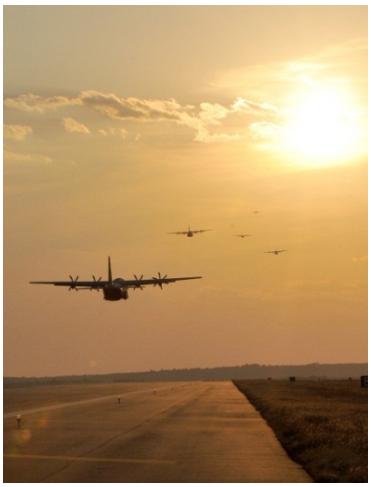

FINAL
ENVIRONMENTAL ASSESSMENT
FOR ESTABLISHMENT OF A
NEW C-130 LANDING ZONE FOR 58 SOW

PREPARED FOR:

Department of the Air Force

October 2013

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FINDING OF NO SIGNIFICANT IMPACT

ESTABLISHMENT OF A NEW C-130 LANDING ZONE FOR THE 58TH SPECIAL OPERATIONS WING AT KIRTLAND AIR FORCE BASE, NEW MEXICO

Pursuant to provisions of the National Environmental Policy Act (NEPA), 42 United States Code (USC) 4321 to 4270d, implementing Council on Environmental Quality (CEQ) Regulations, 40 Code of Federal Regulations (CFR) 1500-1508, and 32 CFR Part 989, Environmental Impact Analysis Process, the U.S. Air Force (USAF) assessed the potential environmental consequences associated with identifying and using a local area aircraft runway existing or proposed for construction within a reasonable timeframe that would best support the realistic C-130 short-field takeoff and landing training requirements of the 58th Special Operations Wing (58 SOW), currently located at and operating from Kirtland Air Force Base (AFB), Bernalillo County, New Mexico.

BACKGROUND

The 58 SOW requires access to and use of short-field runways at austere airfields which simulate real-world takeoff and landing situations that pilots are confronted with in carrying out their assigned humanitarian, rescue, and other similar special flying operations missions. The type of austere airfields providing the functional utility necessary for the C-130 training activities do not exist at Kirtland AFB. The 58 SOW does not have the authority or capability of building short-field runways that meet reasonable and necessary standards to achieve realistic C-130 short-field takeoff and landing training. The 58 SOW must rely on access to and use of appropriate landing zones that are constructed, owned, and maintained by other non-USAF entities such as municipal airports, or other military runways, if available and accessible.

The Environmental Assessment (EA), incorporated by reference into this finding, analyzes the potential environmental consequences of C-130 short-field takeoff and landing training activities at Belen Alexander Municipal Airport (BAMA). The EA considers the impacts of the Proposed Action and the No-Action Alternative, considering cumulative environmental impacts with other projects in the vicinity.

PROPOSED ACTION

The USAF Proposed Action is to determine the availability of a suitable local area runway to support and simulate real world C-130 short-field takeoff and landing training requirements of the 58 SOW, located and operating at Kirtland AFB. The USAF intends to provide technical data to the FAA to facilitate the FAA's approval of necessary Airport Layout Plan revisions and development of any necessary approaches and procedures pertaining to a new crosswind runway that can accommodate the 58 SOW's training requirements.

The USAF Proposed Action does not include any construction activities. The strengthened runway would be constructed by others. The USAF does not have any control over construction, mitigation, or other activities associated with constructing the strengthened runway.

NO-ACTION ALTERNATIVE

Under the No-Action Alternative, the Proposed Action would not occur. The currently existing C-130 training consisting of low approaches, but no landings, would continue at BAMA. Current C-130 landing/takeoff training would continue, with training flights distributed between Roswell International Air Center, NM; Pueblo Memorial Airport, Colorado; and Albuquerque International Sunport. Student

pilots/aircrews would continue to train on runways not fully representative of the "real world" flying conditions encountered in carrying out special operations missions. The USAF would continue to spend limited funds on increasing fuel costs and fail to lower travel time and distances to train at airports located well over 50 nm from Kirtland AFB. Albuquerque International Sunport Runway 12/30 would continue to be used for night training. Night training would continue at runways which have substantial lighting from nearby population centers limiting the effectiveness of the training utilizing night vision enhancement technologies, and potentially causing safety concerns for pilots.

SUMMARY OF FINDINGS

The attached EA, as incorporated by reference into this finding and attached hereto, analyzes the potential environmental consequences of activities associated with the establishment of a new C-130 landing zone for use by the 58 SOW.

The resources analyzed in detail in this EA are airspace use and management; noise; land use; air quality; earth resources; biological resources; cultural resources; water resources; hazardous materials and wastes; ground and flight safety; recreational and visual; and socioeconomic resources. The USAF's proposed project will not involve any construction or demolition activities and will not impact the 100 year floodplain or any wetlands. No significant cultural resource impacts or impacts to historic properties (i.e., those listed or eligible for listing in the National Register of Historic Places) are anticipated. No threatened or endangered species or their designated critical habitat would be affected. Additionally, all areas in which training operations would occur are in attainment status under the applicable provisions of the Clean Air Act and there will be no significant impacts to air quality.

The Air Force has concluded that no significant adverse effects would result to the following resources as a result of the Proposed Action: airspace use and management; noise; land use; air quality; earth resources; biological, cultural, and water resources; hazardous materials and wastes; ground and flight safety; recreational and visual; and socioeconomic resources. No significant adverse cumulative impacts would result from activities associated with the Proposed Action when considered with past, present, or reasonably foreseeable future projects at Belen Alexander Municipal Airport.

PUBLIC REVIEW

A Notice of Availability (NOA) for the Draft EA and Draft FONSI was published in the Albuquerque Journal and Valencia County News-Bulletin (Belen, NM) on July 11, 2013 announcing that the Draft EA and Draft FONSI were available to the public for a 30-day review period. The comment period was subsequently extended until September 16, 2013 following public comments stating that insufficient time was provided to review the Draft EA and Draft FONSI. A total of 17 Public comments and 2 agency comments on the Draft EA were received during the public review period.

PREFERRED ALTERNATIVE

The Preferred Alternative is to implement the Proposed Action.

FINDING OF NO SIGNIFICANT IMPACT

Based on my review of the facts and analyses contained in the attached EA, conducted under the provisions of NEPA, CEQ Regulations, and 32 CFR Part 989, I conclude that the implementation of the Proposed Action (Preferred Alternative), will not have a significant effect on human health or the natural environment; therefore, an environmental impact statement is not required. The signing of this Finding of No Significant Impact (FONSI) completes the environmental impact analysis process.

James E. Fitzpatrick — 13 NOV 2013

James E. Fitzpatrick, P.E., CFM
Chief, Engineering Division
HQ AETC/A7N
Joint Base San Antonio - Randolph, TX

Date

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FINAL ENVIRONMENTAL ASSESSMENT FOR ESTABLISHMENT OF A NEW C-130 LANDING ZONE FOR 58 SOW

PREPARED FOR:

Department of the Air Force

October 2013

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

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ERRATA SHEET
ENVIRONMENTAL ASSESSMENT FOR ESTABLISHMENT OF A
NEW C-130 LANDING ZONE FOR 58 SOW

PAGE	SECTION	REVISION
1-1	1.1	Minor wording changes for clarity.
1-3	1.4	Added a new sentence to the last paragraph, "However, currently the 58 SOW conducts C-130 low approach flight operations on an existing Belen Alexander Municipal Airport (BAMA) runway without any landings and these activities are expected to continue even when a new local area runway is selected for the 58 SOW take-off and landing training operations."
1-4	1.6.3	Added new section (1.6.3) on Public Involvement.
2-1	2.1	Reworded to more clearly describe the proposed action. Changed to "The USAF Proposed Action is to determine the availability of a suitable local area runway to support and simulate real world C-130 short-field takeoff and landing training requirements of the 58 SOW, located and operating at Kirtland AFB. The USAF intends to provide technical data to the FAA to facilitate the FAA's approval of necessary Airport Layout Plan revisions and development of any necessary approaches and procedures pertaining to a new crosswind runway that can accommodate the 58 SOW's training requirements." Moved a sentence to Section 2.2.
2-1	2.2	Added a sentence to the second paragraph, moved from Section 2.1, "Selection standards were developed to identify alternatives for meeting the purpose and need for the USAF action and to determine the range of alternatives analyzed."
2-2	2.3	Number 2 – Revised two sentences. "Use of a proposed Crosswind Runway 10/28 (~~to be constructed by others~~) to be constructed by the USAF or the potential structural reinforcement by the USAF of the existing runway 17/35 ~~(with the addition of structural reinforcement)~~ at Double Eagle II Airport. Double Eagle II is 18 nm from Kirtland AFB, but is in close proximity to the Petroglyphs National Monument administered by the National Park Service (NPS). These two alternatives were considered by the USAF during preliminary planning stages but were determined to be financially infeasible and further would result in increased noise levels over the Petroglyph National Monument, which is a noise-sensitive receptor.
2-9	2.10	Revised two sentences. "The 58 SOW's use of the runway proposed for construction by non-Air Force entities will eventually shift some training operations to the new runway~~, once constructed by the City of Belen~~. The incremental environmental consequences of the changed operations are evaluated within this EA.
2-9	2.10	Table 2-6 – Changed third column heading from "Areas Considered in this EA" to "Additional Analysis in this EA." Revised page references as appropriate.
4-11 & 4-12	4.3.6.1	Multiple revisions to this section include: Revised sentence in the first paragraph to read "The Preferred Alternative/Proposed Action would not be expected to affect biological resources analyzed within this EA, Section 4.3.6 which also provides supplemental data to the City of Belen's NEPA document BAMA EA (2005), Appendix A, which covers modifications to the BAMA Airport Layout Plan and

PAGE	SECTION	REVISION
		any subsequent construction activities." Minor wording changes for clarity in the "Noise Response for Wildlife" subsection. Numerous modifications to the "Threatened or Endangered Species and State Species of Concern" subsection: Added the following sentences to the first paragraph, "Additionally, while there is a potential for transient species within Valencia County, there is no known habitat present to support these transient species within the airport boundaries. The USFWS concurred with the determination that the USAF Preferred Alternative/Proposed Action "may affect, but is not likely to adversely affect" any Federally-listed species. The USFWS determination is in Appendix F." Modified paragraph 4 to include the following sentences, "These noise levels have been determined to have no long-term, adverse impacts to burrowing owls that have been observed at similar airports and airfields. Therefore, the long-term, increased noise levels are not expected to have adverse impacts to burrowing owls and its habitat under the USAF's Proposed Action. The USFWS has concurred with this analysis and its concurrence letter is in Appendix F." Added paragraph to 5 and 6 as follows, "Though construction and related land disturbance activities are not associated with the USAF's Proposed Action, but there could be potential incremental impacts to biota of constructing a strengthened runway vs. a general aviation runway, USAF analyzed those potential impacts. Based on the analyses and the information available regarding the new runway, there would be no additional impacts expected beyond those already analyzed in the BAMA EA (2005)." "To further safeguard the burrowing owl, the USFWS requires that if there is a potential to impact this species, the entity constructing the runway shall conduct a biological survey within 2 weeks prior to any clearing, grading, excavation, or other associated ground-disturbing activities to identify prairie dog colonies and burrowing owls. Per the USFWS, the most suitable time to survey for burrowing owls in New Mexico is during the nest initiation and incubation phases (March to early June). If burrowing owls are present, construction activities would only commence after the owls have migrated from the area (October 15 to March 15)."
4-12 & 4-13	4.3.7	Added the following new paragraph, "The BAMA EA (2005), prepared by the City of Belen for the proposed crosswind runway construction activities and general aviation operations, describes impacts to Cultural Resources in Section 5.8 (page 25). That BAMA EA concluded that the Department of Transportation (DOT), Sec. 4(f)/6(f) restrictions (associated with the National Park System, public parks/recreations areas, historic/archeological properties, etc.) were not

ERRATA SHEET
ENVIRONMENTAL ASSESSMENT FOR ESTABLISHMENT OF A
NEW C-130 LANDING ZONE FOR 58 SOW

PAGE	SECTION	REVISION
		identified within, nor applicable to, their activities and operations. Consequently and similarly, the USAF concludes that these same restrictions are likely not applicable to the 58 SOW Preferred Alternative/Proposed Action involving flight training operations since there is no expectation that adverse impacts would result. The USAF also recommends that its proposed flight training operations would not result in any physical taking of applicable or identifiable DOT Section 4(f) properties (i.e., parks, recreation areas, historic sites or wildlife/waterfowl refuges, etc.), or, any constructive use of these properties that might be located within the DNL 65 threshold noise contour. The analysis and discussion within this section supports that there will not be any resulting adverse impacts or effects to historic properties from implementing the 58 SOW's Preferred Alternative/Proposed Action. The State Historic Preservation Officer (SHPO) has concurred with the USAF finding of no adverse effects and supporting letters are in Appendix E."
4-14	4.3.7.1	Modified the Tribal and Pueblo Communication subsection as follows. "In accordance with DoDI 4710.02 (DoD Interactions with Federally-Recognized Tribes), government to government consultation related to this action was initiated on December 17, 2012 with the tribes listed in Section 6.0 of this EA. Two tribes provided written responses (Appendix B) and follow-up phone calls were made and documented to the remaining tribes in March 2013. These tribes informed the USAF that they had no concerns or comments with the proposed project and actions. Updates continue to be provided to the tribes in the event issues arise as the EA is developed and finalized. In a letter from the Navajo Nation dated February 25, 2013 to Colonel Becklund, the USAF was notified that the Nation had no issues or concerns with the 58 SOW Preferred Alternative/Proposed Action. However, the Nation did express interest in being notified of any inadvertent discovery of resources during construction related activities. The Air Force has attached this February 25, 2013 letter from the Navajo Nation to this EA in Appendix B. This EA and Appendices will be provided to the City of Belen who prepared the BAMA EA (2005) and to the FAA. The Pueblos or other Tribes contacted did not express any concerns regarding the USAF Proposed Action for the 58 SOW's flight training operations which will not involve construction activities (see Appendix B)."
Appendix B		Added a table summarizing the public comments received during the public review period of the Draft EA. Added a copy of the New Mexico Environment Department (NMED) public comment letter to Appendix B.
Appendix F		Added a copy of the New Mexico Department of Game and Fish (NMDGF) public comment letter to Appendix F.

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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

°C	Degrees Celsius
AAF	Army Air Field
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFI	Air Force Instruction
AFMC	Air Force Material Command
AFPD	Air Force Policy Directive
AGL	Above Ground Level
AICUZ	Air Installation Compatible Use Zone
APE	Area of Potential Effect
AQCR	Air Quality Control Region
ARFF	Airport Rescue and Fire Fighting
ATC	Air Traffic Control
ATSF	Atchison, Topeka, and Santa Fe (Railroad Depot)
BAMA	Belen Alexander Municipal Airport
BAMA EA (2005)	Environmental Assessment Document Proposed Airport Expansion Belen Alexander Municipal Airport (2005)
BASH	Bird/Wildlife Aircraft Strike Hazard
BISON-M	Biota Information System of New Mexico
BLM	Bureau of Land Management
BMP	Best Management Practices
CAAA	Clean Air Act Amendments
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
dB	Decibel
dB(A)	A-Weighted Decibel
DNL	Day-Night Average A-Weighted Sound Level
DoD	U.S. Department of Defense
DOT	U.S. Department of Transportation
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EMS	Emergency Medical Service
EO	Executive Order
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FBO	Fixed Base Operator
FES	Fire Emergency Services
FICON	Federal Interagency Committee on Noise
FONSI	Finding of No Significant Impact
ft	Feet
FY	Fiscal Year
GASEPV	General Aviation Single Engine Propeller Vehicle
GHG	Greenhouse Gas
HAZMAT	Hazardous Materials
HUD	U.S. Department of Housing and Urban Development
IFR	Instrument Flight Rules
IR	Infrared
Ldn	Day-Night Average A-weighted Sound Level

Lmax	Maximum Sound Level
LZ	Landing Zone
MBTA	Migratory Bird Treaty Act
MOA	Military Operations Area
MTR	Military Training Route
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
nm	Nautical Miles
NM	New Mexico
NMDGF	New Mexico Department of Game and Fish
NMDOT	New Mexico Department of Transportation
NOA	
NPS	National Park Service
NRHP	National Register of Historic Places
NVG	Night Vision Goggles
RPM	Revolutions Per Minute
SEL	Sound Exposure Level
SHPO	State Historic Preservation Office
SOW	Special Operations Wing
SUA	Special Use Airspace
SWPPP	Stormwater Pollution Prevention Plan
TIT	Turbine Inlet Temperature
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USCB	U.S. Census Bureau
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VFR	Visual Flight Rules
WSMR	White Sands Missile Range

1.0 PURPOSE OF AND NEED FOR ACTION

The mission of the 58th Special Operations Wing (SOW) at Kirtland Air Force Base (AFB) in Albuquerque, New Mexico (NM) is to train special operations, rescue, missile site support, and Distinguished Visitor airlift crews. Training is accomplished using a variety of airframes, including five versions of C-130 aircraft.

As part of the C-130 training, the 58 SOW conducts short-runway (field) day and night takeoff, approach, and landing training at non-Air Force controlled airfields to simulate "real world" situations that pilots will encounter in conducting their mission. Short-field runways include runways up to 5,500 feet (ft) in length. To support this training, the 58 SOW requires access to runways near Kirtland AFB that are adequate to support realistic C-130 short-field takeoff and landing training.

1.1 PURPOSE OF THE ACTION

The purpose of the action is to determine the availability of a suitable local area runway to support and simulate real world C-130 training requirements of the 58 SOW, currently located at and operating from Kirtland AFB.

C-130J in flight

1.2 NEED FOR THE ACTION

The need for additional off-base runway access is to provide training locations with variable and differing attributes which allows the 58 SOW to better train and prepare for real world deployment airfields.

1.3 LOCATION OF EXISTING 58 SOW OPERATIONS

The 58 SOW is a tenant organization at Kirtland AFB. Kirtland AFB is located in southeast Albuquerque between the Sandia and Manzano mountain ranges. Currently, two civilian airports, Roswell International Air Center and Pueblo Memorial Airport, as well as runways at the Albuquerque International Sunport, are used by the 58 SOW for short-field runway takeoff and landing training. The 58 SOW's landing locations are shown in Figure 1-1.

1.4 EXISTING 58 SOW C-130 LANDING ZONES

The 58 SOW uses the following runways at civilian airports for short-runway takeoff and landing training:

- Roswell International Air Center (includes Cannondale Runway) near Roswell, NM
- Pueblo Memorial Airport near Pueblo, CO
- Albuquerque International Sunport in Albuquerque, NM, immediately adjacent to Kirtland AFB

The characteristics of these landing zones are summarized in Table 1-1.

Since access to less developed airfields is required, access to these runways is not sufficient to fully support the current training syllabus/needs. Additional access to suitable short-field runways at austere airfields is needed to assure that special operations aircrews can obtain training in the widest possible range of situations simulating those that could be encountered in real world missions.

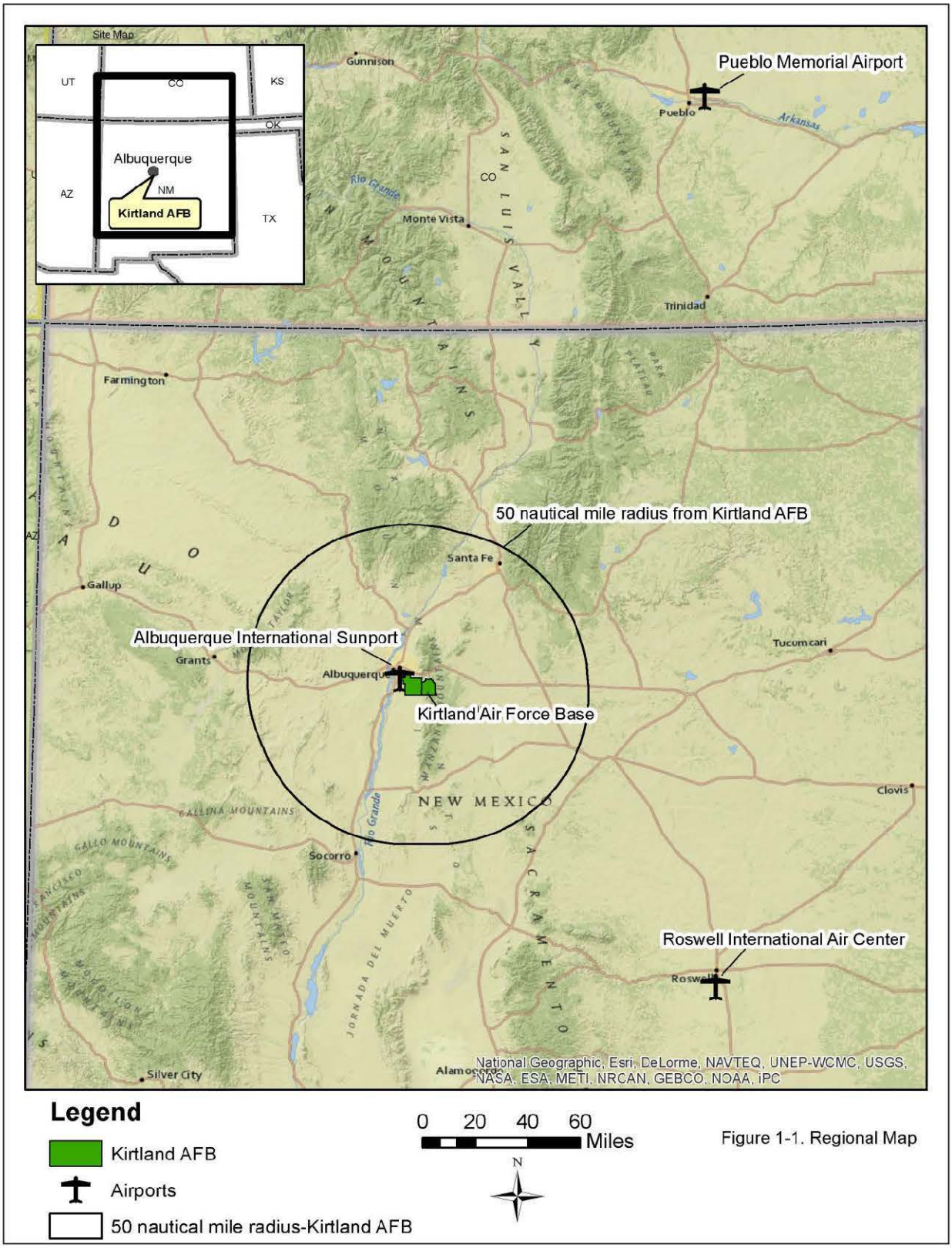
Table 1-1. Current Inventory of 58 SOW Operational C-130 Landing Zones

Landing Zone Designation	Accommodates Day and Night Training?	Has Adequate Available Short-Field Runway(s)?	Minimal Transit Time Required?	Use Could be Expanded at Site?	Few Encroachments or Restrictions?
Roswell International Air Center	Yes	Partial: Cannondale has been decertified due to proximity to parking area.	No	No	No
Pueblo Memorial Airport	Partial: due to daytime use restricted for civilian/ commercial traffic conflicts.	Partial: available runway is too long and has severe scheduling restrictions.	No	No	No
Albuquerque International Sunport	Partial: runway is available for day and night training but excessive light from surrounding populated areas limits training effectiveness.	Partial: runway is too long/wide to furnish realistic short-field landing training.	Yes	No	No

This requirement for the 58 SOW to train at less developed airfields currently cannot be fully met through use of the Roswell International Air Center, Pueblo Memorial Airport, and the Albuquerque International Sunport. The distances from Kirtland AFB to the airfields at Roswell International Air Center and Pueblo Memorial Airport are not ideal because valuable training time and fuel is consumed en route, and both have commercial as well as light civilian air traffic. At Albuquerque International Sunport, the runways are too long and too brightly-lit (including lighting from the large population centers surrounding the airfield) to realistically simulate short-runway training in an austere setting, and the Albuquerque International Sunport supports high volumes of commercial traffic. Sequencing military training flights into the commercial traffic pattern is problematic when there are high volumes of commercial traffic.

Other civilian airports that might be available that do not experience commercial traffic at all, or do not support high volumes of commercial traffic, are not structurally constructed to be capable of supporting C-130 landing operations. However, currently the 58 SOW conducts C-130 low approach flight operations on an existing Belen Alexander Municipal Airport (BAMA) runway without any landings and these activities are expected to continue even when a new local area runway is selected for the 58 SOW take-off and landing training operations.

Figure 1-1. Regional Map



1.5 DECISION TO BE MADE

The decision to be made is the selection of an alternative for 58 SOW aircraft operations to support short-field training. The decision options are:

1) To continue with current training (the No-Action Alternative);
2) Selecting an alternative and preparing a Finding of No Significant Impact (FONSI); or
3) Preparing an Environmental Impact Statement (EIS) if the alternatives would result in significant environmental impacts.

1.6 COOPERATING AGENCY, INTERGOVERNMENTAL COORDINATION/ CONSULTATIONS, AND PUBLIC INVOLVEMENT

1.6.1 Cooperating Agency (Federal Aviation Administration)

In March 2011, the Federal Aviation Administration (FAA) became a cooperating agency in the preparation of this Environmental Assessment (EA). The United States Air Force (USAF) has obtained technical input from the FAA to prepare this EA. The USAF works cooperatively with the FAA to ensure that adoption of the findings of this EA will enable continued airspace management that serves future military aviation training needs and also civil aviation needs.

1.6.2 Interagency and Intergovernmental Coordination and Consultations

Federal, state, and local agencies with jurisdiction that could be affected by the alternative actions were notified and consulted during the development of the *Environmental Assessment Document Proposed Airport Expansion Belen Alexander Municipal Airport* (2005), hereafter referred to as BAMA EA (2005) (see Appendix A).

Chapter 6.0 contains the list of agencies consulted during this analysis. Copies of correspondence, responses, and (as applicable) concurrences are included in Appendices B, E, and F.

1.6.3 Public Involvement

A Notice of Availability (NOA) for the Draft EA and Draft FONSI was published in the Albuquerque Journal and Valencia County News-Bulletin (Belen, NM) on July 11, 2013 announcing that the Draft EA and Draft FONSI were available to the public for a 30-day review period. The notices appeared in both printed and on-line versions of the newspapers. Copies of the Draft EA and Draft FONSI were made available at the Belen Public Library, Albuquerque Public Library (Main Library), Central New Mexico Community College Montoya Campus Library, University of New Mexico Zimmerman Campus Library, San Pedro Library, Los Lunas Public Library, and the Kirtland AFB website. The comment period was subsequently extended until September 16, 2013 following public comments stating that insufficient time was provided to review the Draft EA and Draft FONSI.

Copies of the NOAs and Extension of the Comment Period notices are included in Appendix B. A total of 17 public comments and 2 agency comments were received. A summary of the comments received are included in Appendix B.

The Pueblo and Tribal consultation process and any discussions are presented in Chapter 4, Sec. 4.3.7 of this EA.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The 58 SOW requires access to and use of short-field runways at austere airfields that simulate real-world situations that pilots are confronted with in carrying out their humanitarian, rescue, and similar special operations missions. Since the 58 SOW does not have the authority or capability of building short-field runways that meet selection standards, the 58 SOW must rely on access to and use of appropriate landing zones that are constructed, owned, and maintained by other (non-USAF) entities.

2.1 PROPOSED ACTION

The USAF Proposed Action is to determine the availability of a suitable local area runway to support and simulate real world C-130 short-field takeoff and landing training requirements of the 58 SOW, located and operating at Kirtland AFB. The USAF intends to provide technical data to the FAA to facilitate the FAA's approval of necessary Airport Layout Plan revisions and development of any necessary approaches and procedures pertaining to a new crosswind runway that can accommodate the 58 SOW's training requirements.

2.2 SELECTION STANDARDS

The National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations mandate the consideration of reasonable alternatives to the proposed action. "Reasonable alternatives" are those that also could be utilized to meet the purpose of and need for the proposed action.

Per the requirements of 32 Code of Federal Regulations (CFR) §989, the USAF Environmental Impact Analysis Process (EIAP) regulations, selection standards are used to identify alternatives for meeting the purpose and need for the USAF action. In addition, selection standards may be used to narrow the range of alternatives to focus analyses to meet the directive that environmental analyses be analytic rather than encyclopedic. Selection standards were developed to identify alternatives for meeting the purpose and need for the USAF action and to determine the range of alternatives analyzed.

To fully and most efficiently support realistic C-130 short-field training, runways used for 58 SOW training must meet the following standards:

1) Be no more than 50 nautical miles (nm) (approximately 58 miles) from Kirtland AFB to reduce "transit" time between the Base and the runway. Excessive transit time is undesirable in flying training programs because other higher priority training events cannot be accomplished during that time. Flying training programs are developed to maximize the number of training events accomplished in the shortest period possible to conserve fuel and maximize the actual training time vs. "commuting time" for the air crews.
2) Have a minimum load bearing strength (existing, or proposed for new construction) capable of supporting C-130 aircraft (reference: C-130 Aircraft Flight Manual Technical Order 1C-130(H) H-1).
3) Be located in an area with minimal city lights for effective night vision goggle training.
4) Be located in an area with minimal potential for conflicts or operational restrictions to accommodate sensitive receptor concerns.
5) Have suitable crash/fire/rescue personnel and equipment available on-site.
6) Be available for day and night 58 SOW operations on weekdays as well as for infrequent use during weekends.
7) Have a ramp/taxi area sufficient to support two or more C-130s on the ground at a time.

8) Have sufficiently low commercial or other military air traffic volumes or operations such that scheduling conflicts for 58 SOW operations are minimized.

9) Be located at an airfield/airport that is actively maintained and operated by a non-military entity willing and able to accommodate USAF operations in addition to civilian air traffic.

2.3 SCREENING OF ALTERNATIVES

The following potential alternatives that might meet the purpose and need for 58 SOW C-130 landings in support of current training were considered.

1) Use of proposed Crosswind Runway 13/31 at BAMA, Belen, NM (Proposed Action) that would be constructed and strengthened by the City of Belen with assistance from the State of New Mexico Aviation Division. BAMA is 26 nm from Kirtland AFB.

2) Use of a proposed Crosswind Runway 10/28 to be constructed by the USAF or the potential structural reinforcement by the USAF of the existing runway 17/35 at Double Eagle II Airport. Double Eagle II is 18 nm from Kirtland AFB, but is in close proximity to the Petroglyphs National Monument administered by the National Park Service (NPS). These two alternatives were considered by the USAF during preliminary planning stages but were determined to be financially infeasible and further would result in increased noise levels over the Petroglyph National Monument, which is a noise-sensitive receptor.

3) Utilize a runway at Roswell International Air Center for short-field training. Roswell is located approximately 172 nm from Kirtland AFB. None of the available runways have a surface less than 100 ft wide. Though the Roswell International Air Center is operational, the Cannondale landing area (short runway) at the airport has been decertified for use due to its proximity to aircraft parking areas.

4) Utilize Pueblo Memorial Airport for short-field day and night training. A short runway at Pueblo Memorial Airport is currently used for night training. The 10,496-ft long runway at the Pueblo Memorial Airport (220 nm northeast of Kirtland AFB) is unavailable for daytime use due to increases in civilian and Initial Flight Screening aircraft traffic.

5) Repair the runway at Stallion Army Airfield (AAF). Stallion AAF on White Sands Missile Range (WSMR), 73 nm south of Kirtland AFB, previously had been used for short-field training. The runway was closed to C-130s in July 2009 due to significant deterioration of the runway. The runway could be repaired; however, scheduling of WSMR restricted airspace is problematic. When the runway was open for use by the 58 SOW C-130 aircrews (2005-2009), the 58 SOW was often denied entry due to higher priority missions on WSMR. In addition, expanded Unmanned Aerial Systems use by the U.S. Army at Stallion AAF would create use and scheduling conflicts even if the runway were to be repaired.

6) Increase usage of Albuquerque International Sunport Runway 12/30. This use is not ideal because light from the City of Albuquerque interferes with realistic night landing training. In addition, planned future residential development in southern Albuquerque will likely constrain use of the approach path to Runway 30. Runway 17/35 at Albuquerque International Sunport was formerly used by the 58 SOW, but was closed in mid-2012 and is no longer available.

7) Strengthen a runway for C-130 use at the Socorro Municipal Airport 63 nm south-southwest of Kirtland AFB. The City of Socorro has not been supportive, and the close proximity of the airport to the City of Socorro restricts the ability to conduct realistic night training due to background light.

8) Construct and use a new runway or strengthen an existing runway at Truth or Consequences Airport for C-130 landing training. Truth or Consequences is located over 110 nm south of Kirtland AFB. The current Truth or Consequences runway is too long (7,200 ft) for realistic short-field training. In addition, this airfield is heavily used by Cannon AFB, creating potential scheduling conflicts for use by 58 SOW aircrews.

9) Utilize runways at Cannon AFB or Holloman AFB. Cannon AFB is approximately 168 nm from Kirtland AFB and Holloman AFB is approximately 134 nm from Kirtland AFB. Both bases are too far from Kirtland AFB, and neither has a short runway. In addition, Holloman AFB has missions that are incompatible with uses involving C-130 landing training.

10) Utilize a runway at the Santa Fe Municipal Airport, approximately 43 nm east-northeast of Kirtland AFB. The City of Santa Fe has not been supportive, and the close proximity to the City of Santa Fe restricts the ability to conduct realistic night training. In addition, the presence of sensitive receptors/resources near this airport would likely pose severe constraints on C-130 landing training.

The selection standards described in Section 2.2 were applied to these alternatives to determine which alternative(s) could meet the 58 SOW training requirements and that would fulfill the purpose and need for the action. The comparison of the proposed action and alternatives to the selection standards are summarized in Table 2-1.

2.4 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

As none of the other alternatives 2 through 10 that were considered would meet the purpose and need, the following alternatives have been eliminated from further consideration:

- Utilize a new cross-wind or strengthened runway at Double Eagle II Airport
- Utilize Cannondale or other runways at the Roswell International Air Center more heavily
- Utilize short runway at Pueblo Memorial Airport more heavily
- Repair and utilize Stallion AAF at WSMR
- Utilize Albuquerque International Sunport Runway 12/30
- Utilize a runway at the Socorro Municipal Airport
- Utilize a new runway at Truth or Consequences Airport
- Utilize runways at Cannon AFB or Holloman AFB
- Utilize a runway at the Santa Fe Municipal Airport

These alternatives are not carried forward for analysis in this EA.

2.5 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

Application of the selection standards indicates that the only alternative that would meet the purpose and need is the Proposed Action to use the planned new Crosswind Runway at BAMA for C-130 landing training if it is constructed by the City of Belen to accommodate C-130 landings and associated activities. Therefore, the Preferred Alternative is to implement the Proposed Action.

The only alternative that fulfills all of the selection standards and meets the purpose and need is the Proposed Action. Therefore, the Proposed Action is the Preferred Alternative and is the only “action alternative” carried forward for analysis.

Table 2-1. Comparison of the Proposed Action and Alternatives to Selection Standards

Proposed Action and Alternative Description	Selection Standards								
	Within 50 nm of Kirtland AFB?	Will (or does) have sufficient load-bearing strength?	Minimal city lights?	Minimal sensitive receptor constraints?	Crash/fire/rescue personnel and equipment onsite:	Available for day and night weekday ops (and infrequent weekend use)?	Ramp/taxi area can support two or more C-130s on the ground at a time?	Sufficiently low air traffic volumes to minimize scheduling conflicts?	Non-military/austere airfield actively maintained/operated by others?
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Utilize proposed Crosswind Runway at BAMA (Proposed Action)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Utilize proposed cross-wind or strengthened runway at Double Eagle II Airport	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Utilize Cannondale or other runways at the Roswell International Air Center more heavily	No	No	No	Yes	Yes	Yes	Yes	No	Yes
Utilize short runway at Pueblo Memorial Airport more heavily	No	Yes	No	No	Yes	No	Yes	No	Yes
Repair and utilize Stallion AAF at WSMR	No	Yes	Yes	No	Yes	Yes	Yes	No	No
Utilize Albuquerque International Sunport Runway 12/30	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes
Utilize a runway at the Socorro Municipal Airport	No	Yes	No	No	Yes	No	Yes	No	Yes
Utilize a new runway at Truth or Consequences Airport	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Utilize runways at Cannon or Holloman AFBs	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Utilize a runway at the Santa Fe Municipal Airport	Yes	Yes	No	No	Yes	No	Yes	No	Yes

2.6 DETAILED DESCRIPTION OF THE ALTERNATIVE(S)

Two alternatives, the Proposed Action and "No-Action" are analyzed in the detailed description of the alternatives.

2.6.1 Preferred Alternative (Proposed Action)

Under the Preferred Alternative (Proposed Action) – Construction of a Strengthened Crosswind Runway 13/31 at BAMA by the City of Belen and Pursuit of Access/Use by 58 SOW for C-130 Training, the planned Crosswind Runway 13/31 at BAMA would be constructed and strengthened by the State of New Mexico, Valencia County, and/or the City of Belen.

Independent of the process of identifying and remedying training shortfalls for the 58 SOW, the airport manager at BAMA developed plans as part of the FAA's Airport Improvement Program, a grant program financed through fuel and excise taxes. As part of routine discussions between the 58 SOW and the airport manager at BAMA, the USAF proposed the option of utilizing this airport for C-130 landing training. The airport manager at BAMA was receptive to the proposal and discussions are continuing regarding eventual use of the planned Crosswind Runway for 58 SOW C-130 landing training.

The existing proposal is to increase the capabilities of the BAMA by constructing a Crosswind Runway to accommodate additional civilian air traffic. The environmental consequences of constructing and operating a new Crosswind Runway have been evaluated in the BAMA EA (2005), which was approved by the FAA with a FONSI issued on September 30, 2005. This proposal is currently unfunded.

The new runway is projected to be 5,280-ft long by 75-ft wide and would meet USAF definition of a short-field runway. Strengthening to C-130 load bearing capacity would be undertaken by the City of Belen with assistance from the State of New Mexico Aviation Division. Once the planned runway is constructed, the 58 SOW would utilize the runway pursuant to an access/use agreement. Additionally, the USAF would require appropriate crash/fire/rescue support in accordance with USAF standards. No fire protection and crash rescue infrastructure would be constructed as part of this alternative.

Cessna C-210

No net increase in overall USAF landing training operations is contemplated; implementation of this alternative would result in a decrease in ongoing operations at the other landing zones currently in use and an increase at the BAMA location. Other current training activities at BAMA would continue at the present rate where current operations are limited to low-level approaches with no actual landing. A summary of all training operations that would occur at BAMA if the Preferred Alternative/Proposed Action were to be implemented are summarized in Table 2-2.

Cessna C-182

The Cessna C-210 and C-182 aircraft shown above are typical representatives of general aviation aircraft currently using BAMA and used in Table 2-2 to indicate the general aviation (civilian) flight operations at the airport.

Table 2-2. Proposed Annual Flight Operations at BAMA (E80)

Aircraft Type	Description	Annual Flying Days	Departures	Arrival VFR	Arrival IFR	Depart and Land BAMA (E80) on Opposite Runway[1]	Tower Pattern[1]	Box Pattern[1]	Total
58 SOW C-130	Military Low Approach (no landings)	252	2,016	2,016	-	-	-	4,032	8,064
58 SOW C-130	Military Tactical Approach (with landings)	252	1,764	1,764	-	4,536	1,008	1,764	10,836
Cessna C-210[2] or equivalent	Civilian General Aviation	365	730	658	72	-	-	-	1,460
Cessna C-182[2] or equivalent	Civilian General Aviation	365	1,929	1,929	-	-	10,416	-	14,274
	Total		**6,439**	**6,367**	**72**	**4,536**	**11,424**	**5,796**	**34,634**

Notes: IFR = Instrument Flight Rules; VFR = Visual Flight Rules
[1] Each circuit is counted as 2 operations
[2] Used as a basis for analysis; actual aircraft will vary
= Proposed Action
Source: NM Airports Authority, 58 SOW

The proposed location of Crosswind Runway 13/31 is shown in Figure 2-1. The planned flight tracks at BAMA are included in the noise report included in Appendix C, pages A-3 through A-14. Most straight-in approaches would be flown at 500 feet above ground level (AGL) altitude (over unpopulated areas to the west of BAMA) beginning approximately 10 miles from the runway. Any approaches other than 10-mile straight-in approaches would typically be flown at an altitude of 1,000 ft above the runway in a local pattern similar to those already flown at BAMA.

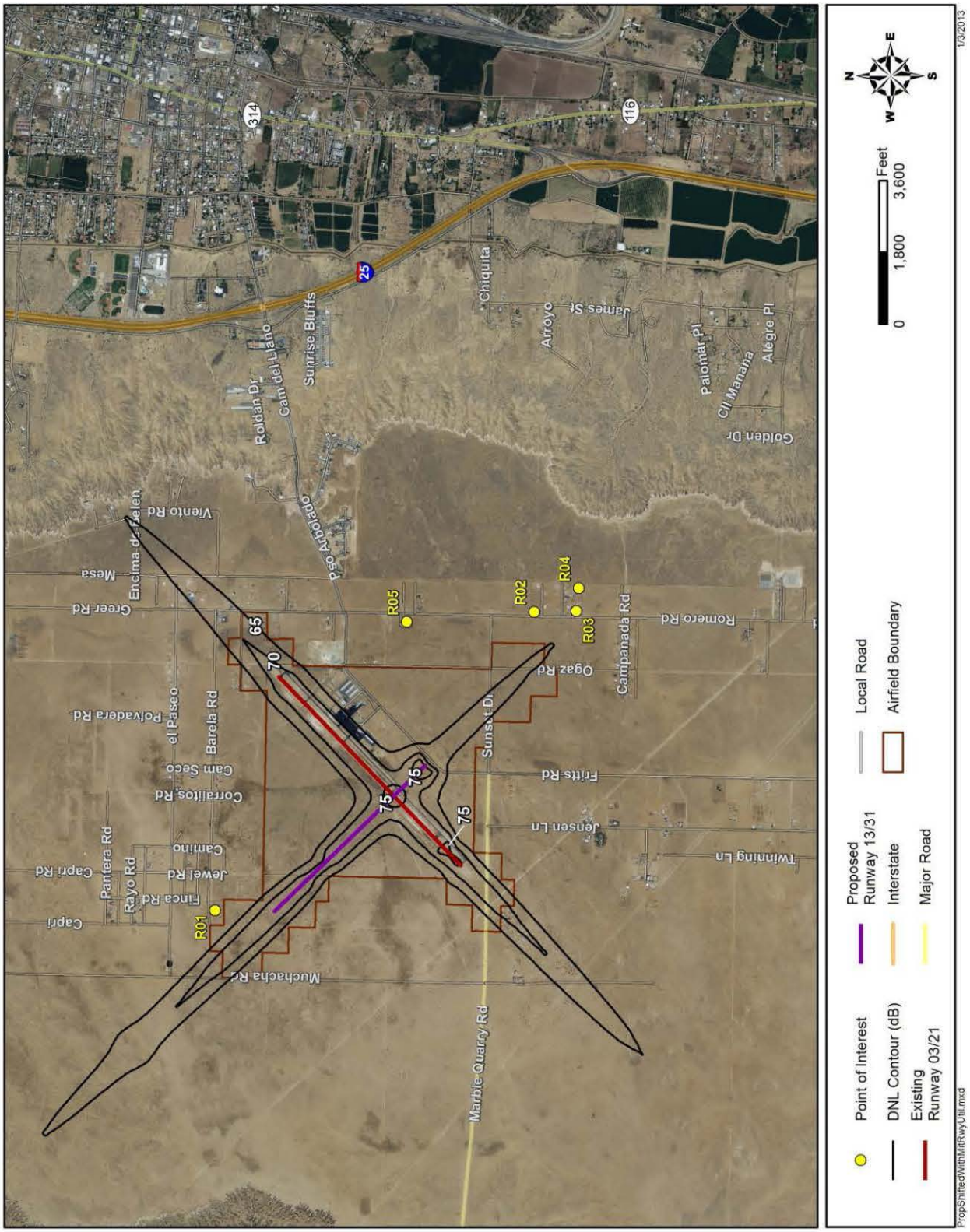
To simulate real scenarios, C-130s would conduct a portion of the landings at night without the use of runway lighting to simulate austere landing zones in real world conditions. Crews regularly train for these scenarios using night vision goggles (NVG) aided by electro-optical and infrared (IR) detection equipment and have stringent procedures and safety protocols to mitigate the risks inherent with the maneuver.

Initially, the runway would be built without any lighting according to the State of New Mexico Aviation Division. However, the 58 SOW hopes to install pilot-controlled IR lighting in the future to simulate semi-improved landing zones. These lights are invisible to the naked eye but are visible from great distance using NVGs. There would be five lights set up in a pattern to provide a "box," four lights marking the left, right, fore, and aft limits of the intended landing point and one light at the far end of the runway to mark its edge. The IR lights are similar to those used as the transmitter in television remote controls and are approximately the same intensity.

C-130 crews monitor the Belen Unicom frequency (122.8) while operating in the vicinity of the airport. Safety procedures would be incorporated into flight operations and would include things such as turning overt lights on, making de-confliction radio calls, and possibly breaking off the approach until the civilian aircraft has landed or departed the airspace when civilian traffic is present at night, which is rare.

Environmental analysis for this alternative considers the additional civilian aviation traffic and the impacts related to the 58 SOW additional training aircraft operations at BAMA.

Figure 2-1. Crosswind Runway 13/31 Location



2.6.2 No-Action Alternative

For the No-Action Alternative, the existing C-130 training consisting of low approaches, but no landings, would continue at BAMA. Current C-130 landing/takeoff training would continue, with training flights distributed between Roswell International Air Center, NM; Pueblo Memorial Airport, CO; and Albuquerque International Sunport, NM. Student pilots/aircrews would continue to train on runways which are not fully representative of the "real world" conditions they will encounter in carrying out special operations missions subsequent to training. At BAMA, pilots would conduct low approach operations but would not descend below 50 ft AGL. The USAF would continue to spend extra funds in fuel costs and lose training time to travel to airports located well over 50 nm from Kirtland AFB. Albuquerque International Sunport Runway 12/30 would continue to be used for night training. Night training would continue at runways which have substantial lighting from nearby population centers. Ambient light limits the effectiveness of the training utilizing night vision enhancement technologies, and potentially causing safety concerns for pilots. The existing annual flight operations at BAMA are included in Table 2-3. The various flight patterns are represented in the Noise Report included as Appendix C.

Table 2-3. Existing Annual Flight Operations at BAMA (E80)

Aircraft Type	Description	Annual Flying Days	Departures	Arrival VFR	Arrivals	Tower Pattern [1]	Box Pattern [1]	Total
58 SOW C-130 training	Military Low Approach (no landings)	252	2,016	2,016	-	-	4,032	8,064
Cessna C-210[2] or equivalent	Civilian General Aviation	365	730	658	72	-	-	1,460
Cessna C-182[2] or equivalent	Civilian General Aviation	365	1,929	1,929	-	10,416	-	14,274
		Total	**4,675**	**4,603**	**72**	**10,416**	**4,032**	**23,798**

[1] Each circuit is counted as 2 operations
[2] Used as a basis for analysis; actual aircraft will vary
IFR = Instrument Flight Rules
VFR = Visual Flight Rules

Source: NM Airports Authority, 58 SOW (operations data verified December 2012)

2.7 OTHER ACTIONS ANNOUNCED FOR THE PROJECT AREA AND SURROUNDING COMMUNITY

This EA also considers the effects of cumulative impacts as required in 40 CFR 1508.7 and concurrent actions as required in 40 CFR 1508.25[1]. A cumulative impact, as defined by the CEQ (40 CFR 1508.7) is 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 which agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."*

Actions announced for the region of influence for this project that could occur during the same time period as the alternative actions are:

- The Camino del Llano road near BAMA is currently undergoing a major expansion. When completed, the two-lane road will have been widened to a five-lane road
- Access road and taxiway improvements (2013)
- Design and construct helipad (2015)

- Phase I multi-use facility, taxiway A rehabilitation/reconstruction, wildlife hazard survey (2016)
- Phase II construction of multi-use facility (2017)
- Crosswind Runway 13/31 extension, hangar development area, parallel taxiway construction (2018)

For this EA analysis, these announced actions are addressed from a cumulative perspective and are analyzed in Section 4.0. These announced actions would be evaluated under separate NEPA actions conducted by the appropriate Federal agency. Based on the best available information for these proposals by others, the USAF cumulative impact analysis considers them.

2.8 COMPARISON OF ENVIRONMENTAL EFFECTS OF ALL ALTERNATIVES

The environmental impacts of the Preferred Alternative/Proposed Action and the No-Action Alternative are summarized in Table 2-4.

2.9 MEASURES TO MINIMIZE IMPACTS

Table 2-5 presents a summary of environmental protection measures that will be included in the Proposed Action to minimize or reduce impacts. Any measures that would be implemented to reduce potentially significant impacts to levels less than significant, and to achieve a FONSI as opposed to preparation of an EIS will be identified and discussed as necessary pursuant to 32 CFR 989.22-Mitigation.

2.10 INCREMENTAL IMPACT ANALYSIS

This analysis supplements the prior evaluation in the BAMA EA (2005) and includes the incremental environmental consequences from the Proposed Action. The 58 SOW's use of the runway proposed for construction by non-Air Force entities will eventually shift some training operations to the new runway The incremental environmental consequences of the change in operations are evaluated within this EA. See Table 2-6 for a summary of the previously analyzed resource areas and those that are being updated/supplemented in this EA.

Based on FAA Order 1050.1E, Section 518h (FAA, 2006), the FAA may adopt, in whole or in part, draft or final EISs (or assessments) prepared by other agencies such as this EA (See 40 CFR 1506.3). The FAA's funding of projects identified in the City of Belen's Airport Layout Plan triggered compliance with the NEPA. When the FAA adopts another agency's NEPA document in whole or in part, the responsible FAA official must independently evaluate the information contained in the document, take full responsibility for scope and content that addresses FAA actions, and issue its own FONSI or Record of Decision.

Table 2-6 lists the FAA's environmental impact analysis categories as well as the USAF's categories, and identifies the subchapter of this EA that contains or augments the impact analysis for each category for the action evaluated in this EA.

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Table 2-4. Summary of Environmental Impacts

Resource	Preferred Alternative/Proposed Action	No-Action Alternative
Airspace Use and Management	Airfields and Airports – No change to maximum runway hourly throughput capacity at BAMA. Air Traffic Control Airspace – No change to Class E Airspace for BAMA. No undue restriction of movement of other air traffic in the area or need for establishment of additional or new controlled airspace. Special Use Airspace (SUA) – No SUA or other military training airspace required.	No change from baseline conditions.
Noise	Aircraft Operations – Creation of a 65 dB(A) Day-Night Average A-Weighted Sound Level (DNL) contour at BAMA where one does not presently exist.	No change from predicted noise exposure contours presented in the baseline conditions.
Land Use	No impacts to land use.	No change from baseline conditions.
Air Quality	Minimal long-term change in emissions. No change to air quality attainment status for Valencia County.	No change from baseline conditions.
Earth Resources	No change from baseline conditions.	No change from baseline conditions.
Biological Resources	Vegetation – No change from baseline conditions. Wildlife – Potential incremental impacts of the usage for C-130 training would occur mainly from noise and Bird/Wildlife Aircraft Strike Hazard (BASH)-related issues. No long-term adverse impacts to populations of wildlife are anticipated. Threatened, Endangered, and Other Protected Species – No change from baseline conditions.	No change to baseline conditions.
Cultural Resources	No change from baseline conditions.	No change from baseline conditions.
Water Resources	No change from baseline conditions.	No change from baseline conditions.
Hazardous Materials and Waste	No change from baseline conditions.	No change from baseline conditions.
Ground and Flight Safety	No increase in airfield safety risks. Slightly increased accident potential due to increased risk exposure that arises from takeoffs and landings. No change in potential for bird-aircraft strikes. No obstacles to air navigation would be created.	No change from baseline conditions.
Recreation and Visual Resources	No change from baseline conditions.	No change from baseline conditions.
Infrastructure and Utilities	No change from baseline conditions.	No change from baseline conditions.
Transportation	No change from baseline conditions.	No change from baseline conditions.
Socio-economics	No change from baseline conditions.	No change from baseline conditions.
Environmental Justice	No change from baseline conditions	No change from baseline conditions.

