson Gate to Louisiana Boulevard. Due to an increase in security incidents at the existing Gibson Gate on Kirtland AFB, the Air Force is proposing to reroute/realign Gibson Boulevard from the gate to Louisiana Boulevard. The realignment would close off the existing stretch of Gibson Boulevard east of Louisiana Boulevard and would shift the ingress/egress access points further south on Louisiana Boulevard. The route to the Gibson Gate would no longer be a straight-away, but would instead be a serpentine roadway. Your agency has been identified as an agency that may have an interest in the proposed project as the owner of the real property, jurisdiction by law and/or special expertise.

2. This participation arrangement is described in the Council on Environmental Quality National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, *Cooperating Agencies*. As a cooperating agency, the Air Force requests that the COA Planning Department participate in various portions of the EA development. Specifically, the Air Force asks for your support as a cooperating agency by:

- a. Participating in the scoping process.
- b. Assuming responsibility, upon request by the Air Force, for developing information and preparing analyses on issues for which the COA Planning Department has special expertise.
- c. Making staff support available to enhance interdisciplinary review capability, and provide specific comments within the timelines prescribed in the program milestone schedule. (40 CFR §1503.3)
- d. Responding, in writing, to this request.

3. Our POC is Ms. Martha E. García, 377 MSG/CEIEC, (505) 846-6446, martha.garcia.3@us.af.mil.


BRIAN C. LEE, GS-15, DAF
Senior Civil Engineer

DETER...ASSURE...STRIKE!



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE GLOBAL STRIKE COMMAND

9 Mar18

MEMORANDUM FOR MS. HEIDI KING, DEPUTY ADMINISTRATOR
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

FROM: HQ AFGSC/A4C
841 Fairchild Avenue
Barksdale AFB LA 71110

SUBJECT: Cooperating Agency Request, Programmatic Environmental Assessment (EA) to
Realign Gibson Boulevard from Gibson Gate to Louisiana Boulevard, Kirtland Air
Force Base (AFB), NM

1. The Air Force requests the National Highway Traffic Safety Administration (NHTSA)'s formal participation as a cooperating agency in the preparation of an environmental assessment (EA) to Realign Gibson Boulevard from Gibson Gate to Louisiana Boulevard. Due to an increase in security incidents at the existing Gibson Gate on Kirtland AFB, the Air Force is proposing to reroute/realign Gibson Boulevard from the gate to Louisiana Boulevard. The realignment would close off the existing stretch of Gibson Boulevard east of Louisiana Boulevard and would shift the ingress/egress access points further south on Louisiana Boulevard. The route to the Gibson Gate would no longer be a straight-away, but would instead be a serpentine roadway. Your agency has been identified as an agency that may have an interest in the proposed project as the owner of the real property, jurisdiction by law and/or special expertise.

2. This participation arrangement is described in the Council on Environmental Quality National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, *Cooperating Agencies*. As a cooperating agency, the Air Force requests that the NHTSA participate in various portions of the EA development. Specifically, the Air Force asks for your support as a cooperating agency by:

- a. Participating in the scoping process.
- b. Assuming responsibility, upon request by the Air Force, for developing information and preparing analyses on issues for which the NHTSA has special expertise.
- c. Making staff support available to enhance interdisciplinary review capability, and provide specific comments within the timelines prescribed in the program milestone schedule. (40 CFR §1503.3)
- d. Responding, in writing, to this request.

3. Our POC is Ms. Martha E. García, 377 MSG/CEIEC, (505) 846-6446, martha.garcia.3@us.af.mil.


BRIAN C. LEE, GS-15, DAF
Senior Civil Engineer

DETER...ASSURE...STRIKE!

Cooperating Agency Letter Responses

From: [Brito, Russell D.](#)
To: [Bare, Michelle](#); [GARCIA, MARTHA E CIV USAF AFGSC 377 MSG/CEIE](#)
Cc: [BARE, MICHELLE P CTR USAF AFGSC 377 MSG/CEIE](#)
Subject: RE: Cooperating Agency Request, Realign Gibson Boulevard
Date: Wednesday, April 4, 2018 1:48:43 PM

Michelle and Martha,

We want to be a Cooperating Agency.

Thank you,

- Russell

From: Bare, Michelle [<mailto:Michelle.Bare@hdrinc.com>]
Sent: Wednesday, April 04, 2018 12:18 PM
To: GARCIA, MARTHA E CIV USAF AFGSC 377 MSG/CEIE; Brito, Russell D.
Cc: BARE, MICHELLE P CTR USAF AFGSC 377 MSG/CEIE
Subject: RE: Cooperating Agency Request, Realign Gibson Boulevard

So, they don't want to be a Cooperating Agency, just involved in the scoping and review process?

Michelle

Michelle Bare
M 505.504.0405

hdrinc.com/follow-us

From: GARCIA, MARTHA E CIV USAF AFGSC 377 MSG/CEIE [<mailto:martha.garcia.3@us.af.mil>]
Sent: Wednesday, April 4, 2018 12:15 PM
To: Brito, Russell D. <RBrito@cabq.gov>
Cc: BARE, MICHELLE P CTR USAF AFGSC 377 MSG/CEIE <michelle.bare.ctr@us.af.mil>; Bare, Michelle <Michelle.Bare@hdrinc.com>
Subject: RE: Cooperating Agency Request, Realign Gibson Boulevard

Russell,

Thank you for your response. I will make sure we send all of the documents, as we receive them, on to you for your review.

I look forward to working with you.

V/R

Martha E. Garcia

NEPA Program Manager

377 MSG/CEIEC

2050 Wyoming Boulevard, SE

Building 20685, Suite 116a
Kirtland AFB, NM 87117
Phone: 505-846-6446
DSN: 246-6446
Email: martha.garcia.3@us.af.mil

From: Brito, Russell D. <RBrito@cabq.gov>
Sent: Wednesday, April 4, 2018 10:58 AM
To: GARCIA, MARTHA E CIV USAF AFGSC 377 MSG/CEIE <martha.garcia.3@us.af.mil>
Subject: [Non-DoD Source] Cooperating Agency Request, Realign Gibson Boulevard

Martha,

The Planning Director, David Campbell, has designated me to participate in the scoping and other activities associated with the Realign Gibson Boulevard from Gibson Gate to Louisiana Boulevard environmental assessment. Please forward any questions, requests for comments or information, and any other inquiries to me as the representative of the Planning Department.

Thank you,

Russell D. Brito, Planning Manager
Urban Design & Development Division
City of Albuquerque Planning Department
rbrito@cabq.gov
505.924.3337 w
abc-zone.com

"Always in motion is the future."
- Yoda

=====
This message has been analyzed by Deep Discovery Email Inspector.