Table 2-5. Summary of Environmental Protection Measures

Resource	Measures to Minimize or Reduce Impacts and BMPs[a]
Airspace Use and Management	No mitigation measures or Best Management Practices (BMPs) are necessary.
Noise	No mitigation measures or BMPs are necessary. Personal protective equipment would be utilized by employees to minimize effects from noise associated with flight operations to acceptable levels.
Land Use	No mitigation measures or BMPs are necessary.
Air Quality	No mitigation measures or BMPs are necessary.
Earth Resources	No mitigation measures or BMPs are necessary.
Biological Resources	Vegetation – No mitigation measures or BMPs are necessary. Wildlife – No mitigation measures or BMPs are necessary. Threatened, Endangered, and Other Protected Species – No mitigation measures or BMPs are necessary.
Cultural Resources	No mitigation measures or BMPs are necessary.
Water Resources	No mitigation measures are necessary. The use of hazardous materials at the runways would be managed in accordance with the airport's Stormwater Pollution Prevention Plan (SWPPP), thereby minimizing the potential for groundwater contamination from spills or leaks.
Hazardous Materials and Waste	No mitigation measures are necessary. BMPs detailed in the airport SWPPPs should be utilized as necessary to minimize the impacts or effects from the accidental release of a pollutant.
Ground and Flight Safety	No mitigation measures are necessary. Crash/fire/rescue support would remain onsite during any Kirtland AFB training operations in which aircraft would conduct takeoffs and landings to provide immediate support in the event of an aircraft safety incident, thereby potentially lessening the severity of the incident.
Recreation and Visual Resources	No mitigation measures or BMPs are necessary.
Infrastructure and Utilities	No mitigation measures or BMPs are necessary.
Transportation	No mitigation measures or BMPs are necessary.
Socio-economics	No mitigation measures or BMPs are necessary.
Environmental Justice	No mitigation measures or BMPs are necessary.

[a] - City of Belen 2010a

Table 2-6. Environmental Impact Analysis Categories

Impact Analysis Category	BAMA EA (2005)	Additional Analysis in this EA
Air Quality	Section 5.5 (page 24)	Yes (page 4-8)
Coastal Resources	Section 5.12 (page 27)	No
Compatible Land Use	Sections 5.2 & 6.1 (page 22 & 30)	Yes (page 4-8)
Construction Impacts	Sections 3.2.5 & 5.4 (page 9 & 24)	No
Department of Transportation (DOT) Act: Sec. 4(f)	Section 5.7 (page 25)	No
Civilian Airspace Use and Management	Section 2.1 (page 1)	No
Farmlands	Section 5.14 (page 27)	No
Fish, Wildlife, and Plants (Biological Resources)	Section 5.9 (page 26)	Yes (page 4-10)
Floodplains	Section 5.11 (page 27)	Yes (page 4-16)
Ground and Flight Safety	Section 3.2 (page 6)	Yes (page 4-17)
Hazardous Materials, Pollution Prevention, and Solid Waste	Sections 3.2.5 & 5.17 (page 9 & 28)	No (page 4-16)
Historical, Architectural, Archaeological, and Cultural Resources	Section 5.8 (page 25)	Yes (page 4-12)
Light Emissions and Visual Impacts	Section 5.16 (page 28)	No
Natural Resources and Energy Supply	Section 5.15 (page 28)	No
Noise	Section 5.1 (page 21)	Yes (page 4-2)
Recreation and Visual Resources	Sections 4.1.3, 4.2.2 & 5.7 (page 15, 19, & 25)	No
Secondary (Induced) Impacts	Section 5.3 (page 23)	No
Socio-economics Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks	Sections 5.2 & 5.3 (page 22 &23)	Yes (page 4-19)
Water Quality	Section 5.6 (page 24)	No (page 4-16)
Wetlands	Section 5.10 (page 27)	No
Wild and Scenic Rivers	Section 5.13 (page 27)	No

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3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This chapter describes the current conditions of the environmental resources, either man-made or natural, that would be affected by implementing the Preferred Alternative/Proposed Action or the No-Action Alternative. Section 3.3 focuses on the conditions at BAMA as described by the City of Belen and the FAA in the BAMA EA (2005). The FAA issued a FONSI for this proposal on September 30, 2005. This EA presents new or revised information to the baseline conditions presented in Chapter 4 of the BAMA EA (2005).

Where baseline conditions have changed for a resource, the current conditions are described in greater detail to provide support for analysis of potential impacts. Impact analyses are presented in Chapter 4.0, Environmental Consequences.

3.2 INSTALLATION LOCATION, HISTORY, AND CURRENT MISSION

Kirtland AFB is under the Air Force Material Command (AFMC), providing munitions maintenance, research and development, readiness, and base operating support for the USAF. Kirtland AFB hosts numerous tenants including the 58 SOW. The 58 SOW mission is to train mission-ready special operations, rescue, missile site support, and Distinguished Visitor airlift aircrews for the world's best aerospace force. Kirtland AFB is located in Bernalillo County, within the city limits of Albuquerque, NM (see Figure 1-1) (USAF, 2002a).

In 1929 Oxnard Field was constructed as Albuquerque's first airport. In the mid-1930s the airport was expanded to support Army and Navy pilots by providing a transient refueling and maintenance stop. On February 25, 1942, Kirtland Field was established and then renamed Kirtland AFB in 1947. In the mid-1970s the Aerospace Rescue and Recovery Service moved its 1550th Aircrew Training and Test Wing from Hill AFB to Kirtland AFB. This would later be renamed the 58 SOW. The 58 SOW brought helicopter and fixed-wing training operations to Kirtland AFB as a supplement to its traditional support for transient military aircraft. Their training syllabus currently includes operations at BAMA, which are the subject of this EA (USAF, 2002a).

The BAMA is located in Belen, NM, and was opened in 1979. The airport includes one runway and is considered a Regional General Aviation Airport, which serves primarily general aviation activity with a focus on business activity (NMDOT, 2009a).

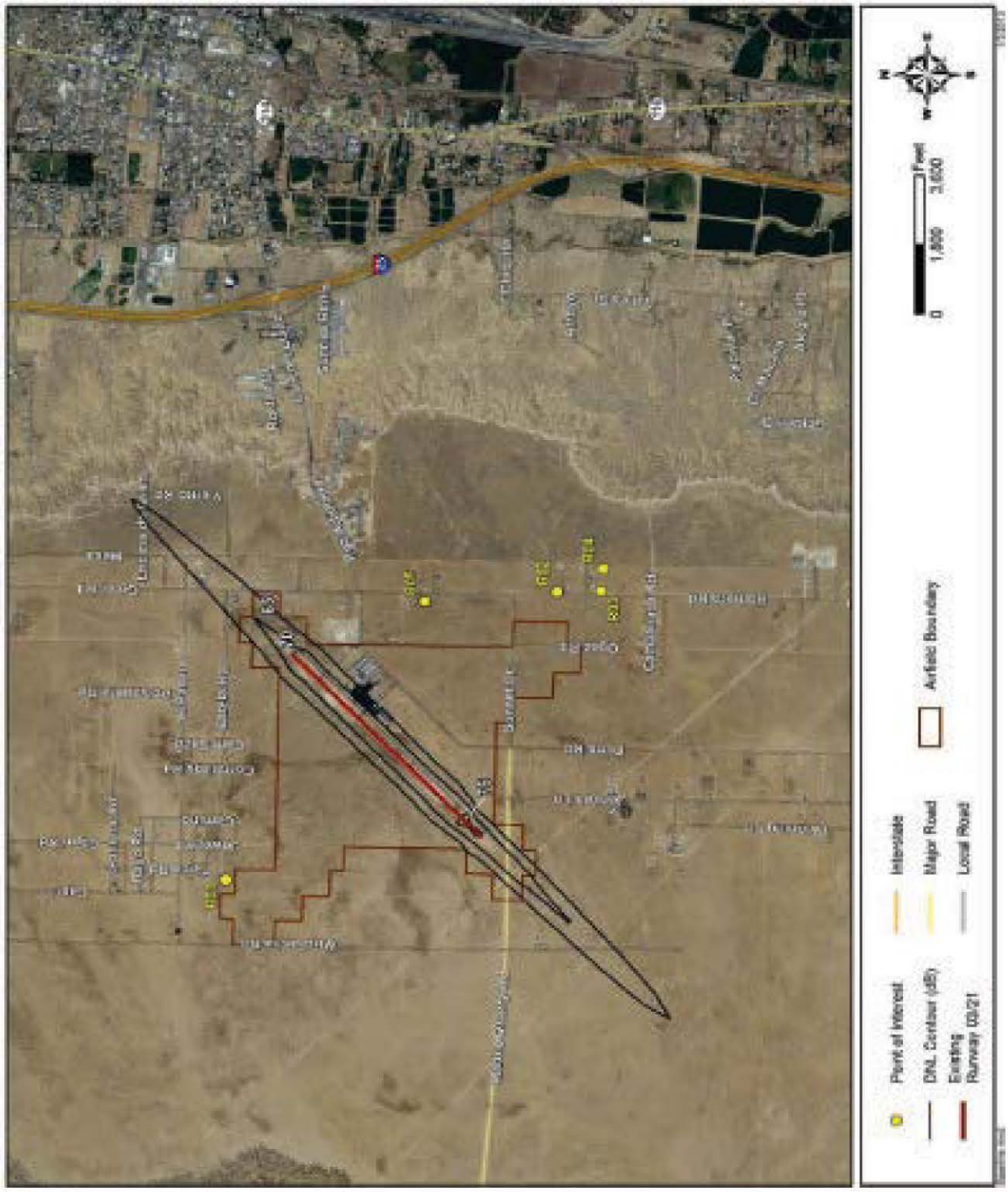
3.3 DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.3.1 Airspace Use and Management

The FAA has primary jurisdiction over the management of airspace. The agency classifies airspace based on whether or not it provides Air Traffic Control (ATC) separation within the airspace; separation services are not provided within uncontrolled airspaces. In addition, the FAA designates SUA when it removes a volume of airspace from public domain, excluding other users and allowing it for the benefit of a particular category of user, such as the military.

The airfield at BAMA currently consists of a single runway oriented on a northeast/southwest axis as shown in Figure 3-1. Runway 03/21 is 6,601-ft long and 60-ft wide. The surface for Runway 03/21 is constructed from asphalt and is in good condition. The airport provides services to general aviation aircraft up to 12,500 pounds. The City of Belen's Airport Layout Plan reflects a new Crosswind Runway 13/31 projected to be 5,280-ft long by 75-ft wide.

Figure 3-1. Existing BAMA Runway Configuration



BAMA is located 26 nm southwest of Albuquerque International Sunport. The airspace immediately surrounding the airport is Class E and Class G airspace. The Class E airspace begins at 700 ft AGL above the airport surface within a 6.6 nm radius from the center of the airport. An extension attaches to the 6.6 nm radius northeast of the airport and extends outward to 7.8 nm along the Runway 03/21 extended centerline. The extension has a width of 1.6 nm each side of the extended centerline. The Class G airspace associated with the airport extends from the surface up to 700 ft AGL where it abuts the overlying Class E airspace.

The 58 SOW uses the Military Training Route (MTR) Structure managed by Kirtland AFB (Figure 3-2).

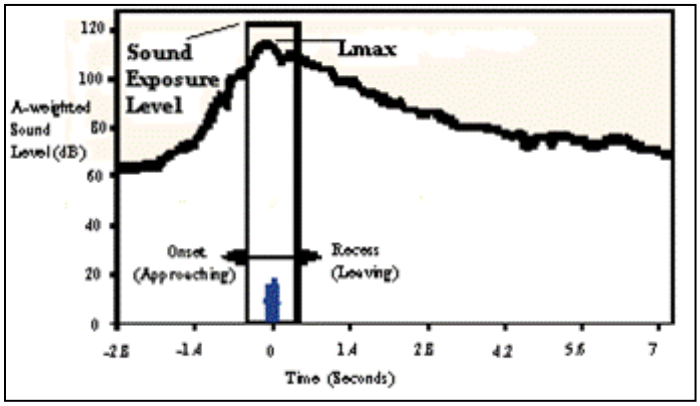
3.3.2 Noise

Noise is generally defined as unwanted sound. Reaction to noise varies according to the duration, type, and characteristics of the source; distance between the source and receiver; receiver's sensitivity; background noise level; and time of day. Additional noise information is included in Appendix C.

Noise and Metric

The Sound Exposure Level (SEL) is the cumulative exposure over the course of an event and compressed that energy into a 1-second period. The SEL calculation is represented graphically in Figure 3-3. For noise events whose duration is greater than a second, the SEL will be greater than the maximum sea level (L_{max}). Conversely, in events with durations shorter than a second, the SEL will be less than the L_{max}. SEL is a very useful metric for predicting short-term activity interruption in humans or reaction by wildlife to a noise stimulus (Pater 2009). It is used to allow direct comparison of events having varying intensities and durations, such as an aircraft overflight, by calculating SELs of those events.

Figure 3-2. Single Noise Event Showing SEL and L_{max} for a Hypothetical Overflight



SELs vary according to the aircraft and engine type, engine power setting, aircraft speed, and slant distance, that is, the distance between the aircraft and the observer (receptor). Use of SEL allows direct comparison between sounds with varying levels and durations by converting them to exposure levels. Table 3-1 contains SELs for aircraft at typical takeoff speeds and power settings at various altitudes directly above the listener.

Figure 3-3. Airspace Managed by Kirtland AFB

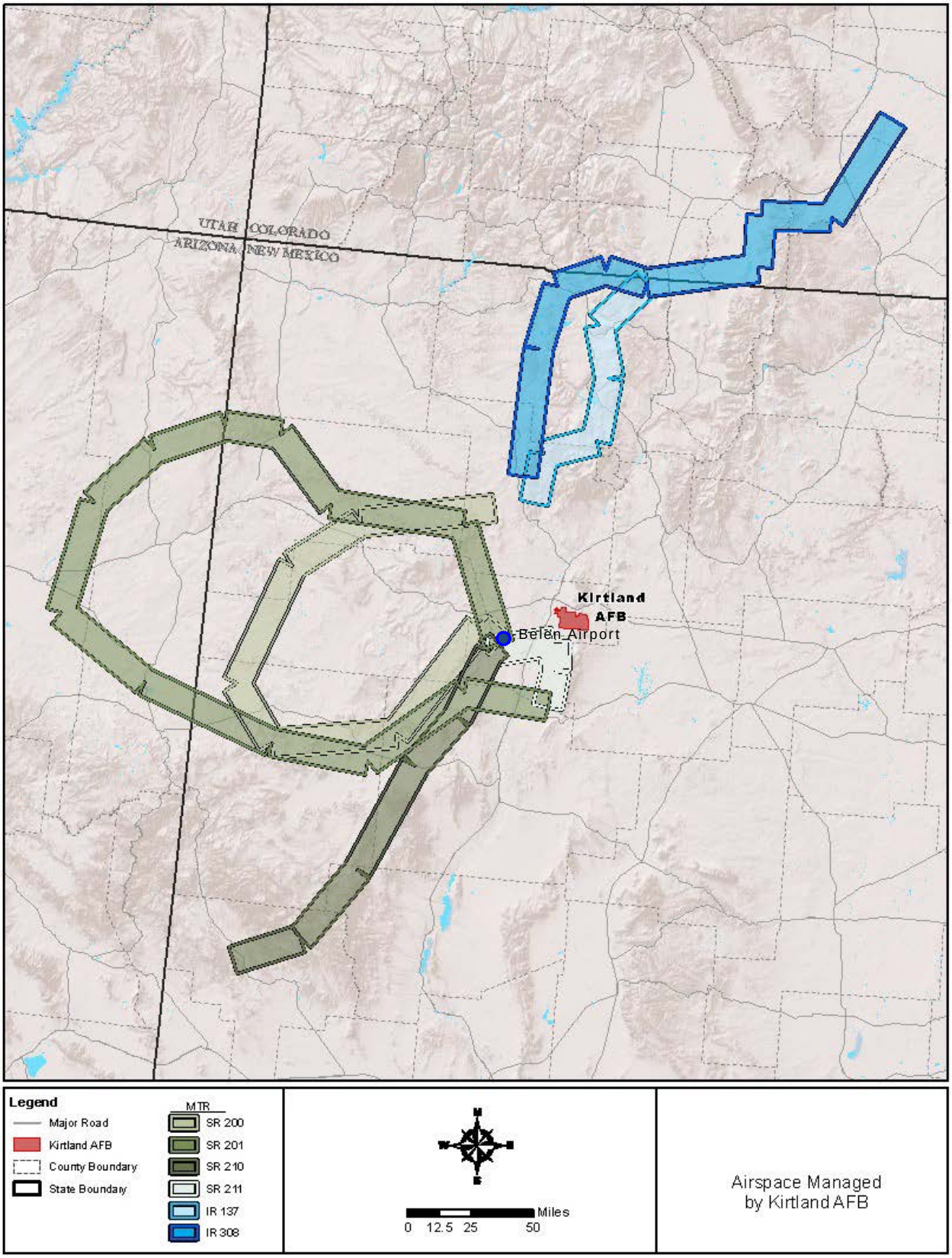


Table 3-1. Sound Exposure Levels dB(A)[1]

Aircraft	Speed (knots)	Power Setting	100 ft AGL dB(A)	500 ft AGL dB(A)	1,000 ft AGL dB(A)	5,000 ft AGL dB(A)
C-130H/N/P	140	970 °C TIT	108.0	97.3	92.2	78.1
Cessna 172	100	100% RPM	94.5	84.2	79.5	67.0
Cessna C-500 Citation Business Jet	160	1,550 LBS	102.7	92.1	87.0	72.6

Notes:
ft = Feet
°C = degrees Celsius
AGL = Above Ground Level
LBS = Pounds
RPM = Revolutions Per Minute
TIT = Turbine Inlet Temperature

[1]Sound levels are calculated using Department of Defense (DoD) developed SELCALC software; speed and power settings (e.g., LBS, RPM, and TIT) used are typical for takeoff for each aircraft type.
Source: USAF, 2000

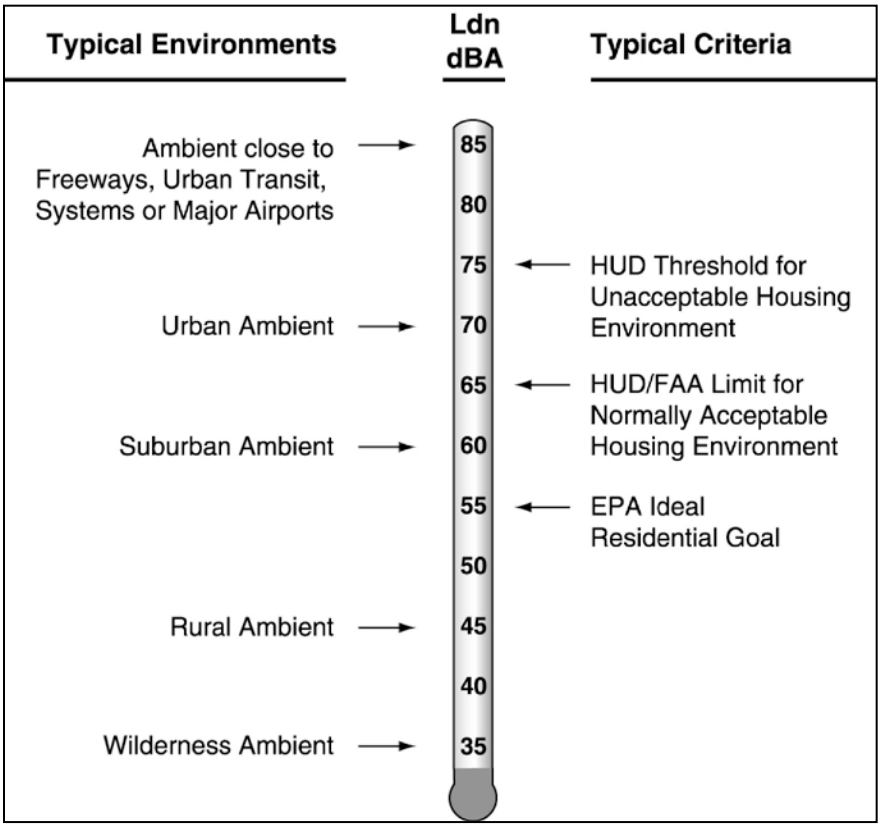
Per FAA guidelines (FAA, 2006), the cumulative noise exposure is described and presented in terms of DNL, a composite noise metric accounting for the sound energy of all noise events in a 24-hour period. In order to account for increased human sensitivity to noise at night, a 10 dB penalty is applied to nighttime events (10:00 p.m. to 7:00 a.m. time period). Noise-sensitive land uses, such as housing, schools, and medical facilities are considered as being compatible in areas where the DNL is less than 65 dB. Noise-sensitive land uses are discouraged in areas where the DNL is between 65 and 69 dB, and strongly discouraged where the DNL is between 70 and 74 dB. At higher levels, i.e., greater than 75 dB, land use and related structures are not compatible and should be prohibited.

Because of the logarithmic nature of the dB, this means that a single nighttime event creates the same DNL as 10 identical events during the day. The DNL is used in this assessment when describing noise from aircraft. For temporary, intermittent noise events the L_{max} or SEL is a more useful metric, and they are used for assessing the effect to the noise environment from operation of construction equipment and similar activities.

The use of these noise metrics is chosen based on Federal guidelines developed to be able to quantify noise and the reaction of those exposed to it in a community in a sound, objective, and scientifically valid fashion. The Federal Interagency Committee on Noise (FICON) reviewed the existing science on the subject of urban, industrial, and aircraft noise, land use compatibility, and health and human safety, and validated the use of DNL as the appropriate metric for describing noise from aircraft operations and assessing its effects (FICON, 1992). The DoD uses DNL as its common metric to describe noise exposure when describing and assessing noise from aircraft overflights, range operations, and other similar discontinuous but repetitive occurrences. Within the DoD, the Air Installation Compatible Use Zone (AICUZ) program assesses (among other things) noise related specifically to aircraft and range operations; it is a land-use compatibility program, but noise from aircraft operations is a major influence on land-use compatibility. The DoD AICUZ program was developed and adopted by its services including the USAF and AICUZ studies assess predicted noise exposure in terms of DNL (DoD, 1977).

The DNL metric has also been adopted by the U.S. Department of Housing and Urban Development (HUD), the FAA, and the U.S. Environmental Protection Agency (USEPA) as a common standard for assessing noise levels for compatibility with land uses, health and human safety, and effects on wildlife. Typical Day-Night Average A-weighted Sound Level (L_{dn}) values and goal criteria for outdoor environments is represented in Figure 3-4.

Figure 3-4. Typical L_{dn} Values and Criteria for Outdoor Environments



FAA Noise Policy

Because BAMA is under FAA jurisdiction and the FAA is a cooperating agency for this EA, determination of significant noise impacts follows FAA policy per FAA Order 1050.1E (FAA, 2006). The policy states that noise-sensitive receptors within the DNL 65 dB noise contour exposed to 1.5 dB or greater increase constitute a significant impact. Areas outside the DNL 65 dB noise contour are not considered for significance determination.

Affected Environment

The noise environment at BAMA primarily consists of noise created from aircraft operations. Other sources of noise include vehicle noise, routine operation of equipment and machinery (e.g., generators, heating, and air equipment). The effects associated with the presence of noise at an airport are typically examined in light of their effects on land-use compatibility and human health and safety.

The area considered for a noise assessment is primarily the installation itself and areas extending quietness is a basis for use such as a residence, hospital, church, or park. At BAMA, there are an isolated approximately 5 to 10 miles into the surrounding jurisdictions. For BAMA the jurisdictions would be the City of Belen and Valencia County.

Noise-Sensitive Receptors

A noise-sensitive receptor is commonly defined as the occupants of any facility or area where a state of housing area located approximately 1.5 mile southeast of the project area and another isolated housing area located approximately 1 mile northwest that are considered noise-sensitive receptors.

Aircraft Noise from BAMA

The majority of aircraft operations conducted at BAMA are conducted by civil aviators. The City of Belen operates the airport and hosts the Fixed Base Operator (FBO), providing basic services of fuel, tie-downs, and a passenger lounge. The 58 SOW currently operates C-130 low-approach training to the existing runway. These operations do not land or touch-down. Other operators at the airport provide maintenance, aerial photography, and skydiving. Prior to the development of this EA, no noise modeling of flight operations had occurred at BAMA because annual operations were sufficiently small as to be exempted per FAA Order 1050.1E (FAA, 2006). Annual operations for civilian and existing military low-approaches were tallied by the airport's ADS 3000 operations counting system and 58 SOW training logs. The operation counts are summarized in Table 4-1 and noise contours shown in Figure 4-1.

3.3.3 Land Use

The BAMA, zoned special use, is within the municipal boundary of the City of Belen. In 2008, the City of Belen annexed over 1,400 acres of land around the airport. Roughly half of the annexed land was allocated to be used for a future crosswind runway. The remainder of the land was zoned commercial to encourage business growth around the airport. Residences within this annexed land around the airport are zoned commercial and considered "non-conforming" (DiCamillo, 2011). The area beyond that annexed property is zoned as rural residential and is within the jurisdiction of Valencia County. The zoning regulations differ between the City and County policies. The City of Belen Strategic Growth Plan, adopted in 2010, recommended that the City and the County adopt a "Joint Powers Agreement" to more cohesively address development around the airport (Mid-Region Council of Governments 2010a).

The land near BAMA is primarily open land, a large part of which is used for cattle grazing. This land is designated as Rangeland/Dry Agriculture in the Valencia County Comprehensive Land Use Plan (Valencia County, 2005). Other land use near the airport includes sparsely scattered, single family homes on half-acre to 5-acre lots and industrial properties (Figure 4-1) (MRCOG, 2013). A half mile to the east of the airport is the more densely populated Jardin de Belen subdivision.

3.3.4 Air Quality

Air Quality Standards and Regulations

The USEPA has established primary and secondary National Ambient Air Quality Standards (NAAQS) under the Clean Air Act Amendments of 1990 (CAAA). The CAAA also set emission limits for certain air pollutants from specific sources, set new source performance standards based on best demonstrated technologies, and established national emission standards for hazardous air pollutants. The NAAQS and General Conformity are summarized in Appendix D.

Air Quality Status

Air quality in a region is a result of the types and quantities of atmospheric pollutants and pollutant sources in an area, surface topography, the size of the topological "air basin," and the prevailing meteorological conditions. Kirtland AFB is located in southeast Albuquerque between the Sandia and Manzano mountain ranges in Air Quality Control Region (AQCR) 152. BAMA is in the City of Belen, NM in the Arizona-New Mexico Southern Border Interstate AQCR 012. Roswell International Air Center in New Mexico is located in the Pecos-Permian Basin Intrastate AQCR 155. Pueblo Memorial Airport in Colorado is located in AQCRs 07 and 11.

The 58 SOW uses Roswell International Air Center, Pueblo Memorial Airport, and the Albuquerque International Sunport for landing training of C-130s. Kirtland AFB and Albuquerque International Sunport share the same runway complex and airfield.

Kirtland AFB and Albuquerque International Sunport are both in the same county, Bernalillo County which is in maintenance status for carbon monoxide. BAMA is in Valencia County, Roswell International Air Center is in Chaves County (AQCR 155), and Pueblo Memorial Airport is in Pueblo County (AQCRs 07 and 11). Each of the three counties are in attainment status for the criteria pollutants (40 CFR 81.344).

Regional Air Quality

Kirtland AFB and BAMA are located within the Albuquerque-Mid Rio Grande Intrastate AQCR 152. AQCR 152 consists of portions of Sandoval and Valencia Counties, and Bernalillo County in its entirety. Currently 58 SOW C-130 flight training exercises occur at Pueblo Memorial Airport located in Pueblo County, CO and at Roswell International Air Center located in Chaves County, NM. AQCR 152, Pueblo County, and Chaves County are currently USEPA designated as attainment areas for all criteria pollutants. Therefore, this project is not subject to the General Conformity regulations (40 CFR Parts 6, 51, and 93).

3.3.5 Earth Resources

Earth resources that would be affected by implementation of the Preferred Alternative/Proposed Action or the No-Action Alternative are described in Sections 4.1.1 and 4.1.5 (page 14 and 16 respectively) of the BAMA EA (2005).

3.3.6 Biological Resources

Biological resources that would be affected by implementation of the Preferred Alternative/Proposed Action or the No-action Alternative are described in Sections 4.1.7, and 4.1.8 (page 18 and 19 respectively) of the BAMA EA (2005). Additional information follows.

Wildlife

The most common types of wildlife found at BAMA are small birds, small burrowing and non-burrowing mammals, carnivorous mammals, and reptiles as described in the BAMA EA (2005). Large ungulates are typically absent. The area surrounding BAMA is primarily open land used for cattle grazing, with sparse, single family homes and wildlife is anticipated to be limited to transient species traveling through these areas.

Noise Response for Wildlife

Aircraft sound is broadband, containing sound energy over a wide frequency range, rather than a pure tone. Most researchers agree that noise can affect an animal's physiology and behavior, and if the noise becomes a chronic stress it can become injurious to an animal's energy budget, reproductive success, and long-term survival (NPS, 2011). In some cases, animals may develop an increased tolerance to frequent aircraft activity. This has been demonstrated by correlating changes in behavior with sequences of aircraft activity. Other studies have compared reactions of animals having a history of exposure to aircraft with those that were native. In many cases, experienced animals were more tolerant of aircraft, showing less extreme responses than native animals. For animals to become desensitized to sound there must be consistent stimuli. Decreased responsiveness after repeated noises is usually attributed to habituation. More predictable sources of disturbance can lead to a greater habituation than in animals than less predictable noise disturbances (Larkin, 1996). Frequent, predictable activities, such as those at major airports, are more likely to promote tolerance than occasional ones (NPS, 1994). For BAMA, noise levels for current flight operations are below 65 dB(A) DNL. There have been no noted effects on birds and wildlife for current operations at the airport location (Uecker, 2011).

Threatened, Endangered and Other Protected Species

Assessment of biological resources under NEPA involves consideration of the degree to which an action may impact, either adversely or favorably, a Federally-listed endangered or threatened species or the species' critical habitat if designated. The Endangered Species Act (ESA) of 1973, as amended, protects endangered species and the ecosystems upon which they depend. Endangered species are defined as: "any species which is in danger of extinction throughout all or a significant portion of its range," and is listed as endangered under the ESA. A threatened species is "any species which is likely to become endangered in the foreseeable future throughout all or a significant portion of its range" and is listed as threatened under the ESA. Candidate species are those that are eligible for listing as endangered or threatened. Candidate species have no protection under the ESA, but are often considered for planning purposes. Table 3-2 lists all Federally- and state-listed threatened, endangered, or candidate species which potentially occur in Valencia County as listed by the U.S. Fish and Wildlife Service (USFWS).

The USFWS removed the bald eagle (*Haliaeetus leucocephalus alascanus)* from the list of species protected under the Federal ESA in July, 2007. However, the bald eagle continues to be protected under the Federal Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act (MBTA). The USFWS developed National Bald Eagle Management Guidelines to provide landowners, land managers, and others general recommendations for land management practices that uphold the provisions of the Act. In addition, Executive Order (EO) 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, was introduced in 2001 to ensure that Federal agencies implement policies and programs which support the conservation and protection of migratory birds. The USFWS has enforcement authority over these statutes as well.

New Mexico lists species under the authority of the Wildlife Conservation Act (17-2-37 through 17-2-46 NMSA 1978). The New Mexico Department of Game and Fish (NMDGF) Conservation Program Biota Information System of NM (BISON-M) identifies wildlife of concern to the NMDGF because their occurrence is, or may be, in jeopardy (NMDGF, 2012). State-listed species potentially occurring in Valencia County were based on this list and are provided in Table 3-2.

Table 3-2. Federal- and State-Listed Species in Bernalillo and Valencia Counties, NM

Common Name	Scientific Name	Status	Habitat
American Peregrine Falcon	*Falco peregrinus anatum*	SOC, ST	Cliffs, outcrops, usually near water.
Arctic Peregrine Falcon	*Falco peregrinus tundris*	SOC, ST	Cliffs, outcrops, usually near water.
Baird's Sparrow	*Ammodramus bairdii*	SOC, ST	Desert grasslands (south), prairies (northeast).
Bald Eagle	*Haliaeetus leucocephalus alascanus*	ST	Near bodies of open water with an abundance of fish. Old-growth and mature stands of coniferous or hardwood trees with good visibility, an open structure, proximity to prey.
Bell's Vireo	*Vireo bellii*	SOC, ST	Scrubland or woodland (willows, mesquite, and seepwillows) along lowland stream courses, riparian forests, pastures, annual grasslands (migratory).
Broad-billed Hummingbird	*Cynanthus latirostris magicus*	ST	Riparian woodland and adjacent dryland habitats.
Common Black-Hawk	*Buteogallus anthracinus*	ST	Obligate riparian-breeding species associated with mature, streamside gallery forests.

Common Name	Scientific Name	Status	Habitat
Common Ground Dove	*Columbina passerina pallescens*	SE	Lowland riparian forests, Chihuahuan Desert grassland and desert scrub.
Mexican Spotted Owl Critical Habitat Designated	*Strix occidentalislucida*	T	Mixed conifer forests and narrow, shady, cool canyons at 4,400 to 6,800 feet.
Neotropic Cormorant	*Phalacrocorax brasilianus*	ST	Lakes, rivers, marine habitats.
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E, SE	Streamside thickets, brushy backwaters, riparian forests (spring and fall migratory).
Western Burrowing Owl	*Athene cunicularia hypugaea*	SOC	Grassland in existing prairie dog or other existing burrows.
Whooping Crane	*Grus americana*	EXPN	Salt flats, marshes, and wetlands.
Yellow-billed Cuckoo	*Coccyzus americanus*	C	Deciduous woods from Southern Canada to Mexico.
Black-footed Ferret	*Mustela nigripes*	E	Prairie dog towns or complexes consisting of 200 acres or more of Gunnison's prairie dog (*Cynomys gunnisoni*) and/or 80 acres or more of any subspecies of Black-tailed prairie dog (*Cynomys ludovicianus*).
New Mexico Meadow Jumping Mouse	*Zapus hudsonius luteus*	C, SE	Montane meadows, moist meadows.
Spotted Bat	*Euderma maculatum*	ST	Subalpine coniferous forest, pinyon-juniper woodlands, riparian, desert scrub, perennial water; roosts in cracks and crevices of canyons and cliffs.
Rio Grande Silvery Minnow Critical Habitat Designated	*Hybognathus amarus*	E, SE	Low-gradient, large streams with shifting sand or silty bottoms; Rio Grande.
Pecos Sunflower	*Helianthus paradoxus*	T, SE	Saturated saline soils of desert wetlands (1,000 – 2,000 m; 3,300 – 6,600 feet).

Notes:

C = Candidate Species (ready for Proposal)
E = Federal Endangered
EXPN = Non-essential experimental population
SE = State Endangered
SOC = Federal Species of Concern
ST = State Threatened
T = Federal Threatened

Source: USFWS, 2012; NHNM, 2012; NMDGF 2012

Portions of Valencia County are listed as critical habitat for both the Rio Grande silvery minnow and the Mexican spotted owl (USFWS, 2012). Formal field surveys for flora and fauna were conducted in the vicinity of the planned project site at BAMA in 2003 (City of Belen, 2005). These surveys, along with official maps of designated critical habitat, indicate that the project site is not located within designated critical habitat for either of these threatened or endangered species. No species listed as threatened or endangered either Federally or by the State are known to occur within the Proposed Action site nor is habitat available in the area to support any of the listed species.

Although no State- or Federally-listed species have been identified at the planned project site, one species of concern, the Western burrowing owl (*Athene cunicularia hypugae*), is known to occur within the vicinity of BAMA. In the BAMA EA (2005), potential habitat for the burrowing owl was identified within the proposed project area, and one occupied burrowing owl burrow was identified adjacent to the proposed project area. However, evidence (scat, regurgitation pellets) of burrowing owl was not observed

in or around the prairie dog burrows surveyed within the proposed project area. The burrowing owl is considered a species of concern by the USFWS and is protected by both the MBTA and by New Mexico statute 17-2-14. The category of species of concern, which applies to the burrowing owl, carries no legal requirement, but identifies those species that deserve special consideration in management and planning.

New Mexico is within the range of the black-footed ferret as is Arizona and parts of Mexico for the southern range of the species. The species has been extirpated from most of its range and surveys are only required in areas where a project involves impacts to prairie dog towns or complexes of 200 acres or more for the Gunnison's prairie dog (C*ynomys gunnisoni)* and/or 80 acres or more for any subspecies of Black-tailed prairie dog (*Cynomys ludovicianus*). A complex consists of two or more neighboring prairie dog towns within 4.3 miles (7 kilometers) of each other (USFWS, 2012). No complexes are known to occur at the planned project sites.

3.3.7 Cultural Resources

Cultural resources that would be directly affected (e.g., by construction activities or other ground disturbing activities) by implementation of the Preferred Alternative/Proposed Action or the No-Action Alternative are described in Section 4.2.8 (page 20) of the BAMA EA (2005). A Phase I archeological survey was conducted by the City of Belen (Reynolds, Brisson, and Martinez, 2003). One archeological site was identified within the area that could be directly disturbed by construction of the runway. The site was determined to be ineligible for listing in the National Register of Historic Places (NRHP). No historic buildings/structures are present at the BAMA.

The area of potential effect (APE) for this action encompasses areas where ground disturbing activities would occur and those areas underlying airspace where noise is generated by aircraft overflights. The APE includes areas within the boundaries of the BAMA (for proposed runway construction and strengthening) and currently approved and utilized airspace at, above, and in the vicinity of BAMA (Figure 3-5). The APE is three dimensional, and includes subsurface, surface, and airspace above the potentially affected surface.

Consultation with the New Mexico State Historic Preservation Officer (SHPO) has been initiated (see Appendix E). Archaeological and historic architectural resources under airspace, which were unlikely to be affected by aircraft overflights, were identified using the records of the NRHP and National Historic Landmarks. There are no National Historic Landmarks within the APE, but a small portion of the El Camino Real de Tierra Adentro National Historic Trail (managed jointly by the NPS and the Bureau of Land Management [BLM]) does lay within the APE [NPS, 2013]).

Though there are numerous historic properties within the APE, the properties identified in Table 3-3 were selected as the most representative based upon their location and character. These properties are listed in the NRHP, and there is sufficient publically available information to formulate findings regarding effects. See Appendix E for additional detail regarding these properties. Other properties in the APE that are similarly situated and with similar characteristics would experience similar effects from the Proposed Action, so identification of every property is not necessary.

Figure 3-5. Belen Area of Potential Effect

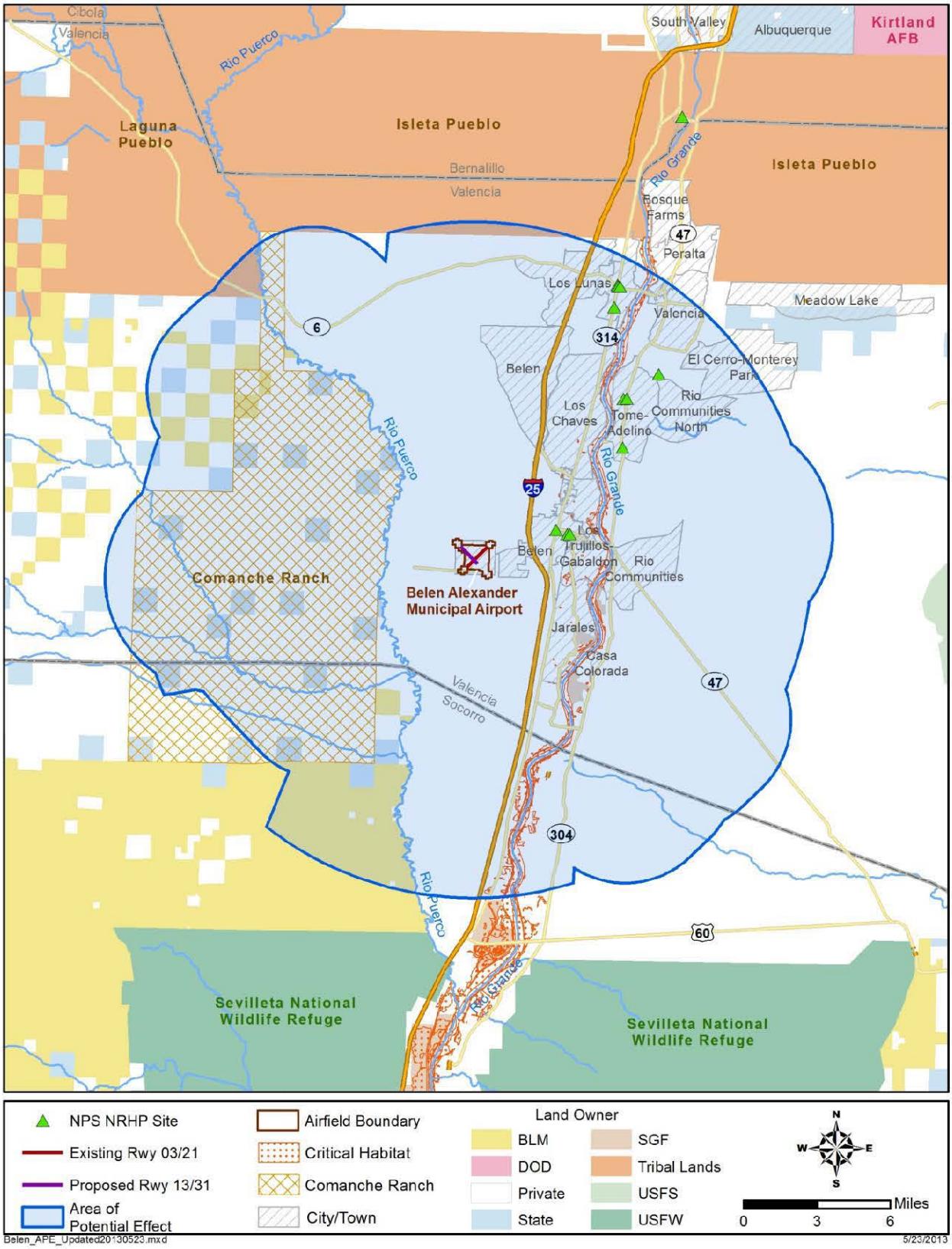


Table 3-3. Historic Properties Potentially Affected

Property Name	County	Address	Type	National Register No.
Properties Listed in the National Register of Historic Places				
Belen Hotel	Valencia	200 Becker Avenue, Belen, NM	Building/Structure	80002574
Belen Harvey House	Valencia	101 N First Str., Belen, NM	Building/Structure	83004180
Felipe Chaves House	Valencia	325 Lala Str., Belen, NM	Building/Structure	80002575
Miguel E. Baca House	Valencia	Church Loop & Old NM 47 (approximate), Adelino, NM	Building/Complex	78001835
Los Ojuelos (Commanche Springs) near Tome (approximate)	Valencia	East of Tome (location/address restricted)	Archaeological District	87002080
Old Tome Jail	Valencia	Off Old Hwy 47, Tome Plaza, Tome-Adelino (Los Lunas), NM	Building	77000932
El Cerro Tome (also known as Tome Hill)	Valencia	0.5 mi E of Junction of NM 47 and Tome Hill Road, Tome-Adelino (Los Lunas), NM	Natural Landscape Feature; Archaeo-logical Sites; Area of Traditional Cultural Importance	96000739
Atchison, Topeka, and Santa Fe (ATSF) Railroad Depot	Valencia	US 85, Los Lunas, NM	Building	79001562
Tranquilino Luna House (also known as the Luna Mansion)	Valencia	Junction US 85/SH 6, Los Lunas, NM	Building	75001175
Otero's 66 Service	Valencia	100 Main Str., Los Lunas, NM	Building	03000051
Dr. William Frederick Wittwer House	Valencia	144 Main Str. NW, Los Lunas, NM	Building/Structure	87000131
La Capilla de San Antonio de Los Lentes (also known as San Antonio Chapel)	Valencia	Los Lentes Road and Trujillo Road, Los Lunas, NM (address is approximate)	Building/Structure	03001351
Other Sensitive Cultural Resources/Traditional Use Areas				
Laguna Pueblo	Valencia, Cibola, Bernalillo	Multiple areas (address/locations restricted) including archaeological sites, historic structures, and features important to Native Americans		
Isleta Pueblo	Valencia, Bernalillo	Multiple areas (address/locations restricted) including archaeological sites, historic structures, and features important to Native Americans		
El Camino Real de Tierra de Adentro National Historic Trail	Valencia, Socorro, Bernalillo	Parallels Rio Grande in New Mexico; linear corridor with specific natural and manmade features	National Historic Trail	Multi-property Nomination Package

3.3.8 Water Resources

Water resources that would be affected by implementation of the Preferred Alternative/Proposed Action or the No-Action Alternative are described in Sections 4.1.6, 4.2.4, and 4.2.5 (page 17, 19, and 20 respectively) of the BAMA EA (2005).

3.3.9 Hazardous Materials and Wastes

An Environmental Due Diligence Audit for Belen Alexander Airport Expansion 2007 was prepared for the DOT-FAA (FAA, 2007b). Since the Preferred Alternative/Proposed Action does not require the acquisition of additional right-of-way, the 2007 report would not need to be updated.

3.3.10 Ground and Flight Safety Resources

Ground and flight safety resources that would be affected by implementation of the Preferred Alternative/Proposed Action or the No-Action Alternative are described in Sections 3.0 and 3.2 (page 4 and 6 respectively) of the BAMA EA (2005). Additional information follows.

Emergency Response

Emergency response is the capability of the airfield to provide firefighting and emergency medical services in the event of a mishap. Wildlife management encompasses animals on or near the airfield as well as bird activity in the airspace surrounding the airfield. However, wildlife management also encompasses bird activity outside the vicinity of the airfield. Obstacle evaluation determines whether tall natural or manmade structures are a risk to aircraft flight operations and thus obstruct navigable airspace.

Air Force Instruction (AFI) 32-2001, Fire Emergency Services Program (USAF, 2008), implements Air Force Policy Directive (AFPD) 32-20, Fire Emergency Services (FES), DoDI 6055.06, DoD Fire and Emergency Services Program, Occupational Safety and Health Administration, and National Fire Protection Association (NFPA) standards. Military and civilian Airport Rescue and Fire Fighting (ARFF) personnel provide fire prevention and protection, firefighting, rescue, and Hazardous Materials (HAZMAT) response capabilities to prevent or minimize injury, loss of life, and damage to property and equipment. Further, ARFF personnel assist primary Emergency Medical Service (EMS) providers, local civil and Federal agencies, as determined by local and mutual aid agreements. Currently, BAMA has no ARFF located on the airfield, but is currently served by the City of Belen Fire Department.

The prescribed staffing and equipment for an USAF FES activity depends on the types of aircraft associated with the base's flying mission and level of activity. Kirtland AFB is staffed and equipped in accordance with the above standards.

The affected environments for emergency response are the airfield, maintenance facilities, and area within a 12-mile radius of each airfield.

The minimum number and types of ARFF equipment and extinguishing agents that are required at a civil airfield are determined by the index rating of that airport (NFPA 403, 2008). This index rating is based on the type of aircraft using the airfield and the daily number of aircraft departures. The current type of aircraft and number of aircraft departures at BAMA do not necessitate the presence of ARFF equipment and extinguishing agents at the airport.

Flight Safety

The flight safety program is implemented through Federal and USAF regulations. For example, AFI 11-214 implements AFPD 11-2, Aircraft Rules and Procedures, to ensure aircrews fly and train in a safe environment. All aircraft, both civil and military, must conduct flight operations in accordance with 14 CFR Part 91 General Operating and Flight Rules. Further, each aircraft, or Mission Design Series has specific operating instructions for aircrew compliance.

The affected environments for flight safety for this EA are aircraft ground movement and maintenance areas at each airfield, and in-flight operations within 20 nm of each airfield. Flight safety encompasses all areas discussed in the previous sections to include:

- Flight Training
- Flight Operations
- Tactical Operations
- Other areas as determined by the Operations Group Commander

Currently, all flight operations conducted at Kirtland AFB comply with all Federal, USAF, and Operations Group Commander requirements.

Aircraft Mishaps

Class A mishaps are one of the five categories of aircraft flight mishaps. They result in loss of life, permanent total disability, a total cost in excess of $2M, destruction of an aircraft, or damage to an aircraft beyond economical repair. The USAF does not keep separate safety data for aircraft model within a type, for example C-130E and C-130J data are aggregated in C-130. Safety data collected pertaining to aircraft mishaps applies to all variants of the type. Table 3-4 summarizes the overall USAF aircraft mishap rates and the USAF C-130 rate in particular for Fiscal Year (FY) 06 through FY 09.

Table 3-4. Aircraft Mishap Rates

Year	Class A Mishap	Class A Mishap Rate	Fatalities (Pilots)	Fatalities (All)
USAF				
FY 06	19	0.90	0	0
FY 07	28	1.37	2	0
FY 08	26	1.34	9	0
FY 09	17	0.90	3	0
C-130 Aircraft				
FY 06	0	0	0	0
FY 07	0	0	0	0
FY 08	1	0.39	0	0
FY 09	0	0	0	0

Note: Mishap Rates are expressed in Mishaps per 100,000 flying hours
Source: Air Force Safety Center 2010

Aircraft/Wildlife Collisions

Aircraft collisions with birds and other wildlife annually cause millions of dollars in aircraft damage and may result in loss of personnel and aircraft. Reduction of strike hazards may be divided into four categories: awareness, control, avoidance, and aircraft design. Wildlife strike hazards may be significantly reduced using a combination of these categories.

The USAF BASH Program goal is the reduction of wildlife aircraft strike hazards. Each AFB has a BASH Program plan as required for USAF installations that support a flying mission. The Program analyzes potential wildlife strike hazards when developing or revising operational procedures, training routes, ranges, instrument approach and departure procedures, establishing Military Operations Areas (MOA) or low-altitude tactical navigation areas.

Kirtland AFB, where 58 SOW operations are based, is located in Bernalillo County, nestled between the Sandia and Manzano mountain ranges. Bird activity in the vicinity of Kirtland AFB is relatively low when compared to other areas of the country. However, bird activity increases during the migratory season in the vicinity of the Rio Grande River (DoD, 2010). The Kirtland AFB BASH Program provides guidance for reducing potential hazards in and around areas where flying operations occur. Table 3-5 reflects FY 06 through FY 09 bird strike data for aircraft operations from Kirtland AFB. Despite the number of bird strikes between FY 06 and FY 09, none of them resulted in a Class A or B mishap. Class A mishaps result in loss of life, permanent total disability, a total cost in excess of $2M, destruction of an aircraft, or damage to an aircraft beyond economical repair. Class B mishaps result in total costs ranging between $500K and $2M or result in permanent partial disability, but do not involve fatalities.

Table 3-5. Kirtland AFB Bird Strike Data

Kirtland AFB	FY 06	FY 07	FY 08	FY 09
Overall Bird Strikes	66	71	75	52
Class A or Class B Mishap	0	0	0	0

3.3.11 Recreation and Visual Resources

Recreation and visual resources that would be affected by implementation of the Preferred Alternative/Proposed Action or the No-Action Alternative are described in Sections 4.1.3, 4.2.2, and 4.2.3 (page 15, 19, and 19 respectively) of the BAMA EA (2005).

3.3.12 Socio-economic Resources

Socio-economic resources that would be affected by implementation of the Preferred Alternative/ Proposed Action or the No-Action Alternative are described in Sections 4.2.1, 4.3, and 4.4 (page 19, 20, and 21 respectively) of the BAMA EA (2005). Additional information follows.

Socio-economics is the relationship between economies and social elements such as population levels and economic activity. Factors that describe the socio-economic environment represent a composite of several interrelated and nonrelated attributes. The socio-economics status of the surrounding area for BAMA is addressed in this section. The scope of this section includes population and economic activity.

Population

According to the U.S. Census Bureau (USCB), the State of New Mexico was majority-minority (i.e., 59.5 percent of the population was minority) in 2010 (USCB, 2011a). The Hispanic population in New Mexico is the largest by percentage in the U.S. (46 percent). The Native American population in New Mexico is nine percent and the non-Hispanic White population in New Mexico is 41 percent (USCB, 2010a). The Black or African American population in New Mexico is 2 percent, the Asian or Pacific Islander population is 1 percent, and the population claiming two or more races is one percent (USCB, 2011g), much less than the national averages of 12.6 percent and 4.8 percent, respectively (USCB, 2011a).

BAMA is located in Valencia County, west of the City of Belen and is approximately 30 miles southwest of Kirtland AFB. Historic populations for the City of Belen, Valencia County, and the State of New Mexico for 1990, 2000, and 2010 are presented in Table 3-6. The population of the city, county, and state has increased since 1990.

Table 3-6. BAMA Vicinity Population Trends (1990-2010)

Year	City of Belen	Valencia County	State of New Mexico
1990	6,547	45,235	1,515,069
2000	6,901	66,152	1,819,041
2010	7,269	76,569	2,059,179

Economy

The U.S. and the State of New Mexico per capita income for 2010 were $26,059 and $22,150, respectively. In 2010, the unemployment rate in New Mexico was 9.5 percent, which is slightly lower than the U.S. average of 10.8 percent (USCB, 2010d). In New Mexico, the top three leading non-governmental industries were educational services, healthcare, and social assistance; retail trade; and professional, scientific, management, administrative, and waste management services (USCB, 2010d).