AGENCY DISTRIBUTION LIST

Federal, State, and Local Agencies – Scoping and Public Notice Letters

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

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

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

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

Mr. Kelvin L. Solco, 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 Macdonnell, Chief
Environmental Resources Section
US Army Corps of Engineers
4101 Jefferson Plaza NE
Albuquerque NM 87109

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

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

Ms. Susan Lacy
DOE/NNSA Sandia Field Office
PO Box 5400
Albuquerque NM 87187

Mr. John Weckerle
DOE/NNSA Office of General Counsel
PO Box 5400
Albuquerque NM 87187

The Honorable Martin Heinrich
US Senate
400 Gold Avenue SW, Suite 1080
Albuquerque NM 87102

The Honorable Tom Udall
US Senate
400 Gold Avenue SW, Suite 300
Albuquerque NM 87102

The Honorable Steve Pearce
US House of Representatives
3445 Lambros Loop NE
Los Lunas NM 87031

The Honorable Michelle Lujan Grisham
US House of Representatives
400 Gold Avenue SW, Suite 680
Albuquerque NM 87102

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

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. Aubrey Dunn
Commissioner of Public Lands
New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe NM 87501

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

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

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

Mr. Ken McQueen, Cabinet Secretary
New Mexico Energy, Minerals and Natural
Resources Department
1220 South St. Francis Drive
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

Mr. Clyde Ward, 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

Department Director
City of Albuquerque Planning Department
PO Box 1293
Albuquerque NM 87103

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

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

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

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)

Colonel Dawn A. Nickell, USAF
Vice Commander
377th Air Base Wing
2000 Wyoming Boulevard SE
Kirtland Air Force Base NM 87117

4 June 2018

Ms. Danita T. 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

Dear Ms. Burns

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 the proposal to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland Air Force Base (AFB). The current access road is a 5-lane extension of Gibson Boulevard. The Proposed Action would close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress access road further south on Louisiana Boulevard. The route to the Gibson Gate would change from a straight roadway to a serpentine roadway.

The purpose of the Proposed Action is to better control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. The Proposed Action is needed because of an increase in security incidents at the Gibson Gate.

If you have additional information regarding 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 EA Addressing Realignment of Gibson Boulevard from Louisiana Boulevard to the Gibson Gate 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/CEIE,
2050 Wyoming Boulevard SE, Suite 116, Kirtland AFB NM 87117, or via email to
KirtlandNEPA@us.af.mil.

Sincerely

A handwritten signature in black ink, appearing to read "Dawn A. Nickell".

DAWN A. NICKELL, Colonel, USAF
Vice Commander

Federal, State, and Local Agencies – Scoping Letter Responses



Susana Martinez
Governor

STATE OF NEW MEXICO
**DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION**

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

June 13, 2018

Colonel Dawn A. Nickell, USAF
Vice Commander
377th Air Base Wing
2000 Wyoming Boulevard SE
Kirtland Air Force Base, NM 87117

Re: Gibson Boulevard EA

Dear Colonel Nickell:

The Historic Preservation Division (HPD) has received your letter to initiate consultation pursuant to Section 106 of the National Historic Preservation Act, as amended regarding the realignment of Gibson Boulevard near Kirtland Air Force Base in Albuquerque, Bernalillo County, New Mexico.

We would be pleased to consult on this undertaking as you identify and evaluate potential archaeological and/or historic resources in the area of potential effects, and complete drafts of NEPA/Section 106 documentation.

If you have any questions, please feel free to contact me by phone at (505) 476-0444 or email at steven.moffson@state.nm.us

Sincerely,

A handwritten signature in black ink, appearing to read "Steven Moffson".

Steven Moffson
State and National Register Coordinator

HPD Log #108039



United States Department of Agriculture

June 19, 2018

Colonel Dawn A. Nickell
Vice Commander
377 Air Base Wing
2000 Wyoming Boulevard SE
Kirkland Air Force Base, New Mexico 87117

Dear Colonel Nickell:

Thank you for providing the Natural Resources Conservation Service (NRCS) the opportunity to review the Gibson Gate Ingress/Egress Project, Bernalillo 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 (505) 761-4433 or email at Richard.Strait@nm.usda.gov.

Sincerely,

BLAKE GLOVER

Digitally signed by BLAKE

GLOVER

Date: 2018.06.19 14:52:53 -06'00'

BLAKE GLOVER
Acting 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
USDA is an Equal Opportunity Provider, Employer and Lender



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Albuquerque District Office
100 Sun Ave., N.E.
Pan American Bldg., Suite 330
Albuquerque, New Mexico 87109
www.blm.gov/nm



In Reply Refer to:
1790 (A0100)

June 21, 2018

NEPA Program Manager
377 MSG/CEIE
2050 Wyoming Boulevard SE, Suite 116
Kirtland Air Force Base NM 87117

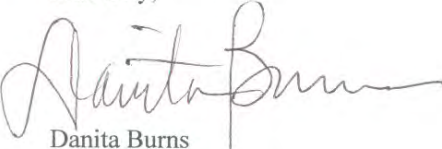
Attn: NEPA Program Manager

Dear Colonel Dawn A. Nickell,

I received your letter regarding the final description of the proposed action and alternatives for the EA addressing realignment of Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland AFB, New Mexico. The Bureau of Land Management (BLM) Rio Puerco Field Office (RPFO) has reviewed the Proposed Action and does not have any comments.

If you have any questions, please feel free to contact me at (505) 761-8951.

Sincerely,



Danita Burns
District Manager

From: [GARCIA, MARTHA E CIV USAF AFGSC 377 MSG/CEIE](#)
To: [Bare, Michelle](#)
Subject: FW: [Non-DoD Source] Realignment of Gibson Boulevard from Louisiana Boulevard to the Gibson Gate
Date: Tuesday, July 10, 2018 8:30:35 AM

From: George Dennis <george_dennis@fws.gov>
Sent: Friday, July 6, 2018 12:41 PM
To: 377 MSG/CEIE NEPA Environmental <KirtlandNEPA@us.af.mil>
Subject: [Non-DoD Source] Realignment of Gibson Boulevard from Louisiana Boulevard to the Gibson Gate

Thank you for your inquiry about potential fish and wildlife impacts of your project. In New Mexico you can obtain an official letter on Federal trust resources from the U.S. Fish and Wildlife Service (Service) via our Information, Planning, and Conservation System (IPAC).

You can access IPAC and obtain help through our office website at
<https://www.fws.gov/southwest/es/newmexico/index.cfm>

On this page under Guidance for Completing Project Reviews there are instructions on how to use IPAC to obtain the official letter or at
https://www.fws.gov/southwest/es/newmexico/documents/Guidance_for_Completing_Project_Reviews.pdf

Based on the description of your project and your assessment that no species or critical habitat is found in the project area a no-effect determination may be appropriate.

If you make a no-effect determination for all species listed in your official letter then no further consultation with the Service is necessary. Your official letter and determination table are your documentation of your environmental review.

If you determine that your project may adversely affect a federally listed species you can submit electronically a request for further review by the Service or help with your review to nmesfa@fws.gov.

Regards,
George Dennis

George D. Dennis III, Ph.D.
Collaborative Conservation Services Branch Chief
New Mexico Ecological Services Field Office
U.S. Fish and Wildlife Service
2105 Osuna Rd NE
Albuquerque, NM 87113
505-761-4754
george_dennis@fws.gov

Example Public Notice Letter



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

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

Ms. Danita T. 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

Dear Ms. Burns

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 has prepared an Environmental Assessment (EA) to evaluate the proposal to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland Air Force Base (AFB). The current access road is a five-lane extension of Gibson Boulevard. The Proposed Action would close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress access road farther south on Louisiana Boulevard. The new four-lane roadway would be approximately 1,500 linear feet and include installation of street lights and appropriate stormwater drainage controls. The route to the Gibson Gate would change from a straight roadway to a serpentine roadway. Construction of the roadway would be phased in order to allow continued access to the installation and Wherry Elementary using the current extension of Gibson Boulevard during construction activities. Upon completion of the new roadway, the extension of Gibson Boulevard and associated street lights would be removed and curbing would be installed at the intersection of Gibson and Louisiana Boulevards to close the roadway. Construction is anticipated to begin the first quarter of fiscal year 2019 and take approximately 6 months to complete.

The purpose of the Proposed Action is to better control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. The Proposed Action is needed because of an increase in security incidents at the Gibson Gate.