The per capita money income for the City of Belen (2009 dollars) was $16,084, as compared to $22,461 for the State of New Mexico (USCB, 2011i). The unemployment rate for the City of Belen was 4.6 percent, which is slightly higher than the state unemployment rate of 4.4 percent, and slightly below the U.S. average of 5.1 percent (USCB, 2011h). The top three leading non-governmental industries in the City of Belen are educational services, healthcare, and social assistance (29.8 percent); retail trade (12.3 percent); and public administration (9.3 percent) (USCB, 2011h).

3.3.13 Environmental Justice

Environmental Justice Resources that would be affected by implementation of the Preferred Alternative/Proposed Action or the No-Action Alternative are described in Sections 4.2.1, 4.3, and 4.4 (page 19, 20, and 21 respectively) of the BAMA EA (2005). Additional information follows.

EO 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, provides that *"…each Federal Agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."* In an accompanying Presidential memorandum, the President specified that Federal agencies shall analyze the environmental effects of their actions on minority and low-income communities, including human health, economic, and social effects when such analysis is required by NEPA. Additionally, Federal actions must comply with EO 13045 – Protection of Children from Environmental Health Risks and Safety Risks.

To determine if minority and low-income populations are disproportionately impacted by the alternatives, the following two areas of comparison must first be determined:

- The area potentially affected by impacts to resources (i.e., air quality, noise, land use)
- The larger regional community that includes the affected area and serves as a basis for comparison

Depending on the alternatives, each resource (i.e., air quality, noise, land use) can impact a different geographic area or population. Table 3-7 shows the percent minority and low-income populations that could potentially be affected.

Table 3-7. Minority and Low-Income Populations for BAMA

Demographic Area	Total Population	Total Hispanic/ Latino Population	Percent Hispanic/ Latino	Total Minority Race Population	Percent Minority Race[a]	Total Low-Income Population	Percent Low Income
City of Belen	6,901	4,735	68.6	1,963	28.6	1,643	24.8
State of New Mexico	1,819,046	765,818	42.1	538,466	29.6	328,933	18.4
United States	281,421,906	35,305,818	12.5	63,135,052	22.4	33,899,812	12.4

Notes:

[a] Minority Race includes Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; and some other race.

Sources: USCB, 2011b –2011f

Disadvantaged groups within the area, including low-income and minority communities, are specifically considered to assess the potential for disproportionate occurrence of impacts. For the purposes of this analysis, disadvantaged groups are defined as follows:

- Minority Population: Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; and some other race. For the 2000 Census, race and Hispanic origin (ethnicity) were considered two separate concepts and were recorded separately. For the purposes of this analysis, the total minority race population will be separate from the total Hispanic population to determine total minority race population from the Hispanic total within the affected areas.
- Low-Income Population: Persons living below the poverty level, according to income data collected in U.S. Census 2000.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter describes the potential environmental consequences that are likely to occur as a result of implementation of the Preferred Alternative/Proposed Action. Section 4.3 focuses on the potential environmental consequences at BAMA that would occur incremental to those environmental consequences described by the City of Belen and the FAA in the BAMA EA (2005). The BAMA EA (2005) provides a baseline against which the impacts of the Preferred Alternative/Proposed Action can be compared. This EA presents only new or revised environmental consequences to those impacts presented in Chapter 5 of the BAMA EA (2005). Where baseline conditions have changed for a resource, the current conditions are described to the level of detail necessary to support analysis of potential impacts and are presented in this section.

Discussion of mitigation measures and BMPs are included as necessary. If the action results in irreversible or irretrievable results, it is noted in the following sections. Criteria and assumptions used to evaluate potential impacts are discussed at the beginning of each section.

4.2 CHANGE IN CURRENT MISSION

The activities associated with implementation of the Proposed Action would not change the current mission of the 58 SOW. Construction of the strengthened Crosswind Runway 13/31 at BAMA (by the City of Belen) would continue to support the current and future mission of the 58 SOW and the DoD.

4.3 EFFECTS OF THE PREFERRED ALTERNATIVE ON THE AFFECTED ENVIRONMENT

Analysis of potential impacts of implementing the Construction of a Strengthened Crosswind Runway 13/31 at BAMA by the City of Belen and Pursuit of Access/Use by 58 SOW for C-130 Training, are provided in the following sections. Each subsection in Section 4.0 addresses the potential for environmental and socio-economics effects from the Preferred Alternative/Proposed Action.

4.3.1 Airspace Use and Management

The proximity of airports to one another, the relationship of runway alignments, and the nature of operations (IFR or VFR) are the principle inter-airport considerations that will affect ATC airspace.

An action would have the potential to create a significant impact if it required extensive changes to airport traffic patterns, instrument flight procedures, ATC procedures, safety of persons and property on the ground, or change ATC airspace classification.

4.3.1.1 Preferred Alternative (Proposed Action)

The Preferred Alternative/Proposed Action would not create conflicts with ATC in the region, change operations within airspace that is already designated for other purposes, or unduly restrict the movement of other air traffic in the area. This area of New Mexico has a moderate population density; consequently, the level of civil aviation activity is fairly low compared to other regions of the country. The Preferred Alternative/Proposed Action would not create a need to establish additional or new controlled airspace, nor would its implementation require reclassification from one level (Class D) to another more restrictive level (Class C).

Selection and implementation of the Preferred Alternative/Proposed Action would not require additional SUA or other military training airspace. The C-130 aircraft assigned to Kirtland AFB would continue to use the MTRs currently established and at utilization levels similar to previous years.

4.3.1.2 No-Action Alternative

Under this alternative, Crosswind Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations would continue on runways which are not designated or suitable for Landing Zone (LZ) training. The NVG training would continue at runways which are impacted by excessive ambient light. Selection of the No-Action Alternative would mean that activities at BAMA would continue largely as they have in the past few years.

4.3.1.3 Measures to Reduce Impacts

Per existing FAA rules, regulations, and requirements, since the effects to airspace use and management that would arise from implementation of the Preferred Alternative/Proposed Action would be minor, no BMPs or mitigation are proposed. At BAMA, the level of activity, even when 58 SOW operations are included, is not sufficient to warrant development of BMPs. Existing procedures for operations under IFR and VFR including a Common Traffic Advisory Frequency, right-of-way rules, and the see-and-avoid system allow users to de-conflict access issues.

4.3.2 Noise

In this analysis, only noise impacts from aircraft operations are considered. FAA NEPA guidance for assessing significance considers 1.5 dB or greater increase within the DNL 65 dB noise contour to be significant, per FAA Order 1050.1E (FAA, 2006). Impacts outside the DNL 65 dB contour are not considered significant. The best available information at the time was used to calculate noise levels.

4.3.2.1 Preferred Alternative (Proposed Action)

The environmental consequences for the Preferred Alternative/Proposed Action are briefly described in this section and more detailed information is included in Appendix C.

For the Proposed Action, total flight operations at BAMA would be approximately 34,634 as listed in Table 4-1. Approximately 31 percent of the total flight operations would be C-130 aircraft with the remainder by civilian general aviation aircraft as described in Section 4.3.2.2. With the addition of the tactical flight operations, approximately 18 percent of the C-130 operations would consist of the H/N/P variant while 82 percent would consist of the J variant. Consistent with the No-Action Alternative, approximately 22 percent of flight operations would continue to occur during the DNL nighttime period (10 p.m. to 7 a.m.).

Types of operations by the tactical training flights would be identical to the types modeled for the baseline scenario with the addition of “Depart and Land on Opposite Runway.” The tactical training flights would also conduct tower patterns and box patterns unlike the existing low-approach training. Flight tracks for the Crosswind Runway were provided by the USAF (USAF, 2012) and are shown in Appendix C.

Proposed C-130 tactical approach and landing operations would only occur on the Crosswind Runway 12/30. Existing C-130 low approach training would continue to use the existing runway 03/21. Civilian traffic may use either the Crosswind Runway 12/30 or the existing runway 03/21.

Consistent with the No-Action Alternative, the USAF would not conduct maintenance run-ups at BAMA (USAF, 2012) and civilian aircraft would not conduct run-ups, so no run-ups were modeled.

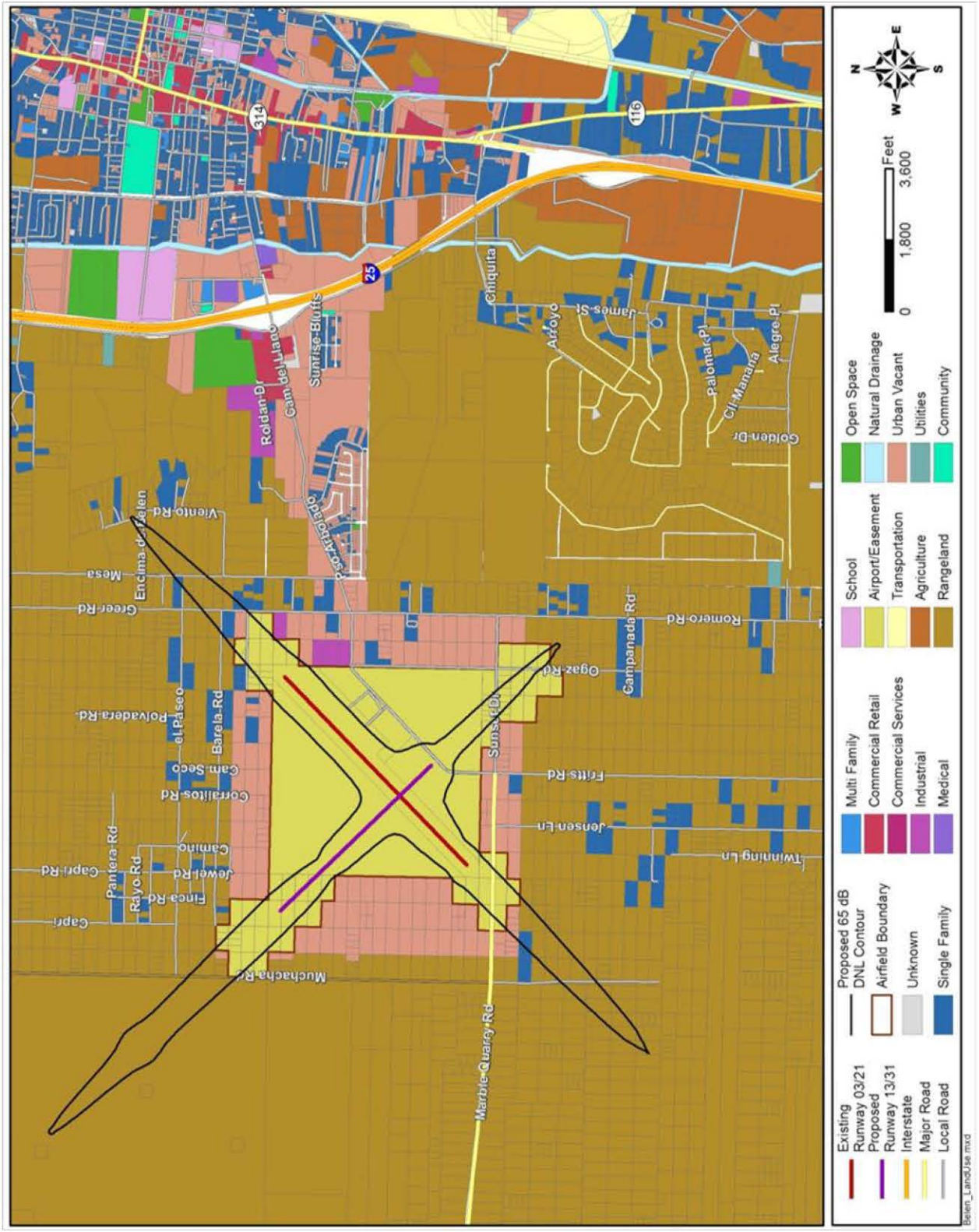
The noise contour for the Proposed Action is shown in Figure 4-1. Noise levels of representative sensitive receptors are listed in Table 4-2. These points of interest are depicted on the noise contour map. Expanded details for runway utilization are included in Appendix C, Table 3-2.

Table 4-1. Proposed Annual Flight Operations

Group	Aircraft Type[(1)]	Modeled Aircraft Type	Note	Flying Days per Year	Departure			Arrival – VFR			Arrival – IFR			Depart BAMA and Land BAMA on Opposite Runway[(2)]			Tower Pattern[(2)]			Box Pattern[(2)]			TOTAL		
					Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Low Approach Training	HC/MC-130H/P/N	C-130H&N&P		252	576	864	1,440	576	864	1,440	-	-	-	-	-	-	-	-	-	1,152	1,728	2,880	2,304	3,456	5,760
	HC/MC-130J	C-130J	1	252	144	360	504	144	360	504	-	-	-	-	-	-	-	-	-	288	720	1,008	576	1,440	2,016
	Transient C-130J	C-130J	1	252	72	-	72	72	-	72	-	-	-	-	-	-	-	-	-	144	-	144	288	-	288
Tactical Approach Training	HC/MC-130J	C-130J	1	252	1,260	252	1,512	1,260	252	1,512			-	2,520	1,008	3,528	630	189	819	1,386	101	1,487	7,056	1,802	8,858
	MC-130H	C-130H&N&P		252	126	126	252	126	126	252	-	-	-	882	126	1,008	126	63	189	252	25	277	1,512	466	1,978
Civilian	Cessna C-182	GASEPV		365	1,890	39	1,929	1,890	39	1,929	-	-	-	-	-	-	10,208	208	10,416	-	-	-	13,988	286	14,274
	Cessna C-210	GASEPV		365	730	-	730	664	-	664	66	-	66	-	-	-	-	-	-	-	-	-	1,460	-	1,460
Total					**4,798**	**1,641**	**6,439**	**4,732**	**1,641**	**6,373**	**66**	**-**	**66**	**3,402**	**1,134**	**4,536**	**10,964**	**460**	**11,424**	**3,222**	**2,574**	**5,796**	**27,184**	**7,450**	**34,634**

Notes:
[(1)] Static reference acoustic data for C-130H&N&P used as surrogate for static reference acoustic data for C-130J
IFR = Instrument Flight Rules
GASEPV = General Aviation Single Engine Propeller Vehicle
VFR = Visual Flight Rules
[(2)] Each circuit counted as 2 operations

Figure 4-1. BAMA Noise Contours With Land Use (Proposed Action)



No noise-sensitive receptors (residences) are within the DNL 65 dB noise contour for the Proposed Action. Therefore there is no significant noise impact.

Table 4-2. Baseline and Proposed DNL at Representative Noise-Sensitive Receptors

Point of Interest	Baseline	Proposed
R01	<55	58
R02	<55	56
R03	<55	63
R04	<55	58
R05	<55	<55

4.3.2.2 No-Action Alternative

Selection of the No-Action Alternative would mean that there would be no increase in aircraft operations occurring at BAMA. In particular, the existing level and qualitative nature of military C-130 flight operations (i.e., low-approaches only) would not change. Flight operations would generally be of the quantities and intensities of those occurring presently, fluctuating as they presently do as deployments occur or budgets change. Flight operations provided by the USAF (USAF, 2012a) are shown in Table 4-3 which totals almost 23,800 annual operations. Approximately two-thirds of the operations are civilian aircraft with the remaining military C-130 aircraft. Approximately 22 percent of flight operations occur during the DNL nighttime period (10 p.m. to 7 a.m.) most of which is due to C-130 low-approach training.

The noise contour for the No-Action Alternative is shown in Figure 4-2. Noise levels of representative sensitive receptors are listed in Table 4-4. These points of interest are depicted on the noise contour map.

Table 4-3. No Action Annual Flight Operations

Group	Aircraft Type[1]	Modeled Aircraft Type	Note	Flying Days per Year	Departure			Arrival – VFR			Arrival – IFR			Tower Pattern[2]			Box Pattern[2]			TOTAL		
					Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Low Approach Training	HC/MC-130H/P/N	C-130H&N&P		252	576	864	1,440	576	864	1,440							1,152	1,728	2,880	2,304	3,456	5,760
	HC/MC-130J	C-130J	1	252	144	360	504	144	360	504							288	720	1,008	576	1,440	2,016
	Transient C-130J	C-130J	1	252	72	-	72	72	-	72							144	-	144	288	-	288
Civilian	Cessna C-182	GASEPV		365	1,890	39	1,929	1,890	39	1,929	-	-	-	10,208	208	10,416				13,988	286	14,274
	Cessna C-210	GASEPV		365	730	-	730	658	-	658	72	-	72	-	-	-	-	-	-	1,460	-	1,460
				Total	**3,412**	**1,263**	**4,675**	**3,340**	**1,263**	**4,603**	**72**	**-**	**72**	**10,208**	**208**	**10,416**	**1,584**	**2,448**	**4,032**	**18,616**	**5,182**	**23,798**

Notes:
[1] Static reference acoustic data for C-130H&N&P used as surrogate for static reference acoustic data for C-130J IFR = Instrument Flight Rules GASEPV = General Aviation Single Engine Propeller Vehicle VFR = Visual Flight Rules
[2] Each circuit counted as 2 operations

Figure 4-2. BAMA Noise Contours With Land Use (No Action)

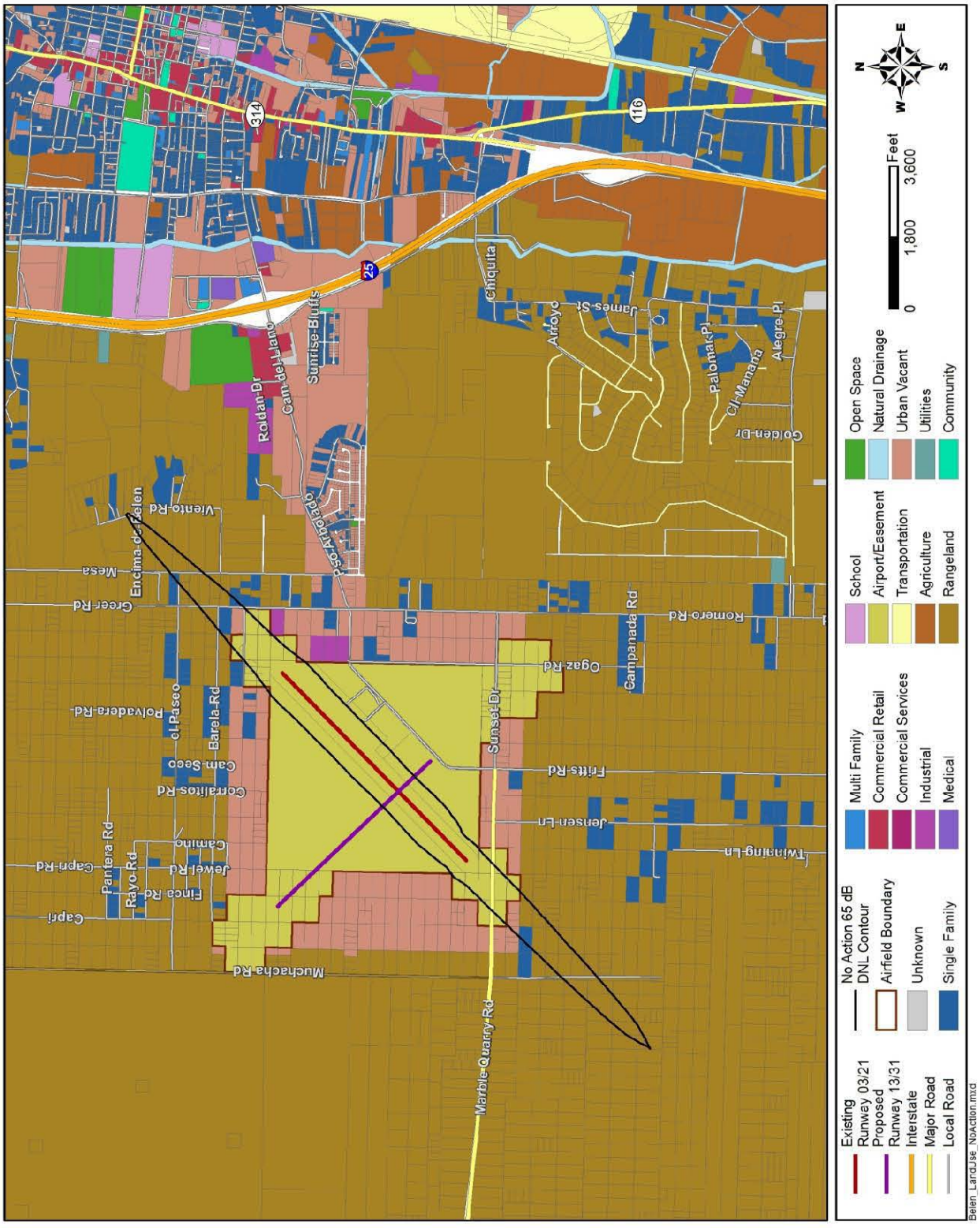


Table 4-4. No Action DNL at Representative Noise-Sensitive Receptors

Point of Interest	DNL (dB)
R01	<55
R02	<55
R03	<55
R04	<55
R05	<55

4.3.2.3 Measures to Reduce Impacts

No noise-sensitive receptors (i.e., residences) are located within the 65 DNL contour and no noise impacts are anticipated, therefore no BMPs or mitigation are proposed. At BAMA, the level of activity even when 58 SOW operations are included is not sufficient to warrant development of BMPs.

4.3.3 Land Use

The BAMA EA (2005) describes impacts to Land Use Resources in Section 5.2 and 5.14 (page 22 and 27, respectively). No significant impacts to land use resources resulting from the Preferred Alternative/ Proposed Action are anticipated. There are no prime farmlands in the vicinity of BAMA.

For this analysis, implementation of the proposed alternative would have a significant impact on land use if it were to conflict with the City of Belen's Strategic Growth Plan, sub-documents, zoning designations, or environmental plans; other applicable land use regulations; or other policies adopted by agencies with jurisdiction over the project area.

4.3.3.1 Preferred Alternative (Proposed Action)

The Preferred Alternative/Proposed Action would not conflict with the City of Belen's Strategic Growth Plan, sub-documents, zoning designations, or environmental plans; other applicable land use regulations; or other policies adopted by agencies with jurisdiction over the project area. Pursuit of Access/Use by 58 SOW for C-130 training would not be expected to alter land use analyzed in the NEPA document BAMA EA (2005) and no further environmental analysis of land use is included in this document. Therefore, there would be no impact to land use as a result of the Preferred Alternative/Proposed Action and there would be no change to land use from the baseline conditions discussed in Section 3.3.3.

4.3.3.2 No-Action Alternative

Under this alternative, Crosswind Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations would continue on runways which are not designated or suitable for LZ training. There would be no change to land use categories and therefore, would not result in any land use conflicts with surrounding properties. Additionally, runway construction and flying operations would not be in conflict with the City of Belen's Strategic Growth Plan, sub-documents, zoning designations, or environmental plans.

4.3.3.3 Measures to Reduce Impacts

There would be no impacts to land use under the Preferred Alternative/Proposed Action which would require mitigation measures or necessitate BMPs. The City of Belen, through land use designations has zoned land adjacent to BAMA as commercial to encourage business growth around the airport.

4.3.4 Air Quality

The following factors were considered in evaluating air quality:

- The short- and long-term air emissions generated from asphalt pavement and aircraft flight operations
- The type of emissions generated
- The potential for emissions to result in ambient air concentrations that exceed one of the NAAQS or State Implementation Plan requirements

For purposes of analysis, impacts to air quality would be considered significant if emissions from the alternatives would be considered regionally significant by the USEPA. The air emission calculations for the alternative actions included in the following sections are detailed in Appendix D.

4.3.4.1 Preferred Alternative (Proposed Action)

As briefly described here and in more detail in the Appendix D, no significant impacts to air quality or a violation of the NAAQS resulting from the Preferred Alternative/Proposed Action are anticipated. Valencia County is considered to be in attainment for the NAAQS; therefore a conformity determination is not required.

This alternative would increase operations at BAMA while decreasing operations at Pueblo Memorial Airport but not at Roswell International Air Center and also decrease training operations at Kirtland AFB. Pueblo Memorial Airport would experience a decrease in training operations from 1,960 to 1,764 flights, the operations at Roswell International Air Center would remain constant at 1,450 flights, and there would be a net increase in training activity of 1,764 flights at BAMA. The changes in operations are indicated in Table 4-5.

Table 4-5. Net Change in Operations due to Preferred Alternative Scenario

Operation Type	Number of Operations	Increase/Decrease
Belen arrivals from Kirtland	1,764	Increase
Belen departures to Kirtland	1,764	Increase
Belen Pattern – Dep/Land Opp Runway	4,536	Increase
Belen Pattern – Tower	1,008	Increase
Belen Pattern – Box	1,764	Increase
Pueblo Arrivals	52	Decrease
Pueblo Departures	96	Decrease
Pueblo Pattern – IFR	44	Decrease
Kirtland Pattern – Dep/Land Opp Runway	4,536	Decrease
Kirtland Pattern – Tower	1,008	Decrease
Kirtland Pattern – Box	1,764	Decrease

In addition to the aforementioned changes in flights, BAMA would experience increased training operations (Dep/Land Opp Runway, Tower, and Box) as indicated by the patterns in Table 4-3. These are counter-balanced by the same number of decreases in training operations at Kirtland AFB and the decrease in training operations (IFR arrivals) at Pueblo Memorial Airport. No changes in training operations are expected to occur at Roswell International Air Center. Although these training operations at BAMA, Pueblo Memorial Airport, and Kirtland AFB are expected to change, no airport departure and arrival changes are expected at Kirtland AFB (i.e., no changes in origin-destination flights to/from Kirtland AFB).

The total yearly direct and indirect emissions of an action is defined as the net emissions increase caused by the action considering all the emission increases and decreases that are projected to occur. This includes emissions of criteria pollutants and emissions of precursors of criteria pollutants. The total direct and indirect emissions are the net emissions considering all emissions increases and decreases. In this Proposed Action, the net emissions that will be taken into consideration are those resulting from the aircraft operational changes at the affected airports. As previously mentioned, Pueblo Memorial Airport, CO (Pueblo County) which currently supports 1,960 flights from Kirtland AFB will have a decrease in flights to 1,768; Roswell International Air Center, NM flights will remain constant at 1,450; and BAMA will have a net increase of 1,764 flights. The total yearly direct and indirect emissions will be considered in the air impact analysis.

4.3.4.2 No-Action Alternative

Under this alternative there would be no change in the baseline scenario, Crosswind Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations would continue at Roswell International Air Center and Pueblo Memorial Airport as well as the Albuquerque International Sunport. The short-runway day and night takeoff, approach, and landing training at these airports would continue under the non-favorable conditions where aircraft would have to travel relatively far distances (about 200 nm) to conduct the training operations.

4.3.4.3 Measures to Reduce Impacts

Minimal impact to local air quality would be expected from the Proposed Action. Therefore, no mitigative actions or BMPs would be required.

4.3.5 Earth Resources

The BAMA EA (2005) describes some construction impacts, surface water, and soil erosion impacts to earth resources in Section 5.4 (page 23). No significant impacts to earth resources resulting from the Preferred Alternative/Proposed Action are anticipated.

4.3.5.1 Preferred Alternative (Proposed Action)

The Preferred Alternative/Proposed Action would not be expected to alter the lithology, stratigraphy, or geological structures; or change the soil composition, structure, or function analyzed in the NEPA document BAMA EA (2005) and no further environmental analysis of geological resources is included in this document.

4.3.5.2 No-Action Alternative

Under this alternative, Crosswind Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations would continue on runways which are not designated or suitable for LZ training; therefore, there would be no impacts to earth resources.

4.3.5.3 Measures to Reduce Impacts

No mitigation measures or BMPs would be necessary under the alternative.

4.3.6 Biological Resources

The BAMA EA (2005) describes impacts to Biological Resources in Section 5.9 (page 26). No significant impacts to biological resources resulting from the Preferred Alternative/Proposed Action are anticipated. Additional information follows.

Impacts to biological resources generally occur because of habitat modification, land disturbance, disturbance to or taking of rare, threatened, or endangered species, or exposure to environmental contaminants. Biological impacts would be considered significant if the Proposed Action would:

- Affect priority species
- Substantially diminish habitat for a plant or animal species
- Substantially diminish a regionally or locally important plant or animal species
- Interfere substantially with wildlife movement or reproductive behavior
- Result in a substantial infusion of exotic plant or animal species

Priority species, in this case, are any listed threatened or endangered species, as well as any species of concern known to occur within the region of influence.

4.3.6.1 Preferred Alternative (Proposed Action)

The Preferred Alternative/Proposed Action would not be expected to affect biological resources analyzed within this EA, Section 4.3.6 which also provides supplemental data to the City of Belen's NEPA document BAMA EA (2005), Appendix A, which covers modifications to the BAMA Airport Layout Plan and any subsequent construction activities. Under the Preferred Alternative/Proposed Action, impacts to vegetation and wildlife from this activity would not occur. Potential incremental impacts of BAMA usage for C-130 training would occur mainly from noise and BASH-related issues.

Noise Response for Wildlife

Hearing is critical to an animal's ability to react, compete, reproduce, hunt, forage, and survive in its environment. High noise levels from aircraft could cause direct physiological damage to an animal's auditory system or any other physiological system, or indirectly increase stress and cause behavioral modifications which could increase the species' vulnerability to predation and/or interfere with mating and reproduction, or impair the ability of an animal to obtain food, cover, or water. Overall, the literature suggests that species differ in their response to various types, durations, and sources of noise (Manci et al. 1988) and that response of unconfined wildlife and domestic animals to aircraft overflight under most circumstances has minimal biological significance.

Current limited operations at BAMA include low-approach training sorties conducted by the 58 SOW as well as general aviation activities. When this Proposed Action is implemented then the 58 SOW would conduct both full-stop landings and touch and go (closed circuit patterns) military flight operations under an appropriate agreement. Under the Proposed Action, wildlife commonly observed at BAMA would be exposed to increased noise levels; however, as indicated in Section 3.3.6, animals may develop an increased tolerance to frequent aircraft activity.

Operation of the new training could potentially increase the amount of traffic in the airport area (fire or emergency response) thus causing potential increase in wildlife-human conflicts. However species in the area are adapted to vehicular traffic, the surrounding habitat provides an expansive view, and most larger wildlife is transient in nature in the area. Therefore, impacts to wildlife from increased operation due to the Proposed Action are expected to be negligible.

Threatened or Endangered Species and State Species of Concern

No threatened or endangered species have been observed within the airport boundaries; therefore, there would be no impacts to any listed species under the Proposed Action. Additionally, while there is a potential for transient species within Valencia County, there is no known habitat present to support these transient species within the airport boundaries. The USFWS concurred with the determination that the USAF Preferred Alternative/Proposed Action "may affect, but is not likely to adversely affect" any Federally-listed species. The USFWS determination is in Appendix F.

One Federal species of concern, the Western burrowing owl, is known to occur adjacent to the planned project areas at BAMA. The primary threat to the Western burrowing owl is habitat loss and fragmentation primarily due to intensive agricultural and urban development (Klute et al., 2003). Habitat loss has led many of the owls to seek refuge across vacant land at USAF installations and large areas, such as airfields, have become a favorite place of residence for the species (Schneider, 2011). Active Western burrowing owls have been reported at similar installations including Kirtland, Holloman, Davis-Monthan, and Stead AFBs (Klute et al., 2003).

The presence of these individuals near BAMA and at other AFBs demonstrates an acclimation or tolerance of the Western burrowing owl to aircraft training activities regularly performed on AFBs, including sorties and flyovers. While there is no official documentation on the burrowing owls response to airport noise environments, the fact that they nest at airfields within close proximity to many different types of operating aircraft indicates that they are not sensitive to airport noise environments.

Although noise levels generated from the Proposed Action at BAMA are anticipated to increase beyond the current noise environment, it is not expected that noise levels would increase beyond the 75 to 80 dB DNL. These noise levels have been determined to have no long-term, adverse impacts to burrowing owls that have been observed at similar airports and airfields. Therefore, the long-term, increased noise levels are not expected to have adverse impacts to Western burrowing owls and its habitat under the USAF's Proposed Action. The USFWS has concurred with this analysis and its concurrence letter is in Appendix F.

Though construction and related land disturbance activities are not associated with the USAF's Proposed Action, but there could be potential incremental impacts to biota of constructing a strengthened runway vs. a general aviation runway, the USAF analyzed those potential impacts. Based on the analyses and the information available regarding the new runway, there would be no additional impacts expected beyond those already analyzed in the BAMA EA (2005).

To further safeguard the Western burrowing owl, the USFWS requires that if there is a potential to impact this species, the entity constructing the runway shall conduct a biological survey within 2 weeks prior to any clearing, grading, excavation, or other associated ground-disturbing activities to identify prairie dog colonies and burrowing owls. Per the USFWS, the most suitable time to survey for burrowing owls in New Mexico is during the nest initiation and incubation phases (March to early June). If burrowing owls are present, construction activities would only commence after the owls have migrated from the area (October 15 to March 15).

4.3.6.2 No-Action Alternative

Under this alternative, Crosswind Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations would continue on runways which are not designated or suitable for LZ training; therefore, there would be no impacts to biological resources from the baseline conditions discussed in Section 3.3.6.

4.3.6.3 Measures to Reduce Impacts

There would be no impacts to biological resources under the Preferred Alternative/Proposed Action which would require mitigation measures or necessitate BMPs.

4.3.7 Cultural Resources

Significant impacts to cultural properties would occur only if the Preferred Alternative/Proposed Action would adversely affect historic properties. An adverse effect is an undertaking that diminishes the integrity of a property's location, design, setting, materials, workmanship, feeling, or association, or in other words damages the qualities of the historic property that make it eligible for listing in the NRHP. A significant adverse effect can occur through the destruction or alteration of the property, isolation from

or alteration of the environment, introduction of intrusive elements (visual, audible, or atmospheric), neglect, and the transfer, lease or sale of the property (Advisory Council on Historic Preservation and U.S. General Services Administration Interagency Training Center, 1995).

The nature and potential significance of cultural resources in the potentially affected areas were identified by considering the following definition: historic properties, under 36 CFR Part 800, are defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP." For the purpose of these regulations this term includes artifacts, records, and remains that are related to and located within such properties. The term "eligible for inclusion in the National Register" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet NRHP-listing criteria.

The BAMA EA (2005), prepared by the City of Belen for the proposed crosswind runway construction activities and general aviation operations, describes impacts to Cultural Resources in Section 5.8 (page 25). That BAMA EA concluded that the DOT, Sec. 4(f)/6(f) restrictions (associated with the National Park System, public parks/recreations areas, historic/archeological properties, etc.) were not identified within, nor applicable to, their activities and operations. Consequently and similarly, the USAF concludes that these same restrictions are likely not applicable to the 58 SOW Preferred Alternative/Proposed Action involving flight training operations since there is no expectation that adverse impacts would result. The USAF also recommends that its proposed flight training operations would not result in any physical taking of applicable or identifiable DOT Section 4(f) properties (i.e., parks, recreation areas, historic sites or wildlife/waterfowl refuges, etc.), or, any constructive use of these properties since none are located within the DNL 65 threshold noise contour. The analysis and discussion within this section supports that there will not be any resulting adverse impacts or effects to historic properties from implementing the 58 SOW's Preferred Alternative/Proposed Action. The SHPO has concurred with the USAF finding of no adverse effects and supporting letters are in Appendix E."

4.3.7.1 Preferred Alternative (Proposed Action)

Descriptions of the environmental consequences for the following cultural resources under the Preferred Alternative/Proposed Action for Construction of a Strengthened Crosswind Runway 13/31 at BAMA by the City of Belen and Pursuit of Access/Use by 58 SOW for C-130 Training follow.

Archaeological Resources

One archaeological site has been identified at BAMA, where construction and other ground-disturbing activities would occur. This site has been determined ineligible for inclusion in the NRHP. Consequently, no direct effects to archaeological sites are anticipated. Any effects upon other archaeological sites/historical properties (subsurface archaeological) would be indirect effects (related to noise and visual impacts from overflights). No indirect effects are anticipated as a result of implementation of the Preferred Alternative/Proposed Action (proposed action). See Appendix E for additional details regarding the analysis and findings of effects.

Traditional Cultural Properties

No traditional cultural properties are present within the BAMA APE; therefore, there would be no effect on traditional cultural properties.

Historic Resources

See Appendix E for additional details regarding the analysis of effects on other types of historic properties (e.g., structures, buildings, districts).

Implementation of the Preferred Alternative/Proposed Action would have no adverse effect on historic properties. Any potential effects to historic properties through implementation of the Preferred Alternative/Proposed Action would be due to noise or visual effects generated from overflights.

Preliminary analyses of the noise and other indirect effects of this undertaking indicate that if the Preferred Alternative/Proposed Action (use of the strengthened runway at BAMA by the 58 SOW) is implemented, there would be a very slight potential for additional noise impacts (including vibration and overpressure effects) to sensitive resources, including historic properties in the vicinity of BAMA, similar to the effects (if any) already occurring due to air traffic in the area. Similarly, there is a potential for visual effects, beyond those already occurring.

Table 4-6 provides a summary of the specific resources analyzed and the effects upon those resources if the Preferred Alternative/Proposed Action were to be implemented.

Tribal and Pueblo Communication

In accordance with DoDI 4710.02 (DoD Interactions with Federally-Recognized Tribes), government to government consultation related to this action was initiated on December 17, 2012 with the tribes listed in Section 6.0 of this EA. Two tribes provided written responses (Appendix B) and follow-up phone calls were made and documented to the remaining tribes in March 2013. These tribes informed the USAF that they had no concerns or comments with the proposed project and actions. Updates continue to be provided to the tribes in the event issues arise as the EA is developed and finalized.

In a letter from the Navajo Nation dated February 25, 2013 to Colonel Becklund, the USAF was notified that the Nation had no issues or concerns with the 58 SOW Preferred Alternative/Proposed Action. However, the Nation did express interest in being notified of any inadvertent discovery of resources during construction related activities. The Air Force has attached this February 25, 2013 letter from the Navajo Nation to this EA in Appendix B. This EA and Appendices will be provided to the City of Belen who prepared the BAMA EA (2005) and to the FAA.

The Pueblos or other Tribes contacted did not express any concerns regarding the USAF Proposed Action for the 58 SOW's flight training operations which will not involve construction activities (see Appendix B).

Table 4-6. Summary of Effects to Historic Properties

Property Name	Address	National Register No.	Summary of Effects and Factors/ Restrictions Minimizing Effects
Properties Listed in the National Register of Historic Places			
Belen Hotel	200 Becker Avenue, Belen, NM	80002574	Currently, the 58 SOW is flying at min. 1,000 ft AGL consistent with FAA requirements, in this area. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. No adverse effects are anticipated.
Belen Harvey House	101 N First Street, Belen, NM	83004180	Currently, the 58 SOW is flying at min. 1,000 ft AGL consistent with FAA requirements, in this area. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. In addition, this feature is subject to much greater noise and vibration effects from the movement of trains in the adjacent railyard. No adverse effects are anticipated.
Felipe Chaves House	325 Lala Street, Belen, NM	80002575	Currently, the 58 SOW is flying at min. 1,000 ft AGL consistent with FAA requirements, in this area. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. No adverse effects are anticipated.

Property Name	Address	National Register No.	Summary of Effects and Factors/ Restrictions Minimizing Effects
Miguel E. Baca House	Church Loop & Old NM 47 (approximate), Adelino, NM	78001835	Currently, the 58 SOW is flying at min. 1,000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. No change to existing flight patterns or restrictions is proposed, and no adverse effects are anticipated.
Los Ojuelos (Commanche Springs) near Tome	East of Tome (location/ address restricted)	87002080	This archaeological district will not be affected by the proposed action. No change to existing flight patterns or restrictions is proposed, and no effects are anticipated.
Old Tome Jail	Off Old Hwy 47, Tome Plaza, Tome-Adelino (Los Lunas), NM	77000932	Currently, the 58 SOW is flying at 1,000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. This feature is near MidValley Airpark and Valencia County Airfield; most overflights perceptible in this area would be civilian/general aviation overflights. Because of location and civilian traffic, this area is generally avoided by 58 SOW and a minimum altitude of 1,000 ft AGL is maintained in this area. No change to existing flight patterns or restrictions is proposed, and no adverse effects are anticipated.
El Cerro Tome (also known as Tome Hill)	0.5 mi E of Junction of NM 47 and Tome Hill Road, Tome-Adelino (Los Lunas), NM	96000739	Consistent with current practice, Tome Hill is not directly overflown and minimum 1,000 ft AGL is maintained for adjacent areas. In addition, a Notice To Airmen prevents all overflights in the vicinity during Easter season, when the Christian pilgrimages occur. No change to existing flight patterns or restrictions is proposed, and no adverse effects are anticipated.
ATSF Railroad Depot	US 85, Los Lunas, NM	79001562	Currently, the 58 SOW is flying at 1,000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. No change in number of flights, duration, etc. is proposed. This feature is near MidValley Airpark and Valencia County Airfield; most overflights would be civilian/general aviation overflights. Because of location and civilian traffic, this area is generally avoided by 58 SOW and a minimum altitude of 1,000 ft AGL is maintained in this area. No effects are anticipated.
Tranquilino Luna House (also known as the Luna Mansion)	Junction US 85/SH 6, Los Lunas, NM	75001175	Currently, the 58 SOW is flying at min. 1,000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time. No change in number of flights, duration, etc., is proposed. No adverse effects are anticipated.
Otero's 66 Service	100 Main Street, Los Lunas, NM	03000051	Currently, the 58 SOW is flying at min. 1,000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time. No change in number of flights, duration, etc., is proposed. No adverse effects are anticipated.

Property Name	Address	National Register No.	Summary of Effects and Factors/ Restrictions Minimizing Effects
Dr. William Frederick Wittwer House	144 Main Street NW, Los Lunas, NM	87000131	Currently, the 58 SOW is flying at min. 1,000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time. No change in number of flights, duration, etc., is proposed. No adverse effects are anticipated.
La Capilla de San Antonio de Los Lentes (also known as San Antonio Chapel)	Los Lentes Road and Trujillo Road, Los Lunas, NM (address is approximate)	03001351	Currently, the 58 SOW is flying at min. 1,000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time. No change in number of flights, duration, etc., is proposed. No adverse effects are anticipated.
Additional Properties/Sensitive Resources (Historic/Cultural)			
Laguna Pueblo	Address/ locations restricted	Multiple areas	The portion of the pueblo lands lying within the APE is also within the existing already authorized Rio Puerco Low Altitude Tactical Navigation training area; continued overflights would occur per current authorizations. No adverse effects are anticipated.
Isleta Pueblo	Address/ locations restricted	Multiple areas (address/ locations restricted)	No increased activity over Pueblo lands is proposed. There are local restrictions in place for areas near the Rio Grande corridor and for portions of the Pueblo (as identified to the 58 SOW by the Pueblo). No adverse effects are anticipated.
El Camino Real de Tierra de Adentro National Historic Trail	Parallels Rio Grande in New Mexico; linear corridor with specific natural and manmade features	National Historic Trail	There are local restrictions in place for areas near the Rio Grande corridor, as well as for other sensitive areas as identified to the 58 SOW. No adverse effects are anticipated.

4.3.7.2 No-Action Alternative

Under this alternative, Crosswind Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations (low approaches) would continue on runways which are not designated or suitable for LZ training. No archaeological resources, historical resources, or traditional cultural properties would be impacted and there would be no change to baseline conditions as described in Section 3.3.7.

4.3.7.3 Measures to Reduce Impacts

Under the Preferred Alternative/Proposed Action no archaeological resources, historic resources, or traditional cultural properties would be affected; therefore, no measures to reduce impacts would be necessary.

4.3.8 Water Resources

The BAMA EA (2005) describes impacts to Water Resources in Section 5.6, 5.10, and 5.11 (page 24, 27, and 27 respectively). No significant impacts to water resources resulting from the Preferred Alternative/Proposed Action are anticipated.

4.3.8.1 Preferred Alternative (Proposed Action)

Descriptions of the environmental consequences for the following water resources under the Preferred Alternative/Proposed Action for Construction of a Strengthened Crosswind Runway 13/31 at BAMA by the City of Belen and Pursuit of Access/Use by 58 SOW for C-130 Training follow.

Groundwater – The use of the planned Crosswind Runway 13/31 by 58 SOW would have no discernible impact on groundwater. No increase in runway surface area would occur as a result of the Preferred Alternative/Proposed Action.

Surface Water – No increase in runway surface area would occur as a result of the Preferred Alternative/Proposed Action. The strengthening of Crosswind Runway 13/31 would have no discernible impact on surface water, and the nearest surface water resources are located 3 miles from Crosswind Runway 13/31.

Floodplains/Wetlands – There are mapped floodplains on the BAMA property, however no impacts to floodplains should occur. The strengthening of Crosswind Runway 13/31 associated with the Preferred Alternative/Proposed Action should not occur in a floodplain, so impacts are not expected to floodplains or wetlands.

4.3.8.2 No-Action Alternative

Under this alternative, Crosswind Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations would continue on runways which are not designated or suitable for LZ training. There would be no change from the baseline conditions discussed in Section 3.3.8.

4.3.8.3 Measures to Reduce Impacts

Descriptions of measures to reduce impacts to water resources follow.

Groundwater – Under the Preferred Alternative/Proposed Action, impacts to groundwater would not be anticipated. Therefore, no mitigation measures would be required.

Surface Water – Under the Preferred Alternative/Proposed Action, impacts to surface water would not be anticipated.

Floodplains/Wetlands – The Preferred Alternative/Proposed Action would not directly impact any floodplains or wetlands. No mitigation measures or BMPs are available and none would be required.

4.3.9 Hazardous Materials and Wastes

An Environmental Due Diligence Audit Belen Alexander Airport Expansion (FAA, 2007b) was prepared for the DOT-FAA. Since the Preferred Alternative/Proposed Action does not require the acquisition of additional right-of-way, the report would not need to be updated. No significant impacts to hazardous materials and wastes resources resulting from the Preferred Alternative/Proposed Action are anticipated.

4.3.9.1 Preferred Alternative (Proposed Action)

Under the Preferred Alternative/Proposed Action, there would be no hazardous materials and wastes generated or disposed of at BAMA from C-130 training activities.

4.3.9.2 No-Action Alternative

Under this alternative, Crosswind Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations would continue on runways which are not designated or suitable for LZ training. There would be no change in the baseline conditions described in Section 3.3.9.

4.3.9.3 Measures to Reduce Impacts

BMPs detailed in the airport SWPPPs would be utilized as necessary to minimize the impacts or effects from the accidental release of a pollutant.

4.3.10 Ground and Flight Safety Resources

The BAMA EA (2005) includes information on Ground and Flight Safety in Section 2.1 and Chapter 3 (page 1 and 4 respectively). Additional information is included in aeronautical study No. 98-ASW-3046-NRA, which analyzed the safe and efficient use of airspace by aircraft. No significant impacts to ground and flight safety resulting from the Preferred Alternative/Proposed Action are anticipated. The potential to increase or decrease safety risks to the public, the military, and property were analyzed in those documents. Additional information follows.

Current operations at BAMA include low-approach training sorties and activities conducted by the 58 SOW as well as general private aviation traffic. Under the Preferred Alternative/Proposed Action, a total of 4,536 landing training operations would occur yearly at BAMA. While the Preferred Alternative/ Proposed Action would include additional landing and takeoffs, the overall frequency and location of activities occurring at lower altitudes would remain similar to existing baseline conditions, therefore the potential for impacts is minimal. The potential for bird-aircraft strikes would remain at previously defined baseline levels.

4.3.10.1 Preferred Alternative (Proposed Action)

Descriptions of the environmental consequences for the flight safety resources under the Preferred Alternative/Proposed Action for Construction of a Strengthened Crosswind Runway 13/31 at BAMA by the City of Belen and Pursuit of Access/Use by 58 SOW for C-130 Training follow.

Flight Safety

Emergency Response – The flight activities at BAMA would not be appreciably different from current operations. Under the Preferred Alternative/Proposed Action, C-130 aircraft would perform landing and takeoff operations at the runways, whereas under current conditions, the aircraft only performs low-approach operations. This may slightly increase accident potential due to increased risk exposure that arises from the slight quantitative and qualitative differences in the manner in which the C-130 would operate at BAMA; this change in risk exposure may result in an increase in emergency response actions.

Under the Preferred Alternative/Proposed Action, the USAF would contract for appropriate crash/fire/rescue support to meet USAF standards. The crash/fire/rescue support would remain onsite during any 58 SOW training operations in which aircraft would conduct landings and takeoffs. This emergency response presence would serve to provide immediate support in the event of an aircraft safety incident, thereby potentially lessening the severity of the incident.

Flight Safety – The Preferred Alternative/Proposed Action would not significantly change the type aircraft that utilize BAMA (i.e., general aviation, primarily single-engine, piston, propeller). However, the Crosswind Runway at BAMA that would be capable of accommodating a C-130 would allow larger business type jet aircraft to use the runway. This could result in a slight increase in potential safety incidents with the introduction of C-130 landing/takeoff.

4.3.10.2 No-Action Alternative

Under this alternative, Crosswind Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations would continue on runways which are not designated or suitable for LZ training. There would be no change from the baseline conditions discussed in Section 3.3.10 for airport safety, emergency response, wildlife management, obstacle evaluation, or flight safety.

4.3.10.3 Measures to Reduce Impacts

Descriptions of measures to reduce impacts to ground and flight safety resources follow.

Flight Safety

Since the effects to flight safety that would arise from implementing the Preferred Alternative/Proposed Action would be minor, no mitigation is proposed. However, according to the AFI 11-202V3 Waiver Permitting Lights-Out Operations in MOAs (USAF, 2001), a Notice to Airmen must be issued at least 48 hours before NVG lights-out operations commence. BMPs include contracting for increased fire protection services at BAMA. For every flight operation undertaken, mitigation of risk is an inherent duty of the aircraft commander. To assist him or her in that, the USAF has for many years been engaged in what amounts to a continuous improvement process that rigorously examines flight safety. Examples or products of this ongoing effort include: updating its technology (on-board avionics, re-engineering programs for increased reliability, airframe design); refining and automating flight planning processes, allowing delivery of accurate, timely, and actionable information for use in making a go/no-go decision; researching human factors that while difficult to quantify are known to influence accident causality; improving its ability to observe, forecast, and disseminate in a timely manner meteorological conditions; and, enhancing its responses to accidents when they should occur. The C-130 airframe has an excellent safety record, particularly considering its role in intra-theater tactical airlift, operating from austere settings with limited facilities and infrastructure. That record, apart from an excellent design, is a testament to the USAF's commitment to flight safety.

4.3.11 Recreation and Visual Resources

The BAMA EA (2005) includes information on Recreation and Visual resources in Sections 4.2.2, 4.2.3, and 5.16 (page 19, 19, and 28 respectively). No significant impacts to recreation and visual resources resulting from the Preferred Alternative/Proposed Action are anticipated.

4.3.11.1 Preferred Alternative (Proposed Action)

There are no recreational facilities or visual resources, such as BLM-Designated Visual Resource Management Areas within the area surrounding BAMA. Some of the proposed C-130 operations would be carried out under blackout conditions; therefore, the Preferred Alternative/Proposed Action would have no discernible impact on recreational facilities and/or visual resources. Currently, runway lighting is not proposed for the BAMA crosswind runway.

4.3.11.2 No-Action Alternative

Under this alternative, Crosswind Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations would continue on runways which are not designated or suitable for LZ training. There would be no change from the baseline conditions discussed in Section 3.3.11 for recreation or visual resources.

4.3.11.3 Measures to Reduce Impacts

Under the Preferred Alternative/Proposed Action there would be no impacts to visual resources or recreation. Therefore, no mitigation measures or BMPs are necessary.

4.3.12 Socio-economics Resources

The BAMA EA (2005) includes information on Socio-economics Resources in Section 5.3 (page 23). No significant impacts to socio-economics resources resulting from the Preferred Alternative/Proposed Action are anticipated. Additional information follows.

4.3.12.1 Preferred Alternative (Proposed Action)

New USAF personnel would not be assigned to BAMA; therefore, there would be no change to the socio-economics environment to the City of Belen or surrounding area and there would be no impact.

4.3.12.2 No-Action Alternative

There would be no change in the baseline conditions described in Section 3.3.12. Therefore, there would be no impact.

4.3.12.3 Measures to Reduce Impacts

There would be no mitigation measures required as a result of the Preferred Alternative. Additionally, no BMPs would be necessary.

4.3.13 Environmental Justice

To comply with EO 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and EO 13045 – Protection of Children from Environmental Health Risks and Safety Risks, ethnicity, poverty status, and environmental and health risks in the study area have been analyzed. Each resource area has been evaluated to identify the presence or absence of environmental justice populations. Based on information obtained from the USCB there is an environmental justice community in the vicinity of BAMA. Impacts would be considered significant if the alternative resulted in disproportionate and adverse impacts to established environmental justice communities.

4.3.13.1 Preferred Alternative (Proposed Action)

There are no sensitive receptors (in particular, residences) within the 65 dB DNL noise contour. Therefore, there would be no adverse noise impacts to sensitive receptors as a result of the implementation of the Preferred Alternative/Proposed Action. Other impacts (e.g., air quality) would be distributed over all populations in the area. Therefore, there would be no disproportionate and adverse impacts to minority populations.

4.3.13.2 No-Action Alternative

Under this alternative, Runway 13/31 at BAMA would not be strengthened, and the C-130 training operations would continue on other runways. There would be no change from the baseline conditions.

4.3.13.3 Measures to Reduce Impacts

There would be no disproportionate adverse impacts to any population as a result from the Preferred Alternative/Proposed Action; therefore, no measures to reduce impacts would be required.

4.3.14 Cumulative Effects

As previously shown in Section 2.7, other actions announced for the region of influence for this project that could occur during the same time period as the alternative actions are:

The Camino del Llano road near BAMA is currently undergoing a major expansion. When completed, the two-lane road will have been widened to a five lane road. The following actions for BAMA are included in the New Mexico Department of Transportation – Aviation Division Capital Improvement Program:

- Access road and taxiway improvements (2013)
- Design and construct helipad (2015)
- Phase I multi-use facility; taxiway A rehabilitation/reconstruction; wildlife hazard survey (2016)
- Phase II construction of multi-use facility (2017)
- Crosswind Runway 13/31 extension; hangar development area; parallel taxiway construction (2018)

Descriptions of the cumulative effects for the resource areas follow.

Airspace Use and Management

The effects from the Preferred Alternative/Proposed Action on airspace use and management would be minor. Considering the other ongoing actions, the cumulative effects would still remain minor. Airspace use and management is essentially a capacity analysis determining whether the airfields and terminal airspace would have sufficient capacity to absorb the growth programmed for BAMA along with the additional operations generated by the Preferred Alternative/Proposed Action. The airfield improvements would add capacity to the airfield and the terminal area airspace would retain sufficient capacity such that a change in classification to a more restrictive level would not be required. Therefore, the inclusion of other foreseeable actions with the Preferred Alternative/Proposed Action would not be expected to change the anticipated consequences materially.

Noise

The nature of noise analysis as performed by the DoD and FAA takes into consideration cumulative effects by design. The noise metric used, DNL, is a cumulative metric that accounts for all known sources of aircraft noise at the time that the modeling is performed. The proposed airfield improvement project at BAMA would be or has been the subject of separate analysis under NEPA. It is anticipated, however, that in the absence of that detailed data collection and analysis, that their effect would be comparatively minor. The logarithmic nature of noise requires operations to double or flight profiles (tracks, airspeeds, power settings, elevation above the ground over a given receiver) to be markedly different from what is analyzed to cause contours to shift or expose sensitive receptors to noticeable increases in noise exposure. Certain projects, such as airfield improvement projects at BAMA would likely cause some changes to the shape or orientation of the contours. Despite that, the location of the airport in a relatively sparsely populated area serves to prevent or minimize incompatible land uses and thus adverse effects. Therefore, the inclusion of other foreseeable actions with the Preferred Alternative/Proposed Action would not be expected to change the anticipated consequences materially.

Land Use

There would be no change to land use and no resulting land use conflicts under the Preferred Alternative/Proposed Action or the No-Action Alternative; therefore, the Preferred Alternative/Proposed Action would not contribute to cumulative effects to land use. Any acquisition of additional land and construction for the concurrent project would require conformance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Pl 91-646, as amended [42 USC Chapter 61]) and regulations of the DOT in 49 CFR Part 24.

Air Quality

There would be no change in long-term emissions as a result of the Preferred Alternative/Proposed Action; therefore, long-term impacts from the Preferred Alternative/Proposed Action would not contribute to cumulative effects.

The emissions from the alternative actions are from mobile sources (equipment and vehicles) are short-term in nature and occur off-base. These emissions quickly dissipate away from the activity source, thereby preventing contribution to cumulative impacts to future potential projects that may be conducted in the area or at Kirtland AFB.

The cumulative impacts from the Preferred Alternative/Proposed Action, and other proposed projects are expected to have no significant impact when compared to the total criteria pollutant emissions for Bernalillo County. Though a limited amount of Greenhouse Gas (GHG) emissions would result from the implementation of the Preferred Alternative/Proposed Action, these would not contribute significantly to global warming.

Earth Resources

It is anticipated that the activities under the Preferred Alternative/Proposed Action would result in very little, if any, contribution to soil erosion within the airport project areas. Therefore, these actions would not contribute to impacts to geology and soils resulting from other projects described in Section 2.7.

Biological Resources

The Preferred Alternative/Proposed Action, along with other foreseeable future projects (e.g., airport improvements), would be implemented on airport property in relatively disturbed environments with little to no sensitive habitat and no known threatened or endangered species or rare plant species. Short-term, negligible cumulative impacts from noise may occur if the airport improvement projects involve construction in conjunction with the C-130 landing exercises. Overall, cumulative impacts of implementation of the Preferred Alternative/Proposed Action and other past, present, and reasonably foreseeable actions at BAMA on the biological resources of the area would be negligible.

Cultural Resources Impacts

The lack of adverse effect to historic properties within the APE of BAMA precludes any significant cumulative impacts to historic properties under the Preferred Alternative/Proposed Action. Therefore, the Preferred Alternative/Proposed Action would not contribute to cumulative effects within the BAMA APE.

Water Resources

The Preferred Alternative/Proposed Action would not have an impact on any water resources at or around BAMA and therefore would not contribute to cumulative effects on this resource.

Hazardous Materials and Wastes

The Preferred Alternative/Proposed Action actions would require the management of hazardous materials and wastes. Management of these materials and waste streams would be handled, stored, and disposed of in accordance with applicable Federal, state, and local regulations and laws; therefore, the Preferred Alternative/Proposed Action would not contribute to cumulative effects to hazardous materials and wastes in or around BAMA.

Ground and Flight Safety

Ground Safety –The Preferred Alternative/Proposed Action would contribute slightly to the overall increase in potential ground safety incidents due to increased use of BAMA associated with other construction projects described in Section 2.7.

Construction Safety – The Preferred Alternative/Proposed Action would not include any construction activities and would not contribute to construction-related incidents associated with concurrent or similar projects described in Section 2.7. However, there are strict regulations and operational practices that would be implemented during construction activities that would reduce the risk for mishaps, illness, and injuries to workers.

Flight Safety – The nature of flight safety analysis as practiced by the DoD and FAA takes into consideration cumulative effects by its design. Flight safety employs risk management concepts that compare the likelihood of occurrence against severity of consequences for an overall risk assessment; this assessment process is undertaken in deciding whether the mission requires accepting the level of risk present at a particular time. It also takes a wide variety of factors into account during the mission planning process including weather, ATC delays, airfield suitability, aircraft loading, and numerous other factors. While the proposed airfield improvement projects at BAMA would be or have been the subject of separate analysis under NEPA and their effects on flight safety would be assessed separately, it is doubtful that in the absence of that detailed data collection and analysis, that their effect would appreciably alter the overall minor level of risk presented by the Preferred Alternative/Proposed Action.

While flight operations entail a degree of risk compared to not flying, the USAF has an exemplary record of flight safety, the product of systems and processes designed to minimize risk. Other foreseeable actions and projects, including airfield improvements would tend to decrease accident potential by virtue of their increasing safety tolerances for takeoff and landing operations compared to baseline conditions. The inclusion of other foreseeable actions with the Preferred Alternative/Proposed Action therefore would not be expected to change the anticipated consequences materially.

Recreation and Visual

Since flight tracks proposed under the Preferred Alternative/Proposed Action are similar to those currently flown, aircraft visibility and noise levels would be similar to baseline conditions. Therefore, the Preferred Alternative/Proposed Action would not contribute to cumulative effects on this resource.

Infrastructure and Utilities

Potable Water – Since watering for all dust suppression activities would be temporary in nature, and the City of Belen has sufficient potable water capacity to support an increase in usage, there would be no impacts to potable water supply in the City of Belen.

Solid Waste – Since the Preferred Alternative/Proposed Action would generate only de minimis quantities of solid waste, they would contribute a negligible amount to the overall solid waste generated from projects described in Section 2.7.

Drainage – The Preferred Alternative/Proposed Action would not generate an increase in impervious cover; therefore, the Preferred Alternative/Proposed Action would not contribute to cumulative effects on drainage.

Transportation

Since the construction activities under the Preferred Alternative/Proposed Action would be limited in duration, any cumulative traffic impacts would be limited to the duration of concurrent construction. Therefore, the Preferred Alternative/Proposed Action would not contribute to cumulative effects on this resource.

Socio-economics Resources

The Preferred Alternative/Proposed Action would not contribute to a change in population, housing, or education and therefore would not contribute to cumulative effects on this resource.

Environmental Justice

There is an environmental justice population in the City of Belen; however, the minority population would not be adversely impacted due to the Preferred Alternative/Proposed Action actions. Therefore, the Preferred Alternative/Proposed Action would not contribute to cumulative effects on this resource

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5.0 LIST OF PREPARERS

This EA has been prepared under the direction of the Air Force Civil Engineer Center (AFCEC), USAF, 58 SOW, and FAA.

The major contributors to the preparation of this EA are listed below.

Table 5-1. List of Preparers

Name/Organization	Degree	Resource Area	Years of Experience
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Daniel Robinson, PE/Wyle	MS & BS, Mechanical Engineering	Noise	11
Noreen Castellano/Wyle	BS, Biology; MS Environmental Management	Air Quality	1
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Eric Smith/Wyle	MA, Geography; BS, Environmental Science	GIS	14
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6.0 PERSONS AND AGENCIES CONSULTED/COORDINATED

The following Persons and Agencies were contacted in the preparation of this EA

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Ms. Mary Lucy Baca Belen City Manager 100 S. Main Street Belen, NM 87002	Mr. Steven Tomita City of Belen, Planning and Economic Development 100 S. Main Street Belen, NM 87002
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APPENDIX A

Environmental Assessment Document Proposed Airport Expansion Belen Alexander Municipal Airport (2005)

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Federal Aviation Administration

Memorandum

Date: September 30, 2005

From: Airports Environmental Specialist, ASW-640D

To: Manager, Louisiana/New Mexico Airports Development Office, ASW-640

Subject: **ACTION**: Finding of No Significant Impact (FONSI) for Proposed Improvements to Belen Alexander Municipal Airport, Belen, New Mexico

A. ISSUE - PROPOSED FEDERAL ACTION.

This paper is to request approval of this Finding of No Significant Impact (FONSI) for proposed improvements at Belen Alexander Municipal Airport, which serves the city of Belen, New Mexico. The proposed airport improvements consist of the following items: (1) approve changes to airport layout plan (ALP); (2) acquisition of approximately 545 acres of land for new runway expansion; (3) construction of new Runway 12/30, 5,280 feet x 75 feet; (4) a parallel taxiway; (5) Runway Protection Zones (RPZs) for each runway end; (6) visual runway markings, lighted wind cone for Runway 12/30; (7) upgrading of airport fencing; and (8) acquisition of 65 acres for RPZ to Runway 3/21.

B. PROCEDURAL BACKGROUND AND FONSI FORMAT.

Summary: An Environmental Assessment (EA) was prepared for this proposed project. The EA was prepared in compliance with the format and content of Federal Aviation Administration (FAA) environmental assessments prescribed in FAA Orders 1050.1E, Environmental Impacts: Policies and Procedures and 5050.4A, Airport Environmental Handbook. Order 5050.4A is a self-contained document which includes the information essential to meeting procedural and substantive environmental requirements set forth by the Council on Environmental Quality (CEQ) in its regulations implementing the National Environmental Policy Act (NEPA), specifically sections 1505.1 and 1507.3. Compliance with Order 5050.4A constitutes compliance with Order 1050.1D, Policies and Procedures for Considering Environmental Impacts, for airport actions.

According to CEQ regulations, should an EA indicate no impacts of significance associated with the proposed project, a FONSI should be prepared documenting such, approving the project for Federal action consideration.

No thresholds of significance were found to be exceeded in the EA. After analysis of the EA, correspondence received from agencies during the intergovernmental coordination

process, and other supporting documentation, the FAA determined that a FONSI was justified for the proposed airport improvements.

The EA was circulated for review by appropriate Federal, state, and local agencies. Local citizens were also encouraged to provide comments. Notice of an opportunity for a public hearing was advertised in the local papers; however, no request for a hearing was received. No comments or concerns were received and all possible actions will be taken to minimize any potential impacts as a result of the proposed projects.

C. PURPOSE AND NEED FOR THE PROPOSED AIRPORT IMPROVEMENTS, COMPARISON OF ALTERNATIVES, AND SELECTION OF PREFERRED ALTERNATIVE.

The purpose and need for the proposed airport improvements are described in the EA on page 1. The principal airport improvements will serve the purposes of meeting current and future airport capacity needs, stimulating additional industry and business, and increasing the ability of the Belen Alexander Municipal Airport to provide safe, efficient, reliable, and environmentally compatible airport services.

Comparison of Alternatives and Selection of Preferred Alternative: The following alternatives were considered in this EA (see pages 4 thru 14) and FONSI: (1) do nothing; (2) construction of a new runway (sponsor's preferred alternative); and (3) relocation and reconstruction of existing Runway 3/21.

The alternatives were evaluated based on the following factors: environmental impacts; cost considerations; air traffic capacity/delay factors; and airspace utilization. After a complete consideration of all alternatives studied in the EA, and other available information, construction of a new runway, along with the no action alternative, was selected by the city of Belen, and the FAA concurs in this recommendation. This option was preferred because, among other factors, it was found to be the most beneficial, the least environmentally disruptive alternative, and it would best meet FAA's statutory mission of promoting a safe and efficient nationwide airport system by providing significant capacity enhancement.

D. AFFECTED ENVIRONMENT AND AREA CHARACTERISTICS.

1. **Location**: The Belen Alexander Municipal Airport is located in south central Valencia County, approximately 32 miles south of Albuquerque (see EA, page 14 and Appendix A), along Interstate Highway 25. It is 1.5 miles west of Belen, within the Llano de Albuquerque, a long narrow mesa that separates the Rio Puerco from the Rio Grande.

2. **Land Uses**: There are residences located along the western boundary of the proposed project and the remainder of the land surrounding the proposed project is zoned by Valencia County for residential development (See Appendix A). There are no residences located within the proposed project area. The city has prepared a land use assurance letter located in Appendix G of this EA indicating its intention to adopt zoning and other reasonable planning efforts to ensure compatibility of the surrounding area with the proposed airport improvements.

E. SUMMARY OF ENVIRONMENTAL IMPACTS.

For the types of airport improvement actions described herein, an EA leading to a FONSI is normally appropriate; whereas, an EIS is required only if one of the thresholds of significance for the 20 environmental impact categories mentioned in Order 5050.4A is exceeded.

The following categories were identified in the EA as suffering some sort of environmental impact due to the proposed project. These impacts either exceed the thresholds of significance, or while not exceeding the thresholds, were still worthy of some form of investigation and, where appropriate, mitigation. The following conditions apply:

Noise: **Condition:** Temporary increased noise levels will be present during construction phases. The airport sponsor will ensure that the project conforms to the requirements of FAA Advisory Circular 150/5370-10, Standards for Specifying Construction of Airports.

No residential properties are located off runway ends; therefore, no noise impacts are anticipated due to the low number of operations at the airport. The airport sponsor has indicated that zoning will be instituted to prevent further incompatible development.

Water Quality: **Condition:** The airport sponsor will prepare a Storm Water Pollution Prevention Plan (SWPPP) using Best Management Practices as a guide An NPDES General Construction Permit was required and issued for the project. The project will also require a Storm Water Multi-section General Permit which requires the SWPPP.

Historical, Architectural, Archaeological, and Cultural Resources: **Condition:** If cultural resources are encountered during construction, work shall cease in the immediate area and Federal regulations pertaining to emergency discovery shall be followed. The FAA Southwest Regional Airports Division Office and the State Historic Preservation Officer will be notified as soon as possible, along with the Native American tribe of concern. The New Mexico State Historic Preservation Officer concurred with the proposed project as having no effect provided the project construction conformed with Construction Protocols that are attached to this FONSI.

Fish, Wildlife and Plants: **Condition:** Because of the potential for the presence of the Burrowing Owl, if construction activities cannot be delayed until the end of nesting season, a field review shall be conducted prior to construction to ensure that no species of concern are present. If they are located within the project area, they should be relocated under the terms of the U.S. Fish and Wildlife Service Special Permit.

On pages 30 and 31 of the EA, Section 7.0, recommended mitigation measures are listed, proposed to be implemented during the design and construction phases of the proposed project.

In accordance with 40 CFR § 1505.3, the FAA shall take steps as appropriate to the action, such as through special conditions in grant agreements, property conveyance deeds, releases, airport layout plan approvals, and contract plans and specifications and shall monitor these as necessary to assure that representations made in the EA and FONSI, where applicable, with respect to mitigation of impacts will be carried out.

Mitigation plans to be developed, where applicable, will be coordinated with the appropriate jurisdictional agencies.

Specifically, conditions of approval associated with this project are listed above.

F. DECISION CONSIDERATIONS.

Throughout the development of the airport, including the proposed improvements described in Part A above, the FAA has made every effort to adhere to the policies and purposes of NEPA, as stated in CEQ Regulations for Implementing NEPA, 40 CFR § 1500-1508. The FAA has concentrated on the truly significant issues related to the action in question. In its determination whether to prepare an EIS or process the EA as a FONSI, the FAA weighed the following considerations:

In accordance with 40 CFR § 1507.3 and 1501.4, the Order 5050.4A represents the agency procedures to supplement the CEQ Regulations for airport development projects. Order 5050.4A states:

> The following Federal actions will normally require an environmental impact statement: ... first time airport layout plan approval or airport location approval for a commercial service airport located in a standard metropolitan statistical area. Even though these actions normally require an EIS, the preparation of the EIS will usually be preceded by an EA. If the EA demonstrates that there are no significant impacts, the action shall be processed as a FONSI instead of an EIS.

This proposed action will involve neither first-time airport layout plan approval nor airport location approval for a commercial service airport located in a standard metropolitan statistical area; thus an EA was prepared as specified by Order 1050.1E and 5050.4A. After examination of the EA, comments from Federal, state, and local agencies, as well as all other evidence available to the FAA, the FAA has determined the available record demonstrated that no thresholds indicating the potential for significant impact were exceeded and an EIS is not required. In addition, the FAA determined that existing evidence available to the agency clearly points to the proposed project as beneficial in fulfilling the FAA's statutory mission of promoting a safe and efficient nationwide airport system, and further study of the issues in an EIS will result only in "amassing needless detail."

The documents under review have adequately provided the agency with the information it needs: (a) to make an informed, objective decision on the environmental effects, as well as other effects, of the proposed project; and (b) to take actions that protect, restore, and enhance the environment. The EA and subsequent correspondence provided the FAA with adequate information to determine where it needs to initiate mitigation plans that will be completed prior to construction, and to ensure that actions will be taken to protect, restore, and enhance the environment. The FAA weighed both the potential positive and negative consequences that this proposed action may have on the quality of the human environment. Further processing of this proposed action in an EIS would needlessly generate additional paperwork and a rehashing of issues, while simultaneously impeding

the FAA from carrying out its mission and blocking a primary goal of NEPA -- that of fostering excellent action.

In summary, the FAA opts to use a finding of no significant impact based on its conclusions that the proposed project will not have a significant effect on the human environment. While preparation of an EIS would generate more paperwork and would most likely delay the proposed project, it would not necessarily provide further benefits nor would it diminish the need for the proposed project. Any benefits that an EIS could provide will equally be provided in this proposed project by the satisfaction of the conditions in this FONSI.

G. FEDERAL FINDING.

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in section 101(A) of the National Environmental Policy Act of 1969 (NEPA) and that it will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to section 102(2)(C) of NEPA.

H. RECOMMENDATION. I recommend that you approve the proposed development subject to conditions set forth herein.

Joyce M. Porter

Joyce M. Porter

Attachment

APPROVED: _____ 9/30/05

Manager, LA/NM Airport Development Office, ASW-640D Date

DISAPPROVED: _____

Manager, LA/NM Airport Development Office, ASW-640 Date

STATE OF NEW MEXICO
OFFICE OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION
LA VILLA RIVERA BUILDING
228 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87501
(505) 827-6320

CONSTRUCTION PROTOCOLS

There remains a potential of uncovering cultural remains during the construction phase of this project. For this reason we feel the contractor should be instructed regarding protocols about what-to-do if there are any discoveries of artifacts or other materials (pottery, glass, bone, metal) during construction: 1) work must cease; 2) they should notify this office immediately (505-827-6320); 3) all work in the vicinity of the discovery must stop until an archaeologist can inspect the site; 4) work may continue in other parts of the project.

ENVIRONMENTAL ASSESSMENT DOCUMENT
PROPOSED AIRPORT EXPANSION
BELEN ALEXANDER MUNICIPAL AIRPORT
CITY OF BELEN, NEW MEXICO

Prepared for

City of Belen
100 South Main Street
Belen, New Mexico 87002

September 19, 2005

This Environmental Assessment becomes a Federal document when evaluated and signed by the responsible FAA official.

9/29/05

Responsible FAA Official/Date

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APPENDICES

1.0 PROPOSED ACTION

Belen Alexander Municipal Airport (BAMA) is estimated in the 2002 New Mexico Airport System Plan (NMASP) **(1)**, to provide 44 jobs and a total economic impact of $2,312,000 per year to the Belen area. Because of this positive economic impact, the City of Belen is proposing renovation and improvement of BAMA and its operational areas. The improvements would consist of acquisition of approximately 545 acres of land for expansion of airport facilities and construction of an additional runway (12/30, 5,280 feet long by 75 feet wide), parallel taxiway, and Runway Protection Zones (RPZ) for 12/30. In addition, 65 acres will need to be acquired for the existing Runway 3/21 RPZ for a total of 610 acres to be acquired. Additional improvements include application of visual runway markings, construction of a parallel taxiway, construction of a lighted wind cone for new Runway 12/30, and upgrading of airport fencing. The general project area is shown in Figure 1 in Appendix A. Topographic maps of the project site are provided in Figures 2a and 2b in Appendix A. Aerial photographs of the project site are included in Figures 3a and 3b.

2.0 PURPOSE AND NEED FOR ACTION

2.1 Need for Action

Existing Runway 3/21 and the parallel taxiway have been in service for approximately twenty-four years and were determined in the BAMA Airport Layout Plan (ALP) prepared by Molzen-Corbin & Associates (MCA), May 1996 **(2)**, to require rehabilitation to extend the useful life of the asphalt. The paved surface of the runway had block cracks up to three inches wide at the time of the report preparation with some sub-grade damage, while the taxiway had no noted sub-grade failures. In 2002, Runway 3/21 was crack sealed and surface sealed. Additional rehabilitation is scheduled within the next five years.

Under the 2003 NMASP, BAMA was categorized as a “Gateway” facility. These types of facilities provide access to business aircraft within 30 minutes drive of a population center. Gateway designated airports are general aviation airports capable of serving 100 percent of small airplanes (Airport Reference Code (ARC) B-II) and have a pavement strength of 30,000 pounds, a one mile instrument approach visibility minimum, automated weather reporting, visual glide slope indicators and a minimum of Low Intensity Runway Lighting (LIRL). With regard to runway lighting, the Federal Aviation Administration’s (FAA) current practice is to install Medium Intensity Runway Lighting (MIRL) rather than LIRL.

The NMASP consists of a 5-year Capital Improvement Plan (CIP) to help bring the system airports to meet safety and operational standards. Under this designation, the City of Belen requested assistance and received approval from the FAA on November 30, 1998 for the airspace needed for improvements. This approval is based on aeronautical study No. 98-ASW-3046-NRA **(3)**, which analyzed the safe and efficient use of airspace by aircraft.

The need for improvements to BAMA is supported by the Total Airport Operations Forecast prepared by the City of Belen, which indicates a projected growth of 7.8 percent in total operations by 2020. FAA approved this forecast as indicated in a letter to the City of Belen dated May 12, 2005, which is included in Appendix F. A table with a summary of the airport operations forecast is listed below:

Table 1. Belen Alexander Municipal Airport Operations Forecast

Type of Operation	Commercial	Itinerant General Aviation	Military Aviation	Local General Aviation	Total Operations
2005	150	5,000	200	7,923	13,273
2006	150	5,000	200	7,923	13,273
2010	152	5,065	203	8,026	13,446
2015	157	5,229	209	8,286	13,881
2020	162	5,388	216	8,538	14,304

The approved ALP resulting from the aeronautical study recommends the construction of a new Runway 12/30 to address crosswind problems with the existing runway. The construction activities for BAMA are divided into 2 phases: Stage I (proposed), and an Ultimate Stage (planned). Under the Stage I construction phase, new Runway 12/30 would be constructed. In addition, perimeter fencing would be constructed or upgraded, the primary wind cone and segmented circle would be relocated to improve their visibility, a supplemental wind cone would be added for the new runway and additional property would be acquired for RPZs. Zoning adjacent to the airport would also need to be updated to protect the airspace required for Runway 12/30.

Runway 3/21 would maintain its classification as an ARC B-I. B-I runways are for use by aircraft with approach speeds of 91 knots but less than 121 knots and wingspans of less than 49 feet. Examples that fit these characteristics are Beech Baron 58 series; Cessna Citation I; and Gates Learjet 28/29 based on Appendix 13 of FAA Advisory Circular 150/5300-13 **(4)**.

Under Stage I, land would be acquired and the new Runway 12/30 is proposed to be constructed to B-II standards, which allow for use by aircraft with approach speeds of between 91 and 120 knots and wingspans of from 49 feet up to, but not including, 79 feet. Examples of aircraft that fit B-II characteristics aircraft are BAe Jetstream; Beech Airliner 1900-C; Cessna Citation II and III; and the Grumman Gulfstream I.

The ALP also calls for a planned future expansion of airport Runway 12/30 to accommodate class B-III/C-II operations under the Ultimate Stage construction phase. This future expansion would allow the operation of aircraft such as the BAe 146 series; Canadair CL-600; Convair; Grumman Gulfstream III; and the Lockheed JetStar. Specifically, planned improvements to Runway 12/30 would accommodate either aircraft (B-III) with approach speeds not exceeding 121 knots and wingspans up to, but not exceeding, 118 feet or aircraft (C-II) with approach speeds of up to, but not including, 141 knots and wingspans up to, but not including, 79 feet. BAMA is planned to also receive installation of Runway End Identifier Lights (REIL) for Runway 12/30 and a Precision Approach Path Identifier (PAPI) on Runway 3 is planned in the Ultimate Stage. This would provide enhancements to the existing non-precision approaches to Runway 3/21. The Ultimate Stage construction is not part of the proposed project, but a planned project that has not been scheduled at this time.

The specific proposed project items for which the City of Belen is presently seeking approval and funding are listed in the following section (2.1.1).

2.1.1 Proposed Facilities Improvements and Construction Activities

The following project (Alternative B) is proposed for FAA approval and funding for the Stage I construction. Proposed activities might have consequences on the human environment and resources surrounding the airport. The items requested for approval and funding are:

- Acquisition of 610 acres of land for Runway 12/30, parallel taxiway, and RPZs for Runways 12/30 and 3/21.
- Construction of Runway 12/30 (5,280 feet long by 75 feet wide) and parallel taxiway.
- Application of visual runway markings to Runways 12/30.
- Installation of MIRL and Medium Intensity Taxiway Lighting (MITL) systems for Runway 12/30 and parallel taxiway.
- Upgrading of Airport Fencing.
- Construction lighted wind cone for New Runway 12/30.

2.1.2 Land Acquisition Requirements

To accomplish the desired safety and expansion improvements, the airport boundaries would need to be expanded to accommodate the longer and wider runway. The present airport property has an area of 142 acres, encompassing all current administrative and operational facilities necessary for aircraft and public service operations. The new runway and additional facilities would require an additional 610 acres of land to adequately encompass the proposed changes. Refer to the approved ALP included in Appendix E.

The land adjacent to the existing airport property is currently owned by the G.W. Burris family, Buddy Majors and Rancho Rio Grande Unit One subdivision (Figure 5, Appendix A)

2.2 Purpose of Action

The current National Plan of Integrated Airport Systems (NPIAS) **(4)** report lists BAMA as a general aviation facility with no change in designation within the five year planning period. The NPIAS report also indicates that an estimated $5.9 million will be required for development costs at BAMA over the next five years. The need for expansion of the facility to meet future needs is due to the growth in population in the Belen/Los Lunas/Albuquerque area and the closure of the Coronado Airport in northern Albuquerque in November 2001. Therefore, the specific needs of this project are to, in general, expand the airport facility and increase the safety of operation.

BAMA is currently listed as an ARC B-I facility with an approach speed of 91 knots but less than 121 knots and an airplane design group with wingspans of less than 49 feet. The proposed project calls for construction of an additional runway, Runway 12/30, and parallel taxiway to be built to an ARC of B-II standard. This portion of the project would also include associated MIRL and MITL, construction of an

additional wind cone and relocation of the existing primary wind cone to provide better visibility. These improvements would allow for larger and faster aircraft to access BAMA, thus providing relief to surrounding airports and meeting demands for this type of service. Finally, the addition of fencing will delineate the boundaries of the property and further provide increased security to the facility from livestock that occasionally gain access to airport property, including runways.

2.3 Proposed Federal Actions

Relative to the proposed action and in addition to funding, the following Federal Actions would be necessary if the proposed action is approved:

- ALP approval to indicate the proposed actions on the ALP - Conditionally approved ALP reflects proposed action.
- Federal participation in the funding of the land acquisition for the proposed runway, RPZ, taxiway and associated airport improvements - Federal participation in the funding will be requested for the land acquisition, runway and taxiway construction and associated improvements included in the proposed action.

The FAA will not be involved with the following actions:

- Installation of navigational aids (NAVAIDs) to be maintained by FAA - FAA will not be involved in maintenance of NAVAIDs under the proposed action.
- Air traffic procedures that must be developed by FAA under the proposed action - There are not any air traffic procedures that must be developed by FAA under the proposed action. The City plans to install a PAPI system on the proposed runway, but specific schedule or funding for that has not been determined.

3.0 PROJECT ALTERNATIVES

A total of four (4) alternatives were considered in this environmental assessment for the BAMA project (Figure 6, Appendix A). The alternatives are:

- Alternative A: No Action Alternative.
- Alternative B: The Proposed Action: Proposed construction of a new ARC B-II rated runway and parallel taxiway; proposed installation of NAVAIDs; acquisition of 610 acres of land for Runway 12/30, parallel taxiway, and RPZs for Runways 12/30 and 3/21; and construction/upgrading of airport fencing.
- Alternative C: Construction of a new runway only to a B-I operational level; construction of parallel taxiway; installation of NAVAIDs; acquisition of 610 acres of land for Runway 12/30, parallel taxiway, and RPZs for Runways 12/30 and 3/21; and construction/upgrading of airport fencing.
- Alternative D: Relocation and reconstruction of existing Runway 3/21.

Acquisition of land under Alternatives B and C would be as follows:

Description	Acres
Proposed Runway 12/30 and Parallel Taxiway	415
Proposed Runway 12 RPZ	65
Proposed Runway 30 RPZ	65
Existing Runway 3 RPZ	35
Existing Runway 21 RPZ	30
Total Land Acquisition	**610**

Six runway alternatives were initially developed and analyzed during the preparation of the BAMA Master Plan, 1996 **(5)**. In addition to the action alternatives listed above, the alternatives selected for analysis during the preparation of that document also included an 8/26 alignment along the north boundary of the airfield (Alternative E), an 8/26 alignment along the south boundary of the airfield (Alternative F), and use of another airport during crosswind periods (Alternative G).

Alternatives E and F (Figure 6, Appendix A) would not accommodate the crosswinds that interviews with local pilots and the airport manager reported as predominately from the northwest. Local wind data is not available for BAMA and data from Double Eagle II Airport was used along with information gathered from local pilots and the airport manager to determine the crosswind directions.

A primary consideration in evaluating the alternative runway alignments during the preparation of the Master Plan involved the land acquisition. Acquisition of the Burris Property, the large parcel surrounding the existing airfield, has been planned by the City of Belen to accommodate airport and aviation related development for over 10 years. Acquisition of the Burris parcel would accommodate Alternatives B (proposed action) and C to a crosswind length and a portion of the necessary RPZs. Additional property acquisition is required for the remainder of the necessary RPZs for these two alternatives. Alternates E and F would involve land acquisition from more individual property owners. A crosswind runway length of 5,280 feet could not be constructed within the Burris Property (the large parcel that surrounds the existing airport property) for these alternatives.

Alternatives E and F would encroach on existing development where Alternative B could be constructed and land acquired for the RPZs without impacting existing structures and houses. Relocation of existing structures and homes was determined by the City not to be practical. Alternatives E and F provide the least buffer between adjacent private property and the proposed runway. Additionally, Alternative F would fall within Zone A of the FEMA Floodplain and would require additional analysis and possible mitigation.

Use of another airport during crosswind periods was an alternative (Alternative G) that was discussed during the preparation of the Master Plan. The closest public airports with a runway that could accommodate aircraft during periods of restrictive crosswind are Double Eagle II or Albuquerque Sunport.

These airports are approximately 40 miles from BAMA and have runways aligned in 4-22/17-35 or 8-26/17-35/12-30 directions, respectively. Construction of the proposed second runway (Alternative B) provides BAMA with the capability to accommodate larger and faster aircraft.

Based on the above considerations, Alternatives E, F, and G are eliminated from further discussion in this environmental assessment.

In evaluating the four alternatives further considered by the City of Belen, key screening criteria included costs, disruption to the airfield, future surrounding land use, and future ability to grow and support different classes of aircraft.

3.1 Alternative A - No Action Alternative

Alternative A, the no action alternative, would provide for no improvements to BAMA. The advantages of the no action alternative are savings of any proposed expenditures other than those already spent in engineering and environmental studies, no disruption to the airfield, and no additional impact to the surrounding area, either positively or negatively, relative to the action alternatives. The disadvantage of the no action alternative is the inability for the airport to grow in the future and accept different classes of aircraft.

3.1.1 Relationship to Statutes, Regulations or Other Plans

No special purpose laws, regulations or permits and licenses would be required by this alternative.

3.2 Alternative B - B-II Standards (Proposed Alternative)

Benefits of the proposed runway and facilities construction are centered on increasing the safety and operational capabilities of BAMA. Alternative B was recommended in the Master Plan document as the preferred alternative for the second runway at Belen Alexander. This recommendation was carried forward as the proposed action under this document. Alternative B fulfills required crosswind coverage with a runway length and strength able to meet the airport's future needs of supporting aircraft. From an environmental standpoint, the construction activities would be divided into:

1. Construction of Runway 12/30, parallel taxiway and all auxiliary surfaces to B-II standards.
2. Installation of lighted windcone and segmented circle, markings, and MIRL/MITL.
3. Construction of airport fencing.

The construction activities that would affect the human environment and biological areas surrounding the airport are those increasing or modifying current land uses. The construction of the runway, taxiway and related auxiliary services substantially increase or modify land use and therefore must be considered in review of potential environmental impacts and identification of applicable mitigation measures. Table 2 (Section 3.2.5) is a general summary of the anticipated actions related to construction of the runway and associated structures and anticipated permitting and coordination activities associated with those actions.

3.2.1 Construction of Runway 12/30 to B-II Standards

Under Alternative B, the proposed new runway would be built to a length of 5,280 feet and a width of 75 feet. The pavement section would consist of 2-inch P-401 bituminous surface course, a 6-inch P-209 aggregate base course and a 12-inch P-152 crushed stone base. The base material will extend a minimum of 3 inches beyond the width of the surface course pavement. Runway 12/30 would be constructed to accommodate aircraft weight loads of up to 25,000 pounds. Based on discussions with FAA, New Mexico Department of Transportation (NMDOT) Aviation Division, and the City of Belen during development of the Action Plan, MCA has indicated that the 5,280 feet runway length accommodates crosswind criteria. The five-year CIP contains numerous variables, including funding. The City's desire to upgrade Runway 12/30 (as indicated in the five-year CIP) appeared more probable with a phased approach in discussions between MCA, the FAA and NMDOT Aviation Division.

The proposed new parallel taxiway will be the full length of the proposed runway (approximately 5,280 feet long) and will be 35 feet wide. The taxiway will be built to B-II standards and would include a MITL system. The taxiway safety area would be 79 feet wide.

A RPZ on both ends of the runway is required by the FAA to be cleared to satisfy safety and operational requirements of the proposed upgraded airport. The function of the RPZ is to enhance the protection of people and property on the ground. The control of the RPZ is achieved preferably by acquisition of sufficient property surrounding the airport area to meet requirements of the RPZ.

The RPZ is trapezoidal in shape and begins 200 feet beyond the area useful for takeoff or landing, and would be 1,700 feet long by 500 feet inner width and 1010 feet outer width. To further increase air traffic safety as well as reduce the potential for accidental wildlife deaths from airplane/wildlife collisions, the projected RPZ area must be cleared of objects that will attract wildlife, or that will interfere with NAVAIDs. The RPZ for Runway 12/30 would be cleared of any poles, lights that might attract wildlife, and any man made structures that might intrude on the approach path. All existing plant life that might be in the RPZ can be left undisturbed if their height is small enough to not cause interference. The FAA specifically prohibits the location of residences and places of public assembly within the RPZ. The mitigation steps for any wildlife present will be discussed in the appropriate sections.

3.2.2 Installation of NAVAIDs, Markings and Lighting Systems

Under Alternative B, the proposed project calls for the construction of a lighted wind cone and segmented circle at the side of Runway 12/30. The lighted wind cone, and segmented circle construction are NAVAIDs that would support pilots during both day and night operations, and would complement the MIRL system.

The lighted wind cones consist of orange cones, installed on poles that are seen at airports and heliports throughout the world. The base (or wide) part of the cone aligns itself with the direction of the prevailing wind. The apex of the cone indicates the direction from which the aircraft must approach the runway. The lighted cone that would be installed beside the proposed runway would have a lighting system attached to its base, consisting of four 150-watt, 115-volt lamps in appropriate outdoor housing. In this manner, the cone would be visible after dark.

The segmented circle indicates the preferred traffic pattern determined for operations at the airport. This would allow pilots to determine visually if traffic would be making right or left hand turns into the approach end of the runway. The segmented circle would be a concrete circle 100 feet in diameter, with the lighted cone described previously placed in its center. The circle and wind cone would be placed near the runway and away from the traffic pattern.

From an environmental standpoint, the NAVAIDs described above would not require additional use or modification of land and would therefore not have a noticeable impact on the surrounding environment. Light impacts are discussed separately in Section 5.16 of this document.

Safety markings would be placed once the proposed paving and construction activities are completed for the runway and turnaround. The markings would consist of reflective paint and finishes that would increase the safety of aircraft operations. The runway would receive edge and centerline markings. These distinguishing markings would allow pilots a better visual perception of the surface of the runway during night and visual operations.

The turnaround and apron areas would also receive edge markings, centerline, and turn-off markings. These features would help pilots maintain the aircraft centered on taxiways and in areas of aircraft maneuvers, especially during night operations. All paints and finishes will comply with local, state, and federal regulations regarding concentrations of volatile organic compound (VOC) emissions and paint-base materials use.

The proposed option for this project calls for installation of a MIRL system that consists of frangible runway lights and guidance signs, as well as all lighting regulators and associated equipment on both Runway 3/21 and proposed Runway 12/30. The runway lights would be stake mounted and placed on the edge of the runway surface, parallel to the centerline. The guidance signs would also be stake mounted and would be placed on the runway access and exit ramps. The guidance signs allow the pilots to verify they are accessing the correct runway direction. The lighting regulators and associated equipment would be installed on control panels and within vaults near the administrative building.

Threshold lights would be installed at the ends of Runway 12/30. The runway end lights would be located on a line perpendicular to the extended runway centerline not less than 2 feet and not more than 10 feet outboard from the designated runway threshold. The lights would be installed in two groups located symmetrically about the extended runway centerline. The outermost light in each group would be located in line with the runway edge lights. The other lights in each group would be located on 10 foot centers toward the extended runway centerline.

The lighted cone that would be installed besides the proposed runway would have a lighting system attached to its base, consisting of four 150-watt, 115-volt lamp in appropriate outdoor housing. In this manner, the cone would be visible during evening hours. The cone would be installed on an 8-foot pole and relocated across Runway 3/21 from the terminal facilities.

3.2.3 Construction of Airport Fencing

Under Alternative B, the construction of a fence would encompass the perimeter of both the existing and the proposed runways and both RPZs. This would include fencing around the support facilities area. The fences would enhance the safety and security of the airport facilities against accidental incursion onto runways and taxiways by passenger vehicles and wandering livestock. The area located south of the proposed runway, near the proposed administration building, would receive a chain link security fence. This would prevent passenger vehicles from being driven into the aircraft operations areas such as terminal hangers, taxiways and tie-down apron. The length of this fence would be 6,400 feet. The rest of the perimeter of the airport facilities would receive a 5 wire stock fence. This would prevent any loose livestock from wandering into aircraft operation areas. This cattle fence would be approximately 30,000 feet in length.

Any disturbances to the land would be in the form of digging fence postholes. These would contain the concrete bases, or footings, that will hold the poles in place. The removal of shrubs and other indigenous vegetation would be limited to those plants that coincided with the spacing of the poles and wire strands. The mitigation steps related to these construction activities will be discussed in the appropriate section.

3.2.4 Land Acquisition

Acquisition of land under Alternative B would be as follows:

Description	Acres
Proposed Runway 12/30 and Parallel Taxiway	415
Proposed Runway 12 RPZ	65
Proposed Runway 30 RPZ	65
Existing Runway 3 RPZ	35
Existing Runway 21 RPZ	30
Total Land Acquisition	**610**

From an environmental standpoint, the land acquisition above would involve land surrounding the airport that is currently being used for cattle grazing. See Section 4.2 for environmental consequences of this land acquisition relative to the proposed action.

3.2.5 Relationship to Statutes, Regulations or Other Plans

Anticipated permits and/or regulatory coordination through construction of Alternative B will likely include the agencies and efforts listed in Table 2 below. In addition to those items listed, the proposed improvements are in general compliance with existing plans of the City of Belen and County of Valencia in relation to promotion of economic growth, infrastructure development and long range planning.

Table 2. Summary of Anticipated Permitting and Coordination Requirements for Alternative B, Proposed Action - Construction of New Runway 12/30 to B-II Standards

Organization	Requirement	Permit/Coordination
City of Belen / Valencia County	Authorization for land use	Coordination
City of Belen / Valencia County	Authorization of construction	Grading/Construction Permit
Valencia County	None reported by Valencia County	Coordination
NMDOT – Aviation Division	Review for compliance with NMASP 2000	Coordination/ Approval
FAA	Review for compliance with federal Airport Improvement Program and grant funding	Coordination/ Approval
New Mexico Historic Preservation Division (HPD)	Coordination regarding locating and reporting of existing cultural resources sites identified within boundaries of proposed expansion but outside of construction boundaries	Coordination/ Approval
United States Environmental Protection Agency (US EPA) Region VI	National Pollution Discharge Elimination (NPDES) Stormwater Discharge Permit	Permit /Approval
United States Army Corps of Engineers (USACOE) – Albuquerque District	Requirement for construction under the national general 404 permit has been waived by the USACOE (Section 4.2.4)	Permit / Coordination
United States Fish and Wildlife Service (USFWS)	Threatened and endangered species consultation	Coordination/ Approval
New Mexico Department of Game and Fish (NMDGF)	Threatened and endangered species consultation	Coordination/ Approval
New Mexico Environment Department (NMED)	A NPDES Construction General Permit (CGP) coverage will be required. This permit will require that a Storm Water Pollution Prevention Plan (SWPPP) be prepared and that appropriate Best Management Practices (BMPs) be installed and maintained both during and after construction Dust control measures should be taken during construction; contractors supplying asphalt for the project must have current air quality permits	Permit / Coordination

3.3 Alternative C - B-I Standards

The items proposed to be constructed in Alternative C would consist of:

1. Construction of a new Runway 12/30, parallel taxiway and all auxiliary surfaces to B-I standards.
2. Installation of frangible NAVAIDs, markings, and lighting systems in the vicinity of aircraft operations.
3. Property acquisition and fencing.

Alternative C includes constructing a crosswind runway in a 12/30 alignment to meet ARC B-I standards. In order for the airport to accommodate larger and faster aircraft, the existing Runway 3/21 or the Alternative C runway would need to be reconstructed or constructed to meet the runway-taxiway separation standards. The runway-taxiway is a limiting factor on the existing runway's use. Land acquisition for Alternative C would be less slightly in acreage to Alternative B.

3.3.1 Construction of Runway 12/30 to B-I Standards

Alternative C would provide for construction of a new Runway 12/30 to address crosswind issues. Runway 12/30 would be constructed to B-I standards, which would reduce the strength and width of the runway and thereby reduce the cost of the project. The runway would be approximately 5,280 feet long and 60 feet wide with pavement strength of 12,500 pounds single wheel gear. For a B-I runway versus a B-II runway, the separation between the runway and proposed taxiway would be 225 feet versus 240 feet, the runway safety area would be 120 feet versus 150 feet and the object free area width would be 400 feet versus 500 feet. The parallel taxiway would be constructed under Alternate C and would have a width of 25 feet.

3.3.2 Installation of NAVAIDs, Markings and Lighting Systems

Under Alternative C, these improvements would provide for a new lighted wind cone and segmented circle, runway markings, and MIRL and MITL lighting systems as funding allows for improvement of safety of aircraft operations. These improvements are discussed in detail in section 3.2.2 above. Relocation of existing NAVAIDs is not part of this alternative but a project the City is planning in the future.

3.3.3 Construction of Airport Fencing

Discussion under Section 3.2.3 also applies in this section.

3.3.4 Relationship to Statutes, Regulations or Other Plans

Anticipated permits and/or regulatory coordination through construction of Alternative C will likely include the agencies and efforts listed in Table 3 below. In addition to those items listed, the proposed improvements are in general compliance with existing plans of the City of Belen and County of Valencia in relation to promotion of economic growth, infrastructure development and long range planning.

Table 3. Summary of Anticipated Permitting and Coordination Requirements for Alternative C - Construction of New Runway 12/30 to B-I Standards

Organization	Requirement	Permit/Coordination
City of Belen / Valencia County	Authorization for land use	Coordination
City of Belen / Valencia County	Authorization of construction	Grading/Construction Permit
Valencia County	None reported by Valencia County	Coordination
NMDOT – Aviation Division	Review for compliance with NMASP 2000	Coordination / Approval
FAA	Review for compliance with federal Airport Improvement Program and grant funding	Coordination / Approval
NM HPD	Coordination regarding locating and reporting of existing cultural resources sites identified within boundaries of proposed expansion but outside of construction boundaries	Coordination / Approval
US EPA Region VI	NPDES Stormwater Discharge Permit	Permit /Approval
USACOE – Albuquerque District	Requirement for construction under the national general 404 permit has been waived by the Corps (Section 4.2.4)	Permit / Coordination
USFWS	Threatened and endangered species consultation	Coordination/ Approval
NMDGF	Threatened and endangered species consultation	Coordination/ Approval
NMED	A NPDES (CGP) coverage will be required. This permit will require that a SWPPP be prepared and that appropriate BMPs be installed and maintained both during and after construction Dust control measures should be taken during construction; contractors supplying asphalt for the project must have current air quality permits	Permit / Coordination

3.4 Alternative D - Relocation and Reconstruction of Runway 3/21

Alternative D would provide relocation and construction of existing Runway 3/21 to the northwest of its current location in order to accept larger aircraft. Land acquisition would be required, but it would be much less that the land acquisition needed for Alternatives B, C, E and F. Alternative D would cause major airport disruption as the airfield would not be operational during construction. Additionally, crosswind coverage problems would not be addressed under this alternative and, due to lack of other improvements proposed, the ARC of the airfield would continue to be B-I, limiting use of the operation by

regional and local air traffic. The cost of rebuilding the existing runway and taxiway with separation geometry to accommodate larger ARC was approximately the same cost as constructing the second runway. However, the crosswind issue and change in ARC status would not be addressed with this alternative and it was not considered further.

3.4.1 Relocation of Existing Runway 3/21

Alternative D would consist of relocation and construction of Runway 3/21 to the northwest of its current location to provide adequate separation from the existing taxiway. Land acquired under this alternative would be less than the other action alternatives. This alternative would also address the concerns of foreign object damage to aircraft equipment from the aged pavement condition. However, due to lack of other improvements proposed, the ARC of the airfield would continue to be B-I. Pilots take into consideration the ground facilities, hours of operation, and NAVAIDs available at an airfield when planning flight schedules and destinations. Therefore, continued listing as a B-I facility would limit use of the operation by regional and local air traffic.

3.4.2 Relationship to Statutes, Regulations or Other Plans

Anticipated permits and/or regulatory coordination through construction of Alternative D will likely include the agencies and efforts listed in Table 4 below. In addition to those items listed, the proposed improvements are in general compliance with existing plans of the City of Belen and County of Valencia in relation to promotion of economic growth, infrastructure development and long range planning.

Table 4. Summary of Anticipated Permitting and Coordination Requirements for Alternative D - Relocation of Existing Runway 3/21

Organization	Requirement	Permit/Coordination
City of Belen / Valencia County	Authorization for land use	Coordination
City of Belen / Valencia County	Authorization of construction	Grading/Construction Permit
Valencia County	None reported by Valencia County	Coordination
NMDOT – Aviation Division	Review for compliance with NMASP 2000	Coordination / Approval
FAA	Review for compliance with federal Airport Improvement Program and grant funding	Coordination / Approval
NM HPD	Coordination regarding locating and reporting of existing cultural resources sites identified within boundaries of proposed expansion but outside of construction boundaries	Coordination / Approval
US EPA Region VI	NPDES Stormwater Discharge Permit	Permit /Approval
USACOE – Albuquerque District	Requirement for construction under the national general 404 permit has been waived by the Corps (Section 4.2.4)	Permit / Coordination

Organization	Requirement	Permit/Coordination
USFWS	Threatened and endangered species consultation	Coordination/ Approval
NMDGF	Threatened and endangered species consultation	Coordination/ Approval
NMED	A NPDES (CGP) coverage will be required. This permit will require that a SWPPP be prepared and that appropriate BMPs be installed and maintained both during and after construction Dust control measures should be taken during construction; contractors supplying asphalt for the project must have current air quality permits	Permit / Coordination

4.0 AFFECTED ENVIRONMENT

4.1 General Setting

Belen, New Mexico is located in south central Valencia County, approximately 32 miles south of Albuquerque along Interstate Highway 25. Rail lines for the Burlington Northern and Santa Fe (BNSF) Railroad run through the community, which has been a hub of railroad activity for many years. The Rio Grande flows southward through Belen and lies approximately eight miles east of the proposed project site. BAMA can be reached by traveling approximately 1.5 miles west from Belen on Camino del Llano (Sosimo Padilla Boulevard). Appendix A includes a location map, vicinity map and the ALP.

4.1.1 Topography

BAMA lies within the Llano de Albuquerque, which is a long narrow mesa that separates the Rio Puerco from the Rio Grande. The southern end of this mesa lies at the confluence of these two rivers. The surface of the mesa is about 400 to 450 feet above the flood plain with the margins of the mesa cut by steep-walled arroyos.

The valley area is surrounded by various geologic features, which include the Rio Grande Valley and the Manzano Mountains to the east and the Rio Puerco Valley, which slopes upward to the Sierra Lucero to the west.

The proposed airport facilities site is located at an elevation of 5,194 feet above mean sea level (MSL). The airport is elevated above the floor of the Rio Grande Valley, as well as above the drainage basin of the Rio Puerco. The existing airport site grade minimizes the potential for inundation from flooding. The grading operations conducted during the proposed project construction would be limited to the surface

that will be used for the runway and taxiway. This will not result in substantial modifications to the general topography or drainage patterns of the area.