In accordance with Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, as amended, by EO 12416, *Intergovernmental Review of Federal Programs*, I am requesting your participation in the NEPA document review and comment process. Copies of the Draft EA and the proposed Finding of No Significant Impact (FONSI) are available at

http://www.kirtland.af.mil under the "Environment" button at the bottom of the webpage. If, after review of the Draft EA and proposed FONSI, you have additional information regarding 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 process. Please respond within 15 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, Colonel, USAF
Commander

Endangered Species Act Section 7 Consultation and Determination of No Effect



DEPARTMENT OF THE AIR FORCE 377TH CIVIL ENGINEER DIVISION (AFGSC)

17 July 2018

DETERMINATION OF EFFECT FOR ENDANGERED SPECIES ACT REQUIREMENTS

FROM: 377 MSG/CEIEC
2050 Wyoming Blvd SE
Kirtland AFB NM 87117

SUBJECT: Endangered Species Act (ESA) Section 7 Compliance for the Gibson Boulevard
Realignment Environmental Assessment

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973 Kirtland Air Force Base (AFB) has conducted an effect determination for the Gibson Boulevard Realignment Project. All interrelated and interdependent actions were analyzed during the project review.

The 2018 United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Official Species and Habitat List was received on 10 July 2018 (Consultation Code: 02ENNM00-2018-SLI-1061). The following table details the effect determination and rationale used for analysis of potential impacts to federally listed endangered species and critical habitat as a result of the proposed project.

Species/Critical Habitat	Effect Determination	Rationale
New Mexico Jumping Mouse <i>Zapus hudsonius luteus</i>	No Effect	Kirtland AFB conducted a New Mexico Jumping Mouse survey in 2016 and determined the species is not present nor is there suitable habitat within the proposed action area.
Mexican Spotted Owl <i>Strix occidentalis lucida</i>	No effect	The Mexican spotted owl may migrate through Kirtland AFB at certain times of the year; however, this species is not known to nest or utilize the proposed action area.
Southwestern Willow Flycatcher <i>Empidonax traillii lucida</i>	No effect	The southwestern willow flycatcher occupies riparian and forested habitat not found within the proposed action area.
Yellow-billed Cuckoo <i>Coccyzus americanus</i>	No Effect	The yellow-billed cuckoo occupies riparian and forested habitat not found within the proposed action area.
Rio Grande Silvery Minnow <i>Hybognathus amarus</i>	No effect	Rio Grande silvery minnow is a riverine fish that prefers low-gradient creeks and small to large rivers with slow to moderate flow. It is only found within one reach of the Rio Grande. This reach is not located within the proposed action area.

Kirtland AFB has determined that the project will have no effect to federally listed endangered species or critical habitat. An updated species list from the USFWS is required within 90 days prior to initiation of any construction activities.

David H. Reynolds
Natural Resources Program Manager

Attachment:

USFWS IPaC Official Species and Habitat List Consultation Code: 02ENNM00-2018-SLI-1061



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna Road NE

Albuquerque, NM 87113-1001

Phone: (505) 346-2525 Fax: (505) 346-2542

<http://www.fws.gov/southwest/es/NewMexico/>

http://www.fws.gov/southwest/es/ES_Lists_Main2.html



In Reply Refer To:

July 10, 2018

Consultation Code: 02ENNM00-2018-SLI-1061

Event Code: 02ENNM00-2018-E-02226

Project Name: Gibson Boulevard Realignment

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally-listed species, consultation with the Service will be necessary. Through the consultation process, we will analyze information contained in a biological assessment that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take "after-the-fact." For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

The scope of federally listed species compliance not only includes direct effects, but also any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects that may occur in the action area. The action area includes all areas to be affected, not merely the immediate area involved in the action. Large projects may have effects outside the immediate area to species not listed here that should be addressed. If your action area has suitable habitat for any of the attached species, we recommend that species-specific surveys be conducted during the flowering season for plants and at the appropriate time for wildlife to evaluate any possible project-related impacts.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico state agencies. These lists, along with species information, can be found at the following websites:

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program:
www.emnrd.state.nm.us/SFD/ForestMgt/Endangered.html

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at www.fws.gov/midwest/eagle/guidelines/bgepa.html.

On our web site www.fws.gov/southwest/es/NewMexico/SBC_intro.cfm, we have included conservation measures that can minimize impacts to federally listed and other sensitive species. These include measures for communication towers, power line safety for raptors, road and highway improvements, spring developments and livestock watering facilities, wastewater facilities, and trenching operations.

We also suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State fish, wildlife, and plants.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further consultation on your proposed activity, please call 505-346-2525 or email nmesfo@fws.gov and reference your Service Consultation Tracking Number.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
(505) 346-2525

Project Summary

Consultation Code: 02ENNM00-2018-SLI-1061

Event Code: 02ENNM00-2018-E-02226

Project Name: Gibson Boulevard Realignment

Project Type: TRANSPORTATION

Project Description: Kirtland Air Force Base (AFB) proposes to realign Gibson Boulevard SE from Louisiana Boulevard SE to the Gibson Gate. The current access road is a 5-lane extension of Gibson Boulevard. The Proposed Action would close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress access road further south on Louisiana Boulevard. The route to the Gibson Gate would change from a straight roadway to a serpentine roadway.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/35.056589585036654N106.5666779802732W>



Counties: Bernalillo, NM

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
New Mexico Meadow Jumping Mouse <i>Zapus hudsonius luteus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7965	Endangered

Birds

NAME	STATUS
Mexican Spotted Owl <i>Strix occidentalis lucida</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is proposed critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Rio Grande Silvery Minnow <i>Hybognathus amarus</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. Your location is outside the critical habitat Species profile: https://ecos.fws.gov/ecp/species/1391	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Example United States Fish and Wildlife Service Public Notice 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

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 has prepared an Environmental Assessment (EA) to evaluate the proposal to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland Air Force Base (AFB). The current access road is a 5-lane extension of Gibson Boulevard. The Proposed Action would close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress access road farther south on Louisiana Boulevard. The route to the Gibson Gate would change from a straight roadway to a serpentine roadway. Upon completion of the new roadway, the extension of Gibson Boulevard and associated street lights would be removed and curbing would be installed at the intersection of Gibson and Louisiana Boulevards to close the roadway.

The purpose of the Proposed Action is to better control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. The Proposed Action is needed because of an increase in security incidents at the Gibson Gate.

In accordance with Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, as amended by EO 12416, *Intergovernmental Review of Federal Programs*, I am requesting your participation in the NEPA document review and comment process. Copies of the Draft EA and the proposed Finding of No Significant Impact (FONSI) are available at <http://www.kirtland.af.mil> under the "Environment" button at the bottom of the webpage. If, after review of the Draft EA and proposed FONSI, you have additional information regarding 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 process. Please respond within 15 days of receipt of this letter to ensure your concerns are adequately addressed in the EA.

Pursuant to Section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 United States Code 1531 et seq.), Kirtland AFB conducted an effect determination for this project. All interrelated and interdependent actions were analyzed during that review. The 2018 USFWS Information for Planning and Consultation Official Species and Habitat List was received on 10 July 2018 under Consultation Code 02ENNM00-2018-SLI-1061. It was determined that there are no federally listed threatened or endangered species or critical habitat and no state-listed threatened or endangered species occurring within the project area. However, to ensure no impact, an updated species list from the USFWS would be obtained within 90 days of the start of construction activities. There are no wetlands within the project area. Ground-disturbing activities associated with the installation of electrical lines and poles would take into consideration the potential for reptiles, amphibians, and small mammals to become trapped in holes and trenches if left open overnight. Holes would be covered and ramps, at no more than 45 degrees, would be installed in trenches to allow trapped animals to exit. Disturbed areas would be revegetated following construction activities.