4.1.2 Climate

The City of Belen and BAMA are located in central New Mexico, an area of the state that is characterized as generally arid with some semi-arid areas at higher elevations. The Belen area of the Rio Grande Valley has a continental climate characterized by light and variable total precipitation, large diurnal and moderate annual temperature ranges, low relative humidity and plentiful sunshine. Fall, winter and spring are the dry seasons because much of the moisture in the eastward circulation from the Pacific Ocean is removed as the air passes over the mountains west of New Mexico. Summer is the rainy season, when southeasterly circulation of moisture-laden air from the Gulf of Mexico enters southern New Mexico and strong surface heating aided by upslope flow of the air brings brief, but often heavy, showers. The mountains of south-central New Mexico have a shielding effect on the southeasterly airflow, and the amount of warm-season precipitation received west of these mountains along the Rio Grande Valley is lower than to the east, especially in the spring.

Average annual precipitation for Belen, New Mexico is approximately eight inches, mostly from seasonal rainfall between June and October. Snowfall averages approximately five inches per year, with snow rarely remaining on the ground longer than one day. The annual average daily high temperature is 74°Fahrenheit (F) and the average daily low is 39° F. Minimum/maximum winter temperatures range from approximately 20° to 53°F. Minimum/maximum average summer temperatures range from approximately 59° to 93°F during the summer. The elevated temperatures of the summer pose a problem to aircraft departing BAMA due to Density Altitude. The high summer temperatures will lower the density of the air. Instead of the actual 5,194 feet elevation of the airfield, aircraft will operate as if they are at a much higher altitude. To take off under these conditions, airplanes will require a longer take off roll and total distance to gain altitude.

Sunshine averages 77 percent of the time annually. Annual evaporation (Class A Pan) averages 72 inches, with approximately 80 percent of this from May to September. Relative humidity averages near 50 percent, ranging from 60 percent in the early morning to near 40 percent in the afternoon. The growing season averages approximately 175 days per year.

4.1.3 Air Quality, Visual Resources

BAMA is located within New Mexico Air Quality Control Region 152. This region consists of Bernalillo and parts of Sandoval and Valencia Counties. Location of the proposed improved facilities is currently classified as in attainment for all criteria pollutants. The closest identified Class I air shed is the Bosque del Apache, located approximately 54 miles to the south of the proposed project site.

Air quality in the Belen area can typically be described as “good” with very few stationary air emission sources within the area. The proposed upgrade to the airport facilities and related operations are not anticipated to result in emissions of sufficient quality to degrade general air quality in the surrounding area. Hence, it is not anticipated that air permitting will be required from the NMED.

The proposed action site also is not located within any Bureau of Land Management (BLM) Designated Visual Resource Management (VRM) Areas. Nearest VRM to the proposed project site is an area listed as a Class IV VRM located approximately 15 miles to the west.

4.1.4 Geology

BAMA is located within the Middle Rio Grande Basin, which is the area within the Rio Grande Valley extending from about Cochiti Lake downstream to about San Acacia. It covers approximately 3,060 square miles in central New Mexico, encompassing parts of Santa Fe, Sandoval, Bernalillo, Valencia, Socorro, Torrance, and Cibola Counties, and includes a ground water basin composed of the Santa Fe Group aquifer system (also referred to as the Albuquerque Basin). Climate in the basin is semiarid. In 2000, population of the Middle Rio Grande Basin was about 690,000 or about 38 percent of the population of New Mexico. As of 2002, water for municipal and domestic supply is exclusively from ground water.

This area contains the largest of the sediment filled basins along the Rio Grande in New Mexico. The basin contains four terrace levels. Outside of the fertile floodplain of the Rio Grande, the terraces are characterized by poor gravelly soil. BAMA is situated on a triangular plateau west of Belen, New Mexico. The plateau is bordered on the west by the Rio Puerco and on the east by the Rio Grande valley. The project area lies within the Basin and Range Province and is characterized by gently sloping plains that are broken by mountain ranges, isolated mountain peaks, and the valleys of the Rio Grande and Rio Puerco. The immediate valley, or flood plain of the Rio Grande, which is one to two miles in width, is nearly level to very gently sloping. . Mountains in the Belen area range from 5,000 to over 9,000 feet in altitude and are both sedimentary and igneous in origin.

4.1.5 Soils

Soils in the project area are from the Wink-Madurez association, which are well-drained, nearly level to moderately sloping soils that are loamy throughout, over layers high in lime that are located on mesas. According to the Soil Survey of Valencia County **(5)**, soil classifications that predominate within the facility planning area are Madurez-Wink association (MK) and Wink-Madurez association (WU). Within the proposed airport facilities, approximately two-thirds of the soil is type WU with the remainder MK. Summary descriptions of each of these soil types are provided below.

MK – Madurez-Wink association, undulating. This association is located on piedmont fans throughout much of the survey area. It consists of about 65 percent Madurez loamy fine sand that has 1 to 5 percent slopes and 25 percent Wink loamy fine sand that has 3 to 5 percent slopes. Madurez series soils have a surface layer that is light-brown loamy fine sand about 10 inches thick. The subsoil is brown light sandy clay loam about 12 inches thick. The substratum is pink loam and sandy loam that has a high content of lime. The substratum extends to depths of 60 inches or more. Both the Wink and Madurez soils in this association are gently undulating. Runoff is slow and the hazard of soil blowing is severe.

WU – Wink-Madurez association, gently sloping. Wink series soils consist of well-drained soils on piedmonts. These soils formed in old unconsolidated alluvium that has been modified by wind. In the Wink series representative profile the surface layer is brown loamy sand about 9 inches thick. The

subsoil is light-brown sandy loam about 12 inches thick. The substratum is light-brown and pinkish-white sandy loam that has a high content of lime. The substratum extends to a depth of 60 inches or more. The Wink-Madurez association consists of about 65 percent Wink fine sandy loam that has a 1 to 5 percent slope, and 20 percent Madurez fine sandy loam that has 1 to 5 percent slopes. Runoff is medium and the hazard of soil blowing is moderate.

4.1.6 Water Resources

4.1.6.1 Surface Water

Dominating surface hydrological features of the proposed project area are the Rio Grande to the east, the Rio Puerco to the west and the numerous irrigation ditches and drains within the valley floor throughout the area. Middle Rio Grande Conservancy District (MRGCD) regulates flows in irrigation ditches, and drains. MRGCD maintains a system of irrigation canals, ditches, and drains to supply and manage water for agricultural users in the valley. This irrigation service area includes the area around Belen but does not include the project site since the project area is elevated above the valley floor. No surface water features were noted within the immediate project area.

4.1.6.2 Groundwater

Groundwater table within the proposed project site is approximately 360 feet below the surface. The Rio Grande and the Rio Puerco bound the project area on the east and west respectively. As such these rivers serve as recharge sources for groundwater in the area. Surface and ground water are directly connected with surface water sources serving as aquifer recharge sources during low flow periods. The regional groundwater flow directions typically follow surface water flow patterns with flow directions being predominantly north to south within the project area.

Water quality in this portion of the Rio Grande basin is relatively good with Total Dissolved Solids (TDS) contents ranging from as high as 2,500 milligrams per liter (mg/L) to as low as 300 mg/L. TDS levels generally improve with depth. Water hardness can vary from location to location and is generally moderately soft to hard. Minerals contained in the water include iron, manganese, phosphorous, calcium, and others.

4.1.7 Vegetation

On July 24, 2003, Zia Engineering and Environmental Consultants, LLC (Zia) completed a biological (threatened and endangered species [TES]) survey of the proposed airport expansion site (Appendix B). The proposed project area is located on private land, surrounding the current development of the Belen Airport. The proposed project area has had moderate to severe levels of disturbance, including cattle grazing, dirt and paved road development, fencing, and garbage dumping.

Vegetation identified within the proposed project area during the survey was described and classified according to physiognomic classes and physical disturbance levels, as recommended by the USFWS. Zia conducted an evaluation of the state and federal threatened and endangered plant species that may occur in Valencia County and their habitat requirements. These habitat requirements were compared

with habitat available in the proposed project area. If potential habitat for state or federal threatened or endangered plant species occurred in the proposed project area, further evaluation of the potential impacts of the proposed project on the species was conducted and recommendations made for impact avoidance. The proposed project area was also surveyed for the presence or absence of New Mexico Department of Agriculture (NMDA) listed noxious weeds.

The proposed project area vegetation type consists of disturbed Plains-Mesa Sand Scrub, dominated by sand sage (*Artemisia filifolia*) in the southern section of the site and broom snakeweed (*Gutierrezia sarothrae*) in the northern section of the site (Dick-Peddie 1993). Other plant species identified in the proposed project area during the survey include four-wing saltbush (*Atriplex canescens*), Russian thistle (*Salsola tragus*), rubber rabbitbrush (*Ericameria nauseosa*), soapweed yucca (*Yucca glauca*), honey mesquite (*Prosopis glandulosa*), blue grama (*Bouteloua gracilis*), fluffgrass (*Dasyochloa pulchella*), Indian ricegrass (*Achnatherum hymenoides*), brown-spined prickly pear (*Opuntia phaeacantha*), silverleaf nightshade (*Solanum elaeagnifolium*), puncture-vine (*Tribulus terrestris*), and wavy-leaf thistle (*Cirsium undulatum*).

The habitat in the proposed project area did not appear suitable for state or federal listed threatened or endangered plant species that may occur in Valencia County, nor were TES plant species observed during the pedestrian survey.

No New Mexico Class A, B, or C noxious weeds were identified in the proposed project area during the survey.

4.1.8 Wildlife

On July 24, 2003, Zia conducted a biological TES survey of the proposed airport expansion site (Appendix B). Zia conducted an evaluation of the state and federal threatened and endangered wildlife species that may occur in Valencia County and their habitat requirements. These habitat requirements were compared with habitat available in the proposed project area. If potential habitat for state or federal threatened or endangered wildlife species occurred in the proposed project area, further evaluation of the potential impacts of the proposed project on the species was conducted and recommendations made for impact avoidance.

Migratory bird species are protected under numerous legislation, including the Migratory Bird Treaty Act, from harm or take without a valid permit. Many such bird species may migrate through the area in the spring and fall, stopping over if habitat is suitable, or may occur on or near the proposed project area during the breeding season from March through August or through the winter months. Therefore, the proposed project area was surveyed for potential nesting habitat for species protected under the Migratory Bird Treaty Act. If potential habitat for state or federal threatened or endangered wildlife species or potential nesting habitat for Migratory Bird Treaty Act protected species occurred in the proposed project area, further evaluation of the potential impacts of the proposed project on the species was conducted and recommendations made for impact avoidance.

Wildlife observed in the proposed project area included whiptail lizard (*Cnemidophorus* sp.), lesser earless lizard (*Holbrookia maculata*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*),

harvester ants (*Pogonomyrmex* sp.), and black-tailed jackrabbit (*Lepus californicus*). Wildlife signs observed included rodent burrows, including Gunnison's prairie dog (*Cynomys gunnisoni*) borrows, and reptile burrows; rodent, coyote (*Canis latrans*), and rabbit scats; and rodent, reptile, and bird tracks.

Numerous Gunnison's prairie dog burrows, which are potential habitat for burrowing owl (*Athene cunicularia hypugaea*), a species protected under the Migratory Bird Treaty Act, were identified within the proposed project area, and one occupied burrowing owl burrow was identified adjacent to the proposed project area. However, evidence (scat, regurgitation pellets) of burrowing owl was not observed in or around the prairie dog burrows surveyed within the proposed project area.

4.1.9 Threatened and Endangered Species

Based on the Biological Survey (Appendix B), the habitat in the proposed project area did not appear suitable for state or federal listed threatened or endangered wildlife species that may occur in Valencia County, nor was visual evidence of TES wildlife species observed during the pedestrian survey.

Based on comparison of habitat available in the proposed project area and the habitat requirements for the listed state and federal threatened and endangered plant and wildlife species that may occur in Valencia County, Zia determined that potential suitable habitat does not occur within the proposed project area for listed TES plant or wildlife species.

4.2 Land Use Impacts

4.2.1 Existing Residential Areas

There are residences located along the western boundary of the proposed project and the remainder of the land surrounding the proposed project site is zoned by Valencia County for residential development (Appendix A, Figure 7). There are, however, no residences located within the proposed project site and thus there will be no need to relocate any residences or businesses as a result of this project. The land to be purchased under the proposed action is currently being used for cattle grazing. The Uniform Relocation and Property Acquisition Policy Act is, therefore, not relevant in this case.

4.2.2 Public Parks and Recreation Areas

There are no public parks or recreation areas within the general vicinity of the proposed project site.

4.2.3 National Landmarks, Parks, Forests, and Refuges

There are no National Landmarks, Parks, Forests or Refuges within, or affected by the project area.

4.2.4 Wetlands

There are no wetlands areas within the proposed project boundaries as characterized in the USACOE Wetlands Delineation Manual (Environmental Laboratory, 1987). The USACOE has indicated in

correspondence that there are no waters of the United States on-site and Section 404 permitting is, therefore, not necessary (Appendix F).

4.2.5 Floodplains

BAMA is located on the Llano de Albuquerque between the floodplain of the Rio Grande and Rio Puerco approximately two miles west of Interstate 25 near Belen, New Mexico. A portion of the airport facility is within the 100-year floodplain (Zone A) as designated by the Federal Emergency Management Agency (FEMA). A portion of FEMA Map Panel 3500860300D is included in Figure 4 in Appendix A, which depicts the location of the project site with respect to areas of flood concerns.

4.2.6 Farmlands

Additional land proposed for purchase is currently being used for cattle grazing. This land is not currently farmed, nor is there indication from historical aerial photos that the land was used for any purpose other than grazing. The remainder of the land surrounding the project site, some of which will be required for RPZs, is currently platted as home sites within the Rancho Rio Grande Unit One subdivision.

4.2.7 Coastal Zone

There are no coastal areas within the project area.

4.2.8 Archaeological, Cultural and Historical Resources

Between July 24 and August 24 of 2003, Zia completed a cultural resources survey of the proposed airport expansion site (Appendix C).

Zia conducted a pre-field study including a review of the State Archaeological Records Management Systems, a review of the current published listings for the National Register of Historic Places, and a review of the State Register of Cultural Properties. No state or nationally registered properties are located within one mile (1.61 km) of the project area; however, five previously recorded archaeological sites are located within one mile of the project area. Based on a 100 percent pedestrian (Class III) systematic survey of the proposed project area, no previously recorded sites are located within the project area. One new site and 25 isolated occurrences were located within the project area.

Zia does not recommend any further cultural resources studies for the proposed project area. If previously unknown archaeological resources are uncovered during construction, work in the area should be halted and the New Mexico Historic Preservation Division should be notified. If human remains are uncovered, work in the area should cease and the Valencia County Sheriff's Office should be notified.

4.3 Public Facility Impacts

There are no hospitals, shopping areas, schools or adjacent political jurisdictions affected by the boundaries of the project area.

4.4 Growth Characteristics

The population of Belen increased 5.4 percent from 1990 to 2000 based on U.S. Census Bureau data. This is equivalent to an annual growth rate of approximately 0.5 percent. Within the Belen area, education, health and social services are the predominant industries followed by retail trade. The median family income for Belen in the 2000 census was $30,765. Unemployment for the Belen area was listed as 4.4 percent in the 2000 census.

A majority of the population within Belen consists of individuals of Caucasian of Hispanic backgrounds with an approximately 75 percent of the total population listed as Hispanic or Latino in the 2000 census. Within Belen, approximately 72 percent of the population has a high school diploma or higher, while approximately 13 percent hold a bachelor's degree or higher.

The growth in Belen's economy from 1990 to 2000 based on the dollar amount of gross receipts was 8.2 percent per year. Belen's location within commuting distance south of Albuquerque and along the Rio Grande and Interstate 25 should allow for continued economic expansion.

4.5 Additional Anticipated Facility Actions

There are no currently anticipated additional facility actions for the Belen Alexander Airport beyond those planned improvements addressed in the five-year CIP.

4.6 Other Affected Area Activities

There are no other activities anticipated within the affected area.

5.0 ENVIRONMENTAL CONSEQUENCES/ANALYSIS OF ALTERNATIVES

The following elements have been analyzed and would not be affected by the proposed construction or any of the alternative options for BAMA: water resources; cultural resources including Native American concerns; Threatened and Endangered (Sensitive) species; prime and unique farmlands; wetlands or riparian areas; wild and scenic rivers; coastal zones; National Landmarks, Parks, Forests and Refuges; existing wilderness areas; or environmental justice.

Elements that could be impacted from the proposed construction for any of the options except the no action alternative, which were identified as part of this analysis, include: noise; existing residential areas; air quality; vegetation; and wildlife resources. Additional discussion of all elements analyzed and other related issues is provided below.

5.1 Noise

FAA does not require noise analysis for projects involving Design Group I and II airplanes on utility or transport type airports whose forecast operations do not exceed 90,000 annual adjusted propeller operations or 700 annual adjusted jet operations during the period covered by the environmental

assessment. MCA's ALP includes new Runway 12/30, which is proposed to be constructed to B-II standards. B-II runways allow for use by aircraft with an approach speed of between 91 and 120 knots and wingspans of from 49 feet up to, but not including 79 feet.

The Total Aircraft Operations Forecast report, provided by the FAA (Appendix F), estimated 2005 operations of 13,273 annually. This report projects total operations of 14,304 by the year 2020. This forecast is within 7.8 percent of the FAA Terminal Area Forecast (TAF) of 13,273. The number of projected annual adjusted operations is well below the FAA trigger for noise analysis of 90,000 annual adjusted operations or 700 annual adjusted jet operations. Thus no noise analysis would be required as per Chapter 5, Section 47e.(1) of FAA Order 5050.4A, Airport Environmental Handbook. Please see Section 7.0 for mitigation measures.

Temporary increased noise levels will be present during construction in all cases except for the no action alternative. See Section 5.4 "Construction Impacts" for details of impacts due to noise during this time.

5.2 Compatible Land Use

The proposed action would affect approximately 610 total acres. The breakdown below indicates 545 acres as the area necessary for the new runway, taxiway, and both RPZs as well as a buffer with the surrounding private and public land. The project also proposes purchase of an additional 65 acres to provide for future expansion and improvement of the airport and to further improve the buffer zone around the runways for a total affected area of 610 acres. There are no residences located within the proposed project site and thus there will be no need to relocate any residences or businesses as a result of this project.

Description	Acres
Proposed Runway 12/30 And Parallel Taxiway	415
Proposed Runway 12 RPZ	65
Proposed Runway 30 RPZ	65
Existing Runway 3 RPZ	35
Existing Runway 21 RPZ	30
Total Land Acquisition	**610**

Any additional lands necessary to provide space for a new runway, buffer and RPZs for this project would need to be obtained in conformance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Pl 91-646, as amended) and regulations of the Department of Transportation in 49 CFR Part 24. FAA Advisory Circular AC No. 150/5100-17 provides guidance for meeting the requirements in these documents. The lands necessary for this project (consisting of the 545 acres) would need to be adjacent to existing airport property, since the project does not propose relocation of the entire airport or construction of a new airport. The lands adjacent to the existing airport property are owned by the G.W. Burris family, Buddy Majors or are part of the Rancho Rio Grande Unit One subdivision with individual ownership of 5-acre tracts of land. This purchase would eliminate cattle grazing on the land.

Analysis of various alternatives show that, while the no action and Alternative D would require less or no additional land, neither would meet the dual needs of meeting FAA safety guidelines and providing for future expansion. Therefore, the proposed action is the only option that meets the project objectives. The Valencia County planning department stated in their letter dated April 7, 2004 (included in Appendix F) that the county supports improvements to the City of Belen airport. This letter also recommended that the City of Belen annex and appropriately zone any lands necessary to provide for compatible land use. The City of Belen indicated (copy of land use assurance letter to FAA dated January 11, 2005 in Appendix G) its intention to adopt zoning and other reasonable planning efforts for lands purchased and annexed into the City of Belen to ensure compatibility of the surrounding area with the proposed airport improvements.

5.3 Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

There will be no relocations of residences or businesses or other community disruptions caused by the proposal under any of the options considered (including the proposed option). Therefore, all of the options are considered equivalent in terms of social impacts.

It is anticipated that socioeconomic impacts from implementation of any of the options (other than the no action alternative) should be positive from the standpoint of greater opportunity for commercial operations within the community due to better airport facilities and leasing of terminal property. Another potential positive economic impact is the possibility of the City of Belen hosting a Fly-In to the proposed renovated facilities.

Related to environmental justice issues, the City of Belen is considered to be both economically and socially disadvantaged. Therefore, any base infrastructure improvements would result in a general benefit to the area. This would be accomplished without substantial negative modifications to existing conditions. For this reason, implementation of any of the options should be viewed positively from the environmental justice standpoint. In addition, the proposed new runway displacement and construction was based solely on safety, operational, and technical issues without regard to social or political concerns. Therefore, environmental justice impacts are considered to be positive or at least neutral.

Health and safety risks posed by each of the alternatives are minimal. None of these risks are expected to disproportionately affect children.

5.4 Construction Impacts

Temporary, minor impacts are possible or expected during the construction phase of each of the action options. Increased noise levels and dust will be present during construction and will be limited to those areas in the immediate proximity of construction. Therefore, from the standpoint of lesser or greater impacts from the various options, those options with less need for disturbance to land areas will result in the least amount of noise and dust impacts. No work at night or blasting is anticipated at this time. All efforts will be made to minimize and suppress dust creation.

During construction of any of the options except the no action alternative, there is potential for surface water impacts from sediment-laden runoff or from hazardous materials spills. The project specifications will require methods to minimize these impacts including secondary containment systems and implementation of erosion and sediment runoff controls. As a mitigation step, the EPA guidance manual on *Storm Water Management for Construction Activities* would be followed to address the concerns of surface and ground water resource disturbances. A Section 404 permit is not required for this site.

5.5 Air Quality

Under the no action alternative, there would be no construction at this time and air quality would remain unchanged from existing conditions except as modified by natural causes or otherwise impacted by other non-project related activities.

The site is located in Valencia County, which is listed as being in attainment all of the priority pollutants regulated under the Clean Air Act. New Mexico does not have indirect source review (ISR) requirements for air quality issues and therefore, per FAA Order 5050.4A, Chapter 5 Section 47 e.(5)(c), the determination as to whether an air quality analysis is needed for a general aviation airport is based on FAA guidance that states that airports with less than 180,000 operations forecast annually are not required to conduct an air quality analysis. BAMA is forecast to have 14,304 operations by 2020 according to the Total Airport Operations Forecast provided by the City of Belen. Therefore the proposed action or other action alternatives would not require air quality analysis. Based on correspondence with the NMED dated March 4, 2004 (Appendix F), the proposed action is in conformance with the state's air quality state implementation plan; however dust control measures should be taken during construction to minimize the release of particulates and asphalt contractors are required to have current air quality permits.

All projects seeking funding from the FAA through the Airport Improvement Program must be developed in accordance with FAA Advisory Circular (AC) 150-5370-10A.

5.6 Water Quality

For any of the alternatives proposed (including the no action alternative), the ground and aircraft activities at the proposed airport facilities are not anticipated to have a direct alteration of the surface and ground water resources. This is conditioned to the implementation of a SWPPP for the airport**.** Surface and ground water resources degradation is tied to those industrial activities at the airport that are related to vehicle and aircraft maintenance, equipment cleaning, and airport deicing/anti-icing. None of these activities are expected to substantially increase above existing levels as a result of the proposed expansion. In addition, airport managers would be required to use BMPs in developing a SWPPP to identify and implement schedules of activities, and other practices to eliminate, reduce, or prevent pollutants in storm water run off. Since the activities of vehicle and aircraft maintenance are considered industrial activities, the best approach recommended both by the EPA and the FAA is that of source reduction and control of Significant Materials (14 CFR Part 139.325).
A NPDES General Construction Permit (GCP) was issued for the project on July 1, 2003. The facility also needs a Storm Water Multi-sector General Permit (MSGP), which requires the implementation of a SWPPP and BMPs as discussed above.

The wastewater septic systems currently in service at BAMA are considered adequate for the current and future needs of airport activities according to MCA. Therefore, the septic system would not be improved as part of the airport upgrade program.

Additional concerns, resulting from sediment-laden runoff or possible hazardous material spills, will be present during construction of any of the action alternatives and are addressed in Section 5.4. FAA Advisory Circular (AC) 150/5370-10A, *Standards for Specifying Construction of Airports,* requires certification by NMED Surface Water Quality Bureau that the proposed project or any construction alternative is in conformance with New Mexico Water Quality Standards. See Section 7.0 for mitigation measures.

The BAMA site contains no waters of the United States. USACOE Section 404 permitting is, therefore, not necessary.

5.7 Department of Transportation Section 4(f) and 6(f) Requirements

DOT Section 4(f) requirements prohibit approval of any program or project that requires the use of any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge of national, state or local significance unless there is no feasible and prudent alternative and the proposed program includes all possible planning to minimize harm to these areas (49 USC 303(c)). There are no Section 4(f) lands within the project area as per David Husbands, former BAMA manager.

Section 6(f) issues are related to the Land and Water Conservation Fund Act. This act states, in Section 6(f)(3), "No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location." There are no lands identified as a Section 6(f) site within the project area as per David Husbands, former BAMA manager.

Based on the lack of Section 4(f) and 6(f) facilities within the project vicinity, no impacts are anticipated to these resources from any of the alternatives.

5.8 Historical, Architectural, Archaeological, and Cultural Resources

Based on the findings of the archaeological survey conducted by Zia on the proposed project area (Appendix C), a finding of "no effect" was recommended to the New Mexico Historic Preservation Division (HPD). The New Mexico HPD issued a concurrence with this recommendation on January 31, 2005, with the stipulation that the construction contractor follow recommended construction protocols. The HPD consultation letter and construction protocols are included in Appendix F.

Of the six consultation letters sent on December 10, 2003, by Zia to Native American tribes identified by HPD, one response was received from the Pueblo of Isleta. On January 12, 2004, the Pueblo of Isleta

stated in their consultation response letter that they do "not have any concerns to express on the proposed project." The Native American consultation letters and a list of the consulted tribes are included in Appendix F (only those sent letters for which responses were received are included).

The FAA Airports Development Office requested in a letter dated July 27, 2005, concurrence from the New Mexico State Historic Preservation Officer [SHPO] that National Historic Preservation Act of 1966 Section 106 consultation with Native American tribes of concern has been appropriately addressed and completed. On August 11, 2005, New Mexico SHPO responded that no historic properties would be impacted as a result of this project. This documentation is included in Appendix H.

5.9 Fish, Wildlife, and Plants

Impacts to biological and botanical resources are directly proportional to the amount of land needed for the proposed construction activities. Therefore, options, which require less acreage of land, would be preferential. From this perspective, the no action alternative would have the least impact. The proposed project would impact approximately 610 acres of Plains-Mesa Sand Scrub with moderate to severe levels of landscape disturbance, including cattle grazing, dirt and paved road development, fencing, and garbage dumping.

Under the No Action alternative, there would be no construction/surface disturbances at this time and impacts to wildlife populations would remain unchanged from their existing condition except as modified by natural causes or otherwise impacted by other non-project related activities.

Based on the findings of the TES survey, there is minimal potential for impact on plants or wildlife from the proposed alternative or other action alternatives. The proposed project area did not appear suitable for listed TES plant or wildlife species, nor were TES plants or wildlife species observed during the survey. However, potential nesting habitat for burrowing owl (Gunnison's prairie dog burrows) was observed within the surveyed 610-acre area.

Impacts to wildlife resources from project construction would generally be from temporary loss of habitat and short-term disruption during construction. Direct project impacts might include the direct mortality of wildlife caused by construction activities (e.g., ground nesting and burrowing species) and displacement of organisms within the immediate vicinity of construction sites. However, given the predominantly altered or disturbed condition of the areas that would experience a change in land use, wildlife use of the areas proposed for disturbance under any action alternative is expected to be low. Therefore, wildlife impacts are expected to be minimal.

The USFWS may recommend carrying out construction activities outside the breeding season in order to avoid impacts to migratory birds and other avifauna. If construction must occur during the breeding season and nesting migratory birds or other avifauna are observed in the project area, Zia recommends that all active nests be located and avoided until young birds have successfully fledged. In the event that this is not possible, Zia recommends that individuals and their eggs be relocated under the terms of a USFWS special permit. Prior to construction, field review of the site should be conducted to insure that there is no plant or animal species that may require relocation or avoidance. This will further limit any impacts to biotic communities.

With regard to hazardous wildlife attractants as listed in FAA AC 150/5200-33A, *Hazardous Wildlife Attractants on or Near Airports*, BAMA is located approximately five miles west of the Rio Grande. The Rio Grande is the nearest hazardous wildlife attractant to the airport, which is located on the mesa above the river in an arid area and, therefore, is not an attractive area to wildlife associated with the river. The Belen Wastewater Treatment Plant is located approximately three miles east of the airport in the valley. Therefore, no substantial impacts are anticipated with regard to AC 150/5200-33A issues.

There is no impact from noxious weeds, since none were observed during the biological survey.

A March 2004 letter from the NMDGF indicates that proposed airport improvements are not anticipated to pose any significant impacts to wildlife or sensitive habitats.

5.10 Wetlands

There are no wetlands in the project area and therefore no potential impacts from the proposed project or other alternatives considered. The USACOE has indicated that there are no waters of the United States on-site and Section 404 permitting is, therefore, not necessary (Appendix F).

5.11 Floodplains

As noted in Figure 4 in Appendix A, a portion of the airport facility is within the 100-year floodplain as designated by FEMA (Community Panel 350086 0300 D, February 9, 2000). Although a portion of the airport property boundary is within a floodplain, none of the proposed airfield improvements fall within a floodplain. If the existing and proposed facilities are overlaid onto the FEMA map, the proposed facilities do not fall within the Zone A floodplain. Additionally, none of the existing airport facilities are within Zone A. Therefore, no further analysis is needed per FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures,* Section 9, *Floodplains*.

5.12 Coastal Resources

There are no coastal resources or coastal barriers within the project area and thus no impact from the proposed project or the alternatives considered including the no action alternative.

5.13 Wild and Scenic Rivers

There are no wild and scenic rivers within the project area and therefore no impact from the proposed project or the other alternatives considered including the no action alternative.

5.14 Farmlands

Additional land to be purchased for the proposed project is privately owned and the majority is currently utilized for livestock grazing. The proposed project would be located on land that has no known history of having been farmed. Therefore, there are no anticipated impacts to farmlands from this project. In an email from Stephen Lacy, Natural Resources Conservation Service (NRCS), dated April 15, 2004, no prime farmland is located in the project area. Land for the proposed action is owned by the G.W. Burris

family and Buddy Majors, who use it for grazing and by the Rancho Rio Grande Unit One subdivision with individual ownership of 5-acre tracts of land. There is sufficient land surrounding the proposed project for grazing, therefore, any action alternative would minimally impact this activity. No impacts to farmland would occur from the no action alternative.

5.15 Natural Resources and Energy Supply

There will be no substantial impacts with regard to natural resources and energy use caused by the project as proposed. No upgrades to electric, natural gas, water, or wastewater facilities at BAMA are required as a result of the proposed improvements or other action alternatives. An increase in fuel usage corresponding to increased operations is anticipated with all action alternatives. No additional fuel handling facilities are anticipated to be constructed. No impacts to natural resources or energy supply would occur from the no action alternative.

5.16 Light Emissions and Visual Impacts

The proposed option for this project calls for installation of MIRL and MITL systems that consists of frangible runway lights and guidance signs, as well as all lighting regulators and associated equipment on both Runway 3/21 and proposed Runway 12/30. The nearest residences to the proposed project boundaries are within several thousand feet. For the proposed option, based on the wattages listed and height of placement, there will be no substantial impact from light emissions and the increased level of safety provided by such lighting would substantially outweigh such impacts. Other options, not implementing MIRL/MITL systems would have less impact than the proposed option. However, they would not meet the project requirements as outlined previously and could jeopardize safety. No impacts to light emissions would occur from the no action alternative.

The proposed site does not lie within or near any BLM Designated Visual Resource Management (VRM) Areas. Therefore, proposed use of the site for the airport improvements, including any of the alternatives is deemed to pose no impacts to visual resources.

5.17 Hazardous Materials, Pollution Prevention, and Solid Waste

An Environmental Site Assessment (ESA) was performed by Zia in mid-2003 and early 2004. Reviews of State of New Mexico and Federal Environmental databases were reviewed for the ESA effort. Neither the subject site nor, adjoining properties were listed in the database, indicating that these agencies have no record of regulated facilities in the area. One unmapped site, Mountain Sun Aviation was identified as being located within the zip code area. This site was determined during the site visit to be a former fixed base operator (FBO) leaking underground storage tank (LUST) site at the BAMA

Three LUST sites were identified as being located on the subject property. These were identified as the responsibility of Mountain Sun Aviation and were listed in the NMED LUST database as having no impact to water supply, vapor explosive potential or property damage with a report date of March 30, 1995 and a No Further Action designation. Based on its regulatory status the LUST site constitutes a historical recognized environmental condition (REC) for the airport and is not an REC at this time. These three

LUST sites are located under asphalt off the southwest corner of the Fixed Base Operator building and will not be disturbed under the proposed action.

The proposed action and action alternatives have the possibility of hazardous material spills during construction. This issue is addressed in Section 5.4. Actions prior to the construction phase are not expected to create additional or disturb possible existing hazardous wastes.

Under all alternatives, the project will have no substantial impact on the production of solid waste and is not located near any active or planned solid waste disposal facilities. As per Butch Tongate of the NMED Solid Waste Bureau, the nearest active landfill to the Belen Alexander airport is the Waste Management Landfill located 15 miles west of Los Lunas. The distance to that landfill from the Belen Alexander Airport is approximately 17 miles. Solid waste generated in Belen, however is collected by Waste Management and hauled directly to their landfill near Rio Rancho, New Mexico, a distance of approximately 60 miles. Terry Nelson, District Manager for Waste Management stated that the Waste Management Landfill in Rio Rancho has a remaining useful life of approximately 10 years. There are currently no recycling opportunities at the facility.

A convenience station for Belen residents does exist south of the proposed airport project site at the old Belen landfill, which has been closed. This facility is located approximately two miles southeast of the proposed project site and is also operated by Waste Management.

5.18 Residual and Cumulative Impacts

Shot-term negative impacts, due to construction are discussed in Section 5.4. All regulations set outlined in AC 150/5370-10A Standards for Specifying Construction of Airports will be complied with for the project.

In the ultimate phase, A REIL would be installed at the ends of Runway 12, as well as the ends of Runways 3, 21 and 30. The runway end lights would be located on a line perpendicular to the extended runway centerline not less than 2 feet and not more than 10 feet outboard from the designated runway threshold. The lights would be installed in two groups located symmetrically about the extended runway centerline. The outermost light in each group would be located in line with the runway edge lights. The other lights in each group would be located on 10 foot centers toward the extended runway centerline. The REIL and its control cabinet is typically installed on each side of the approach end and the lights are angled to be visible for several miles at angles over 60 degrees from the runway centerline. From an environmental standpoint, the REIL system would not require additional use or modification of land and would therefore not have a noticeable cumulative impact on the surrounding environment.

A PAPI system, which is a navigational aid for landing, would be installed in the ultimate phase. The PAPI system relies on a set of four lights to indicate the correct approach angle upon landing. The inboard light unit would be no closer than 50 feet from the runway, each light having a lateral separation from each other of 30 feet. The wattage of the light bulbs used in the project is anticipated to be 45 watts for the runways and 100 watts for building lighting. It is also anticipated that non-precision approaches would be established for Runway 12/30 in the future. General airfield development is also expected in the future, including aircraft parking aprons and aircraft storage hangars. These structures would be

located adjacent to the existing hangar and taxiway. Although included in the Master Plan, these planned improvements are too speculative to be analyzed for cumulative impacts at this time.

Long-term negative cumulative impacts of significance are not anticipated from implementation of any of the action alternatives considered. There will be no long-term impact from the no-action alternative. However, Alternative D and the no-action alternative would fail to address the existing crosswind problem at BAMA. This would leave air traffic vulnerable to adverse landing conditions. Potential long-term impacts considered insignificant in nature include intermittent noise and visual impacts due to aircraft operations. Positive cumulative impacts include potential increase in commercial viability of the area, and associated employment.

No known federal, state or local projects in combination with the proposed action are anticipated to create cumulative impacts to the environment.

6.0 CONSIDERATION OF OTHER ENVIRONMENTAL CONSEQUENCES

6.1 Possible Conflicts with Area Plans

There are no conflicts with the BLM Rio Puerco Resources Management Plan **(7)**, the City of Belen Airport Master Plan or the NMASP by any of the alternatives.

6.2 Inconsistencies with Federal, State and Local Laws

Tables 2, 3 and 4 in Section 2.0 list the anticipated permitting and coordination requirements with federal, state, and local agencies for the alternatives considered. None of these indicate inconsistencies with federal, state, or local laws.

6.3 Degree of Environmental Controversy

According to the project engineer, MCA, the City has not had opposition on this airport improvement project from the public or any of the agencies or tribes with potential interests in the project. The project has been discussed by the City for over 10 years and the proposed action has been identified as resulting in no significant or long-term adverse impacts to natural resources or the human environment. In fact, the project is deemed a positive impact on the community. According to the Airport Manager, Mike Halpin, earlier this year when the City's Economic Development office held meetings with several groups about how to bring business into the City, the groups all mentioned the need to develop the airport for economic development purposes.

7.0 MITIGATION

Mitigation measures to be implemented during the design and construction of this project to reduce potential negative environmental impacts include the following actions:

- Follow requirements for land acquisition listed in Advisory Circular No. 150/5100-17.
- Coordinate with Valencia County to adopt zoning and other reasonable planning efforts to ensure compatibility of the surrounding area with the proposed airport improvements.
- Immediately cease construction activities if historic or cultural resources artifacts are identified in excavations until such time that qualified archaeologists are contacted to identify, catalog and/or remove said artifacts; work may continue in other parts of the project.
- Contractor to notify New Mexico HPD at (505) 827-6320 if any artifacts or other materials (pottery, glass, bone, or metal) are discovered during work.
- Archaeologist on call to consult on prehistoric resource matters during construction.
- Conduct detailed biological review of final proposed construction site just prior to construction commencement to determine if potential TES animal species are within construction footprint and relocate said animals if necessary.
- Biological monitors familiar with plant and wildlife species of concern, including noxious weeds, should be available during construction phase.
- Schedule construction outside the nesting season (March-August), if possible. If this is not possible, monitor for the presence of sensitive species are to be avoided. If construction must occur during the breeding season and nesting migratory birds or other avifauna are observed in the project area, active nests should be located and avoided until young birds have successfully fledged. In the event that this is not possible, individuals and their eggs should be relocated under the terms of a USFWS special permit.
- Use of dust control measures during soil disturbing activities; contractors supplying asphalt for the project must have current air quality permits.
- No scheduled night work to avoid noise levels uncomfortable to humans.
- Erosion protection measures and run off minimization during construction.
- Compaction, grading, and re-vegetation as permanent erosion control. To reduce erosion following construction, all disturbed areas should be reclaimed using native grasses and forbs and care should be taken to prevent introduction of exotic weeds.
- A NPDES (CGP) coverage will be required. This permit will require that a SWPPP be prepared and implemented for the airport and that appropriate BMPs be installed and maintained both during and after construction.
- Implement US EPA guidance for *Storm Water Management for Construction Activities*.
- Maintaining adequate storm water and runoff controls during and upon completion of construction to minimize sediment runoff and hazardous materials releases from equipment.
- Concrete, asphalt and other such materials will be properly disposed of (i.e., not in, or adjacent to any watercourse, including dry arroyos).

8.0 PREPARERS

A.K. Khera, P.E.
Associate Engineer, Zia Engineering and Environmental Consultants, LLC

Licenses/Certifications:

Professional Registered Engineer: New Mexico (#6972), New York (#16-055427), Ohio (#38566)
Certified Value Engineer

Master of Science, Water Resources, 1970, University of Cincinnati
Master of Science, Environmental Engineering, 1969, University of Roorkee, India
Bachelor of Science, Civil Engineering, 1965, University of Jabalour, India

Mr. Khera has over 30 years of experience in industry, consulting and public works. He has served as project manager, principal-in-charge and senior engineer on numerous highway department design and environmental investigations projects throughout New Mexico. In addition, Mr. Khera has completed water, wastewater, municipal solid waste and bio-solids management projects. In addition to his technical and management skills, he brings extensive experience in planning, organizing, facilitating and administering public participation on controversial environmental projects. He is knowledgeable in the requirements of NEPA, SDWA, NPDES and CWA and has served in the Senior Quality Assurance / Quality Control role on the majority of Zia's recent NEPA related projects

Anthony Martinez
Senior Scientist, Zia Engineering and Environmental Consultants, LLC

Master of Arts, Anthropology, 1993, University of New Mexico.
Bachelor of Arts, Anthropology, 1991, University of New Mexico
Philosophy & Liberal Arts Major, Math & Science Minor, 1986-1989, St. John's College

Licenses/Certifications/Affiliations
New Mexico State Lands - Survey Permit #NM-05-155; Burial Permit #ABE-689
Bureau of Land Management – Resource Areas: NE, NW, SE & SW New Mexico; Great Plains; SW Texas (#197-2920-05-C); California (CA-05-04); Arizona (AZ-000293)
Bureau of Indian Affairs - Survey Permit - Southwest Regional Area: New Mexico, Colorado, and Utah #BIA-SWRO CRSA: 2004-005
Navajo Nation – Cultural Resource Inventory Permit (S) #B04708
Arizona State Lands - Antiquities Act Blanket Permit #2005-090bl
Colorado State Lands – Statewide Survey (#2005-81)
City of Santa Fe: Approved Archaeologist and Historian (All Districts)
Air Quality Modeling and Analysis
Section 106 in the New Regulatory Environment
Consulting with Tribes and Other Traditional Communities
How to Manage the NEPA Process and Write Effective NEPA Documents
Archaeomagnetic Sampling and Lithic Analysis

Mr. Martinez has over 19 years of experience in archaeology, tribal consultation, public involvement, environmental documentation and the mapping sciences. He has conducted and supervised numerous

investigations involving the survey, testing, and excavation of archaeological sites throughout the southwest and North-Central Europe. Mr. Martinez areas of expertise include tribal consultation, photogrammetry and photo interpretation, electronic image analysis, analysis of aerial photos, Geographic Information Systems (GIS) and mapping sciences. In addition, Mr. Martinez has also written numerous environmental assessments and environmental impact statements, and has prepared many NEPA-related documents over the past ten years. Mr. Martinez has many years experience in working with the environmental compliance issues and is very familiar with the regulations and requirements in conducting environmental documentation projects throughout the southwest. His project experience includes extensive work in the analysis of aerial photographs for the purposes of water-rights and environmental assessment and remediation litigation. In addition, Mr. Martinez has used his remote sensing skills for the purposes of modeling Willow Flycatcher habitat, the delineation of wetlands, the detection of erodible soil surfaces for surface water quality assessments, and the mapping of vacant disturbed lands for PM10 air quality control.

William L. McKinney,
Associate Scientist, Zia Engineering and Environmental Consultants, LLC

Bachelor of Science, Biology, 1974, New Mexico State University

Licenses/Certifications/Affiliations
New Mexico Environment Department: Level IV Water and Wastewater Operations Certifications

Mr. McKinney is a water resources specialist with 30 years of experience in the water, wastewater and regulatory field. He has managed wastewater, water, laboratory and Industrial Pretreatment programs for the City of Las Cruces. In addition, he has written wastewater reuse feasibility studies for both Las Cruces and in the private sector. As a consultant, Mr. McKinney has performed water rights inventories, developed 40-year water plans for submission to NMOSE and a Development Impact Fee feasibility study. Mr. McKinney has written and managed substantial NEPA-related environmental documentation including environmental assessments, social, economic and environmental evaluations and categorical exclusion reviews. Aspects of an environmental assessment scope Mr. McKinney supports include analysis of: land form and land use; air/climatology and water resources; plant life, animal/aquatic life, natural resources; environmental health; socio-economic impacts, impacts to disadvantaged populations; public service, population/economics, community reaction; and aesthetic resources.

Franchesca D. Zenitsky,
Senior Scientist, Zia Engineering and Environmental Consultants, LLC

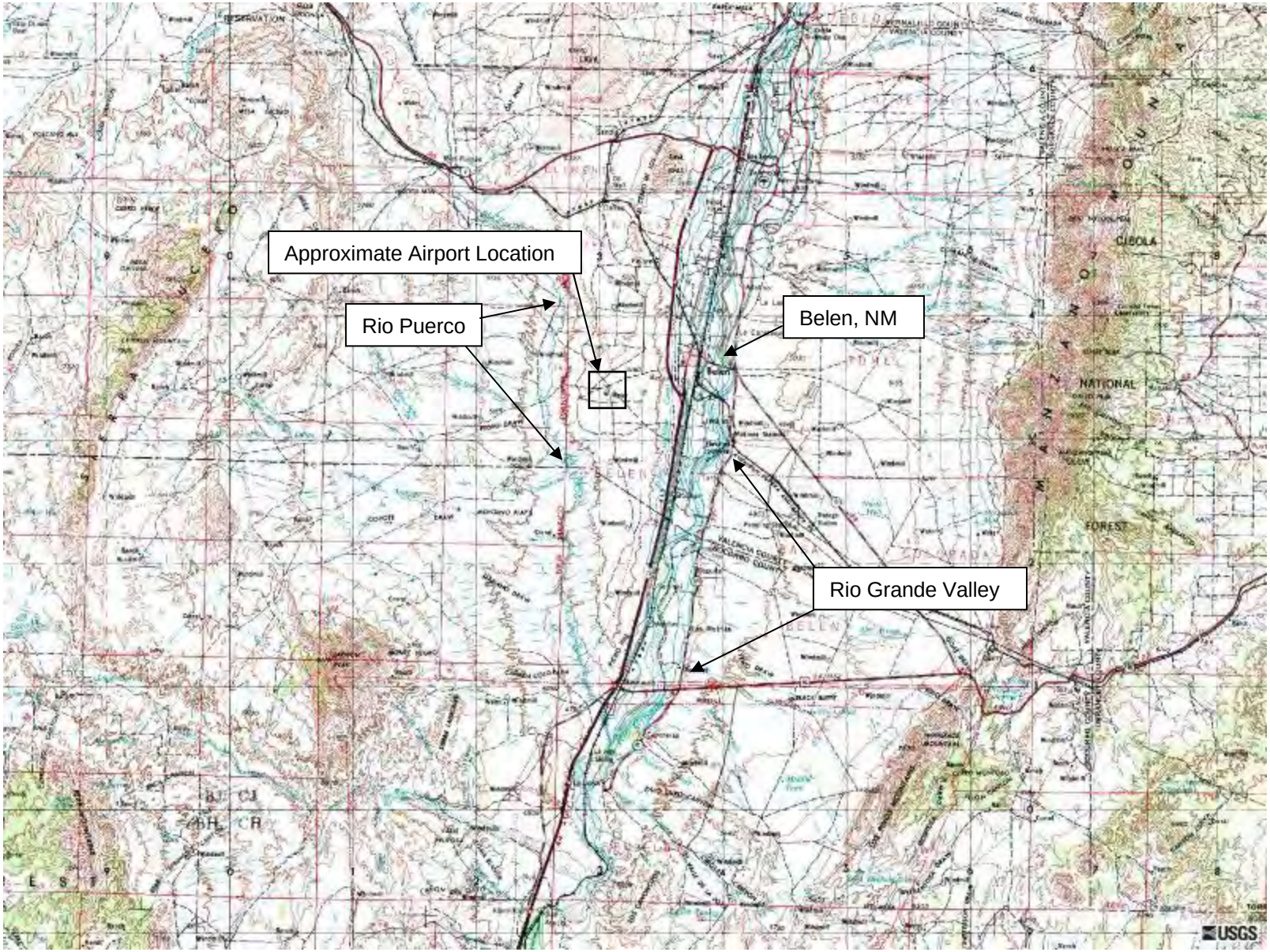
Master of Science, Biology / Applied Ecology, 1999, Eastern Kentucky University
Bachelor of Science, Genetics with Chemistry Minor, 1990, Iowa State University

Ms. Zenitsky is a biologist and environmental scientist with over 13 years experience in conducting technical studies including complex, contaminated and large multi-parcel properties. Ms. Zenitsky has extensive experience in NEPA investigations and documentation and has conducted and supervised numerous NEPA investigations for both government (USDA, EPA, DOE, BLM, COE, FCC) and private sectors in the Southwest, Southeast, and Midwest. Ms. Zenitsky is an active member of the ASTM

Subcommittee E50 on environmental assessment and has in-depth experience and knowledge in various levels of environmental assessments. She has administered and conducted over 1,000 Phase I and Phase II ESAs for a broad range of commercial, industrial and governmental clients nationwide. Her depth of experience also encompasses ecological and biological studies, compliance and risk assessments, and asbestos and lead consulting services. Her expertise in managing and performing environmental due diligence requirements includes development of appropriate research and documentation procedures; concise communication and analysis of technical information, and knowledge of pertinent environmental laws and regulations.