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, Colonel, USAF
Commander

National Historic Preservation Act Section 106 Consultation Letter and State Historic Preservation Officer Concurrence



**DEPARTMENT OF THE AIR FORCE
377TH CIVIL ENGINEER DIVISION (AFGSC)**

17 July 2018

David H. Reynolds
377 MSG/CEIEC
2050 Wyoming Blvd. SE
Kirtland AFB NM 87117

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

Dear Dr. Pappas

Kirtland Air Force Base (AFB) proposes to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate. The project is needed to control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. Security incidents at the Gibson Gate have increased over the past several years.

The area of potential effects (APE) encompasses a 40.5-acre area. A 100-foot buffer is included within the APE. A 2,000-foot buffer around the APE was inspected for the presence of historic properties in order to determine any potential indirect effects. The APE is located within Kirtland AFB and City of Albuquerque (COA) lands. Construction activities to be completed on COA lands along Louisiana Boulevard includes paving, turn lane removal and utility installation/relocation.

Construction activities within the APE for the proposed project include the following:

- Construction of a new 4-lane roadway.
- Removal of the existing roadway.
- Removal of curbs and sidewalks.
- Relocation of lighting and signage.
- Installation of stormwater drainage controls.
- Installation of curbs and sidewalks.
- Installation and realignment of utilities including communications, electric, sanitary sewer and gas.
- Establishment of laydown yards as needed.

Ground disturbing activities will extend a maximum of 10-feet below ground surface. Review of the available aerial photographs show that structures were present in 1951 along the south side of the Gibson Boulevard and Louisiana Boulevard intersection. These structures were demolished in 1954. Disturbances to the APE include road construction, utility installation, grading, building construction, vehicular parking, installation of stormwater control facilities and prairie dog colonies.

In accordance with Section 106 and Section 110 of the National Historic Preservation Act (NHPA), several cultural resources inventories have been conducted within the APE. As a result, no historic properties were identified within the APE. The Cultural Resources Program Manager inspected the APE and did not encounter any cultural resources.

A cultural resources survey of the APE located south of Gibson Boulevard was conducted in 1999 and is documented in *Cultural Resources on or Near Kirtland Air Force Base, Bernalillo County, New Mexico* (NMCRIS No. 64861). A portion of the APE was surveyed in 1984 and is documented in *A Cultural Resources Survey of the Gibson East Project, Albuquerque, New Mexico* (NMCRIS No. 2911). A cultural resources inventory of historic buildings, structures and districts was conducted in 2003 and is documented in *National Register of Historic Places Historic Context and Evaluation for Kirtland Air Force Base, Albuquerque, New Mexico*.

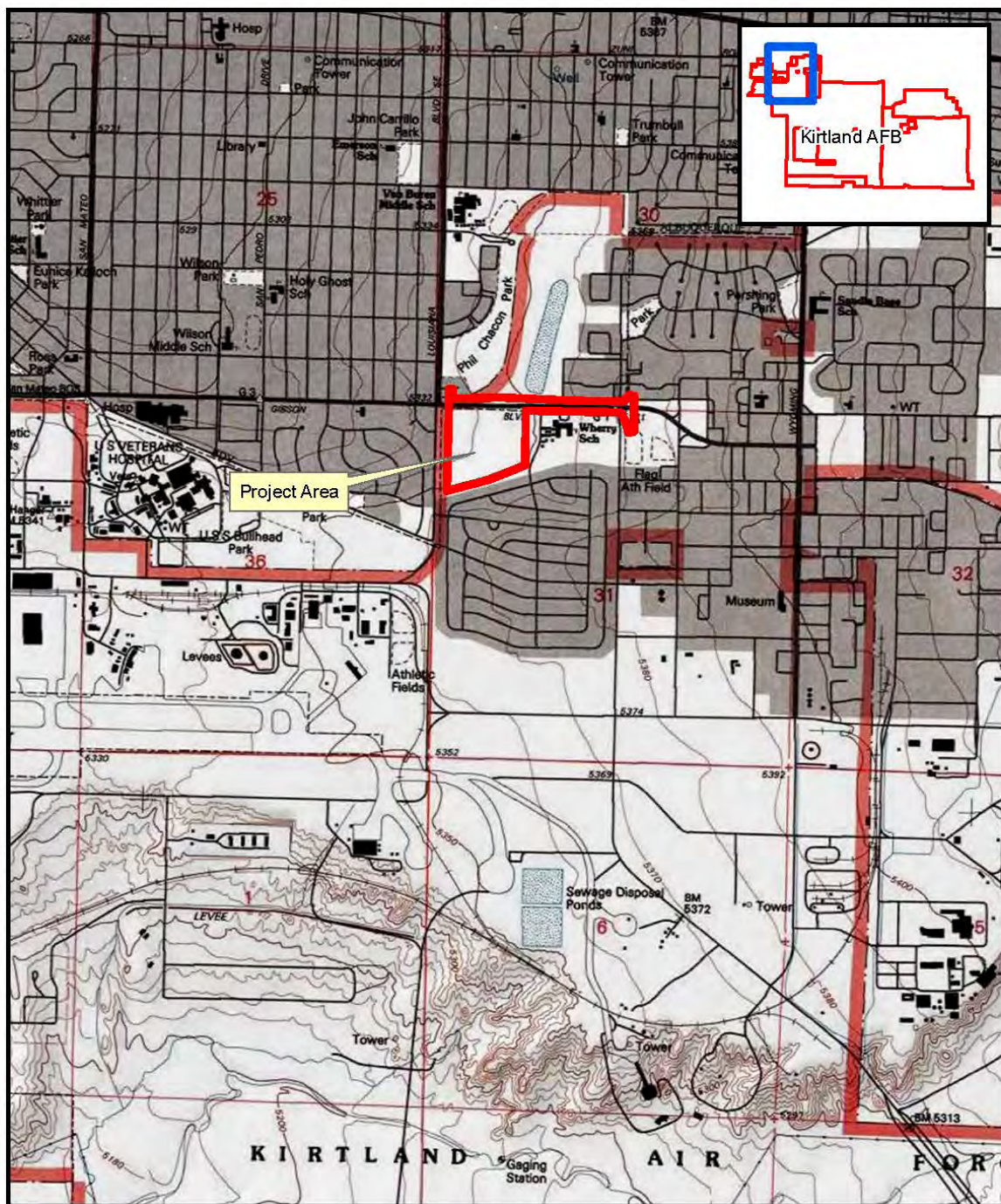
The closest historic property, Building 20220, is located 1,000-feet to the east of the APE. The existing road and proposed road are visually masked by the Wherry Elementary School and are not visible from Building 20220.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, Kirtland AFB concludes that the undertaking will not adversely effect any historic properties. Kirtland AFB requests your concurrence with the determination or your comments. If you have any questions, please contact me at (505) 846-0226 or david.reynolds.37@us.af.mil.