APPENDIX A

FIGURES



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755 S. Telshor Blvd., Suite F-201
Las Cruces, New Mexico 88011
phone: (505) 532 - 1526
fax: (505) 532 - 1587

Figure Name: Project Area Map

Project Name: Belen Alexander Municipal Airport Environmental Assessment

Project No.: Z03-006

Date: July 14, 2003

Figure No: 1

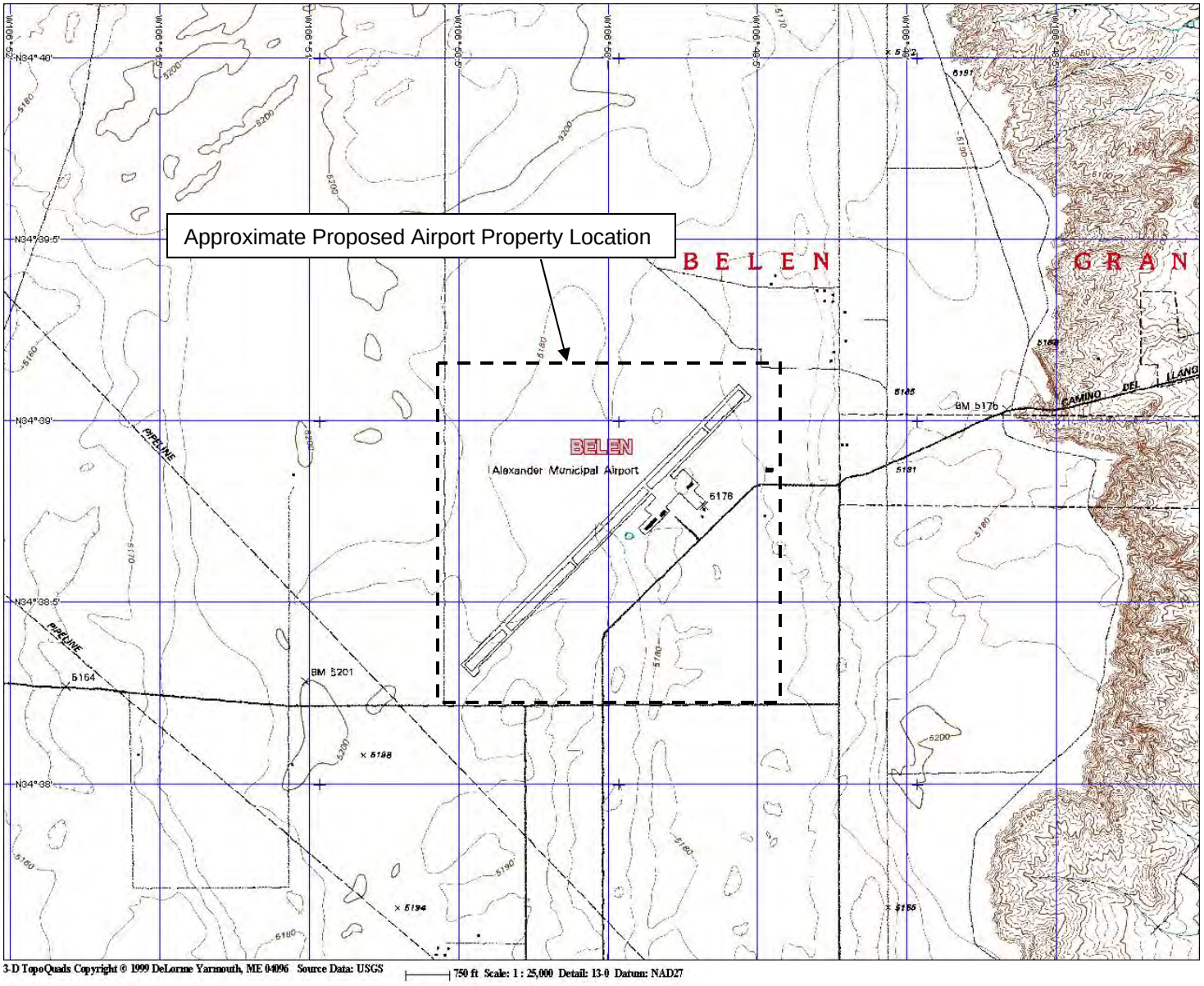

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Figure Name: 1995 Topographic Map

Project Name: Belen Alexander Municipal Airport Environmental Assessment

Project No.: Z03-006

Date: July 14, 2003

Figure No: 2a

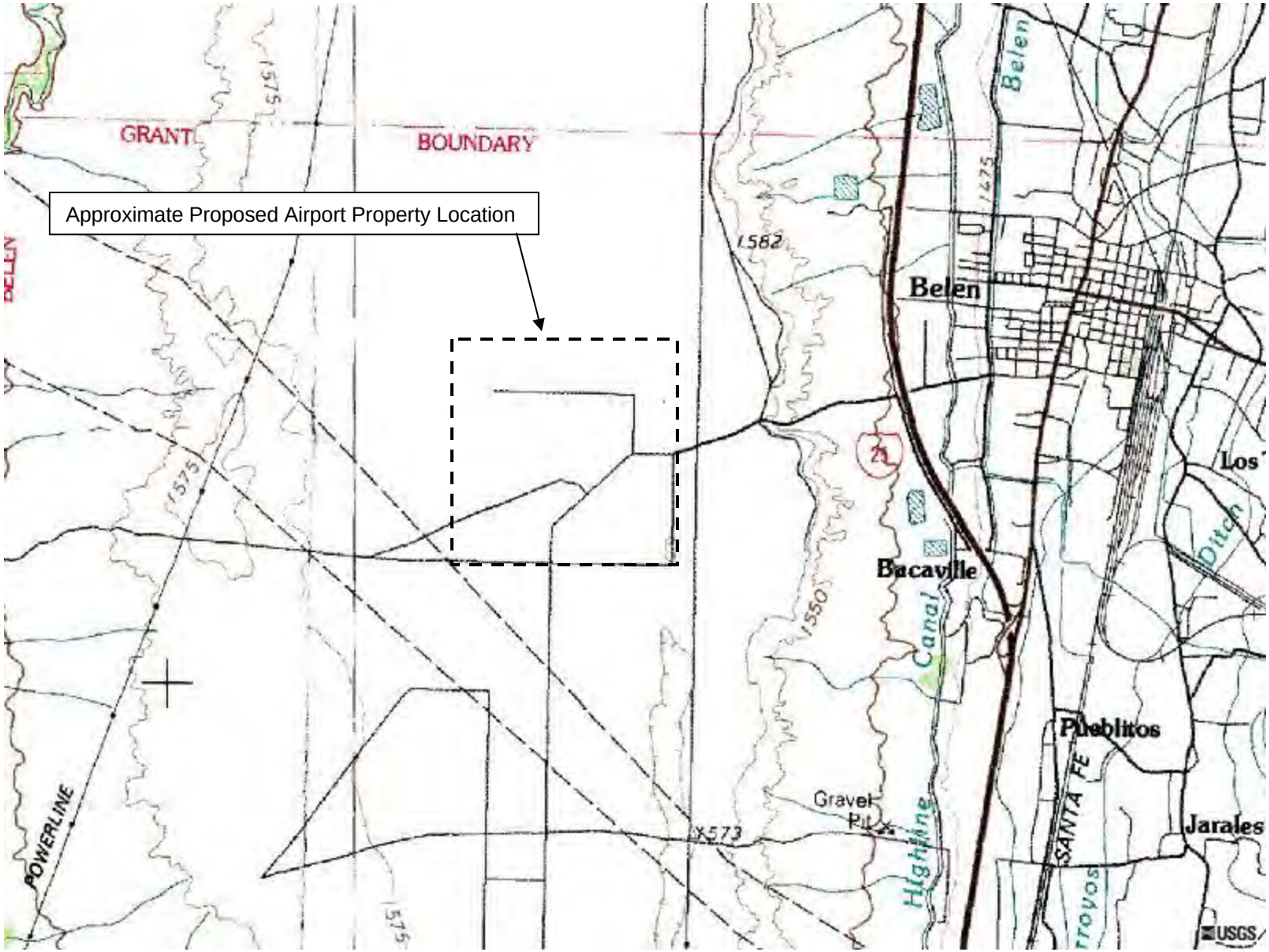

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Figure Name: 1975 Topographic Map

Project Name: Belen Alexander Municipal Airport Environmental Assessment

Project No.: Z03-006

Date: July 14, 2003

Figure No: 2b

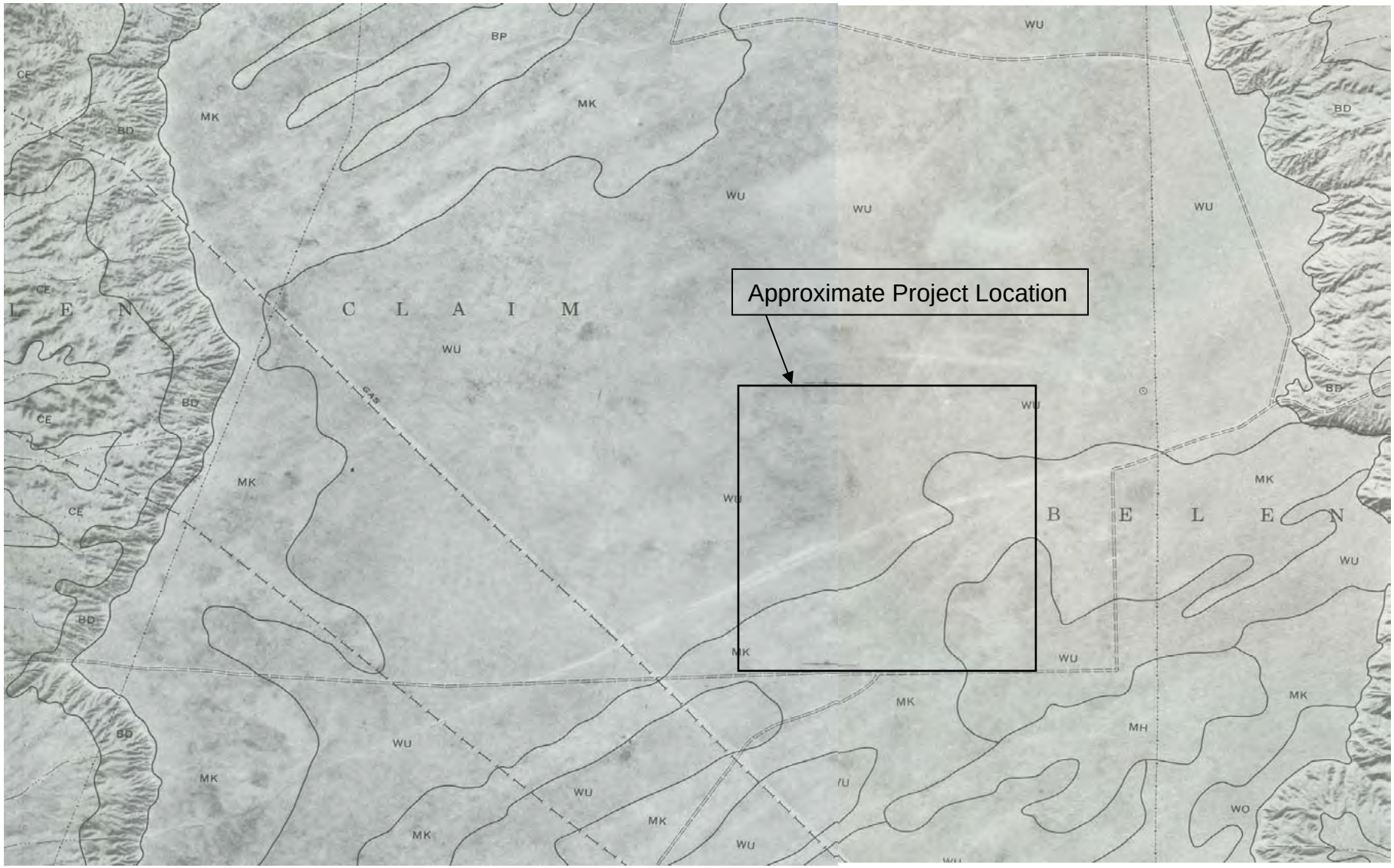

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Figure Name: Soils Map

Project Name: Belen Alexander Municipal Airport Environmental Assessment

Project No.: Z03-006

Date: July 10, 2003

Figure No: 3a

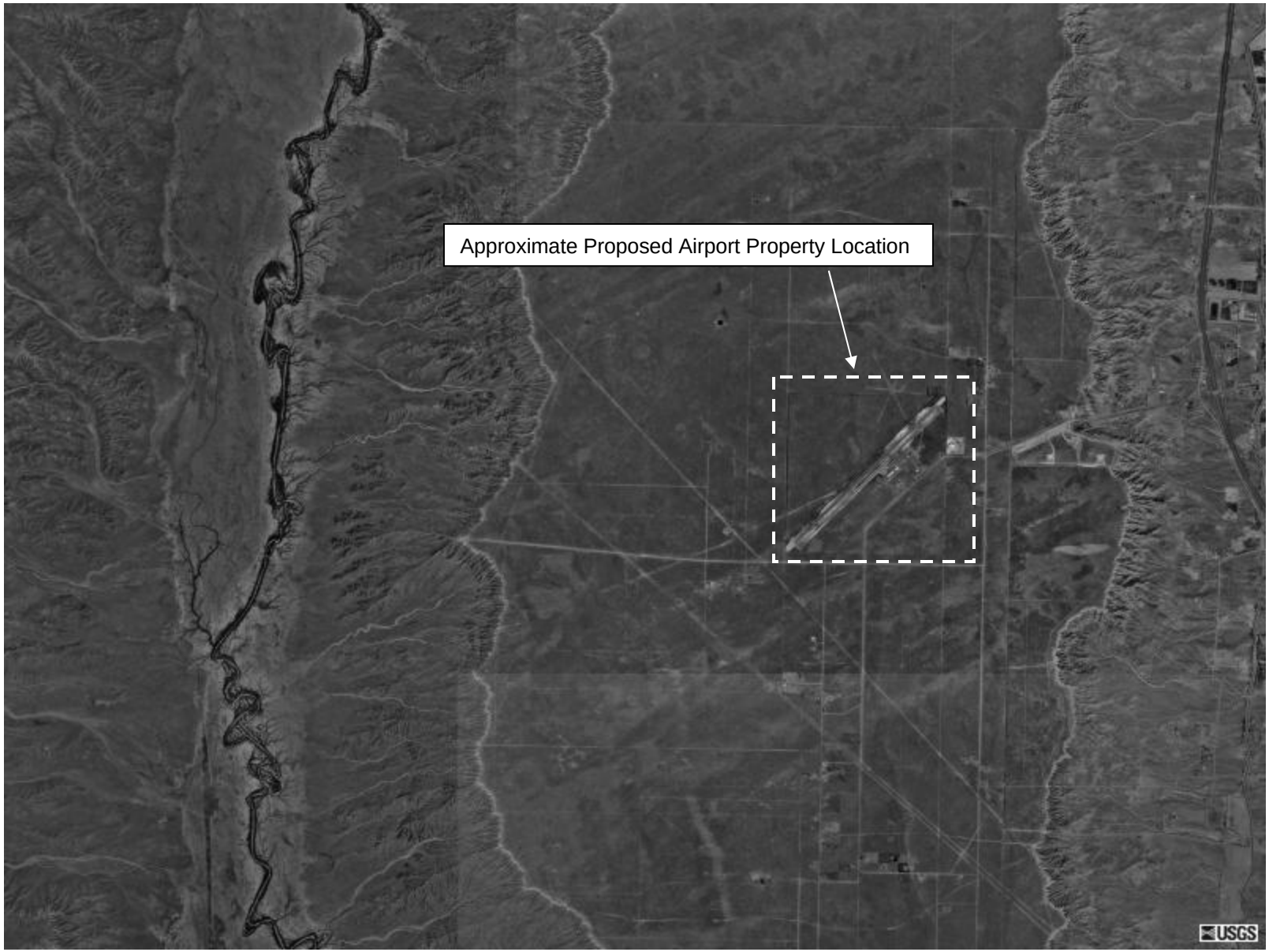

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Figure Name: 1996 Aerial Photo

Project Name: Belen Alexander Municipal Airport Environmental Assessment

Project No.: Z03-006

Date: July 14, 2003

Figure No: 3b

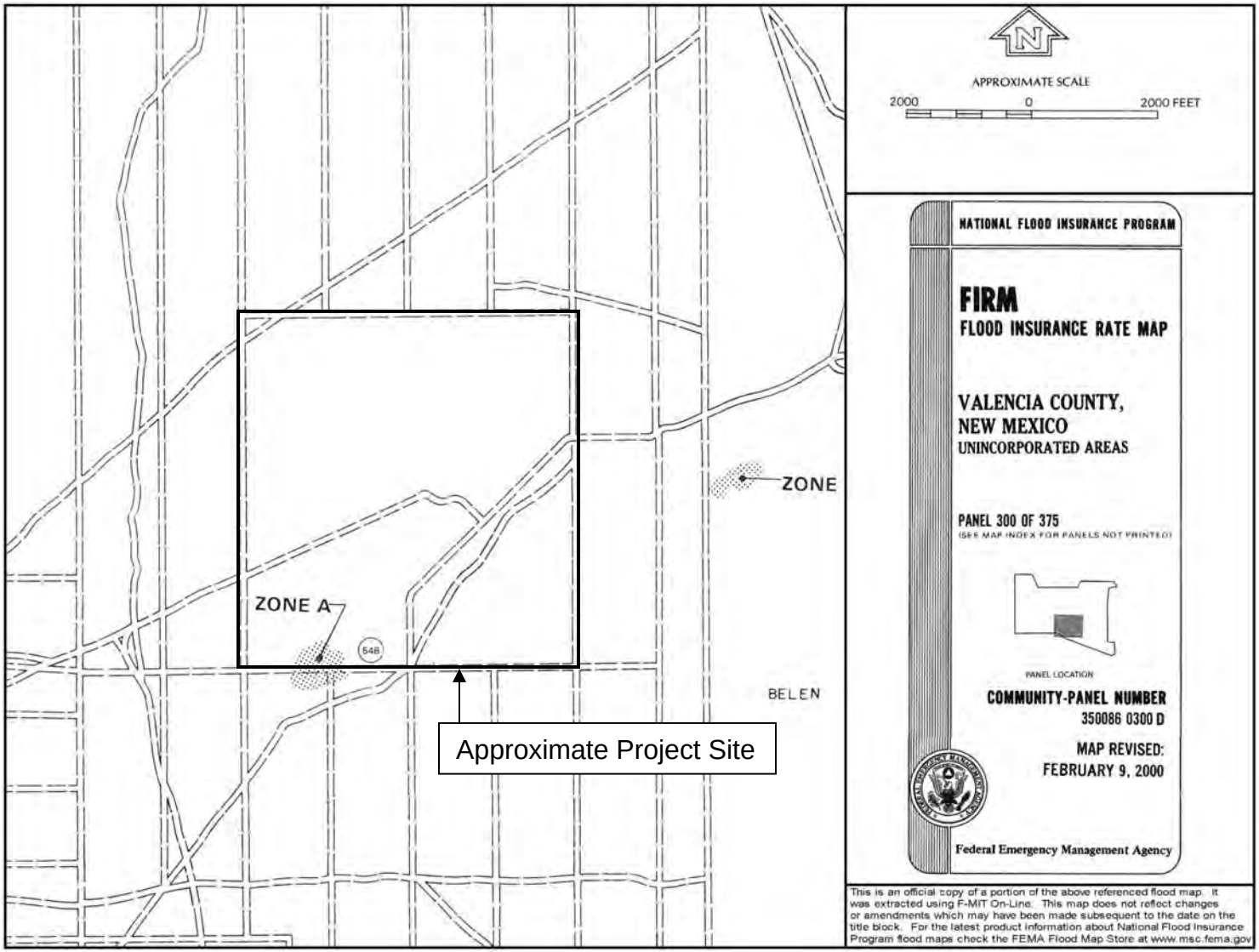

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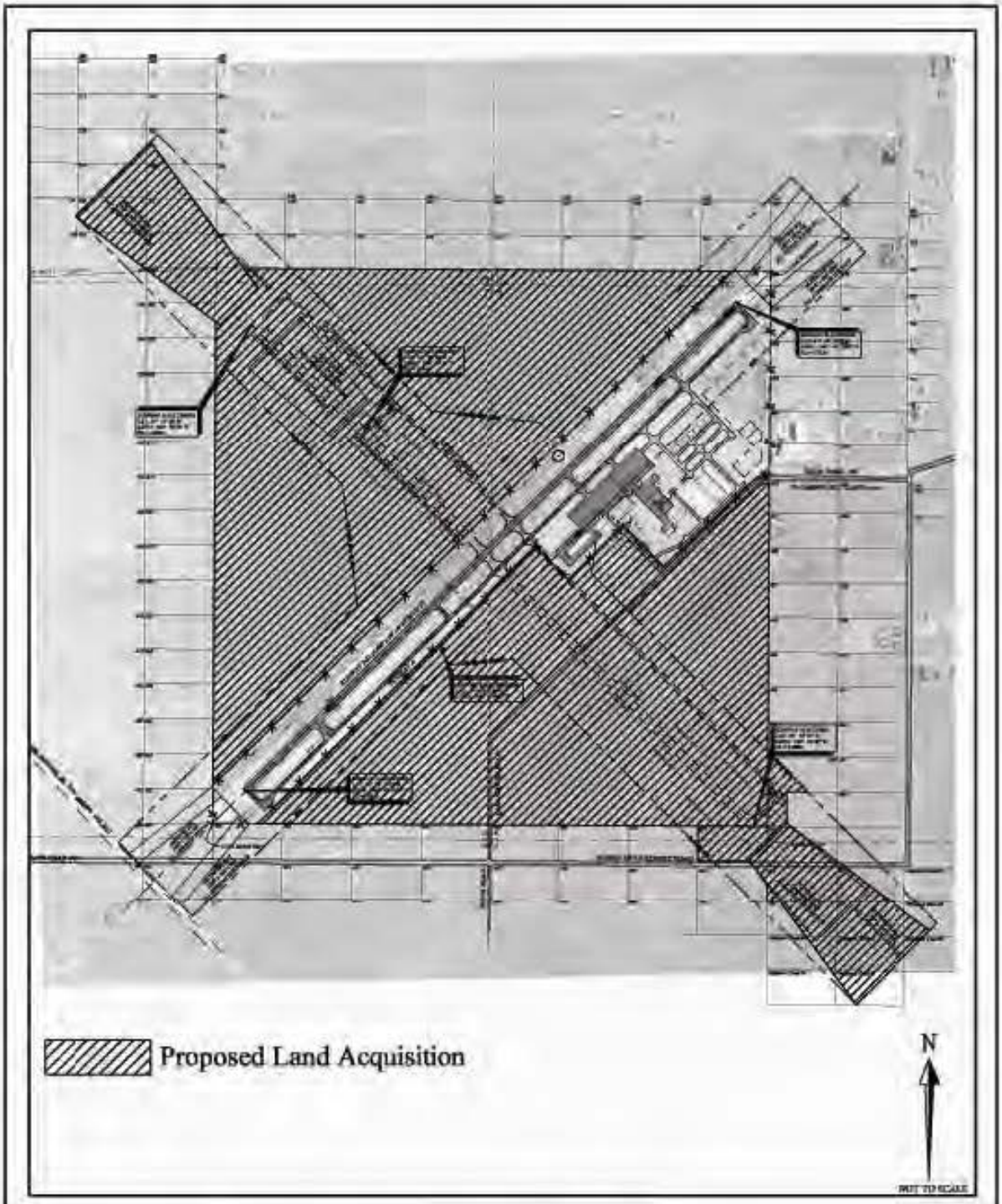
Figure Name: Flood Zone Map

Project Name: Belen Alexander Municipal Airport Environmental Assessment

Project No.: Z03-006

Date: July 22, 2003

Figure No: 4



Belen Alexander Municipal Airport
Proposed Land Acquisition

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phone: (505) 532 - 1526
fax: (505) 532 - 1587

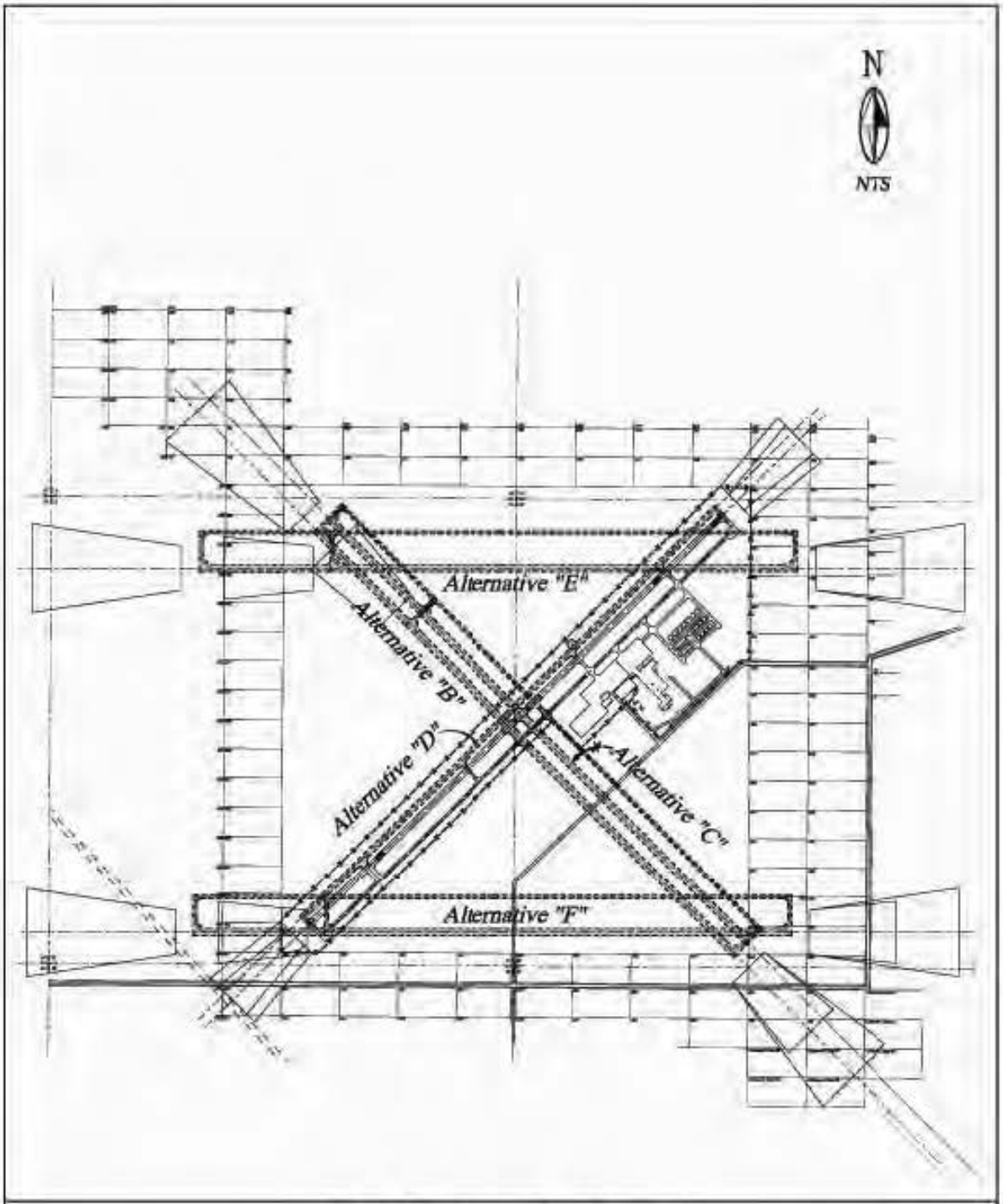
Figure Name: Proposed Land Acquisition

Project Name: Belen Alexander Municipal Airport Environmental Assessment

Project No.: LC-04-078

Date: July 25, 2005

Figure No: 5



Belen Alexander Airport - Belen, New Mexico

Crosswind Runway - Alternatives Considered (Action Plan Preparation, 1995)

Zia Engineering & Environmental Consultants, Inc.
755 S. Telshor Blvd., Suite F-201
Las Cruces, New Mexico 88011
phone: (505) 532 - 1526
fax: (505) 532 - 1587

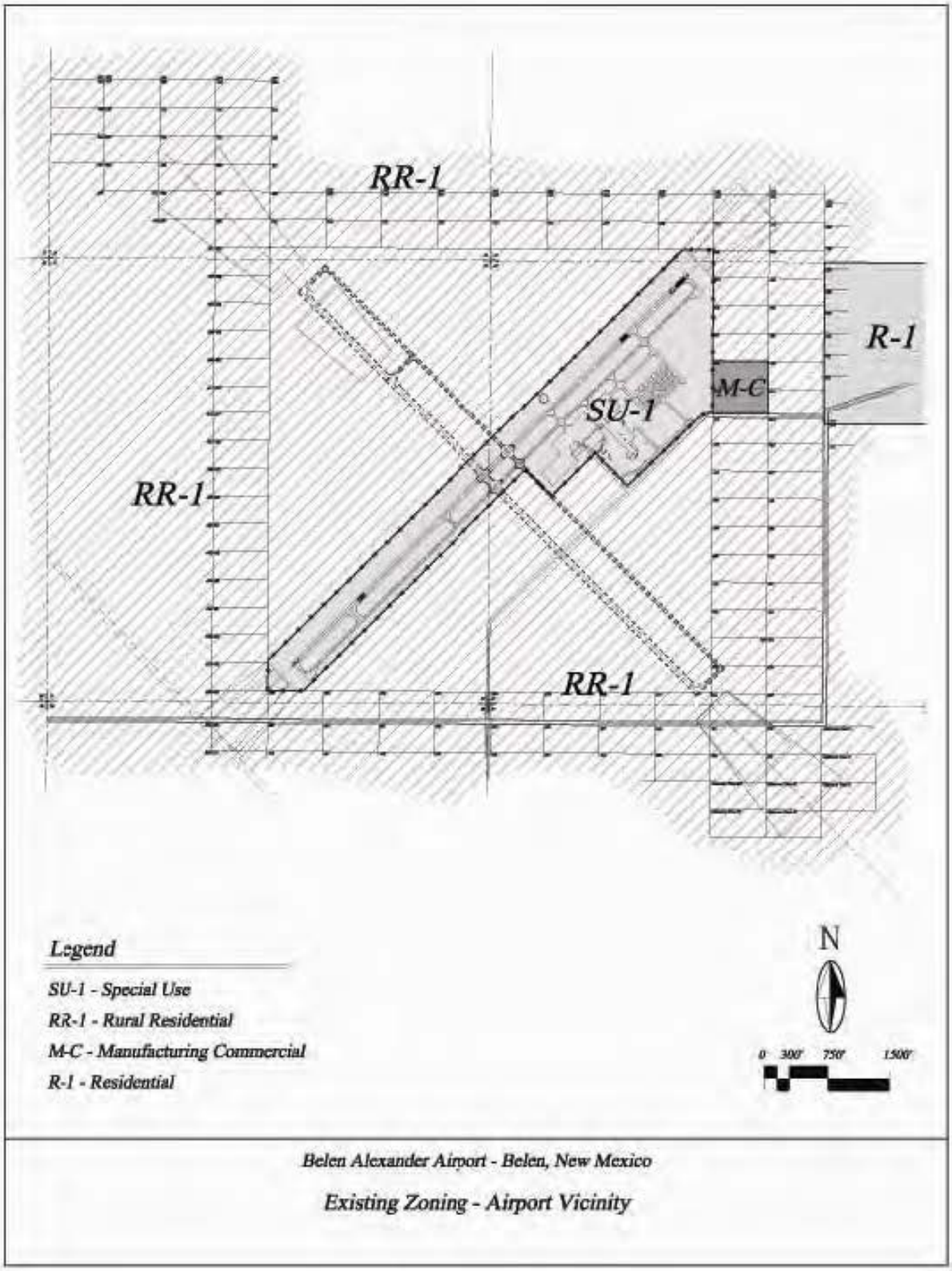
Figure Name: Alternatives Considered

Project Name: Belen Alexander Municipal Airport Environmental Assessment

Project No.: LC-04-078

Date: July 25, 2005

Figure No: 6



Belen Alexander Airport - Belen, New Mexico

Existing Zoning - Airport Vicinity

Zia Engineering & Environmental Consultants, Inc.
755 S. Telshor Blvd., Suite F-201
Las Cruces, New Mexico 88011
phone: (505) 532 - 1526
fax: (505) 532 - 1587

Figure Name: Existing Zoning – Airport Vicinity

Project Name: Belen Alexander Municipal Airport Environmental Assessment

Project No.: LC-04-078

Date: July 25, 2005

Figure No: 7

Alexander Municipal Airport with Fixed Base Operator Facility in the Background Right

Blue Sky Aviation Facility Under Construction

Zia Engineering & Environmental Consultants, Inc.
755 S. Telshor Blvd., Suite F-201
Las Cruces, New Mexico 88011
phone: (505) 532 - 1526
fax: (505) 532 - 1587

Figure Name: Alexander Municipal Airport Photos

Project Name: Belen Alexander Municipal Airport

Project No.: Z03-006

Date: July 8, 2005

Figure No: Photos 1

View Toward West From Existing Runway/Taxiway

View Towards Southwest of Proposed Airport Property

Zia Engineering & Environmental Consultants, Inc.
755 S. Telshor Blvd., Suite F-201
Las Cruces, New Mexico 88011
phone: (505) 532 - 1526
fax: (505) 532 - 1587

Figure Name: Alexander Municipal Airport Photos

Project Name: Belen Alexander Municipal Airport

Project No.: Z03-006

Date: July 8, 2005

Figure No: Photos 2

Traventine Landscape Stone Facility

Residential Housing Located Along Northwestern Portion of Proposed Airport Property

Zia Engineering & Environmental Consultants, Inc.
755 S. Telshor Blvd., Suite F-201
Las Cruces, New Mexico 88011
phone: (505) 532 - 1526
fax: (505) 532 - 1587

Figure Name: Alexander Municipal Airport Photos

Project Name: Belen Alexander Municipal Airport

Project No.: Z03-006

Date: July 8, 2005

Figure No: Photos 3

APPENDIX B

RESULTS OF BIOLOGICAL SURVEY

BIOLOGICAL SURVEY (REVISED)
PROPOSED BELEN AIRPORT EXPANSION
BELEN, VALENCIA COUNTY, NEW MEXICO

PREPARED FOR

The City of Belen
100 South Main Street
Belen, New Mexico 87002

Project No. Z03-006

PREPARED BY

Megan E. Quenzer
Anthony E. Martinez

Anthony E. Martinez
Senior Scientist

May 18, 2005

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120 Madeira Drive NE, Suite 301
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ABSTRACT

On July 24, 2003, Zia Engineering and Environmental Consultants, LLC (Zia) completed a biological (threatened and endangered species [TES]) survey of a site proposed for the expansion of the Belen Airport in Belen, Valencia County, New Mexico. The evaluation was for the purpose of determining if the proposed action would impact species protected by the Endangered Species Act of 1973 or New Mexico State regulations, or Clean Water Act Section 404 jurisdictional waters of the United States. The study was requested by The City of Belen.

The proposed development would impact approximately 610 acres (247 hectares) of significantly disturbed Plains-Mesa Sand Scrub. Listed TES plant or wildlife species were not observed in the proposed project area, nor did habitat in the proposed project area appear suitable for state or federal listed threatened or endangered plant or wildlife species that may occur in Valencia County.

The United States Fish and Wildlife Service (USFWS) may recommend carrying out construction activities outside the breeding season (March – August) in order to avoid impacts to migratory birds and other avifauna. Numerous Gunnison's prairie dog burrows, which are potential habitat for burrowing owls, a species protected under the Migratory Bird Treaty Act, were identified within the proposed project area during the pedestrian survey, and one occupied burrowing owl burrow was identified adjacent to the proposed project area. However, evidence of burrowing owl was not observed in or around any of the prairie dog burrows located within the proposed project area. If construction must occur during the breeding season and nesting migratory birds or other avifauna are observed in the project area, Zia recommends that all active nests be located and avoided until young birds have successfully fledged. In the event that this is not possible, Zia recommends that individuals and their eggs be relocated under the terms of a USFWS special permit.

Potential jurisdictional waters, including drainages and wetlands, were not identified within the proposed project area, based on the definitions used by the United States Corps of Engineers (USCOE).

Listed New Mexico Class A, B, and C noxious weeds were not identified in the proposed project area. If evidence of noxious weed species is found during development, the New Mexico Department of Agriculture (NMDA) will recommend measures to prevent proliferation.

INTRODUCTION

On July 24, 2003, Zia completed a biological (TES) survey of a site proposed for the expansion of the Belen Airport in Belen, Valencia County, New Mexico.

The evaluation was for the purpose of determining if the proposed action would impact species protected by the Endangered Species Act of 1973 or New Mexico State regulations, or Clean Water Act Section 404 jurisdictional waters of the United States. The study was requested by The City of Belen. Their point of contact was Audrey Torres. Zia's Principal Investigator for the project was Anthony E. Martinez, and Megan E. Quenzer performed the fieldwork and completed the report.

STANDARD OF CARE

Biological surveys, such as the one performed for the proposed project, are of limited scope and cannot eliminate the potential that adverse impacts to avifauna, listed species, or other biological resources may result from the project. In conducting the limited scope of services described herein, certain sources of information were not reviewed. No biological assessment can wholly eliminate uncertainty regarding the potential for adverse impacts to wildlife in connection with an action. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the project or otherwise uses the report for any other purpose. These risks may be further evaluated, but not eliminated, through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

RELIANCE

This biological survey report has been prepared for the exclusive use and reliance of The City of Belen. Use or reliance by any other party is prohibited without the written authorization of The City of Belen and Zia.

Reliance on this report by the client and all authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, biological survey report, and Zia's Terms and Conditions. The limitation of liability defined in the Terms and Conditions is the aggregate limit of Zia's liability to The City of Belen.

METHODS

On July 24, 2003, Zia performed a pedestrian survey and field assessment of the proposed project area. Survey conditions were good: temperatures were between 73.0 and 96.1 degrees Fahrenheit (22.8 and 35.6 degrees Celsius), skies were partly cloudy, wind direction was variable with speeds between 0 and 10.4 miles per hour (0 and 16.7 kilometers per hour), and visibility was 10.0 miles (16.1 kilometers).

Vegetation identified within the proposed project area during the survey was described and classified according to physiognomic classes developed by Dick-Peddie (1993) and physical disturbance levels, as recommended by the USFWS (1980). Soils of the proposed project area were determined based on the Soil Conservation Service (SCS) soil survey for Valencia County (United States Department of Agriculture [USDA] 1975).

Zia conducted an evaluation of the state and federal threatened and endangered species that may occur in Valencia County (Appendix B) (New Mexico Department of Game and Fish [NMDGF] 2003, USFWS 2003, New Mexico Rare Plant Technical Council [NMRPTC] 1999) and their habitat requirements. These habitat requirements were compared with habitat available in the proposed project area. In addition, the proposed project area was surveyed for potential nesting habitat for species protected under the Migratory Bird Treaty Act. If potential habitat for state or federal threatened or endangered species or potential nesting habitat for Migratory Bird Treaty Act protected species occurred in the proposed project area, further evaluation of the potential impacts of the proposed project on the species was conducted and recommendations made for impact avoidance.

While a formal wetlands delineation was not performed, potential Clean Water Act Section 404 jurisdictional waters were evaluated and potential wetlands were preliminarily defined in accordance with the USCOE Wetland Delineation Manual (Environmental Laboratory 1987). Zia examined the USFWS National Wetland Inventory (NWI) map for the area, Belen, New Mexico, for mapped wetlands (1980), reviewed the dominant vegetation observed in the proposed project area for inclusion on the USFWS *National List Of Vascular Plants That Occur In Wetlands* for Region 7 (Arizona and New Mexico) (1988), compared the mapped soils of the proposed project area to the USDA Natural Resources Conservation Service (NRCS) list of hydric soils of New Mexico (1995), reviewed the United States Geological Survey (USGS) topographic map and aerial photograph for the proposed project area, Belen, New Mexico (36106-F7 1977) (New Mexico Resource Geographic Information System Program [RGIS] 2001), and surveyed the proposed project area for defined drainage channels greater than 3 feet in width between ordinary high water marks and indicators of wetland hydrology and hydrologic conditions.

The proposed project area was also surveyed for the presence or absence of NMDA listed noxious weeds (1999).

AFFECTED ENVIRONMENT

GENERAL SETTING

The proposed project area is located on private land, surrounding the current development of the Belen Airport. The proposed project area has had moderate to severe levels of disturbance, including cattle grazing, dirt and paved road development, fencing, and garbage dumping. The elevation within the proposed project area ranges between approximately 5,100 and 5,200 feet (1,555 and 1,585 meters) above mean sea level. The proposed project area totals approximately 610 acres (247 hectares) and falls within the following UTM zone coordinates (see Figure 1, Appendix A):

Belen, New Mexico 7.5' Quadrangle
NAD 1983 UTM Zone 13

North: 330721E 3836661N
South: 332713E 3834113N
East: 332955E 3836092N
West: 330818E 3834366N

SOILS

Soils of the proposed project area are of the Wink series, specifically the Wink-Madurez association, and the Madurez series, specifically the Madurez-Wink association (USDA 1975). The predominant soils of the proposed project area are of the Wink series Wink-Madurez association. Both the Wink and Madurez series consist of well-drained soils on piedmonts. These soils formed in old unconsolidated alluvium that has been modified by wind.

Soils of the Wink series are associated with soils of the Bluepoint and Madurez series. The surface layer of Wink series soils is brown loamy sand about 9 inches thick, with a light brown sandy loam subsoil about 12 inches thick. The substratum of Wink series soils, which extends to a depth of 60 or more inches, is light brown and pinkish-white sandy loam with high lime content. The Wink-Madurez association consists of about 65 percent Wink fine sandy loam and 20 percent Madurez fine sandy loam. The Wink soils of the Wink-Madurez association occur on slightly convex piedmont fans and have a surface layer that is fine sandy loam about 5 to 10 inches thick. The Madurez soils of this association primarily occur on slightly concave piedmont fans and have a surface layer of fine sandy loam about 5 inches thick.

Soils of the Madurez series are associated with soils of the Bluepoint, Tres Hermanos, and Wink Series. The surface layer of Madurez series soils is light brown loamy fine sand approximately 10 inches thick, with a brown light sandy clay loam subsoil about 12 inches thick. Madurez series soils substratum is pink loam and sandy loam that has high lime content and extends to a depth of 60 or more inches. The Madurez-Wink association is on piedmont fans and consists of about 65 percent Madurez loamy fine sand and 25 percent Wink loamy fine sand. The Madurez soils of the Madurez-Wink association are slightly undulating, occur on slightly convex piedmont fans, and have a surface layer of loamy fine sand about 5 inches thick. The Wink soils of this series are gently undulating, occur on the sides of low ridges, and have a surface layer of loamy fine sand about 6 inches thick.

PLANTS

The proposed project area vegetation type consists of significantly disturbed Plains-Mesa Sand Scrub, dominated by sand sage (*Artemisia filifolia*) in the southern section of the site and broom snakeweed (*Gutierrezia sarothrae*) in the northern section of the site (Photographs 2 and 3) (Dick-Peddie 1993).

Photographs 1 and 2. Characteristic Vegetation of the Proposed Project Area:

Northern section of the site (left) – Southern section of the site (right).

Other plant species identified in the proposed project area during the survey include four-wing saltbush (*Atriplex canescens*), Russian thistle (*Salsola tragus*), rubber rabbitbrush (*Ericameria nauseosa*), soapweed yucca (*Yucca glauca*), honey mesquite (*Prosopis glandulosa*), blue grama (*Bouteloua gracilis*), fluffgrass (*Dasyochloa pulchella*), Indian ricegrass (*Achnatherum hymenoides*), brown-spined prickly pear (*Opuntia phaeacantha*), silverleaf nightshade (*Solanum elaeagnifolium),* puncture-vine (*Tribulus terrestris*), and wavy-leaf thistle (*Cirsium undulatum).*

WILDLIFE

Wildlife observed in the proposed project area included whiptail lizard (*Cnemidophorus* sp.), lesser earless lizard (*Holbrookia maculata*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), harvester ants (*Pogonomyrmex* sp.), and black-tailed jackrabbit (*Lepus californicus*). Wildlife signs observed included rodent burrows, including Gunnison's prairie dog (*Cynomys gunnisoni*) burrows, and reptile burrows; rodent, coyote (*Canis latrans*), and rabbit scats; and rodent, reptile, and bird tracks.

THREATENED AND ENDANGERED SPECIES

Zia compared habitat available in the proposed project area with the habitat requirements for the listed state and federal threatened and endangered plant and wildlife species that may occur in Valencia County (NMDGF 2003, USFWS 2003, NMRPTC 1999) and determined that potential suitable habitat does not occur within the proposed project area for listed TES species.

PLANTS

The habitat in the proposed project area did not appear suitable for state or federal listed threatened or endangered plant species that may occur in Valencia County (NMRPTC 1999; USFWS 2003).

WILDLIFE

The habitat in the proposed project area did not appear suitable for state or federal listed threatened or endangered wildlife species that may occur in Valencia County (NMDGF 2003; USFWS 2003).

MIGRATORY BIRDS

Migratory bird species are protected under numerous legislation, including the Migratory Bird Treaty Act, from harm or take without a valid permit. Many such bird species may migrate through the area in the spring and fall, stopping over if habitat is suitable, or may occur on or near the proposed project area during the breeding season from March through August or through the winter months. Numerous Gunnison's prairie dog (*Cynomys gunnisoni*) burrows, which are potential habitat for burrowing owl (*Athene cunicularia hypugaea*), a species protected under the Migratory Bird Treaty Act, were identified within the proposed project area, and one occupied burrowing owl burrow was identified adjacent to the proposed project area. However, evidence (scat, regurgitation pellets) of burrowing owl was not observed in or around any of the prairie dog burrows surveyed within the proposed project area.

JURISDICTIONAL WATERS

Zia reviewed the USGS topographic map and aerial photograph for the proposed project area and surveyed the site for indicators of hydrologic conditions. Evidence of water bodies (streams, rivers, lakes), ephemeral or permanent, was not observed within the proposed project area during review of the topographic map and aerial photograph or during the pedestrian survey.

Potential wetlands were preliminarily defined in accordance with the USCOE Wetland Delineation Manual (Environmental Laboratory 1987). Zia examined the USFWS NWI map for the area for mapped wetlands, and reviewed vegetation, soils, and wetland hydrology indicators for the proposed project area for use in conducting a preliminary wetland determination.

According to the Belen, New Mexico, NWI map, mapped wetlands do not occur within or adjacent to the proposed project area (1980).

Dominant vegetation observed in or adjacent to the proposed project area was reviewed for inclusion on the USFWS *National List Of Vascular Plants That Occur In Wetlands* for Region 7 (Arizona and New Mexico) (1988). Wetland plant species for Region 7 were not recorded during the survey. Based on the indicator status of the vegetation observed, hydrophytic vegetation is not present within or adjacent to the proposed project area.

The soils of the proposed project area, including Wink-Madurez association and Madurez-Wink association soils, are not included on the USDA NRCS list of hydric soils for New Mexico (1995).

Zia reviewed the USGS topographic map (Figure 1, Appendix A) and aerial photograph for the proposed project area and surveyed the proposed project area for indicators of wetland hydrology. Inundation, soil saturation, and other indicators of wetland hydrology (e.g. drainage patterns, drift lines, watermarks, sediment deposition) were not observed during the pedestrian survey. Streams or other similar areas with a periodic or ephemeral water supply are not located within or adjacent to the proposed project area. Therefore, wetland hydrology does not occur in the proposed project area.

As evidence of hydrologic or wetland conditions was not observed within the proposed project area, potential USCOE defined jurisdictional waters, including wetlands, were not identified within the proposed project area.

NOXIOUS WEEDS

Plant species identified in the proposed project area were compared to the *New Mexico Noxious Weed List* (NMDA 1999). No New Mexico Class A, B, or C noxious weeds were identified in the proposed project area during the survey (NMDA 1999).

CONCLUSIONS AND RECOMMENDATIONS

Listed TES plant or wildlife species were not observed in the proposed project area during the pedestrian survey, nor was visual evidence of TES wildlife species observed. The habitat in the proposed project area did not appear suitable for state or federal listed threatened or endangered plant or wildlife species that may occur in Valencia County.

The USFWS may recommend carrying out construction activities outside the breeding season (March – August) in order to avoid impacts to migratory birds and other avifauna. While evidence of burrowing owl was not observed during the pedestrian survey, numerous Gunnison's prairie dog burrows, which are potential habitat for burrowing owls, a species protected under the Migratory Bird Treaty Act, were identified throughout the proposed project area during the pedestrian survey, and one occupied burrowing owl burrow was identified adjacent to the proposed project area. If construction must occur during the breeding season and nesting migratory birds or other avifauna are observed in the project area, Zia recommends that all active nests be located and avoided until young birds have successfully fledged. In the event that this is not possible, Zia recommends that individuals and their eggs be relocated under the terms of a USFWS special permit.

Potential jurisdictional waters, including drainages and wetlands, were not identified within the proposed project area, based on the definitions used by the USCOE.

Listed New Mexico Class A, B, and C noxious weeds were not identified in the proposed project area. If evidence of noxious weed species is found during development, the NMDA will recommend measures to prevent proliferation.

REFERENCES

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1993 *New Mexico Vegetation: Past, Present and Future.* University of New Mexico Press, Albuquerque.

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1987 *Corps of Engineers Wetlands Delineation Manual*. Wetlands Research Program Technical Report Y-87-1. United States Army Corps of Engineers Waterways Experiment Station.

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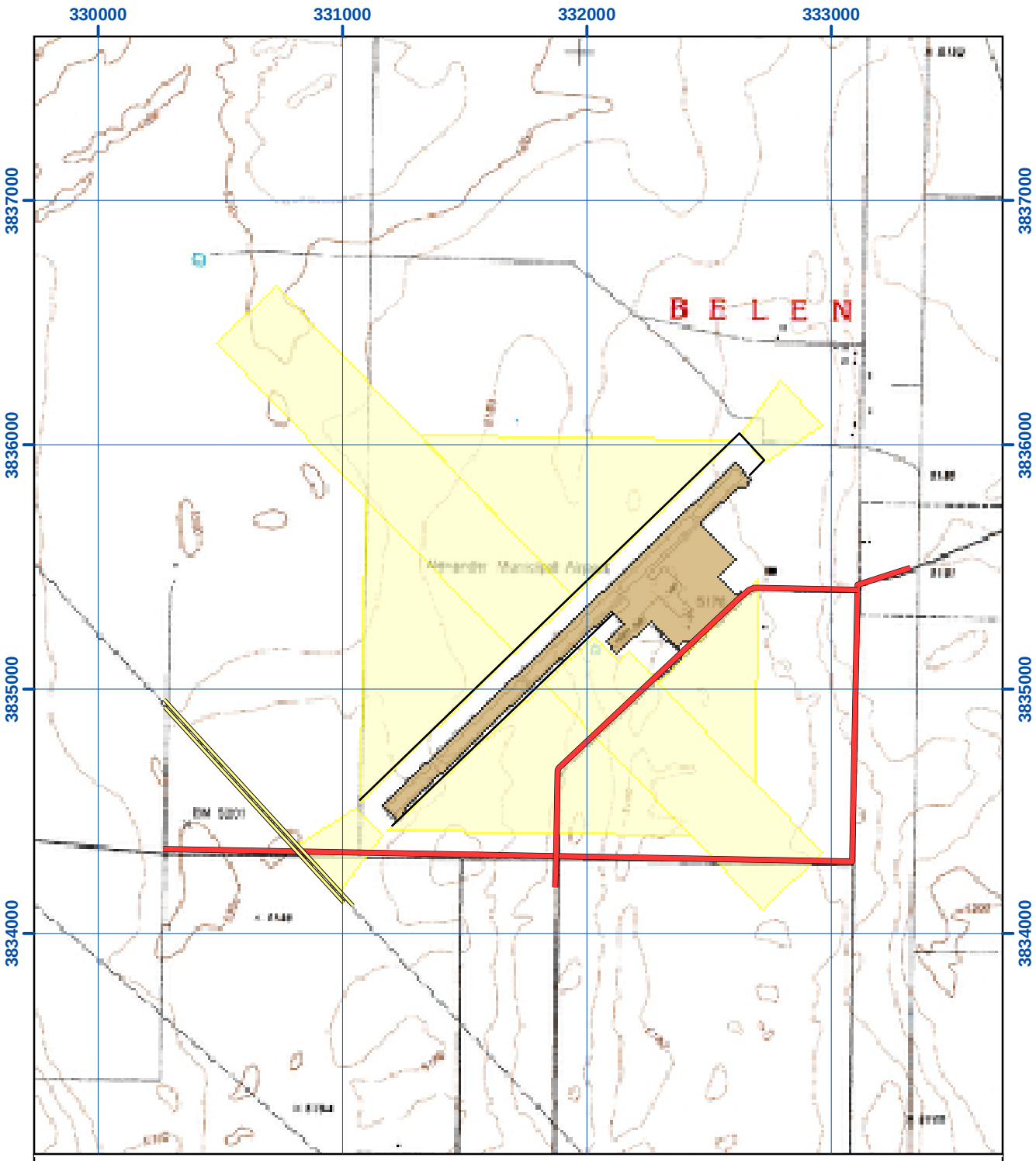
1980 *Belen, New Mexico 1:100,000 Scale Map of National Wetland Inventory*.

1988 *National List of Vascular Plants that Occur in Wetlands*. United States Fish and Wildlife Service Biological Report 88.

2003 *Federal Endangered, Threatened, Proposed and Candidate Species and Species of Concern in Valencia County, New Mexico*. Consultation No. 2-22-03-I-491, June 19, 2003.

APPENDIX A
Figure 1. Project Area Map

Biological Survey
Proposed Belen Airport Expansion
Belen, Valencia County, New Mexico



Based on USGS 7.5' Quadrangle
Belen, NM 36106-F7 1977

N

UTM zone 13
NAD 1983

1:24,000

Proposed Project Area
Existing Infrastructure
Fence
Roads
Pipeline

Kilometers
0 0.5 1
Miles
0 0.25 0.5

Date: 05/18/05
Project No.: Z03-006
Figure No.: 1

Zia Engineering and Environmental Consultants, LLC

APPENDIX B
List of Threatened and Endangered Species of Plants and Wildlife that May Occur in Valencia County, New Mexico

E = Endangered and T = Threatened (Listing Status from NMRPTC 1999, USFWS 2003, and NMDGF 2003).

Common Name / Scientific Name	Status		General Habitat	Project Impact
	Federal	State		
Plants				
Pecos Sunflower *Helianthus paradoxus*	T	E	Saturated saline soils of desert wetlands (1,000-2,000 m; 3,300-6,600 ft).	None–no suitable habitat within proposed project area.
Birds				
American Peregrine Falcon *Falco peregrinus anatum*		T	Cliffs, outcrops, usually near water.	None–no suitable habitat within proposed project area.
Baird's Sparrow *Ammodramus bairdii*		T	Desert grasslands (south), prairies (northeast), mountain meadows in the San Juan and Sangre de Cristo mountains (late summer/fall migrant).	None–no suitable habitat within proposed project area.
Bald Eagle *Haliaeetus leucocephalus*	T	T	Lakes, rivers, estuaries; requires large trees for roosts and hunting perches (winter and migratory).	None–no suitable habitat within proposed project area.
Bell's Vireo *Vireo bellii*		T	Scrubland or woodland (willows, mesquite, and seepwillows) along lowland stream courses, riparian forests, pastures, annual grasslands (migratory).	None–no suitable habitat within proposed project area.

Common Name Scientific Name	Status Federal	 State	General Habitat	Project Impact
Common Black Hawk *Buteogallus anthracinus*		T	Riparian forests.	None–no suitable habitat within proposed project area.
Common Ground Dove *Columbina passerina pallescens*		E	Lowland riparian forests, Chihuahuan Desert grassland and desert scrub (population consists of a few birds in Hidalgo County plus stragglers elsewhere in the state.)	None–no suitable habitat within proposed project area.
Mexican Spotted Owl *Strix occidentalis lucida*	T		Forestland, wooded canyons. Critical habitat.	None–no suitable habitat within proposed project area.
Neotropic Cormorant *Phalacrocorax brasilianus*		T	Lakes, rivers, marines habitats.	None–no suitable habitat within proposed project area.
Southwestern Willow Flycatcher *Empidonax traillii extimus*	E	E	Streamside thickets, brushy backwaters, riparian forests (spring and fall migratory). Critical habitat.	None–no suitable habitat within proposed project area.
Fish				
Rio Grande Silvery Minnow *Hybognathus amarus*	E	E	Low-gradient, large streams with shifting sand or silty bottoms; Rio Grande. Critical habitat.	None–no suitable habitat within proposed project area.