Sincerely

DAVID H. REYNOLDS, USAF
Cultural Resources Program Manager

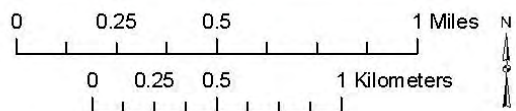
Attachment:
Project Area Maps
Road Realignment Design

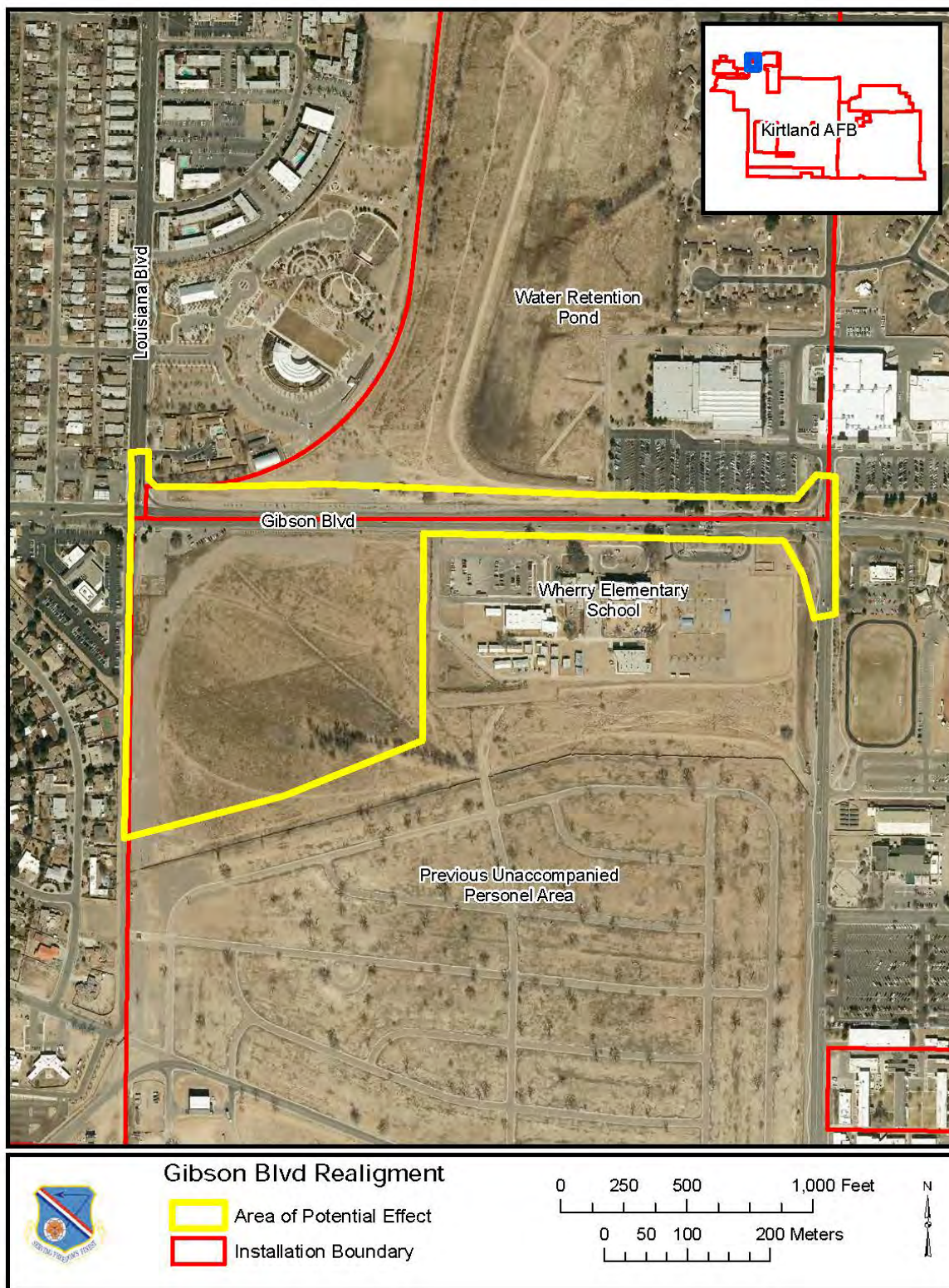


Gibson Blvd Realignment



Area of Potential Effect





Preliminary Draft EA Addressing Realignment of Gibson Boulevard at Kirtland AFB
PROPOSED ACTION AND ALTERNATIVES



Figure 2-1. Proposed Realignment of Gibson Boulevard at Kirtland AFB

From: [GARCIA, MARTHA E CTV USAF AFGSC 377 MSG/CEIE](#)
To: [Bare, Michelle](#); [Brad Bingham](#)
Subject: FW: Gibson Blvd re-alignment HPD log 108278
Date: Wednesday, August 1, 2018 3:02:43 PM
Attachments: [Gibson Realignment SHPO Consultation Compressed.pdf](#)
[Gibson Drainage Facility SHPO Consultation compressed.pdf](#)

Michelle and Brad,

Below is SHPO concurrence on the consultation letters sent by our Cultural Resources Program Manager, Dave Reynolds. Please note, this clearance is for both projects – the Detention Facility AND the Gibson Blvd Realignment Project. I have attached the document's Dave sent to the SHPO for your reference/inclusion in the EA.

Thank you.

Martha E. Garcia

NEPA Program Manager

377 MSG/CEIEC

2050 Wyoming Boulevard, SE

Building 20685, Suite 116a

Kirtland AFB, NM 87117

Phone: 505-846-6446

DSN: 246-6446

Email: martha.garcia.3@us.af.mil

From: Estes, Bob, DCA <Bob.Estes@state.nm.us>
Sent: Wednesday, August 1, 2018 11:43 AM
To: REYNOLDS, DAVID H GS-12 USAF AFGSC 377 MSG/CEIEC <david.reynolds.37@us.af.mil>
Subject: [Non-DoD Source] Gibson Blvd re-alignment HPD log 108278

OFFICIAL RESPONSE OF THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER (SHPO)

Dear Mr. Reynolds,

On behalf of the SHPO, I have completed review a review of the information you sent me concerning the project to re-align Gibson Boulevard and associated construction and a Storm Water Pond.

Our records show that the undertaking's area of potential effect has been almost entirely surveyed for cultural resources. No cultural resources or historic properties have been identified in the APE.

It is SHPOs' opinion that the undertaking has no potential to affect historic properties.

If you have any questions or comments, please feel free to call me directly at 505—827-4225 or

email me.

Sincerely,

Bob Estes Ph.D.
HPD Staff Archaeologist
New Mexico State Historic Preservation Division
407 Galisteo St., Suite 236
Santa Fe, New Mexico 87501

From: REYNOLDS, DAVID H GS-12 USAF AFGSC 377 MSG/CEIEC [<mailto:david.reynolds.37@us.af.mil>]
Sent: Wednesday, July 18, 2018 9:50 AM
To: Estes, Bob, DCA; Moffson, Steven, DCA
Subject: New SHPO consultation letters

Good morning,

I have sent two consultation letters this morning via certified mail. The attached 106 consultation letter is a higher priority for review, if there is any way to look at this project first after it is logged it would be much appreciated.

There is another project that I will be sending another consultation letter in tomorrow for a new stormwater pond. It is located on the same parcel as the Gibson Realignment project; it is a separate action and wanted to make sure I clarified that it is not a segmented project.

Hope everyone is doing well.

Best,

David H. Reynolds
Kirtland AFB Cultural Resources and Natural Resources Program Manager
377 MSG/CEIEC
Phone: (505) 846-0226
DSN: 246-0226

Example State Historic Preservation Officer Public Notice 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

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 has prepared an Environmental Assessment (EA) to evaluate the proposal to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland Air Force Base (AFB). The current access road is a five-lane extension of Gibson Boulevard. The Proposed Action would close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress access road farther south on Louisiana Boulevard. The new four-lane roadway would be approximately 1,500 linear feet and include installation of street lights and appropriate stormwater drainage controls. The route to the Gibson Gate would change from a straight roadway to a serpentine roadway. Construction of the roadway would be phased in order to allow continued access to the installation and Wherry Elementary using the current extension of Gibson Boulevard during construction activities. Upon completion of the new roadway, the extension of Gibson Boulevard and associated street lights would be removed and curbing would be installed at the intersection of Gibson and Louisiana Boulevards to close the roadway. Construction is anticipated to begin the first quarter of fiscal year 2019 and take approximately 6 months to complete.