Common Name Scientific Name	Status Federal	 State	General Habitat	Project Impact
Mammals				
Black-Footed Ferret *Mustela nigripes*	E		Extirpated in New Mexico; however, a survey should be conducted if project will impact prairie dog complexes of 200-acres + for *Cynomys gunnisoni* &/or 80-acres + for any subspecies of *Cynomys ludovicianus*.	None–extirpated in New Mexico; no suitable habitat within proposed project area.
New Mexican Jumping Mouse *Zapus hudsonius luteus*		T	Montane meadows, moist meadows.	None–no suitable roosting habitat within proposed project area.
Spotted Bat *Euderma maculatum*		T	Subalpine coniferous forest, pinyon-juniper woodlands, riparian, desert scrub, perennial water; roosts in cracks & crevices of canyons & cliffs.	None–no suitable roosting habitat within proposed project area, no perennial water source.

APPENDIX C
Consultation Documentation

See Appendix F of EA document

APPENDIX C

RESULTS OF CULTURAL RESOURCES SURVEY

PUBLIC COPY

AN ARCHAEOLOGICAL SURVEY
PROPOSED BELEN AIRPORT EXPANSION
BELEN, VALENCIA COUNTY, NEW MEXICO

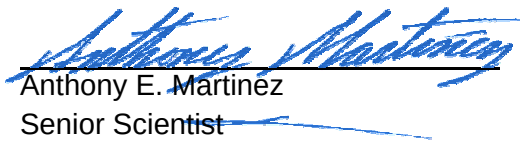
PREPARED FOR

City of Belen
100 South Main Street
Belen, New Mexico 87002

Project No. Z03-006
NMCRIS Project/Activity No. 86525
NM Survey Permit No. 03-155

PREPARED BY

David H. Reynolds
Kristen Bisson
Anthony E. Martinez



Anthony E. Martinez
Senior Scientist

December 10, 2003

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Appendix C-1

ABSTRACT

Between July 24 and August 24 of 2003, Zia Engineering and Environmental Consultants, LLC (Zia) completed a cultural resources survey of a site proposed for the expansion of the Alexander Municipal Airport in Belen, Valencia County, New Mexico. The survey was requested by the City of Belen.

Zia conducted a pre-field review of the files of the New Mexico Cultural Resource Information System (NMCRIS) of the State Archeological Records Management Section (ARMS), the current published listings for the National Register of Historic Places (NRHP), and the New Mexico State Register of Cultural Properties (SRCP). According to the files check, no state and/or nationally registered properties and five previously recorded archaeological sites are located within one mile (1.61 km) of the proposed project area. Based on a systematic 100 percent pedestrian (Class III) survey, no previously recorded sites are located within the proposed project area. One new archaeological site, LA 142520, and 24 isolated occurrences were located and recorded within the project area. LA 142520, an historic artifact scatter, has limited subsurface potential and limited potential for yielding important information on local culture history. As such, LA 142520 is recommended not eligible to the NRHP.

Zia does not recommend any further cultural resources studies for the proposed project area. If previously unknown archaeological resources are uncovered during construction, work in the area should be halted and the New Mexico Historic Preservation Division (HPD) should be notified. If human remains are uncovered, work in the area should cease and the Valencia County Sheriff's Office should be notified.

BACKGROUND

Between July 24 and August 24 of 2003, Zia completed a cultural resources survey of a site proposed for the expansion of the Alexander Municipal Airport in Belen, Valencia County, New Mexico. The site survey area totaled approximately 610 acres (247 hectares), and fell within the following UTM Zone 13 NAD 1927 coordinates:

Belen, New Mexico Quadrangle

Point	Easting	Northing
Northernmost	330721	3836661
Southernmost	332713	3834113
Easternmost	332955	3836092
Westernmost	330818	3834366

The project area is located on private land surrounding the current Belen Airport and was surveyed under permit number 03-155. The City of Belen requested the study. Their point of contact was Audrey Torres. Zia's Principal Investigator and Field Supervisor was Anthony Martinez. The field crew included Anthony Martinez, David Reynolds, Peter Schivo, Brian Ross, Jeremy Murphy, and Cecil Harwell.

The survey area has experienced moderate to severe levels of disturbance, including intense cattle grazing, littering, the construction of dirt and paved roads and fencing, and trash disposal. The survey area vegetation type is severely disturbed Plains-Mesa Sand Scrub (Dick-Peddie 1993). The habitat is dominated by sand sage (*Artemisia filifolia*) in the southern section of the site, and broom snakeweed (*Gutierrezia sarothrae*) in the northern section of the site.

Soils of the survey area are of the Wink and Madurez series, specifically the Wink-Madurez and Madurez-Wink associations. The predominant soils of the survey area are of the former association. Both the Wink and Madurez series consist of well-drained soils on piedmonts. Wink and Madurez series soils formed in unconsolidated alluvium that has been modified by wind.

HERITAGE RESOURCES REVIEW

Zia's pre-field study included a review of the NMCRIS files of ARMS, and a review of the current published listings of the NRHP and SRCP (State of New Mexico Office of Cultural Affairs Historic Preservation Division 2003). The files check, conducted July 23, 2003, indicated that no state and/or nationally registered historic properties and five previously recorded archaeological sites (Table 1) are located within one mile (1.61 km) of the proposed project area.

Table 1. Previously Recorded Archaeological Sites Within One Mile Of Project Area.

LA No.	Component	Date	Site Type
38378	Pueblo III	A.D. 1100 -1300	Artifact Scatter
38379	Unknown	9500 B.C. - A.D.1993	Lithic Scatter
38380	Pueblo III	A.D. 1100 -1300	Artifact Scatter
52003	Anasazi Unknown	A.D. 1 - 1600	Artifact Scatter
70128	Unknown	9500 B.C.-A.D.1993	Artifact Scatter

According to the NMCRIS files of ARMS, two cultural resources surveys have been conducted near the project area. Following are brief descriptions of the projects:

NMCRIS Activity No. 572
Between August 1 and September 14, 1982, the University of New Mexico Office of Contract Archaeology conducted a systematic 100% pedestrian (Class III) survey of 880 acres in Valencia County. The survey was conducted for Commercial Investment Realty. Twenty-one new sites and 234 isolated occurrences were located and recorded (Wozniak 1982).

NMCRIS Activity No. 26605
Between February 28 and July 10 of 1989, Rio Abajo Archaeological Services conducted an archaeological survey on 102 acres in Belen. The survey was conducted for a private individual. Rio Abajo Archaeological Services performed data recovery on previously recorded site LA 70128 (Gossett 1989).

CULTURE HISTORY

Paleoindians (9500 B.C. – 6000 B.C.) were the first human occupants of the Southwest. The Paleoindian culture was characterized by the hunting of now-extinct large fauna, including the mastodon and Bison *antiquus*. Generally, Paleoindian sites in the Southwest are located around ancient lakebeds due to the then availability of water and game. Paleoindian sites are generally open-air lithic scatters, characterized by projectile points (Cordell 1979).

Belen is located within the Rio Abajo, a portion of the Rio Grande Valley stretching from the Espanola Valley in the north to Sabinal in the south. The prehistoric occupational sequence of the Rio Abajo region is problematic due to a lack of carefully studied and published sites. Within the Rio Abajo area, the Mockingbird Gap site (located east of the village of San Antonio) and the Ake site (situated on the plains of San Augustin) are the only extensively investigated sites of the Paleoindian period (Marshall and Walt 1984). Whether the lack of sites from other periods is a true indication of the culture sequence of the area, or merely reflects a lack of data, is unknown. Dynamic forces of gravity, erosion, aeolian deposition, and alluvial sedimentation, as well as subsequent human populations, may have damaged or covered remaining evidence of Paleoindian occupation (Marshall and Walt 1984).

During the Archaic Period, the Southwest became a distinctive culture area (Cordell 1979). The Archaic groups of north-central New Mexico are encompassed within the Oshara Tradition, which dates from 5500 B.C. to A.D. 400 (Irwin-Williams 1973). The Archaic Period is characterized by mobile hunting-gatherers who seasonally exploited a diverse resource base of small to medium-sized game animals, seeds, and nuts (Schroeder 1976). Specialized grinding technologies developed during this period in order to process hard seeds and nuts. Archaic sites of the riverine Rio Abajo region suffer from the same preservation problems as do Paleoindian sites.

Late Archaic sites contain high densities of lithics with trimming flakes, as well as shallow basin metates, slab metates, one-hand manos, cobble-clustered and simple hearths. Sand Mountain and San Pedro projectile points are associated with the Late Archaic sequence, which is the only one recognized in the immediate riverine Rio Abajo region (Marshall and Walt 1984).

During the early Puebloan period (A.D. 400 – 900), formal pit houses were constructed on the lower branches of the Rio Grande. This era marked the introduction of pottery construction from Mexico, the bow-and-arrow, and exquisite basket making, thus the naming of these people “Basketmakers” by early archaeologists. During the Late Basketmaker – Pueblo I period (A.D. 600 – 850) the local population began building houses aboveground in rows with common walls. Some villages featured semi-subterranean ceremonial rooms or “kivas” (Cordell 1979).

The periods Pueblo II, Pueblo III and Basin Classic (A.D. 900 – 1150) witnessed large increases in population and technology. Though most villages were small, huge multi-storied apartment

buildings were constructed around plazas in a few places like Chaco Canyon. Many new design styles in pottery appeared, and ancient trade routes with Central Mexico were reopened. Consequently, exotic goods such as macaws, Pacific shells, and cast copper bells were exchanged for turquoise from Cerrillos and other famous mines in New Mexico. Also during this period, farming reached its zenith, covering an area of approximately 50,000 acres (Cordell 1979).

From A.D. 1080 to A.D. 1100, the population began trickling out of the small villages, and by A.D. 1150 the San Juan Basin was vacant. Most of the population of New Mexico had deserted the low-lying areas, likely due to drought. Sites of this period reveal small immature cobs of corn, increases in skeletal remains of wild game, hamlets of six to 10 rooms, and pit houses at elevations of 7000 feet and higher.

In the greater project area, only a few sites are known for the period Pueblo III (A.D. 1100 – 1300). A severe drought occurred in the area between A.D. 1275 and A.D. 1299, during which time the largest towns ever seen were constructed along the Rio Grande, the Pecos and the Little Colorado rivers, leading into the periods Riverine or Pueblo IV (A.D. 1300-1600). Trade routes were reopened, new pottery styles appeared, terracing and other new agricultural techniques were utilized, and the spiral-grooved axe of sillimanite was invented. Sites such as Alameda Pueblo and Santiago Pueblo featured large, multi-storied structures illustrating formalized architecture. Despite the frequent moving of entire towns, occupation along the rivers was constant (Marshall and Walt 1984).

In A.D. 1540, Francisco Vasquez de Coronado arrived to find the occupation of big towns, such as Puaray and Kuaua near Bernalillo, along the rivers. In A.D. 1598, Don Juan de Oñate led the first band of colonists into the area from Mexico. El Camino Real, a route used by Puebloan people for hundreds of years before the arrival of Europeans, was utilized by the Spanish as the sole artery to the settlements of New Mexico. The El Camino Real ran from Mexico City, through present day Belen and Albuquerque, to Santa Fe and Taos (Marshall and Walt 1984).

During the early years following Spanish contact, Puebloan populations were significantly reduced by disease and warfare. This continued through the Pueblo Revolt of 1680. Reconquest by the Spanish in 1692 resulted in the establishment of the settlements of Bernalillo and Albuquerque. Farming and ranching, supplemented by mining and textile production, were the principal economic drivers in the region (Cordell 1979).

Belen was founded in 1741 by Spaniards Diego Torres and Antonio Salazar. Torres and Salazar petitioned Don Gaspar de Mendoza, the governor and captain general of New Mexico, for a grant of land east of the Rio Puerco and west of the Sandia Mountains. The grant was officially turned over to Torres by Nicholas de Chavez. The grant was titled Nuestra Senora de Belen or Our Lady of Belen (Valencia County Historical Society 1983).

Mexican independence from Spain in 1821 resulted in the establishment of commercial trade between the United States and Mexico. New Mexico became a United States Territory in 1846 as a result of the Mexican-American War. From 1846 to 1854, the American military presence in the Southwest involved establishing forts and securing the territory. A Civil War battle was fought at nearby Valverde on February 21, 1862. During the mining and stagecoaching periods, wagon roads and short-line stage routes ran through Belen, connecting the mining districts of Magdalena/Socorro Peak with those to the north.

In 1880 the Atchison, Topeka and Santa Fe Railroad (Santa Fe Railroad) reached Belen. In 1907, the Santa Fe Railroad completed the Belen Cut-Off from Amarillo and markets to the East resulting in a more direct route to Kansas. The cutoff was built in order to avoid the Raton Pass to the north. This cutoff provided the Atchison, Topeka and Santa Fe with a complete east-west axis across the state, and made Belen a central point of the railroad in New Mexico (Valencia County Historical Society 1983).

METHODS

Between July 24 and August 24 of 2003, Zia completed a cultural resources survey of the proposed project area in Belen. The purpose of the survey was to locate and record any cultural resources of a possible age of 50 or more years. Prior to the pedestrian survey, the survey area was mapped using ArcView/GIS project boundary data and 7.5 minute maps showing project boundaries.

Before arriving in the project area, the field crew was equipped with custom field maps indicating survey limits and previously recorded archaeological sites accurately mapped on USGS topographic maps and digital aerial photographs. Field equipment included pre-programmed WAAS-enabled GPS units for navigation.

In the field, Zia's crew conducted a systematic, intensive inspection of the ground surface using GSP transects spaced no more than 15 meters apart. Survey conditions were clear and sunny. Surface visibility was between 75 percent and 99 percent.

A Laboratory of Anthropology (LA) form was completed for the new site, and artifact tallies were collected using forms developed by Zia. When field crews located an isolated occurrence, it was accurately plotted on the appropriate 7.5 minute USGS map using GPS information. Using forms developed by Zia, field crews documented isolated occurrences in the field by recording the area of artifact distribution (when applicable), the artifact type, and frequency.

RESULTS

Registered Properties, Previously Recorded Sites and Newly Recorded Sites

Based on the heritage resources review, no properties on the SRCP and/or NRHP are located within one mile (1.61 km) of the project area. Five previously recorded archaeological sites are located within one mile (1.61 km) of the project area. During the current survey, no previously recorded sites were located within the boundaries of the proposed project area. One new archaeological site (Table 2) was recorded within the boundaries of the proposed project area.

Table 2: Newly Recorded Archaeological Site

(Location information is not included in the Public Copy of this document)

LA No.	Easting	Northing	Site Type
142520	XXXXXX	XXXXXXX	Artifact Scatter

LA Number: 142520
Cultural Affiliation and Age: U.S. Territorial/ Statehood--WWII (circa 1900-1929)
Site Type: Artifact Scatter
Size: 90 meters x 60 meters

LA 142520 is an historic artifact scatter with no associated features situated along the crest of a low rise on a terrace of the Rio Grande. The landscape is generally flat with little topographic relief. Approximately 85 artifacts, distributed in two concentrations, were identified within the site. Outside the two concentrations, artifacts were widely dispersed. Artifacts located consisted of 80 fragments of broken glass (Table 3), including three bottle bases with maker's marks. Maker's marks on the three bottle bases suggest that LA 142520 was occupied between 1900 and 1929 (Toulouse 1971). The artifact scatter also included four cans (Table 4), and one barrel strapping (Table 5). There were 76 temporally diagnostic glass artifacts, and two temporally diagnostic cans.

Table 3. LA 142520 Glass Artifacts

[x] 100% Count [ ] Estimate [ ] Arbitrary Tally, ca. % of total

Color	Container	Window	Unknown	Decoration/Comments	Count
Aqua	40			One with maker's mark "WF&_A_MIL" William Franzen & Son 1900-1929	40
Light Green	7			Two with maker's marks "1425_3" and "AB" Adolphus Busch Glass Manufacturing 1904-1928	7
Purple	17				17
Brown	12				12
Clear	4				4
Total Artifacts					**80**

Table 4. LA 142520 Can Artifacts

[x] 100% Count [ ] Estimate [ ] Arbitrary Tally, ca. % of total

Sinomis Type/Shape & Closure	Opening/Comments	Count
Sanitary Can w/folded seam	3" dia. x 4" ht.	**1**
Potted meat cans w/solder	2" dia. x 1 5/8" ht. "Est-20-A" on base	**2**
Large square can	4" x 2" x ?, (ht. N/A.), 1" opening; possible turpentine can	**1**
Total Artifacts		**4**

Table 5. LA 142520 Miscellaneous Artifacts

[x] 100% Count [ ] Estimate [ ] Arbitrary Tally, ca. % of total

Item (include hand-cut nails, wire nails, cartridge cases, construction materials, etc.)	Count
Barrel strapping with rough hewn rivets	**1**
Total Artifacts	**1**

Evaluation: LA 142520 is an historic artifact scatter with limited subsurface potential and no associated features. It is not likely to yield important information on local culture history. As such, the information potential of LA 142520 is considered to have been exhausted through

recordation. LA 142520 is recommended not eligible to the NRHP under Criterion D: Information Potential.

Recommendation: Zia recommends that the research potential of LA 142520 has been exhausted through recordation, and that no further cultural resource studies are necessary at LA 142520.

ISOLATED OCCURRENCES

A total of 24 isolated occurrences were located during the course of the survey (Table 6). Their information potential is considered to be exhausted through recordation.

Table 6. Isolated Occurrences.

(Location information is not included in the Public Copy of this document)

IO No.	Easting	Northing	Description	Comments
1	XXXXXX	XXXXXXX	One secondary flake	Obsidian Visible bulb, 45% cortex
2	XXXXXX	XXXXXXX	One can	Crushed fruit can with folded seam
3	XXXXXX	XXXXXXX	One sherd	Historic terracotta
4	XXXXXX	XXXXXXX	Two cans	Crushed beer cans with lock side seams
5	XXXXXX	XXXXXXX	One tertiary flake	Tan chalcedony with brown striations
6	XXXXXX	XXXXXXX	Two secondary flakes	Both tan chalcedony One flake has edge-scarring and was utilized on one facet Located within a 5 meter x 5 meter area
7	XXXXXX	XXXXXXX	One tertiary flake	White chalcedony with gray inclusions
8	XXXXXX	XXXXXXX	One primary flake	Gray/white chalcedony
9	XXXXXX	XXXXXXX	One secondary flake	White/gray chalcedony Pressure flakes on proximal facet
10	XXXXXX	XXXXXXX	Three sherds	Grayware with brushed interior and exterior and a quartz temper

IO No.	Easting	Northing	Description	Comments
11	XXXXXX	XXXXXXX	One tertiary flake	Brown petrified wood
12	XXXXXX	XXXXXXX	One mano	Sandstone, ground on one facet, oxidized, pecked on end
13	XXXXXX	XXXXXXX	One tertiary flake	Light tan chalcedony
14	XXXXXX	XXXXXXX	Two cores	One chalcedony, one obsidian
15	XXXXXX	XXXXXXX	Five metamorphic rocks (manuports)	Located within a 3 meter x 1 meter area, possible deflated hearth
16	XXXXXX	XXXXXXX	One can	Santiary with folded seam 2 5/8” dia. x 4” ht.
17	XXXXXX	XXXXXXX	One sherd	Grayware
18	XXXXXX	XXXXXXX	One primary flake	White chalcedony
19	XXXXXX	XXXXXXX	Eight cans	Sanitary with folded seams 2 5/8” dia. X 4” ht.
20	XXXXXX	XXXXXXX	Tobacco tin	Prince Albert
21	XXXXXX	XXXXXXX	One primary flake	Obsidian
22	XXXXXX	XXXXXXX	One primary flake, One flaked stone debris	Flake is clear quartzite with brown mottling
23	XXXXXX	XXXXXXX	One primary flake, One flaked stone debris, One tertiary flake,	Primary flake is clear quartzite with brown mottling; tertiary flake is obsidian sherd is grayware; artifacts are located within a

IO No.	Easting	Northing	Description	Comments
			One sherd	10 meter x 10 meter area
24	XXXXXX	XXXXXXX	One secondary flake	Clear quartzite with brown mottling

CONCLUSIONS AND RECOMMENDATIONS

Based on a systematic 100 percent pedestrian (Class III) survey, there are no historic properties listed on the SRCP and/or NRHP or previously recorded archaeological sites located within the proposed project area. One new archaeological site, LA 142520, and a total of 24 isolated occurrences were identified in the project area. LA 142520, an historic artifact scatter, has limited subsurface potential and limited potential for yielding important information on local culture history. As such, LA 142520 is recommended not eligible to the NRHP (Table 7), given the exhaustion of its information potential.

Table 7. Summary of Site and Recommendation

LA No.	Site Type	Recommendation	NRHP Eligibility
142520	Artifact Scatter	No Further Action	Not Eligible

Zia recommends that no further cultural resource studies are necessary within the area proposed for the expansion of the Alexander Municipal Airport in Belen. If previously unknown archaeological resources are uncovered during construction, work in the area should be halted and the New Mexico HPD should be notified. If human remains are uncovered, work in the area should cease and the Valencia County Sheriff's Office should be notified.

REFERENCES

Cordell, L.
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Dick-Peddie, W. A.
1993 *New Mexico Vegetation: Past, Present and Future.* University of New Mexico Press, Albuquerque.

Gossett, C. W. a. W. J. G.
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Irwin-Williams, C.
1973 The Oshara Tradition: Origins of Anasazi Culture. *Eastern New Mexico University Contributions in Anthropology* 5(1).

Marshall, M. P. and H. J. Walt
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Schroeder, A. R.
1976 *The Archaic of the Northern Colorado Plateau.* Ph.D. Dissertation, University of Utah.

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2003 New Mexico Cultural Resource Information System. vol. 2003. New Mexico Office Cultural Affairs Historic Preservation Division Archeological Records Management Section.

Toulouse, J. H.
1971 *Bottle Makers and Their Marks*. Thomas Nelson Inc., New York.

Valencia County Historical Society
1983 Rio Abajo: A History of Valencia County. Valencia County Historical Society, Belen.

Wozniak, F. E.
1982 *An Inventory of the Cultural Resources on 880 Acres Near Belen, New Mexico for Commercial Investment Realty.* University of New Mexico Office of Contract Archaeology. Copies available from 185-159.

APPENDIX A-1

LABORATORY OF ANTHROPOLOGY INVESTIGATION RECORD

LABORATORY OF ANTHROPOLOGY INVESTIGATION RECORD

1. PROJECT AND ACTIVITY DATA

NMCRIS Activity No.: 8 6 5 2 5 (NMCRIS Activity Nos. assigned by ARMS staff or NMCRIS registration page; see NMCRIS User's Guide)

Sponsoring Agency: City of Belen

Project ID number: Z03-006

Project Name: Archaeological Survey, Proposed Belen Airport Expansion, Belen, Valencia County, New Mexico

Description of Undertaking (optional)**:** Class III archaeological survey of proposed expansion of the Alexander Municipal Airport for the City of Belen.

Other Permitting Agencies:

Performing Agency: Zia Engineering & Environmental Consultants, LLC

Activity ID number: Z03-006 **Activity Name:**

Dates of Investigation: 2 4 J U L 2 0 0 3 (day, month, year) to 2 4 A U G 2 0 0 3 (day, month, year)

Investigation Type:

- ☐ research design
- ☐ excavations
- ☐ monitoring/damage assessment
- ☐ overview/lit. review
- ☒ survey/inventory
- ☐ ethnographic study
- ☐ test excavations
- ☐ collections/non-field studies
- ☐ other activities (specify)**:**

Description of Investigation (optional)**:**

2. SURVEY DATA

Total Area Surveyed: 610 acres

Total Activity Area (if < 100% coverage)**:** acres

Total Tribal Area Surveyed: 0 acres

Intensity (choose one)**:** ☒ intensive inventory (100% coverage) ☐ reconnaissance (<100% coverage)

Configuration: ☒ block survey units ☐ linear survey units ☐ other survey units (specify)**:**

Scope (choose one)**:** ☒ non-selective (all sites recorded) ☐ selective/thematic (selected sites recorded)

Coverage Method (choose one)**:** ☒ systematic pedestrian coverage ☐ other method (describe)**:**

Standard Survey Interval: 15 meters

Standard Crew Size: 6

Survey Person Hours: 120

Site Recording Person Hours: 6

Source Graphics:

- ☒ USGS 7.5' (1:24,000) topo maps
- ☐ rectified aerial photos [Scale**:**]
- ☐ other topo maps [Scale**:**]
- ☐ unrectified aerial photos [Scale**:**]
- ☒ GPS unit* *GPS Accuracy**:** ☐ < 1.0 m ☒ 1-10 m ☐ 10-100 m ☐ >100 m
- ☐ other source (describe)**:**

NMCRIS Activity No.: 8 6 5 2 5

2. SURVEY DATA (continued)

Survey Results:

sites discovered and registered:	1
sites discovered and NOT registered:	0
previously recorded sites revisited:	0
total sites visited:	1
Total isolated occurrences recorded:	25

☐ Non-selective IO recording?

Surveyed Land Ownership*

Owner Name:	State:	Acres Surveyed:
Private landowner	NM	610

*(Govt. agencies: enter agency name and administrative unit; Private owners and Land Grants: combine into one "Private" group)

Counties Surveyed: Valencia County

Surveyed USGS Quadrangles

Quadrangle Name/ Date:	USGS Code:
Belen, New Mexico/1980	34106-F7

APPENDIX B-1

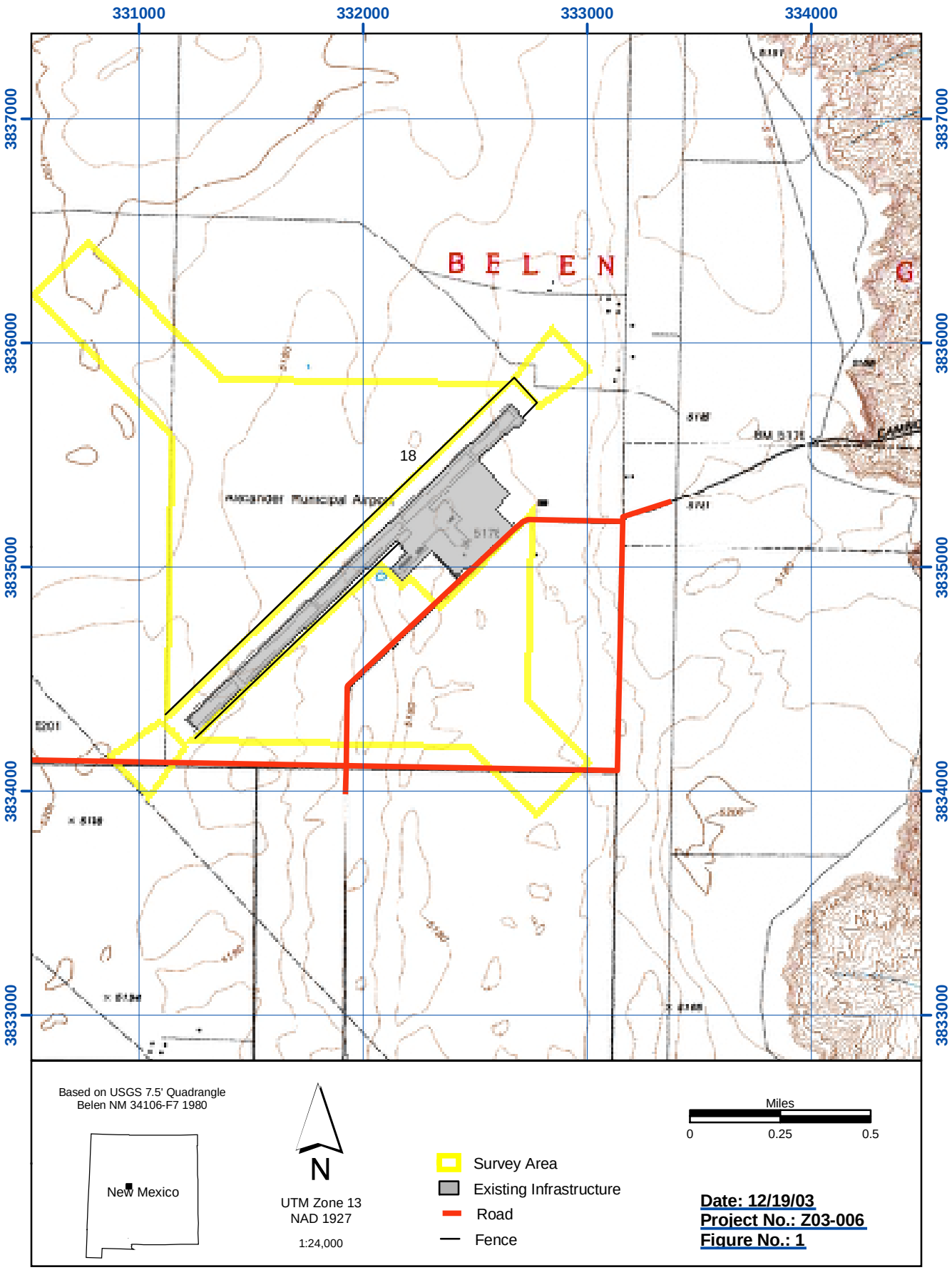
LABORATORY OF ANTHROPOLOGY SITE FORM

(The site form and associated maps are not included in the Public Copy of this document)

APPENDIX C-1

FIGURE

(The location of newly recorded sites, isolated occurrences, and previously recorded sites are not included in the Public Copy of this document)


331000
332000
333000
334000
3837000
3836000
3835000
3834000
3833000
B E L E N
18
Alexander Municipal Airport
Based on USGS 7.5' Quadrangle
Belen NM 34106-F7 1980
New Mexico
N
UTM Zone 13
NAD 1927
1:24,000
Survey Area
Existing Infrastructure
Road
Fence
Miles
0
0.25
0.5
Date: 12/19/03
Project No.: Z03-006
Figure No.: 1

APPENDIX D

REFERENCES

REFERENCES

(1) **New Mexico Airport System Plan 2003**, New Mexico State Highway and Transportation Department, New Mexico Aviation Division, 2003

(2) **Belen Alexander Airport Layout Plan,** Molzen-Corbin & Associates, September 1998

(3) **FAA Approval**, United States Department of Transportation, Federal Aviation Administration, November 30, 1998

(4) **Airport Design,** Federal Aviation Administration Advisory Circular 150/5300-13, September 29, 1989.

(5) **Airport Master Plan,** Molzen-Corbin & Associates, May 1996.

(6) **Soil Survey of Valencia County, New Mexico, Eastern Part,** USDA Soil Conservation Service, April 1975

(7) **National Plan of Integrated Airport Systems (NPIAS),** Federal Aviation Administration, 2005, page A-81.

(8) **Rio Puerco Resource Management Plan,** United States Department of the Interior, Bureau of Land Management, October 1992

APPENDIX E

AIRPORT LAYOUT PLAN

APPENDIX F

AGENCY CONSULTATION AND COORDINATION

AGENCIES CONSULTED

The following agencies will be provided copies of the environmental assessment for comments. All comments, adverse or otherwise, will be included as part of the final environmental assessment document along with sufficient response to insure mitigative measures are developed and addressed during design and construction. Copies of agencies correspondence have been included in this Appendix of the final environmental assessment.

Federal Aviation Administration
Federal Aviation Administration New Mexico Field Office
New Mexico Department of Transportation-Aviation Division
New Mexico Office of Cultural Affairs – Historic Preservation Division
United States Fish and Wildlife Service- New Mexico Ecological Services Field Office
New Mexico Department of Game and Fish – Conservation Services Division
United States Army Corps of Engineers – Construction Operation Division, Regulatory Office
New Mexico Environment Department – Surface Water Quality Bureau
New Mexico Environment Department – Air Quality Bureau
New Mexico Environment Department – Ground Water Quality Bureau
Valencia County Planning Department

NATIVE AMERICAN CONSULTATION

As indicated by New Mexico Historic Preservation Division

zia engineering
& environmental
consultants, Inc.

February 16, 2004

Ms. Joy Porter,
Federal Aviation Administration Southwest Region
2601 Meacham Blvd.
Ft. Worth, Texas 76137-4298

Re: Proposed Airport Improvements
City of Belen, New Mexico
Draft Environmental Assessment Document
Zia Project No. Z03-006

Dear Ms. Porter:

Enclosed is a copy of the Belen Alexander Municipal Airport Draft Environmental Assessment. In addition, copies of this report have been submitted to solicit comments from appropriate agencies. Comments received from FAA and other concerned agencies will be incorporated into the report. Zia understands that FAA's approval of the draft report is necessary to proceed with the notice of opportunity for public comment. The target date for completion of the comment period for agencies is March 20, 2004. Zia Engineering & Environmental Consultants, Inc. appreciates the opportunity to prepare this report on behalf of Molzen-Corbin & Associates, Inc. Please let me know if you have any questions or comments.

Sincerely,

William L. McKinney
Associate Scientist

755 S. Telshor Blvd., Suite F-201 • Las Cruces, New Mexico 88011 • phone (505) 532 – 1526 • fax (505) 532 - 1587

zia engineering & environmental consultants, Inc.

February 16, 2004

Joe Alexa
Federal Aviation Administration New Mexico Airports Field Unit
1601 Randolph, SE Suite 130 S
Albuquerque, NM 87106

Re: Proposed Airport Improvements
Alexander Municipal Airport, Belen, Valencia County, New Mexico
Draft Environmental Assessment
Zia Engineering and Environmental Project No. Z03-006

Dear Mr. Alexa:

Zia Engineering & Environmental Consultants, Inc. is gathering information for an environmental review of the above-referenced project. The project is located within and in the vicinity of the Alexander Municipal Airport in Belen, New Mexico. A more detailed description of the proposed airport improvements project and its location are described in the attached report.

NM FAA Airports Field Unit support and concurrence with the proposed project is a critical element in the overall review. Please review this report and provide comments by March 20, 2004.

If you have any questions, would like to provide verbal comments or need additional information, please contact the undersigned at (505) 532-1526 or by email at bmckinney@ziaeec.com . Thank you very much for your response.

Sincerely,
ZIA ENGINEERING & ENVIRONMENTAL CONSULTANTS, INC.

William L. McKinney
Associate Scientist

Attachment: Draft Environmental Assessment for Alexander Municipal Airport Improvements Project

zia engineering & environmental consultants, Inc.

February 16, 2004

Terry Simcoe, Planner,
New Mexico Department of Transportation-Aviation Division
P.O. Box 1149
Santa Fe, NM 87504-1149

Re: Proposed Airport Improvements
Alexander Municipal Airport, Belen, Valencia County, New Mexico
Draft Environmental Assessment
Zia Engineering and Environmental Project No. Z03-006

Dear Mr. Simcoe:

Zia Engineering & Environmental Consultants, Inc. is gathering information for an environmental review of the above-referenced project. The project is located within and in the vicinity of the Alexander Municipal Airport in Belen, New Mexico. A more detailed description of the proposed airport improvements project and its location are described in the attached report.

NMED Aviation Division support and concurrence with the proposed project is a critical element in the overall review. Please review this report and provide comments by March 20, 2004.

If you have any questions, would like to provide verbal comments or need additional information, please contact the undersigned at (505) 532-1526 or by email at bmckinney@ziaeec.com . Thank you very much for your response.

Sincerely,
ZIA ENGINEERING & ENVIRONMENTAL CONSULTANTS, INC.

William L. McKinney
Associate Scientist

Attachment: Draft Environmental Assessment for Alexander Municipal Airport Improvements Project

zia engineering
& environmental
consultants, Inc.

February 16, 2004

Ms. Joy Nicholopoulos,
U.S. Department of the Interior
Fish and Wildlife Service, New Mexico Ecological Services Field Office
2105 Osuna, NE
Albuquerque, New Mexico 87113

Re: Proposed Airport Improvements
City of Belen, New Mexico
Draft Environmental Assessment Document
Zia Project No. Z03-006

Dear Ms. Nicholopoulos:

Zia Engineering & Environmental Consultants, Inc. is gathering information for an environmental review of the above-referenced project. The project is generally located west of the City of Belen, New Mexico. A more detailed description of the proposed airport improvements project and its location are described in the attached report.

The review process requires coordination with pertinent agencies and your review and comment on the proposed project is an important element in the overall review. Please provide comments by March 20, 2004. If no response is received, we will assume that you concur with our initial determination.

If you have any questions, would like to provide verbal comments or need additional information, please contact the undersigned at (505) 532-1526 or by email at bmckinney@ziaeec.com . Thank you very much for your input.

Sincerely,
ZIA ENGINEERING & ENVIRONMENTAL CONSULTANTS, INC.

William L. McKinney
Associate Scientist

zia engineering & environmental consultants, Inc.

February 16, 2004

Mr. Andrew V. Sandoval, Chief
Conservation Services Division
New Mexico Department of Game and Fish
P.O. Box 25112
Santa Fe, New Mexico 87504
827-7882

Re: Proposed Airport Improvements
City of Belen, New Mexico
Draft Environmental Assessment Document
Zia Project No. Z03-006

Dear Mr. Sandoval:

Zia Engineering & Environmental Consultants, Inc. is gathering information for an environmental review of the above-referenced project. The project is generally located west of the City of Belen, New Mexico. A more detailed description of the proposed airport improvements project and its location are described in the attached report.

The review process requires coordination with pertinent agencies and your review and comment on the proposed project is an important element in the overall review. Please provide comments by March 20, 2004. If no response is received, we will assume that you concur with our initial determination.

If you have any questions, would like to provide verbal comments or need additional information, please contact the undersigned at (505) 532-1526 or by email at bmckinney@ziaeec.com . Thank you very much for your input.

Sincerely,
ZIA ENGINEERING & ENVIRONMENTAL CONSULTANTS, INC.

William L. McKinney
Associate Scientist

Attachments

zia engineering
& environmental
consultants, Inc.

February 16, 2004

Mr. Dan Malanchuk
U.S. Army Corps of Engineers
4101 Jefferson Plaza, NE
Albuquerque, NM 87109

Re: Proposed Airport Improvements
City of Belen, New Mexico
Draft Environmental Assessment Document
Zia Project No. Z03-006

Dear Mr. Malanchuk:

Zia Engineering & Environmental Consultants, Inc. is gathering information for an environmental review of the above-referenced project. The project is generally located west of the City of Belen, New Mexico. A more detailed description of the proposed airport improvements project and its location are described in the attached report.

The review process requires coordination with pertinent agencies and your review and comment on the proposed project is an important element in the overall review. Please provide comments by March 20, 2004. Based on the absence of wetlands, the project is not anticipated to require Section 404 permitting. FAA, however, does require Section 401 certification. If no response is received, we will assume that you concur with our initial determination.

If you have any questions, would like to provide verbal comments or need additional information, please contact the undersigned at (505) 532-1526 or by email at bmckinney@ziaeec.com . Thank you very much for your input.

Sincerely,
ZIA ENGINEERING & ENVIRONMENTAL CONSULTANTS, INC.

William L. McKinney
Associate Scientist

Attachments

zia engineering & environmental consultants, Inc.

February 16, 2004

Gedi Cibas, Ph.D.
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

Re: Proposed Airport Improvements
Alexander Municipal Airport, Belen, Valencia County, New Mexico
Draft Environmental Information Document
Zia Engineering and Environmental Project No. Z03-006

Dear Dr. Cibas:

Zia Engineering & Environmental Consultants, Inc. is gathering information for an environmental review of the above-referenced project. The project is located on the Llano de Albuquerque west of Belen, New Mexico. A more detailed description of the proposed airport improvements project and its location are described in the attached report.

The Federal Aviation Administration (FAA) review process requires certification letters from the state environmental department that the project is in conformance with state water quality plans and air quality plans prior to release of funding. If the project meets the applicable criteria for water and air quality, please provide certification letters indicating NMED's concurrence. Please provide any additional comments by March 20, 2004.

If you have any questions or need additional information, please contact the undersigned at (505) 532-1526 or by email at bmckinney@ziaeec.com . Thank you very much for your response.

Sincerely,
ZIA ENGINEERING & ENVIRONMENTAL CONSULTANTS, INC.

William L. McKinney
Associate Scientist

Attachment: 3 copies of Draft Environmental Assessment for Belen Alexander Airport Improvements Project

zia engineering & environmental consultants, Inc.

February 16, 2004

Steven Chavez, Director of Planning,
Valencia County
404 Courthouse Road
Los Lunas, NM 87031

Re: Proposed Airport Improvements
Alexander Municipal Airport, Belen, Valencia County, New Mexico
Draft Environmental Assessment
Zia Engineering & Environmental Project No. Z03-006

Dear Mr. Chavez:

Zia Engineering & Environmental Consultants, Inc. is gathering information for an environmental review of the above-referenced project. The project is located within and in the vicinity of the Alexander Municipal Airport in Belen, New Mexico. A more detailed description of the proposed airport improvements project and its location are described in the attached report.

Valencia County's review and input is important for this project because the lands around the proposed project are under Valencia County jurisdiction and appropriate zoning and planning to adequately protect both residents around the facility and the airport functions need to be addressed. Please review this report and provide comments by March 20, 2004.

If you have any questions or need additional information, please contact the undersigned at (505) 532-1526 or by email at bmckinney@ziaeec.com . Thank you very much for your response.

Sincerely,
ZIA ENGINEERING & ENVIRONMENTAL CONSULTANTS, INC.

William L. McKinney
Associate Scientist

Attachment: Draft Environmental Assessment for Alexander Municipal Airport Improvements Project

zia engineering
& environmental
consultants, Inc.

February 16, 2004

Mr. Levi Sandoval
U.S. Department of Agriculture
Natural Resources Conservation Service, Field Office
1911 5th Street
Santa Fe, New Mexico 87505

Re: Proposed Airport Improvements
City of Belen, New Mexico
Draft Environmental Assessment Document
Zia Project No. Z03-006

Dear Mr. Sandoval:

Zia Engineering & Environmental Consultants, Inc. is gathering information for an environmental review of the above-referenced project. The project is generally located west of the City of Belen, New Mexico. A more detailed description of the proposed airport improvements project and its location are described in the attached report.

The review process requires coordination with pertinent agencies and your review and comment on the proposed project is an important element in the overall review. Please provide comments by March 20, 2004. No conversion of farmland is anticipated as a result of this project. It would be advisable for the environmental document to include an AD1006 form prepared by NRCS regarding the proposed project. If no response is received, we will assume that you concur with our initial determination.

If you have any questions, would like to provide verbal comments or need additional information, please contact the undersigned at (505) 532-1526 or by email at bmckinney@ziaeec.com . Thank you very much for your input.

Sincerely,
ZIA ENGINEERING & ENVIRONMENTAL CONSULTANTS, INC.

William L. McKinney
Associate Scientist

zia engineering
& environmental
consultants, LLC

Receipt Confirmation –Report via Hand Delivery to:

Mr. Phil Young
Department of Cultural Affairs
Historic Preservation Division
228 East Palace Ave., Room 320
Santa Fe, New Mexico 87501

Request for Consultation regarding the
Belen Airport Cultural Resources Survey in
Valencia County, New Mexico
Zia Project No.: Z03-006

Received: Pat Lucero

Printed Name: Pat Lucero

Date: 1/25/05

120 Madeira Drive, NE, Suite 301 • Albuquerque, New Mexico 87108 • phone (505) 260 – 2311 • fax (505) 260 -2338

zia engineering & environmental consultants, llc

January 24, 2005

Phil Young, Chief – Preservation Planning
State Historic Preservation Office
La Villa Rivera, Room 301
228 E. Palace Avenue
Santa Fe, New Mexico 87501

RE: BELEN AIRPORT CONSULTATION

Dear Mr. Young,

On behalf of the City of Belen, Zia Engineering and Environmental Consultants, LLC (Zia) is pleased to submit the enclosed Cultures Resources Survey report. This is a duplicate of the copy we spoke of today that appears to have gone missing last year when you folks were having issues with items getting logged properly. This letter is intended to initiate formal consultation with the New Mexico SHPO, and to request concurrence with the recommendations and determination of effect in the attached document.

Formal consultation with Native American groups identified by your office was completed by Zia prior to completion of the report. A summary of responses detailing the results of this consultation is included as an appendix in the enclosed document.

If you have any questions or comments, please contact me at (505) 260-2311 or via email at aemartinez@ziaeec.com

Best regards,

Anthony E. Martinez
Program Manager
Zia Engineering and Environmental Consultants, LLC

Enclosures: *An Archaeological Survey, Belen Airport Expansion, Valencia County, New Mexico*

zia engineering
& environmental
consultants, Inc.

Section 106 Native American Consultation

Project: Z03-006 Belen Airport Expansion Project
Date: December 10, 2003

Tribe/Pueblo	Contact	Date	Response		Concerns	
			Yes	No	Yes	No
Comanche Indian Tribe	Jimmy Arterberry, 580-492-3754			X		
Hopi Tribe	Leigh Kuwanwisiwma, 928-734-3751			X		
Isleta Pueblo	Governor Alvino Lucero, 869-3111	January 12, 2004	X			X
Laguna Pueblo	Governor Roland Johnson, 552-6654			X		
Navajo Nation	President Joe Shirley, Jr. 928-871-6352			X		
White Mountain Apache Tribe	John Welch, 928-338-3033			X		

755 S. Telshor Blvd., Suite F-201 • Las Cruces, New Mexico 88011 • phone (505) 532 – 1526 • fax (505) 532 - 1587

zia engineering
& environmental
consultants, Inc.

December 10, 2003

Alvino Lucero, Governor
Pueblo of Isleta
P.O. Box 1270
Isleta, NM 87022

Re: Request for Consultation regarding
Proposed Expansions to the Belen Airport, Belen, New Mexico
Zia Project No. Z03-006

Dear Governor Lucero:

The City of Belen is proposing to expand the existing airport in Belen, New Mexico. Proposed modifications include lengthening the existing runway, and the addition of a cross runway to facilitate safety improvements and economic expansion in the Belen area. Zia Engineering & Environmental Consultants, Inc. (Zia) is formally requesting input from Isleta Pueblo regarding traditional use areas or other concerns by Isleta Pueblo relative to the proposed project. A general description of the project and a map of the location of the project are enclosed.

A review of the potential impact of the proposed project is required as part of the Federal and State regulations governing this type of undertaking. Based on a 100% pedestrian survey for cultural and biological resources, we have made an initial determination that this project will not have a significant environmental impact within the context of the National Environmental Policy Act (NEPA). This undertaking requires coordination with pertinent agencies and your comments on the proposed project are an important element in the review process.

If you have any questions, would like to provide verbal comments, or need additional information please contact me at (505) 260-2311. Thank you in advance for your input.

Sincerely,

Anthony E. Martinez
Senior Scientist

Attachments: Project area map
Project Description

120 Madeira NE., Suite 301 • Albuquerque, New Mexico 87108 • phone (505) 260 – 2311 • fax (505) 260 - 2338

U.S. Department
of Transportation
Federal Aviation Administration

Federal Aviation Administration
Southwest Region
Louisiana/New Mexico Airports
Development Office

2601 Meacham Blvd.
Fort Worth, Texas 76137-4298

July 27, 2005

Ms. Katherine Slick
State Historic Preservation Officer
Villa Rivera Building
228 East Palace Avenue
Santa Fe, NM 87503

Dear Ms. Slick:

The city of Belen, New Mexico has requested that the Federal Aviation Administration (FAA) consider funding improvements at the Belen Alexander Municipal Airport consisting of: (1) land acquisition for a new Runway 12/30; (2) land acquisition for Runway Protection Zones for the new Runway 12/30 and the existing Runway 3/21; (3) construction of the new Runway 12/30 (5,280 feet by 75 feet); (4) new and upgraded runway markings; (5) installation of Runway End Lighting System; (6) new and upgrade of airport fencing; and (7) lighted wind cone, segmented circle, and rotating beacon.

An archaeological survey was conducted to address concerns for historical, archaeological and cultural resources with the potential to be impacted by the proposed project. That survey was provided to you in January 2005, identifying one site, LA 142520, a historic can dump, as not being eligible for the National Register of Historic Places. By letter dated January 31, 2005, your office concurred with that finding, stating that "...the proposed project should have no historic properties affected..." providing "Construction Protocols" were followed during the construction period.

Because no historic properties eligible for listing on the National Register of Historic Places were found in the project area, we have determined that a No Effect determination is appropriate under Section 800.4(d)(1) of the National Historic Preservation Act and your concurrence is requested. Standard practice for us is to condition our Federal determinations so that during project construction all work must cease in the event historic, archaeological, or cultural properties are discovered and immediately notifying your office and the FAA.

Native American consultation letters were sent to the Comanche, Hopi, and White Mountain Tribes, the Isleta and Laguna Pueblo, and the Navajo Nation. One reply was received from the Pueblo of Isleta, copy enclosed, expressing no concerns for the proposed project. Copies of the original consultation letters were faxed to your office in January 2005.

Your concurrence is requested that consultation with Native American tribes of concern, under Section 106 of the National Historic Preservation Act of 1966, as amended, has been appropriately addressed and completed.

We look forward to receiving your reply at your earliest opportunity. If you should have any questions, please contact Ms. Joyce M. Porter, of my staff, at (817) 222-5644.

Sincerely,

ORIGINAL SIGNED BY:

Lacey D. Spriggs
Manager, Louisiana/New Mexico
Airports Development Office

Enclosure

cc:
Mr. Mike Halpin, Airport Manager
Belen Alexander Municipal Airport
100 South Main Street
Belen, NM 87002

Mr. Bill McKinney
Zia Engineering & Environmental
755 S. Telshor Blvd, Suite E-12
Las Cruces, NM 88011

OFFICE OF THE GOVERNOR

505-869-3111 / 6333
FAX: 505-869-4236

PUEBLO OF ISLETA

P.O. BOX 1270 ISLETA, NM 87022

January 12, 2004

Anthony Martinez, Senior Scientist
ZIA Engineering & Environmental
120 Madeira NE
Suite 301
Albuquerque, NM 87108

Dear Mr. Martinez:

This office is in receipt of your letter dated December 10, 2003 regarding the proposed Belen Airport expansion. I have reviewed the information and attached map as well. At this time the Pueblo of Isleta does not have any concerns to express on the proposed project.

I thank you for allowing the Pueblo of Isleta the opportunity to comment on this matter.

Sincerely,

PUEBLO OF ISLETA

Alvino Lucero
Governor

APPENDIX G

LAND USE ASSURANCE LETTER

CITY OF BELEN
100 SOUTH MAIN STREET
BELEN, NEW MEXICO 87002
(505) 864-8221
FAX (505) 864-8408

January 11, 2005

Mr. Lacey D. Spriggs
Manager, Louisiana/New Mexico
Airports Development Office
DOT/FAA
Ft. Worth, Texas 76137-4298

RE: Belen Alexander Municipal Airport
Environmental Assessment

Dear Mr. Spriggs:

The City of Belen is proposing to upgrade the Belen Alexander Municipal Airport. Included in the planned upgrade is the construction of a second runway. Land acquisition will be necessary to add the second runway and the City is pursuing that land acquisition. The City has completed annexation of the current airport property into the municipal limits and any additional property acquired by the City for the airport will also be annexed.

The City of Belen realizes the importance of land use planning at and around the Belen Alexander Airport and will work in conjunction with Valencia County to adopt and implement all appropriate land use and airspace zoning in non-incorporated areas adjacent to the Belen Alexander Municipal Airport. The City of Belen is currently working with Valencia County in adopting a County-wide Airspace Zoning Ordinance, and later this year, the City will be updating their Airport Master Plan which will include a compatible land use plan for the airport. In addition to the Master Plan update and the Airspace Zoning Ordinance, there has also been discussion between the City and Valencia County about forming a Joint Land Use Zoning Board that will enable the two government jurisdictions to comprehensively address land use and zoning at and around the Belen Alexander Airport.

We are excited about the future of our airport and appreciate the FAA's continued support of our improvement plans. If you have any questions or comments regarding this issue, please contact me at (505) 864-8221 or our airport manager, Mr. Mike Halpin at (505) 864-4302.

Sincerely,

CITY OF BELEN

Sally G. Garley
City Manager

cc: Mike Halpin, Airport Manager
Mike Provine, Molzen-Corbin & Associates
Mr. Bill McKinney, Zia Engineering and Environmental Consultants

APPENDIX H

AGENCIES AND PUBLIC CORRESPONDENCE
(to be included in final environmental assessment)

SUMMARY OF RESPONSES FROM AGENCIES

Valencia County

- There is no Extraterritorial Zoning Agreement between Valencia County and the City of Belen at this time. RPZs will be required and the best method is acquisition of land for RPZs. Valencia County recommends that any land purchased for the airport including that for RPZs be annexed into the City of Belen and zoned appropriately for that use as Valencia County has no criteria for airport zoning.