The purpose of the Proposed Action is to better control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. The Proposed Action is needed because of an increase in security incidents at the Gibson Gate.

In accordance with Section 106 of the National Historic Preservation Act of 1966 (36 Code of Federal Regulations Part 800), as amended, Kirtland AFB transmitted a consultation letter to SHPO, which concluded that the undertaking would not adversely affect any historic properties. SHPO concurrence that the undertaking has no potential to affect historic properties was

received 1 August 2018 (HPD Log 108278). While the Proposed Action would have no impact on known cultural resources, any ground-disturbing activities would take into consideration the potential for the discovery of previously undiscovered cultural resources. Should an inadvertent discovery of human or cultural remains occur during construction, all project activities would stop, the Kirtland AFB Cultural Resources Program Manager would be notified, and operational procedures outlined in the Installation Cultural Resources Management Plan would be followed.

Copies of the Draft EA and the proposed Finding of No Significant Impact (FONSI) are available at <http://www.kirtland.af.mil> under the "Environment" button at the bottom of the webpage. If, after review of the Draft EA and proposed FONSI, you have additional information regarding 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 process. Please respond within 15 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, Colonel, USAF
Commander

Native American Tribes – Scoping Letters

Governor Kurt Riley
Pueblo of Acoma
PO Box 309
Acoma Pueblo NM 87034

Governor Dwayne 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 J. Robert Benavides
Pueblo of Isleta
PO Box 1290
Isleta NM 87022

Governor Paul S. Chinana
Pueblo of Jemez
PO Box 100
Jemez Pueblo NM 87024

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

Governor Virgil A. Siow
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 Russell Begaye
Navajo Nation
PO Box 7440
Window Rock AZ 86515

Governor Peter Garcia, Jr.
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 Richard Bernal
Pueblo of Sandia
481 Sandia Loop
Bernalillo NM 87004

Governor Anthony Ortiz
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 Glenn Tenorio
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 Thomas Moquino, Jr.
Pueblo of Santo Domingo
PO Box 99
Santo Domingo Pueblo NM 87052

Governor Gilbert Suazo, Sr.
Pueblo of Taos
PO Box 1846
Taos NM 87571

Governor Frederick Vigil
Pueblo of Tesuque
Route 42 Box 360-T
Santa Fe NM 87506

Chairman Ronnie Lupe
White Mountain Apache Tribe
PO Box 700
Whiteriver AZ 85941

Governor Carlos Hisa
Ysleta del Sur Pueblo
117 S Old Pueblo Road
PO Box 17579-Ysleta Station
El Paso TX 79907

Governor Anthony Delgarito
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

Chairman Jeff Haozous
Fort Sill Apache Tribe of Oklahoma
Route 2, Box 121
Apache OK 73006

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

Example Tribal Scoping Letter



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

Colonel Dawn A. Nickell, USAF
Vice Commander
377th Air Base Wing
2000 Wyoming Boulevard SE
Kirtland Air Force Base NM 87117

4 June 2018

Governor Carlos Hisa
Ysleta del Sur Pueblo
117 S Old Pueblo Road
PO Box 17579-Ysleta Station
El Paso TX 79907

Dear Governor Hisa

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 the proposal to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland Air Force Base (AFB). The current access road is a 5-lane extension of Gibson Boulevard. The Proposed Action would close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress access road further south on Louisiana Boulevard. The route to the Gibson Gate would change from a straight roadway to a serpentine roadway.

The purpose of the Proposed Action is to better control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. The Proposed Action is needed because of an increase in security incidents at the Gibson Gate.

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 EA Addressing Realignment of Gibson Boulevard from Louisiana Boulevard to the Gibson Gate 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 contact my office at (505) 546-7377 if you would like to meet to discuss the proposed project or proceed with Section 106 consultation.

Sincerely

A handwritten signature in black ink, appearing to read "Dawn A. Nickell". The signature is fluid and cursive, with the first name "Dawn" being more prominent.

DAWN A. NICKELL, Colonel, USAF
Vice Commander

Native American Tribes – Scoping Letter Responses



Timothy L. Nuvangyaoma
CHAIRMAN

Clark W. Tenakhongva
VICE-CHAIRMAN

June 18, 2018

Colonel Dawn A. Nickell, Vice-Commander
Department of the Air Force, Headquarters 377th Air Base Wing (AFGSC)
377 Air Base Wing
2000 Wyoming Blvd., SE
Kirtland AFB, NM 87117

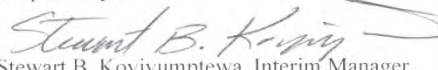
Dear Colonel Nickell,

This letter is in response to your correspondence dated June 4, 2018, regarding Kirtland Air Force Base preparing an environmental assessment to evaluate the proposal to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate. The Hopi Tribe claims cultural affiliation to earlier identifiable cultural groups in New Mexico. The Hopi Cultural Preservation Office supports the identification and avoidance of our ancestral sites, and we consider the prehistoric archaeological sites of our ancestors to be "footprints" and Traditional Cultural Properties. Therefore, we appreciate the Kirtland Air Force Base's continuing solicitation of our input and your efforts to address our concerns.

The Hopi Cultural Preservation Office understands a base wide cultural resources survey identified and recorded more than 660 archaeological sites. We request consultation on *any proposal that* has the potential to adversely affect prehistoric cultural resources in New Mexico. Therefore, if the cultural resources review identifies prehistoric sites that cannot be avoided, we request continuing consultation on this proposal including being provided with a copy of any proposed treatment plans for review and comment.

In addition, we support project design features that if any cultural features or deposits are encountered during project activities, these activities will be discontinued in the immediate area of the remains, and the State Historic Preservation Office will be consulted to evaluate their nature and significance, and if any Native American human remains or funerary objects are discovered during construction they shall be immediately reported as required by law. Should you have any questions or need additional information, please contact Terry Morgart at tmorgart@hopi.nsn.us. Thank you for your consideration.

Respectfully,


Stewart B. Koyiyumptewa, Interim Manager
Hopi Cultural Preservation Office

cc: New Mexico State Historic Preservation Office



White Mountain Apache Tribe

Office of Historic Preservation

PO Box 1032

Fort Apache, AZ 85926

Ph: (928) 338-3033 Fax: (928) 338-6055

To: Dawn A. Nicklel, Colonel, USAF Vice Commander

Date: June 22, 2018

Re: *Proposal to Realign Gibson Blvd. from Louisiana Blvd. To Gibson Gate at Kirkland AFB*

.....

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the proposed project, dated June 04, 2018. In regards to this, please attend to the following checked items below.

Please refer to the additional notes in regards to the proposed projects:

Thank you for allowing the White Mountain Apache tribe the opportunity to review and respond to the development of the Environmental Assessment for the above proposed project, at the Kirkland Air Force Base, New Mexico. We've determined the proposed plans will "Not have an Adverse Effect" on the White Mountain Apache tribe's historic properties and/or traditional cultural properties.

Regardless, any/all ground disturbing activities should be monitored "if" there are reasons to believe that there are human remains and/or funerary objects present, and if such remains are encountered they shall be treated with respect and handled accordingly until such remains are repatriated to the affiliated tribe.

Thank you. We look forward to continued collaborations in the protection and preservation of places of cultural and historical importance.

Sincerely,

Mark T. Altaha

White Mountain Apache Tribe - THPO

Example Tribal Public Notice 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 Carlos Hisa
Ysleta del Sur Pueblo
117 S Old Pueblo Road
PO Box 17579-Ysleta Station
El Paso TX 79907

Dear Governor Hisa

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 has prepared an Environmental Assessment (EA) to evaluate the proposal to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland Air Force Base (AFB). The current access road is a five-lane extension of Gibson Boulevard. The Proposed Action would close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress access road farther south on Louisiana Boulevard. The new four-lane roadway would be approximately 1,500 linear feet and include installation of street lights and appropriate stormwater drainage controls. The route to the Gibson Gate would change from a straight roadway to a serpentine roadway. Upon completion of the new roadway, the extension of Gibson Boulevard and associated street lights would be removed and curbing would be installed at the intersection of Gibson and Louisiana Boulevards to close the roadway.

The purpose of the Proposed Action is to better control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. The Proposed Action is needed because of an increase in security incidents at the Gibson Gate. The project area encompasses a 40.5-acre area. Cultural resources surveys were conducted within the project area in 1984 and 1999. As a result, no archaeological sites or traditional cultural properties were identified. Should an inadvertent discovery of human or cultural remains occur during construction, all project activities would stop, the Kirtland AFB Cultural Resources Program Manager would be notified, and operational procedures outlined in the Installation Cultural Resources Management Plan would be followed.

Pursuant to Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations Part 800), 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. Copies of the Draft EA and proposed Finding of No Significant Impact (FONSI) are 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. García, directly at martha.garcia.3@us.af.mil or (505) 846-6446.

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

Sincerely

RICHARD W. GIBBS, Colonel, USAF
Commander



B

Air Quality Support
Documentation



AIR CONFORMITY APPLICABILITY MODEL REPORT

RECORD OF CONFORMITY ANALYSIS (ROCA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact(s) associated with the action in accordance with the Air Force Instruction 32-7040, *Air Quality Compliance and Resource Management*; the Environmental Impact Analysis Process (EIAP, 32 CFR § 989); and the General Conformity Rule (GCR, 40 CFR § 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: KIRTLAND AFB

County(s): Bernalillo

Regulatory Area(s): Albuquerque, NM

b. Action Title: Gibson Boulevard Realignment EA

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2019

e. Action Description:

USAF proposes to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland AFB, New Mexico, because of an increase in security incidents at the Gibson Gate. The current access road is a five-lane extension of Gibson Boulevard. Kirtland AFB is proposing to close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress routes farther south on Louisiana Boulevard. A median break would be constructed to allow traffic exiting Kirtland Federal Credit Union along Louisiana Boulevard full-movement to proceed north or south onto Louisiana Boulevard. The eastbound left turn lane at the Gibson and Louisiana Boulevard intersection would be converted from one to two lanes, which would resolve current queue length issues. Design of the roadway would take into consideration the high pressure gas pigging station and Bulk Fuels Facility (BFF) remediation project influent conveyance lines located underneath the proposed roadway realignment. The design would demonstrate an engineered solution that would be protective of the pigging station and BFF influent conveyance lines and prevent the possibility of any potential damage to these lines.

The new four-lane roadway would be approximately 1,500 linear feet and include installation of street lights and appropriate stormwater drainage controls. The route to the Gibson Gate from Louisiana Boulevard no longer would be a straight roadway, but rather a serpentine roadway. Construction of the new roadway would be phased in order to allow continued access to the installation and Wherry Elementary using the current extension of Gibson Boulevard and during construction activities. Upon completion of the new roadway, the extension of Gibson Boulevard and associated street lights would be removed and curbing would be installed at the intersection of Gibson and Louisiana boulevards to close the roadway. Construction is anticipated to begin the first quarter of fiscal year 2019 and take approximately 6 months to complete. The Proposed Action would include approximately 200,000 square feet of disturbance, 100,000 square feet of new pavement, 95,000 square feet of pavement removal, and 30,000 square feet of trenching. The change in impervious surface would be negligible (i.e., < 5,000 square feet).

f. Point of Contact:

Name: Timothy Didlake

Title: Contractor

Organization: HDR

Email: timothy.didlake@hdrinc.com

Telephone Number: (484) 612-1124

2. Analysis: Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR § 93, Subpart B.

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

_____ applicable
__X__ not applicable

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

Conformity Analysis Summary:

2019

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Albuquerque, NM			
VOC	0.427		
NO _x	2.770		
CO	2.387	100	No
SO _x	0.005		
PM ₁₀	12.964		
PM _{2.5}	0.131		
Pb	0.000		
NH ₃	0.001		
CO _{2e}	535.6		

2020 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Albuquerque, NM			
VOC	0.000		
NO _x	0.000		
CO	0.000	100	No
SO _x	0.000		
PM ₁₀	0.000		
PM _{2.5}	0.000		
Pb	0.000		
NH ₃	0.000		
CO _{2e}	0.0		

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



Timothy Didlake, Contractor

25 July 2018

DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: KIRTLAND AFB
County(s): Bernalillo
Regulatory Area(s): Albuquerque, NM

- Action Title: Gibson Boulevard Realignment EA

- Project Number/s (if applicable):

- Projected Action Start Date: 1 / 2019

- Action Purpose and Need:

The purpose of the Proposed Action is to better control accidental or inadvertent access to the installation via Gibson Gate by unauthorized individuals. The Proposed Action is needed because of an increase in security incidents at the Gibson Gate.

- Action Description:

USAF proposes to realign Gibson Boulevard from Louisiana Boulevard to the Gibson Gate at Kirtland AFB, New Mexico, because of an increase in security incidents at the Gibson Gate. The current access road is a five-lane extension of Gibson Boulevard. Kirtland AFB is proposing to close the extension of Gibson Boulevard east of Louisiana Boulevard and reroute the Gibson Gate ingress/egress routes farther south on Louisiana Boulevard. A median break would be constructed to allow traffic exiting Kirtland Federal Credit Union along Louisiana Boulevard full-movement to proceed north or south onto Louisiana Boulevard. The eastbound left turn lane at the Gibson and Louisiana Boulevard intersection would be converted from one to two lanes, which would resolve current queue length issues. Design of the roadway would take into consideration the high pressure gas pigging station and Bulk Fuels Facility remediation project influent conveyance lines located underneath the proposed roadway realignment. The design would demonstrate an engineered solution that would be protective of the pigging station and influent conveyance lines and prevent the possibility of any potential damage to these lines.

The new four-lane roadway would be approximately 1,500 linear feet and include installation of street lights and appropriate stormwater drainage controls. The route to the Gibson Gate from Louisiana Boulevard no longer would be a straight roadway, but rather a serpentine roadway. Construction of the new roadway would be phased in order to allow continued access to the installation and Wherry Elementary using the current extension of Gibson Boulevard and during construction activities. Upon completion of the new roadway, the extension of Gibson Boulevard and associated street lights would be removed and curbing would be installed at the intersection of Gibson and Louisiana boulevards to close the roadway. Construction is anticipated to begin the first quarter of fiscal year 2019 and take approximately 6 months to complete. The Proposed Action would include approximately 200,000 square feet of disturbance, 100,000 square feet of new pavement, 95,000 square feet of pavement removal, and 30,000 square feet of trenching. The change in impervious surface would be negligible (i.e., < 5,000 square feet).

- Point of Contact

Name: Timothy Didlake
Title: Contractor
Organization: HDR
Email: timothy.didlake@hdrinc.com
Phone Number: (484) 612-1124

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Roadway Construction for Gibson Gate

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2. Construction/Demolition

2.1 General Information & Timeline Assumptions

- Activity Location

County: Bernalillo

Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Roadway Construction for Gibson Gate

- Activity Description:

Approximately 200,000 ft² will be graded. This includes area within existing roads and undeveloped surface.

Approximately 30,000 ft² will be trenched for curbs, street lights, and utility relocation.

Approximately 100,000 ft² of new pavement will be constructed.

Grading will take 6 months. Trenching and paving will take 3 months.

- Activity Start Date

Start Month: 1

Start Month: 2019

- Activity End Date

Indefinite: False

End Month: 6

End Month: 2019

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.427222
SO _x	0.005479
NO _x	2.769754
CO	2.386792
PM ₁₀	12.964377

Pollutant	Total Emissions (TONs)
PM _{2.5}	0.131445
Pb	0.000000
NH ₃	0.001040
CO _{2e}	535.6

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 1

Start Quarter: 1

Start Year: 2019

- Phase Duration

Number of Month: 6

Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft²): 200,000

Amount of Material to be Hauled On-Site (yd³): 0

Amount of Material to be Hauled Off-Site (yd³): 0

- Site Grading Default Settings

Default Settings Used: Yes

Average Day(s) worked per week: 5 (default)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	8
Tractors/Loaders/Backhoes Composite	2	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd³): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.0982	0.0014	0.6490	0.5786	0.0316	0.0316	0.0088	132.96
Other Construction Equipment Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.0595	0.0012	0.3971	0.3522	0.0158	0.0158	0.0053	122.63
Rubber Tired Dozers Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.2226	0.0024	1.6948	0.8387	0.0682	0.0682	0.0200	239.58
Tractors/Loaders/Backhoes Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.0471	0.0007	0.3018	0.3630	0.0159	0.0159	0.0042	66.904

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	Pb	NH ₃	CO _{2e}
LDGV	000.340	000.002	000.276	003.604	000.008	000.007		000.024	00328.206
LDGT	000.416	000.003	000.480	005.057	000.010	000.009		000.025	00423.247
HDGV	000.764	000.005	001.218	016.264	000.023	000.020		000.044	00760.998
LDDV	000.119	000.003	000.146	002.473	000.004	000.004		000.008	00318.976
LDDT	000.281	000.004	000.446	004.521	000.007	000.006		000.008	00458.185
HDDV	000.618	000.013	006.194	002.048	000.195	000.179		000.030	01519.413
MC	002.745	000.003	000.847	013.480	000.027	000.024		000.054	00396.763

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$$PM_{10FD} = (20 * ACRE * WD) / 2000$$

PM_{10FD}: Fugitive Dust PM₁₀ Emissions (TONs)

20: Conversion Factor Acre Day to pounds (20 lb/1 Acre Day)

ACRE: Total acres (acres)

WD: Number of Total Work Days (days)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL} : Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF_{POL} : Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

VMT_{VE} : Vehicle Exhaust Vehicle Miles Travel (miles)

HA_{OnSite} : Amount of Material to be Hauled On-Site (yd³)

$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd³)

HC: Average Hauling Truck Capacity (yd³)

(1 / HC): Conversion Factor cubic yards to trips (1 trip/HC yd³)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)

VMT_{VE} : Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL} : Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust on Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT} : Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)

VMT_{WT} : Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL} : Emission Factor for Pollutant (grams/mile)

VM: Worker Trips on Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

2.2 Trenching/Excavating Phase

2.2.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date

Start Month: 1

Start Quarter: 1

Start Year: 2019

- Phase Duration

Number of Month: 3

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Number of Days: 0

2.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information

Area of Site to be Trenched/Excavated (ft²): 30,000

Amount of Material to be Hauled On-Site (yd³): 0

Amount of Material to be Hauled Off-Site (yd³): 0

- Trenching Default Settings

Default Settings Used: Yes

Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipment Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd³): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.0982	0.0014	0.6490	0.5786	0.0316	0.0316	0.0088	132.96
Other Construction Equipment Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.0595	0.0012	0.3971	0.3522	0.0158	0.0158	0.0053	122.63
Rubber Tired Dozers Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.2226	0.0024	1.6948	0.8387	0.0682	0.0682	0.0200	239.58
Tractors/Loaders/Backhoes Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.0471	0.0007	0.3018	0.3630	0.0159	0.0159	0.0042	66.904

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	Pb	NH ₃	CO _{2e}
LDGV	000.340	000.002	000.276	003.604	000.008	000.007		000.024	00328.206
LDGT	000.416	000.003	000.480	005.057	000.010	000.009		000.025	00423.247
HDGV	000.764	000.005	001.218	016.264	000.023	000.020		000.044	00760.998
LDDV	000.119	000.003	000.146	002.473	000.004	000.004		000.008	00318.976
LDDT	000.281	000.004	000.446	004.521	000.007	000.006		000.008	00458.185
HDDV	000.618	000.013	006.194	002.048	000.195	000.179		000.030	01519.413

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

MC	002.745	000.003	000.847	013.480	000.027	000.024		000.054	00396.763
----	---------	---------	---------	---------	---------	---------	--	---------	-----------

2.2.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase

$$PM10_{FD} = (20 * ACRE * WD) / 2000$$

PM10_{FD}: Fugitive Dust PM 10 Emissions (TONs)

20: Conversion Factor Acre Day to pounds (20 lb/1 Acre Day)

ACRE: Total acres (acres)

WD: Number of Total Work Days (days)

2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

HA_{OnSite}: Amount of Material to be Hauled On-Site (yd³)

HA_{OffSite}: Amount of Material to be Hauled Off-Site (yd³)

HC: Average Hauling Truck Capacity (yd³)

(1 / HC): Conversion Factor cubic yards to trips (1 trip/HC yd³)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust on Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips on Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

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2.3 Paving Phase

2.3.1 Paving Phase Timeline Assumptions

- Phase Start Date

Start Month: 4
Start Quarter: 1
Start Year: 2019

- Phase Duration

Number of Month: 3
Number of Days: 0

2.3.2 Paving Phase Assumptions

- General Paving Information

Paving Area (ft²): 100,000

- Paving Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Paving Equipment Composite	2	6
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.3.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.0982	0.0014	0.6490	0.5786	0.0316	0.0316	0.0088	132.96
Other Construction Equipment Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.0595	0.0012	0.3971	0.3522	0.0158	0.0158	0.0053	122.63
Rubber Tired Dozers Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.2226	0.0024	1.6948	0.8387	0.0682	0.0682	0.0200	239.58
Tractors/Loaders/Backhoes Composite								
	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	CH ₄	CO _{2e}
Emission Factors	0.0471	0.0007	0.3018	0.3630	0.0159	0.0159	0.0042	66.904

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- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM ₁₀	PM _{2.5}	Pb	NH ₃	CO ₂ e
LDGV	000.340	000.002	000.276	003.604	000.008	000.007		000.024	00328.206
LDGT	000.416	000.003	000.480	005.057	000.010	000.009		000.025	00423.247
HDGV	000.764	000.005	001.218	016.264	000.023	000.020		000.044	00760.998
LDDV	000.119	000.003	000.146	002.473	000.004	000.004		000.008	00318.976
LDDT	000.281	000.004	000.446	004.521	000.007	000.006		000.008	00458.185
HDDV	000.618	000.013	006.194	002.048	000.195	000.179		000.030	01519.413
MC	002.745	000.003	000.847	013.480	000.027	000.024		000.054	00396.763

2.3.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

PA: Paving Area (ft²)

0.25: Thickness of Paving Area (ft)

(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd³/27 ft³)

HC: Average Hauling Truck Capacity (yd³)

(1 / HC): Conversion Factor cubic yards to trips (1 trip/HC yd³)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust on Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Work Days

NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips on Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

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- Off-Gassing Emissions per Phase

$$\text{VOC}_p = (2.62 * \text{PA}) / 43560$$

VOC_p: Paving VOC Emissions (TONs)

2.62: Emission Factor (lb/acre)

PA: Paving Area (ft²)

43560: Conversion Factor square feet to acre (43560 ft²/acre)

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