United States Fish and Wildlife Service

- USFWS provided a list of federally endangered, threatened, proposed and candidate species, and species of concern that may be found in Valencia County. The response also indicated that the proposed project must be reviewed to determine whether it "may effect" these species or designated critical habitat. If suitable habitat for any of the listed species is found in the project area, a species specific study during the flowering season is to be performed to evaluate any possible project related impacts. FWS also indicated that consultation would need to be conducted with the USACE (Section 404) and NM Dept. of Game & Fish and that based on the Migratory Bird Treaty Act, construction is recommended to be conducted outside the general migratory bird nesting season of March through August or the impacted area surveyed for migratory bird nests and if found, avoided until nesting is complete.

United States Army Corps of Engineers

- Action No. 2004 00107 was assigned to this project. USACE concurred that no waters of the United States are located within the proposed project area and therefore the project is not regulated under the provisions of Section 404. This determination is valid for two years from the February 25, 2004 date of the response letter.

New Mexico Department of Game & Fish

- NMDGF indicated that it did not anticipate significant impacts to wildlife or sensitive habitats as a result of the proposed project. To reduce erosion, all disturbed areas should be reclaimed using native grasses and forbs and care should be taken to prevent introduction of exotic weeds during and after construction. A list of sensitive, threatened and endangered species which occur in Valencia County was included.

New Mexico Environment Department

- Surface Water Quality
    - A NPDES (CGP) coverage will be required. This permit will require that a SWPPP be prepared for the site and that appropriate BMPs be installed and maintained both during and after construction to prevent pollutants in runoff from entering waters of the US. Permanent stabilization measures and permanent storm water management measures must also be implemented post construction. In addition, permittees must ensure that there is no increase in sediment yield and flow velocity from the construction site compared to preconstruction, undisturbed conditions. Both the City of Belen and the general contractor constructing the proposed improvements must have permit coverage.

In addition, operation of airports requires Storm Water Multi-Sector General Permit coverage for both the airport authority (City of Belen) and all tenants.

- Air Quality
    - The project is located in Valencia County, which is in attainment with all National Ambient Air Quality Standards (NAAQS). No long-term ambient air quality impacts are anticipated as a result of this project. Dust control measures should be taken during construction and contractors supplying asphalt for the project must have current air quality permits.

Natural Resources Conservation Service

- The proposed project does not encounter any Prime farmlands or wetlands and therefore NRCS determined that no negative effects on these resources would result from the project.

New Mexico Historic Preservation Division

- The proposed project should have "No Historic Properties Affected" on the condition that "Construction Protocols", which were attached to their letter, are followed by the construction contractor. The protocols are included in Appendix F.

Bill McKinney

From: Ruben Chavez [planner@co.valencia.nm.us]
Sent: Wednesday, April 07, 2004 3:11 PM
To: bmckinney@ziaeec.com
Subject: Alexander Air Port

Belen Airport.doc

Attached please find the comments regarding your assessment report. And again thanks for allowing us to comment on this project.

Ruben Chavez
Enforcement Supervisor

Valencia County Planning Department
444 Luna Avenue ♠ P.O. Box 1119 Los Lunas, N.M. 87031
Phone 505-866-2035 ♠ Fax/ 505-866-2002

April 7, 2004

William L Mc Kenney
Associate Scientisit
Zia Engineering & Enviormental Consultants, inc.
755 South Telshor Blvd # F-201
Las Cruces, New Mexico 88011

Subject: Alexander Airport Improvements

Dear Mr. Mc Kenney

I have reviewed Zia's Assessment Report regarding the City of Belen's Alexander Airport improvements. It is my understanding that the City of Belen has make the improvement to the Air Port a priority for some time now.

From a planning standpoint, the County understands the need to improve the Air Port if it intends to provide services as well an create an opportunity for Economic Development in the County. We certainly support the improvements to this facility, however there is one concern that I wish to bring to your attention at this particular time in your study:

> Valencia County and the City of Belen have no Extraterritorial Zoning Agreements (ETZ)at this time. I agree that the improvements to the runways will require a Runway protection Zone, however as mentioned in alternative "A", land acquisition is the best way to accomplish a Runway Protection Zone. Because there is no ETZ, I suggest the City of Belen annex the newly acquired land and Zone it accordingly to their need as the County has no criteria in its current Zoning for Air Ports.

Thank you for the opportunity to comment on this project. If you have any questions please feel free to call me.

Sincerely

Ruben Chavez
Enforcement Supervisor

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
Phone: (505) 346-2525 Fax: (505) 346-2542

June 19, 2003

Cons. # 2-22-03-I-491

Megan E. Quenzer, Biologist
Zia Engineering and Environmental Consultants, Inc.
120 Madeira NE, Suite 301
Albuquerque, New Mexico 87108

Dear Ms. Quenzer:

Thank you for your June 17, 2003, letter requesting information on threatened or endangered species or important wildlife habitats that could be affected by the expansion of the Belen airport, Valencia County, New Mexico. The proposed project includes construction of a cross-runway and extending the existing runway to accommodate larger aircraft.

We have enclosed a current list of federally endangered, threatened, proposed, and candidate species, and species of concern that may be found in Valencia County, New Mexico.[1] Under the Endangered Species Act, as amended (Act), 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 us further. If your action area has suitable habitat for any of these 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. Please keep in mind that the scope of federally listed species compliance also includes any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects.

Candidates and species of concern have no legal protection under the Act and are included in this document for planning purposes only. We monitor the status of these species. If significant declines are detected, these species could potentially be listed as endangered or threatened. Therefore, actions that may contribute to their decline should be avoided. We recommend that candidates and species of concern be included in your surveys.

---

[1] Additional information about these species is available on the Internet at <http://nmrareplants.unm.edu>, <http://nmnhp.unm.edu/bisonm/bisonquery.php>, and <http://ifw2es.fws.gov/endangeredspecies>.

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. We 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. These habitats should be conserved through avoidance, or mitigated to ensure no net loss of wetlands function and value.

The Migratory Bird Treaty Act (MBTA) prohibits the taking of migratory birds, nests, and eggs, except as permitted by the U.S. Fish and Wildlife Service. To minimize the likelihood of adverse impacts to all birds protected under the MBTA, we recommend construction activities occur outside the general migratory bird nesting season of March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until nesting is complete.

We 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 fish, wildlife, and plants of State concern.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. In future correspondence regarding this project, please refer to consultation # 2-22-03-I-491. If you have any questions about the information in this letter, please contact Dennis Coleman at the letterhead address or at (505) 346-2525, ext. 4716.

Sincerely,

Joy E. Nicholopoulos
State Supervisor

Enclosure

cc: (w/o enc)
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, New Mexico

Rev: May 2003

FEDERAL ENDANGERED, THREATENED,
PROPOSED, AND CANDIDATE SPECIES
AND SPECIES OF CONCERN IN NEW MEXICO
Consultation Number 2-22-03-I-491
June 19, 2003

Valencia County

ENDANGERED

- Black-footed ferret (*Mustela nigripes*)**
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Rio Grande silvery minnow (*Hybognathus amarus*) with critical habitat

THREATENED

- Bald eagle (*Haliaeetus leucocephalus*)
- Mexican spotted owl (*Strix occidentalis lucida*)
- Pecos sunflower (*Helianthus paradoxus*)

PROPOSED THREATENED

- Mountain plover (*Charadrius montanus*)

CANDIDATE

- Yellow-billed cuckoo (*Coccyzus americanus*)

SPECIES OF CONCERN

- New Mexican meadow jumping mouse (*Zapus hudsonius luteus*)
- Pecos River muskrat (*Ondatra zibethicus ripensis*)
- American peregrine falcon (*Falco peregrinus anatum*)
- Arctic peregrine falcon (*Falco peregrinus tundrius*)
- Baird's sparrow (*Ammodramus bairdii*)
- Bell's vireo (*Vireo bellii*)
- Northern goshawk (*Accipiter gentilis*)
- Western burrowing owl (*Athene cunicularia hypugea*)
- Millipede (*Comanchelus chihuanus*)

Index

Endangered	=	Any species which is in danger of extinction throughout all or a significant portion of its range.
Threatened	=	Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
Candidate	=	Candidate Species (taxa for which the Service has sufficient information to propose that they be added to list of endangered and threatened species, but the listing action has been precluded by other higher priority listing activities).
Species of Concern	=	Taxa for which further biological research and field study are needed to resolve their conservation status OR are considered sensitive, rare, or declining on lists maintained by Natural Heritage Programs, State wildlife agencies, other Federal agencies, or professional/academic scientific societies. Species of Concern are included for planning purposes only.
**	=	Survey should be conducted if project involves impacts to prairie dog towns or complexes of 200-acres or more for the Gunnison's prairie dog (*Cynomys gunnisoni*) and/or 80-acres or more for any subspecies of Black-tailed prairie dog (*Cynomys ludovicianus*). A complex consists of two or more neighboring prairie dog towns within 4.3 miles (7 kilometers) of each other.

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA NE
ALBUQUERQUE NM 87109-3435

February 25, 2004

Operations Division
Regulatory Branch

Mr. William L. McKinney
Zia Engineering & Environmental Consultants, Inc.
755 S. Telshor Blvd., Suite F-201
Las Cruces, NM 88011

Dear Mr. McKinney:

This replies to your February 16, 2004, letter regarding proposed improvements at the Belen Alexander Municipal Airport, including expansion of airport facilities, construction of an additional runway and parallel taxiway, repaving of the existing runway and taxiway, improvements to the existing administration building, maintenance building and associated access roads and parking lots. The proposed project is located near Belen, Valencia County, New Mexico. We have assigned Action No. 2004 00107 to this activity.

We have evaluated the information you provided and reviewed the project description, other records, and documents available to us. We concur with your findings that no waters of the United States are located within the project site. Therefore, the project is not regulated under the provisions of Section 404 of the Clean Water Act, and a Department of the Army permit will not be required.

Our disclaimer of jurisdiction is only for Section 404 of the Federal Clean Water Act. Other Federal, state and local laws may apply to the activities. Therefore, you should also contact other Federal, state and local regulatory authorities to determine whether the activities may require other authorizations or permits.

This determination will be valid for 2 years from the date of this letter unless new information warrants revision of the determination within that time.

If you have any questions, please contact me by telephone at (505) 342-3678 or by e-mail at lesley.a.mcwhirter@usace.army.mil. For more information about the regulatory program, please see our web site at www.spa.usace.army.mil/reg.

Sincerely,

Lesley McWhirter

Lesley McWhirter
Project Manager

GOVERNOR
Bill Richardson

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

One Wildlife Way
PO Box 25112
Santa Fe, NM 87504

Visit our website at www.gmfsh.state.nm.us
For basic information or to order free publications: 1-800-862-9310.

DIRECTOR AND SECRETARY
TO THE COMMISSION
Bruce C. Thompson

STATE GAME COMMISSION
Guy Riordan, Chairman
Albuquerque, NM

Alfredo Montoya, Vice-Chairman
Alcalde, NM

David Henderson
Santa Fe, NM

Jennifer Atchley Montoya
Las Cruces, NM

Peter Pino
Zia Pueblo, NM

Tom Arvas
Albuquerque, NM

Leo Sims
Hobbs, NM

March 8, 2004

William L. McKinney
Zia Engineering and Environmental Consultants, Inc
755 S. Telshor Blvd., Suite F-201
Las Cruces, NM 88011

Re: Proposed Airport Improvements, City of Belen
NMGF No. 9216

Dear Mr. McKinney,

In response to your letter dated February 16, 2004, regarding the above referenced project, the Department of Game and Fish (Department) does not anticipate significant impacts to wildlife or sensitive habitats. To reduce erosion, all disturbed area should be reclaimed using native grasses and forbs. Care should be taken to prevent the introduction of exotic weeds during and after construction. For your convenience, we have enclosed another list of sensitive, threatened and endangered species which occur in Valencia County.

For more information on listed and other species of concern, contact the following sources:

1. http://www.fw.vt.edu/fishex/states/nm.htm for species accounts and to download New Mexico Species of Concern (wildlife species by county)
2. http://www.nmnhp.unm.edu for custom, site-specific searches on plants and wildlife
3. http://www.nmnhp.unm.edu/bisonm/BISONM.CFM for simple searches by listing category
4. New Mexico State Forestry Division (505-827-5830) for state-listed plants
5. U.S. Fish and Wildlife Service (505-346-2525) for federally listed wildlife species and critical habitats.

Thank you for the opportunity to review and comment on your project. If you have any questions, please contact Steve Anderson, Northwest Area Habitat Specialist, at (505) 841-8881 or scanderson@state.nm.us.

Sincerely,

Janell Ward

Janell Ward, Assistant Chief
Conservation Services Division

JW/sa

xc: Joy Nicholopolous, New Mexico Ecological Services, USFWS
NW Area Operations Chief, NMGF
Steve Anderson, NW Area Habitat Specialist

New Mexico Species of Concern - Valencia County

Common Name	SCIENTIFIC NAME	FWS.. ESA	NM... WCA	FS. R3	BLM.. NM	NM... Sen	FWS. SOC
Rio Grande Silvery Minnow	Hybognathus amarus	E ghm	E	s	-	-	-
Flathead Chub	Platygobio gracilis	-	-	-	s	-	-
Northern Leopard Frog	Rana pipiens	-	-	s	-	-	-
Desert Kingsnake	Lampropeltis getula splendida	-	-	s	-	-	-
Neotropic Cormorant	Phalacrocorax brasilianus	-	T	s	-	-	-
Least Bittern	Ixobrychus exilis exilis	-	-	s	-	-	-
Snowy Egret	Egretta thula brewsteri	-	-	s	-	-	-
Black-crowned Night-Heron	Nycticorax nycticorax hoactli	-	-	s	-	-	-
White-faced Ibis	Plegadis chihi	-	-	s	s	-	-
Mississippi Kite	Ictinia mississippiensis	-	-	s	-	-	-
Bald Eagle	Haliaeetus leucocephalus	AD,T mg	T	s	-	-	-
Common Black-hgwk	Buteogallus anthracigus anthracinus	-	T	s	-	-	s
Swainson's Hawk	Buteo swainsoni	-	-	s	-	-	-
Ferruginous Hawk	Buteo regalis	-	-	s	s	-	-
American Peregrine Falcon	Falco peregrinus anatum	DM m	T	s	-	-	s
Whooping Crane	Grus americana	EXPN,E mg	E	s	-	-	-
Western Snowy Plover	Charadrius alexandrinus nivosus	-	-	s	-	-	-
Mountain Plover	Charadrius montanus	PT	-	s	-	s	-
Black-necked Stilt	Himantopus mexicanus	-	-	s	-	-	-
Common Ground-dove	Columbina passerina pallescens	-	E	s	-	-	-
Yellow-billed Cuckoo	Coccyzus americanus occidentalis	C	-	s	-	s	-
Burrowing Owl	Athene cunicularia hypugaea	-	-	-	s	-	s
Mexican Spotted Owl	Strix occidentalis lucida	T hmg	-	s	-	s	-
Belted Kingfisher	Ceryle alcyon	-	-	s	-	-	-
Southwestern Willow Flycatcher	Empidonax traillii extimus	E h	E	s	-	-	-
Loggerhead Shrike	Lanius ludovicianus	-	-	-	s	s	-
Gray Catbird	Dumetella carolinensis ruficrissa	-	-	s	-	-	-
McCown's Longspur (no data)	Calcarius mccownii	-	-	s	-	-	-
Baird's Sparrow	Ammodramus bairdii	-	T	s	s	-	s
Western Small-footed Myotis Bat	Myotis ciliolabrum melanorhinus	-	-	-	s	s	-
Yuma Myotis Bat	Myotis yumanensis yumanensis	-	-	-	s	s	-
Long-legged Myotis Bat	Myotis volans interior	-	-	-	s	s	-
Fringed Myotis Bat	Myotis thysanodes thysanodes	-	-	-	s	s	-
Long-eared Myotis Bat	Myotis evotis evotis	-	-	-	s	s	-
Spotted Bat	Euderma maculatum	-	T	s	s	-	-
Big Free-tailed Bat	Nyctinomops macrotis	-	-	-	s	s	-
Gunnison's Prairie Dog	Cynomys gunnisoni	-	-	-	-	s	-
Cebolleta Pocket Gopher	Thomomys bottae paguatae	-	-	s	s	s n	s
Botta's Pocket Gopher	Thomomys bottae planorum	-	-	-	-	s n	-
Pecos River Muskrat	Ondatra zibethicus ripensis	-	-	-	s	s	s
New Mexican Jumping Mouse	Zapus hudsonius luteus	-	T	s	s	-	s
Western Spotted Skunk	Spilogale gracilis	-	-	-	-	s	-
Rocky Mountain Bighorn Sheep	Ovis canadensis canadensis	-	-	s	-	m	-

NATIVE SPECIES APPARENTLY NO LONGER OCCURRING IN VALENCIA COUNTY

Rio Grande Chub	Gila pandora	
Speckled Chub	Macrhybopsis aestivalis aestivalis	
Rio Grande Shiner	Notropis jemezanus	
Phantom Shiner	Notropis orca	(extinct)
Rio Grande Bluntnose Shiner	Notropis simus simus	(extinct)
Rio Grande Sucker	Catostomus plebeius	
Blue Sucker	Cycleptus elongatus	
Blue Catfish	Ictalurus furcatus	
Gray Redhorse	Moxostoma congestum	
Arizona Black-tailed Prairie Dog	Cynomys ludovicianus arizonensis	
Gray Wolf	Canis lupus	
Grizzly Bear	Ursus arctos	(extirpated from NM)
Black-footed Ferret	Mustela nigripes	(extirpated from NM)
Mink	Mustela vison energumenos	(extirpated from NM)
Merriam's Elk	Cervus elaphus merriami	(extinct)

State of New Mexico
ENVIRONMENT DEPARTMENT
Office of the Secretary
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502-6110
Telephone (505) 827-2855

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

March 4, 2004

William L. McKinney
Associate Scientist
Zia Engineering & Environmental
Consultants, Inc.
755 S. Telshor Blvd., Suite F-201
Las Cruces, NM 88011 Fax: 505.532.1587

Dear Mr. McKinney:

RE: PROPOSED AIRPORT EXPANSION, BELEN ALEXANDER MUNICIPAL AIRPORT: DRAFT ENVIRONMENTAL ASSESSMENT

This transmits New Mexico Environment Department (NMED) staff comments concerning the above-referenced Draft Environmental Assessment (DEA).

Surface Water Quality

The U.S. Environmental Protection Agency (USEPA) requires National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) coverage for storm water discharges from construction projects (common plans of development) that will result in the disturbance (or re-disturbance) of one or more acres, including expansions, of total land area. Because this project exceeds one acre (including staging areas, etc.), it will require appropriate NPDES permit coverage prior to beginning construction (small, one - five acre, construction projects may be able to qualify for a waiver in lieu of permit coverage - see Appendix D).

Among other things, this permit requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared for the site and that appropriate Best Management Practices (BMPs) be installed and maintained both during and after construction to prevent, to the extent practicable, pollutants (primarily sediment, oil & grease and construction materials from construction sites) in storm water runoff from entering waters of the U.S. This permit also requires that permanent stabilization measures (revegetation, paving, etc.), and permanent storm water management measures (storm water detention/retention structures, velocity dissipation devices, etc.) be implemented post construction to minimize, in the long term, pollutants in storm water runoff from entering these waters. In addition, permittees must ensure that there is no increase in sediment yield and flow

velocity from the construction site (both during and after construction) compared to pre-construction, undisturbed conditions (see Subpart 9.C.1)

You should also be aware that USEPA requires that all "operators" (see Appendix A) obtain NPDES permit coverage for construction projects. Generally, this means that at least two parties will require permit coverage. The owner/developer of this construction project who has operational control over project specifications (probably the City of Belen in this case), the general contractor who has day-to-day operational control of those activities at the site, which are necessary to ensure compliance with the storm water pollution plan and other permit conditions, and possibly other "operators" will require appropriate NPDES permit coverage for this project.

The CGP was re-issued effective July 1, 2003 (see **Federal Register/Vol. 68, No. 126/Tuesday, July 1, 2003** pg. 39087). The CGP, Notice of Intent (NOI), Fact Sheet, and Federal Register notice can be downloaded at: http://cfpub.epa.gov/npdes/stormwater/cgp.cfm

In addition, operation of these types of facilities requires Storm Water Multi-sector General Permit (MSGP - see **Federal Register/Vol. 65, No. 210/Monday, October 30, 2000)** coverage. This permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP), and installation of appropriate Best Management Practices (BMPs), such as oil/water separators, dikes or berms, use of absorptive materials during fueling operations, use of dry cleanup methods, or other practices to prevent or reduce the pollution of waters of the United States (per the SWPPP). The Belen Municipal Airport had NPDES permit coverage (NMR00358 which expired in 1997) and may have implemented a SWPPP which addresses pollutants in storm water runoff, and drainage systems.

Activities at airports result in the creation of various pollutant sources including, but not limited to, the following:

- Aircraft, Ground Vehicle, and Equipment Maintenance and Washing - Spills and leaks of fuels, engine oils, hydraulic fluids, transmission oil, radiator fluids, and chemical solvents used for parts cleaning; disposal of used parts, batteries, oil, filters, and oily rags;
- Runway Maintenance - tire rubber, oil and grease, paint chips, and fuel from runway surface cleaning operations.

Generally, the airport authority (i.e., the City of Belen) and all "tenants" of the airport that conduct "industrial activities" as described in **40 CFR Part 122.26(b)(14)** (e.g., fueling concession or other Fixed Base Operators, as well as all other facilities "engaging in industrial activity") are required to apply for NPDES storm water permit coverage for discharges from their areas of operation. The airport authority and tenants of the airport should work in partnership in the development and implementation of a SWPPP. However, SWPPPs developed separately for areas of the airport facility occupied by these tenants must be integrated into the SWPPP for the entire airport facility.

Air Quality

The proposed project will be located in Valencia County, which is considered to be in attainment with all National Ambient Air Quality Standards (NAAQS). No long-term ambient air quality impacts should occur as a result of this project; therefore, the project as proposed is in conformance with the state's air quality state implementation plan. However, dust control measures should be taken

to minimize the release of particulates during construction of the proposed project. Contractors supplying asphalt for the project must have current air quality permits.

We appreciate the opportunity to comment on this project.

Sincerely,

Gedi Cibas, Ph.D.
Environmental Impact Review Coordinator

NMED File No. 1833ER

Bill McKinney

From: Stephen Lacy [Stephen.Lacy@nm.usda.gov]
Sent: Thursday, April 15, 2004 11:25 AM
To: bmckinney@ziaeec.com
Subject: Belen Alexander Municipal Airport Project

Mr. McKinney,

The proposed municipal airport project does not encounter any Prime farmlands or wetlands. Therefore, the NRCS determines that there would be no negative effects on these resources.

Thank you for the opportunity to comment.

Stephen Lacy, Geomorphologist, NRCS
(505) 761-4439

CITY OF BELEN
100 SOUTH MAIN STREET
BELEN, NEW MEXICO 87002
(505) 864-8221
FAX (505) 864-8408

January 11, 2005

Mr. Lacey D. Spriggs
Manager, Louisiana/New Mexico
Airports Development Office
DOT/FAA
Ft. Worth, Texas 76137-4298

RE: Belen Alexander Municipal Airport
Environmental Assessment

Dear Mr. Spriggs:

The City of Belen is proposing to upgrade the Belen Alexander Municipal Airport. Included in the planned upgrade is the construction of a second runway. Land acquisition will be necessary to add the second runway and the City is pursuing that land acquisition. The City has completed annexation of the current airport property into the municipal limits and any additional property acquired by the City for the airport will also be annexed.

The City of Belen realizes the importance of land use planning at and around the Belen Alexander Airport and will work in conjunction with Valencia County to adopt and implement all appropriate land use and airspace zoning in non-incorporated areas adjacent to the Belen Alexander Municipal Airport. The City of Belen is currently working with Valencia County in adopting a County-wide Airspace Zoning Ordinance, and later this year, the City will be updating their Airport Master Plan which will include a compatible land use plan for the airport. In addition to the Master Plan update and the Airspace Zoning Ordinance, there has also been discussion between the City and Valencia County about forming a Joint Land Use Zoning Board that will enable the two government jurisdictions to comprehensively address land use and zoning at and around the Belen Alexander Airport.

We are excited about the future of our airport and appreciate the FAA's continued support of our improvement plans. If you have any questions or comments regarding this issue, please contact me at (505) 864-8221 or our airport manager, Mr. Mike Halpin at (505) 864-4302.

Sincerely,

CITY OF BELEN

Sally G. Garley
City Manager

cc: Mike Halpin, Airport Manager
Mike Provine, Molzen-Corbin & Associates
Mr. Bill McKinney, Zia Engineering and Environmental Consultants

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

228 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87501
(505) 827-6320

BILL RICHARDSON
Governor

RECEIVED
DATE: 2.7.05

January 31, 2005

Anthony E. Martinez
Program Manager
Zia Engineering & Environmental Consultants
120 Madeira Dr. NE
Albuquerque, NM 87108

Re: Improvements to Belen Municipal Airport

Dear Mr. ~~Martinez:~~ Anthony

On 01/25/05 we have received your 01/24/05 submission of the Cultural Resource Survey report, with associated LA Site Record form (LA 142520), and faxed copies of your Native American Tribal government consultation materials, for review of the above referenced project.

We concur that LA 142520 is not eligible to the National Register of Historic Places, but ask that in the future you refrain from using the phrase that information potential has been exhausted due to recordation. That has become a often used term that is problematic at HPD, as the recordation has usually not exhausted all of the available information. Archives, tax records, etc., often available in a matter of minutes on-line, are a good source of additional information that add to our knowledge of the site (who owner it, when, for what, etc.).

We find that the proposed project should have No Historic Properties Affected, on the condition that the construction contractor follow the enclosed "Construction Protocols" in case cultural materials are found during project construction.

If you have any questions concerning these comments, please contact me at (505) 827-6314.

Sincerely,

P.A. Young

Phillip A. Young
Preservation Planning Coordinator

Enclosure: Construction Protocols
Log # 73364

STATE OF NEW MEXICO
OFFICE OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION
LA VILLA RIVERA BUILDING
228 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87501
(505) 827-6320

CONSTRUCTION PROTOCOLS

There remains a potential of uncovering cultural remains during the construction phase of this project. For this reason we feel the contractor should be instructed regarding protocols about what-to-do if there are any discoveries of artifacts or other materials (pottery, glass, bone, metal) during construction: 1) work must cease; 2) they should notify this office immediately (505-827-6320); 3) all work in the vicinity of the discovery must stop until an archaeologist can inspect the site; 4) work may continue in other parts of the project.

OFFICE OF THE GOVERNOR

505-869-3111 / 6333
FAX: 505-869-4236

PUEBLO OF ISLETA

P.O. BOX 1270 ISLETA, NM 87022

January 12, 2004

Anthony Martinez, Senior Scientist
ZIA Engineering & Environmental
120 Madeira NE
Suite 301
Albuquerque, NM 87108

Dear Mr. Martinez:

This office is in receipt of your letter dated December 10, 2003 regarding the proposed Belen Airport expansion. I have reviewed the information and attached map as well. At this time the Pueblo of Isleta does not have any concerns to express on the proposed project.

I thank you for allowing the Pueblo of Isleta the opportunity to comment on this matter.

Sincerely,

PUEBLO OF ISLETA

Alvino Lucero
Governor

U.S. Department of Transportation
Federal Aviation Administration

Federal Aviation Administration
Southwest Region
Louisiana/New Mexico Airports Development Office

2601 Meacham Blvd.
Fort Worth, Texas 76137-4298

July 27, 2005

075082

RECEIVED
AUG - 2 2005
PAY
HISTORIC PRESERVATION DIVISION

Ms. Katherine Slick
State Historic Preservation Officer
Villa Rivera Building
228 East Palace Avenue
Santa Fe, NM 87503

Dear Ms. Slick:

The city of Belen, New Mexico has requested that the Federal Aviation Administration (FAA) consider funding improvements at the Belen Alexander Municipal Airport consisting of: (1) land acquisition for a new Runway 12/30; (2) land acquisition for Runway Protection Zones for the new Runway 12/30 and the existing Runway 3/21; (3) construction of the new Runway 12/30 (5,280 feet by 75 feet); (4) new and upgraded runway markings; (5) installation of Runway End Lighting System; (6) new and upgrade of airport fencing; and (7) lighted wind cone, segmented circle, and rotating beacon.

An archaeological survey was conducted to address concerns for historical, archaeological and cultural resources with the potential to be impacted by the proposed project. That survey was provided to you in January 2005, identifying one site, LA 142520, a historic can dump, as not being eligible for the National Register of Historic Places. By letter dated January 31, 2005, your office concurred with that finding, stating that "...the proposed project should have no historic properties affected..." providing "Construction Protocols" were followed during the construction period.

Because no historic properties eligible for listing on the National Register of Historic Places were found in the project area, we have determined that a No Effect determination is appropriate under Section 800.4(d)(1) of the National Historic Preservation Act and your concurrence is requested. Standard practice for us is to condition our Federal determinations so that during project construction all work must cease in the event historic, archaeological, or cultural properties are discovered and immediately notifying your office and the FAA.

Native American consultation letters were sent to the Comanche, Hopi, and White Mountain Tribes, the Isleta and Laguna Pueblo, and the Navajo Nation. One reply was received from the Pueblo of Isleta, copy enclosed, expressing no concerns for the proposed project. Copies of the original consultation letters were faxed to your office in January 2005.

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▸ 3

To Bill McKenney	From Jay Porter
Dept./Agency Via	Phone # 817-222-5644
Fax #	Fax #

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

RECEIVED
AUG 29 2005
ASW-640

Your concurrence is requested that consultation with Native American tribes of concern, under Section 106 of the National Historic Preservation Act of 1966, as amended, has been appropriately addressed and completed.

We look forward to receiving your reply at your earliest opportunity. If you should have any questions, please contact Ms. Joyce M. Porter, of my staff, at (817) 222-5644.

Sincerely,

Lacey D. Spriggs
Manager, Louisiana/New Mexico
Airports Development Office

Enclosure

cc:
Mr. Mike Halpin, Airport Manager
Belen Alexander Municipal Airport
100 South Main Street
Belen, NM 87002

Mr. Bill McKinney
Zia Engineering & Environmental
755 S. Telshor Blvd, Suite E-12
Las Cruces, NM 88011

No Historic Properties Affected.
for NM State Historic Preservation Officer

U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Southwest Region
Louisiana/New Mexico Airports
Development Office

2601 Meacham Blvd.
Fort Worth, Texas 76137-4298

August 11, 2005

Mr. Mike Halpin
Airport Manager
Belen Alexander Municipal Airport
100 South Main Street
Belen, NM 87002

Dear Mr. Halpin:

We have completed our review of the preliminary draft Environmental Assessment (EA) dated July 28, 2005 and have emailed our final comments to the consultant, Zia Environmental Consultants, and to you on August 9, 2005.

As stated in the email message, only when our comments have been fully and accurately addressed in the EA can it be made available for public review and comment for a 30-day period again. The consultant should provide this office with one hard copy of the Draft EA and ensure that a copy of the notice for an opportunity for a public hearing and availability of the Draft EA be placed in an appendix of the document by the time the final EA is ready. There should also be a copy of the affidavit from the newspaper ensuring its publication date.

If even one request for a public hearing is received, then one must be held. However, if no request is forthcoming, then no hearing is required and the consultant can proceed with finalizing the EA. All comments received should be placed in an appendix of the final EA along with appropriate responses to those comments.

If you should have any questions concerning our comments or the environmental process, please contact Ms. Joyce M. Porter, of my staff, at (817) 222-5644.

Sincerely,

ORIGINAL SIGNED BY:

Lacey D. Spriggs
Manager, Louisiana/New Mexico
Airports Development Office

cc:
Ms.Franchesca D. Zenitsky
Zia Environmental Consultants
755 S. Telshor Blvd, Ste F-201
Las Cruces, NM 88011

APPENDIX I

PUBLIC INVOLVEMENT
(to be included in final environmental assessment)

PUBLIC INVOLVEMENT

The requirements for public participation in an environmental assessment are identified in the Airport and Airway Improvement Act of 1982, recodified as Title 49, United States Code, Section 47106(c)(A)(i), as well as FAA Order 5050.4 A, Airport Environmental Handbook, page 7/8, paragraph 18. An opportunity for a public hearing will be advertised in the local newspaper in conjunction with a 30-day public review and comment period of the draft environmental assessment.

NOTICE OF OPPORTUNITY FOR A PUBLIC HEARING OF THE ENVIRONMENTAL ASSESSMENT OF IMPROVEMENTS TO THE BELEN ALEXANDER MUNICIPAL AIRPORT

The City of Belen intends to submit to the Federal Aviation Administration (FAA) a request for Federal funds to assist the City in the development of expanded airport facilities at the Belen Alexander Municipal Airport to provide improved air transportation services to the Belen area. In compliance with the National Environmental Policy Act, the City initiated the preparation of an environmental document on this proposed action. In this document, four viable alternatives for the development of the proposed airport improvements have been identified. These are: (A) No action (B) Construction of a new ARC B-II rated runway and parallel taxiway; proposed installation of navigational aids, land acquisition for runway 12-30, parallel taxiway, and RPZ's for Runway's 12-30 and 3-21, and construction/upgrade of airport fencing (C) Construct new ARC B-I rated runway and parallel taxiway, installation of navigational aids, land acquisition for Runway 12-30, parallel taxiway, and RPZ's for Runway 12-30 and 3-21, and construction/upgrade of airport fencing (D) Relocation and reconstruction of existing Runway 3-21. The proposed project being construction of a new ARC B-II rated runway and parallel taxiway; proposed installation of navigational aids, land acquisition for runway 12-30, parallel taxiway, and RPZ's for Runway's 12-30 and 3-21, and construction/upgrade of airport fencing has been identified as the preferred alternative. The environmental assessment indicates that this preferred alternative will provide facilities that meet FAA design standards, facilitate access to the national air transportation system and have no substantive unmitigable environmental concerns. The environmental document, released as a Draft Environmental Assessment, will be available for review beginning August 17, 2005, until September 16, 2005 at the following locations:

City of Belen Municipal Offices
100 S.Main Street
Belen, New Mexico
Belen Alexander Municipal Airport
3000 Camino Del Llano
Belen, New Mexico
Belen Library
333 Becker Avenue
Belen, New Mexico

Anyone interested has until 5:00 pm September 16, 2005 to submit a request for a hearing to the City of Belen.

(s) Sally G. Garley
City Manager

Published in the Valencia County News-Bulletin on August 13, 2005.

NOTICE OF OPPORTUNITY FOR A PUBLIC HEARING OF THE ENVIRONMENTAL ASSESSMENT OF IMPROVEMENTS TO THE BELEN ALEXANDER MUNICIPAL AIRPORT

The City of Belen intends to submit to the Federal Aviation Administration (FAA) a request for Federal funds to assist the City in the development of expanded airport facilities at the Belen Alexander Municipal Airport to provide improved air transportation services to the Belen area. In compliance with the National Environmental Policy Act, the City initiated the preparation of an environmental document on this proposed action. In this document, four viable alternatives for the development of the proposed airport improvements have been identified. These are: (A) No action (B) Construction of a new ARC B-II rated runway and parallel taxiway; proposed installation of navigational aids, land acquisition for runway 12-30, parallel taxiway, and RPZ's for Runway's 12-30 and 3-21, and construction/upgrade of airport fencing (C) Construct new ARC B-I rated runway and parallel taxiway, installation of navigational aids, land acquisition for Runway 12-30, parallel taxiway, and RPZ's for Runway 12-30 and 3-21, and construction/upgrade of airport fencing (D) Relocation and reconstruction of existing Runway 3-21. The proposed project being construction of a new ARC B-II rated runway and parallel taxiway; proposed installation of navigational aids, land acquisition for runway 12-30, parallel taxiway, and RPZ's for Runway's 12-30 and 3-21, and construction/upgrade of airport fencing has been identified as the preferred alternative. The environmental assessment indicates that this preferred alternative will provide facilities that meet FAA design standards, facilitate access to the national air transportation system and have no substantive unmitigable environmental concerns.

The environmental document for this project, released as a Draft Environmental Assessment, will be available for review beginning August 17, 2005, until September 16, 2005 at the following locations:

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100 S.Main Street
Belen, New Mexico
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Belen, New Mexico

Anyone interested has until 5:00 pm September 16, 2005 to submit a request for a hearing to the City of Belen.

(s) Sally G. Garley
City Manager

Published in the Valencia County News-Bulletin on August 13, 2005.

AFFIDAVIT OF PUBLICATION
STATE OF NEW MEXICO
COUNTY OF VALENCIA

David Puddu being first duly sworn, upon his oath, does and says:

1. That he is the Publisher of the Valencia County News-Bulletin of Valencia County, a simi-weekly newspaper published in the English Language and having been regularly published, issued and in general circulation in the County of Valencia and State of New Mexico, for a period of more than six months next proceeding the first publication of the legal notice herein referred to, a printed copy of which is hereto attached, and is a newspaper duly qualified for that purpose within the meaning of Section 10-2-4 of the New Mexico Statutes Annotated (1953). That the publication, a printed copy of which is hereto attached and made a part hereof, was published in said newspaper in the regular and entire issue of every number of the newspaper during the period of time of publication, and in the newspaper proper and not in a supplement thereof, one consecutive issues; the first publication being in the issue of the 13th day of August 2005, and the last publication being issued of the 13th day of August, 2005. And deponent further says that the said notice published has been paid for or has been assessed as court costs in the case numbered.

D.B.P.M.

Subscribed and sworn to before me the 9th day of September, 2005.

Angela Esquibel

Notary Public
My commission expires:
June 29, 2008

From: Michael Halpin [mgrbelenairport@yahoo.com]
Sent: Monday, September 19, 2005 1:49 PM
To: Bill McKinney; Joy Porter; Mike Saupp
Cc: Mike Provine; Jane Lucero
Subject: Belen EA Public Comments
Joy

We completed the 30 day public comment period on Friday and did not receive any comments or requests for a public hearing.

Can we proceed with the final EA?

Mike Halpin
Airport Manager
505-864-4302

APPENDIX B

Interagency/Intergovernmental Coordination and Public Participation

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Tribal/Pueblo Letters

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DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

17 December 2012

Colonel Vincent K. Becklund
Commander, 58th Special Operations Wing
4249 Hercules Way SE
Kirtland AFB NM 87117-5861

[redacted]

Dear [redacted]

This letter is a request for concurrence of no effect to historic properties. The proposed project is to support the mission of the 58th Special Operations Wing (SOW) at Kirtland Air Force Base (AFB), New Mexico to train special operations, combat search and rescue, missile site support, and UH-1 Helicopter Distinguished Visitor airlift crews. Training is accomplished using a mixture of two types of helicopters, three specialized versions of the C-130 airplane, and the new CV-22 Osprey tiltrotor aircraft. As part of the C-130 training, the 58 SOW conducts short-field landing training and night vision goggle (NVG) approach and landing training.

The purpose of this project is to identify and improve runways near Kirtland AFB to support realistic C-130 short-field landing training and NVG approach and landing training. The 58 SOW is proposing to correct current C-130 aircraft and NVG training deficiencies working with Alexander Municipal Airport (Belen, New Mexico). The 58 SOW currently uses Alexander Municipal Airport for low-approach training (with no landings).

Through the FAA's *Airport Improvement Program,* the Alexander Municipal Airport managers have plans to construct a new crosswind runway at Alexander Municipal Airport. This action has already been analyzed in a separate NEPA document entitled *Environmental Assessment Document Proposed Airport Expansion Belen Municipal Airport*, wherein the Air Force proposed the option of utilizing this airport for C-130 training.

This area is highly disturbed, developed, and covered in asphalt; therefore, no cultural resources are anticipated to be uncovered by the proposed action. If resources are inadvertently discovered, standard practices for inadvertent discovery will be complied in accordance with the National Historic Preservation Act, [Section 800.6, 800.11 (b)(2)(i)].

We appreciate your review of this information and will assume your concurrence if no reply is received within 30 days. If you have any questions or require further information, please contact Ms Valerie Renner, Kirtland AFB Cultural Resources Program Manager, at [redacted]

Sincerely

[redacted]

VINCENT K. BECKLUND, Colonel, USAF
Commander

The following Tribes/Pueblos were sent letters:

Pueblo of Laguna
Pueblo of Nambe
Pueblo of Taos
Navajo Nation
Pueblo of Picuris
Pueblo of Tesuque
Hopi
Pueblo of Pojoaque
Pueblo of Zia
Ohkay Owingeh
Pueblo of Sandia
Pueblo of Zuni
Pueblo of Acoma
Pueblo of Santa Ana
Kewa Pueblo (formerly Santo Domingo)
Pueblo of Cochiti
Pueblo of Santa Clara
Pueblo of San Ildefonso
Pueblo of Isleta
Pueblo of San Felipe
Pueblo of Jemez

Tribal/Pueblo Responses

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DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

17 December 2012

Colonel Vincent K. Becklund
Commander, 58th Special Operations Wing
4249 Hercules Way SE
Kirtland AFB NM 87117-5861

Chairman Leroy N. Shingoitwea
Hopi
P.O. Box 123
Kykotsmovi, AZ 86039

Dear Chairman Shingoitwea

This letter is a request for concurrence of no effect to historic properties. The proposed project is to support the mission of the 58th Special Operations Wing (SOW) at Kirtland Air Force Base (AFB), New Mexico to train special operations, combat search and rescue, missile site support, and UH-1 Helicopter Distinguished Visitor airlift crews. Training is accomplished using a mixture of two types of helicopters, three specialized versions of the C-130 airplane, and the new CV-22 Osprey tiltrotor aircraft. As part of the C-130 training, the 58 SOW conducts short-field landing training and night vision goggle (NVG) approach and landing training.

The purpose of this project is to identify and improve runways near Kirtland AFB to support realistic C-130 short-field landing training and NVG approach and landing training. The 58 SOW is proposing to correct current C-130 aircraft and NVG training deficiencies working with Alexander Municipal Airport (Belen, New Mexico). The 58 SOW currently uses Alexander Municipal Airport for low-approach training (with no landings).

Through the FAA's *Airport Improvement Program*, the Alexander Municipal Airport managers have plans to construct a new crosswind runway at Alexander Municipal Airport. This action has already been analyzed in a separate NEPA document entitled *Environmental Assessment Document Proposed Airport Expansion Belen Municipal Airport*, wherein the Air Force proposed the option of utilizing this airport for C-130 training.

This area is highly disturbed, developed, and covered in asphalt; therefore, no cultural resources are anticipated to be uncovered by the proposed action. If resources are inadvertently discovered, standard practices for inadvertent discovery will be complied in accordance with the National Historic Preservation Act, [Section 800.6, 800.11 (b)(2)(i)].

We appreciate your review of this information and will assume your concurrence if no reply is received within 30 days. If you have any questions or require further information, please contact Ms Valerie Renner, Kirtland AFB Cultural Resources Program Manager, at [redacted].

Sincerely

[redacted]

VINCENT K. BECKLUND, Colonel, USAF
Commander

Concur
for
1-2-13

CV
CC

THE
NAVAJO
NATION

Historic Preservation Department, POB 4950, Window Rock, AZ 86515 • PH: 928.871-7198 • FAX: 928.871.7886

February 25, 2013

Vincent K. Becklund, Colonel, USAF
Department of the Air Force
Commander, 58th Special Operations Wing
4249 Hercules Way SE
Kirtland AFB NM 87117

Dear Colonel Becklund:

The Navajo Nation Historic Preservation Department-Traditional Culture Program (NNHPD-TCP) is in receipt of the proposed project to support the mission of the 58th Special Operations Wing at Kirtland Air Force Base, NM, to train special operations, combat search and rescue, missile site support, and UH-1 Helicopter Distinguished Visitor airlift crews.

After reviewing your consultation documents, NNHPD-TCP has concluded the proposed undertaking/project area **will not impact** Navajo traditional cultural resources. The NNHPD-TCP, on behalf of the Navajo Nation has no concerns at this time.

However, the determination made by the NNHPD-TCP does not necessarily mean that the Navajo Nation has no interest or concerns with the proposed project. If the proposed project inadvertently discovers habitation sites, plant gathering areas, human remains and objects of cultural patrimony, the NNHPD-TCP request that we be notified respectively in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA). *The Navajo Nation claims cultural affiliation to all Anaasazi people (periods from Archaic to Pueblo IV) of the southwest. The Navajo Nation makes this claim through Navajo oral history and ceremonial history, which has been documented as early as 1880 and taught from generation to generations.*

The NNHPD-TCP appreciates the Department of the Air Force's consultation efforts, pursuant to 36 CFR Pt. 800.1 (c)(2)(iii). Should you have any additional concerns and/or questions do not hesitate to contact me electronically at tony@navajohistoricpreservation.org or telephone at [redacted].

Sincerely,

Tony H. Joe, Jr., Supervisory Anthropologist (Section 106 Consultation) Navajo Nation Historic Preservation Department-Traditional Culture Program

TCP 13-95
cc: Office File/Chrono

Other Agency Letters

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CITY OF BELEN
100 SOUTH MAIN STREET
BELEN, NEW MEXICO 87002
(505) 966-27331 • FAX (505) 864-8408
www.belen-nm.gov

August 11, 2010

Lt. Col Michael D. Doyle, Commander
58th Special Operations Wing
Kirtland AFB, New Mexico

Re: Letter of Interest for Joint Use of Alexander Municipal Airport

Dear Sirs:

This letter is intended to express the interest of the City of Belen to pursue the idea of forming a partnership with the 58th Special Operations Wing on the construction and use of the proposed cross-runway at Alexander Municipal Airport.

The City of Belen understands that the proposed partnership will be contingent on the successful negotiations of a joint-use agreement. In addition, the runway collaboration may require approval of the Federal Aviation Administration and or the New Mexico Department of Transportation (Aviation Division). However, if no problems arise in those areas, the city would be interested in entering into a long-term joint use agreement with the 58th Special Operations Wing (and its parent command, Air Education and Training Command).

If you have any questions or need any further information please contact me at (505) 710-8790.

Sincerely,

Rudy Jaramillo
Mayor

RJ:alr

cc: Robert Uecker

VALENCIA COUNTY
SALLY PEREA, CLERK
200906304
Book 363 Pg 6304
1 of 10
05/18/2009 09:53:30
BY LVALLEJOS

ORDINANCE NO. 2009- 01

ANNEXATION OF PROPERTY CONTIGUOUS TO THE CITY OF BELEN AND AMENDING THE CITY OF BELEN COMPREHENSIVE ZONING ATLAS PURSUANT TO THE BELEN MUNICIPAL CODE ORDINANCES 1990-03 AND 1982-11 AND CREATING THE ZONE DESIGNATION OF C-1 (Commercial) FOR 796.86 ACRES AND CREATING THE ZONE DESIGNATION OF SU-1 (SPECIAL USE) FOR 685 ACRES COMPRISING ALL OF THAT PORTION OF THE AMENDED AND REVISED PLAT OF RANCHO RIO GRANDE, UNIT ONE, WEST BELEN GRANT, FILED IN THE OFFICE OF THE VALENCIA COUNTY CLERK ON MAY 14, 1962, IN CABINET B, DRAWER NO 334, LOCATED WITHIN PROJECTED SECTIONS 15, 16, 21, 22, 27 AND 28, TOWNSHIP 5 NORTH, RANGE 1 EAST, NEW MEXICO PRINCIPAL MERIDIAN.

BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF BELEN:

SECTION 1. PURPOSE: The purpose of this Ordinance is to express the consent of the City Council of the City of Belen to the annexation, pursuant to the laws of the State of New Mexico legal description and to hereby designate 796.86 acres to the zone designation of C-1 and 685 acres the zone designation of SU-1.

SECTION II PETITION: Petition seeking to have the property referenced in the attached plat and legal description annexed, and signed by the owner(s) of said property.

SECTION III ZONING: This property in the present location is to be used 796.86 acres as Commercial and 685 acres as Special Use purposes, and there being no objection to the contrary, the property therefore shall be assigned the zone designation for 796.86 acres as Commercial (C-1) and 685 acres as a Special Use (SU-1) upon the effective dates of this Ordinance.

SECTION IV EFFECTIVE DATE: This Ordinance shall become effective upon the filing of the Ordinance and attached Plat and legal description and zoning and designation map with the Office of the Valencia County Clerk, as provided by law and shall become effective five days after publication of its adoption.

PASSED, APPROVED, AND ADOPTED on this 4th day of May, 2009.

ATTEST:

Sally G. Garley, City Manager

CITY OF BELEN:

Ronnie Torres, Mayor

LEGAL DESCRIPTION: All that portion of the Amended and Revised Plat of Rancho Rio Grande, Unit One, West Belen Grant, filed in the office of the Valencia County Clerk on May 14, 1962, in Cabinet B, Drawer no. 334, located within projected Sections 15, 16, 21, 22, 27 and 28, Township 5 North, Range 1 East, New Mexico Principal Meridian, lying within the following described boundary:

Beginning at the Northeast Corner, Point being a found number four rebar in concrete, which lays N 45° 11' 12" E, A distance of 3116.70 feet from the National Geodetic Survey Brass Cap "Belair"

Thence S 00° 22' 26" W, a distance of 329.69 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 18' 49" W, a distance of 330.25 feet to a number three rebar.

Thence S 00° 18' 49" W, a distance of 329.85 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 20' 01" W, a distance of 329.90 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 20' 01" W, a distance of 329.90 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 20' 01" W, a distance of 329.90 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 20' 01" W, a distance of 329.91 feet to a disturbed number four rebar.

Thence S 00° 20' 26" W, a distance of 329.95 feet to a number five rebar with cap stamped PS 7924.

Thence s 00° 20' 26" W, a distance of 329.95 feet to a PK nail with washer stamped PS 7924.

Thence S 00° 20' 26" W, a distance of 329.95 feet to a disturbed number two rebar.

Thence S 00° 22' 09" W, a distance of 330.88 feet to a disturbed number two rebar.

Thence S 00° 24' 02" W, a distance of 330.20 feet to a disturbed number two rebar.

Thence S 00° 26' 28" W, a distance of 330.74 feet to a disturbed three quarter inch iron pipe.

Thence S 00° 14' 13" W, a distance of 329.31 feet to a three quarter inch iron pipe.

Thence S 00° 20' 32" W, a distance of 329.97 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 20' 32" W, a distance of 329.97 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 20' 32" W, a distance 329.97 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 20' 32" W, a distance of 329.97 feet to a disturbed number two rebar.

Thence S 00° 19' 55" W, a distance of 330.00 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 19' 55" W, a distance of 330.00 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 19' 55" W, a distance of 60.00 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 19' 55" W, a distance of 330.00 feet to a number five rebar with cap stamped PS 7924.

Thence S 00° 19' 55" W, a distance of 330.10 feet to a number five rebar with cap stamped PS 7924.

Thence N 89° 30' 56" W, a distance of 659.01 feet to a number four rebar.

Thence S 00° 30' 09" W, a distance of 332.12 feet to a number five rebar with cap stamped PS 7915.

Thence S 00° 20' 45" W, a distance of 330.17 feet to a number five rebar with cap stamped PS 7915.

Thence N 89° 37' 39" W, a distance of 659.87 feet to a number five rebar with cap stamped PS 7915.

Thence N 89° 37' 23" W, a distance of 660.06 feet to a number five rebar with cap stamped PS 7915.

Thence N 00° 20' 09" E, a distance of 329.96 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 21' 27" E, a distance of 329.80 feet to a number five rebar with cap stamped PS 7924.

Thence N 89° 35' 55" W, a distance of 659.82 feet to a disturbed number two rebar.

Thence N 89° 40' 02" W, a distance of 660.10 feet to a number five rebar with cap stamped PS 7924.

Thence N 89° 40' 02" W, a distance of 660.10 feet to a PK nail with washer stamped PS 7924.

Thence N 89° 40' 02" W, a distance of 660.10 feet to a number five rebar with cap stamped PS 7924.

Thence N 89° 40' 02" W, a distance of 660.10 feet to a number five rebar with cap stamped PS 7924.

Thence N 89° 40' 02" W, a distance of 20.01 feet to a number five rebar with aluminum cap stamped LS 4767.

Thence N 89° 39' 38" W, a distance of 639.99 feet to a number five rebar with cap stamped PS 7924.

Thence N 89° 39' 38" W, a distance of 659.69 feet to a number five rebar with cap stamped PS 7924.

Thence N 89° 40' 02" W, a distance of 660.30 feet to a number three rebar with cap "Illegible".

Thence N 89° 39' 15" W, a distance of 659.97 feet to a number five rebar with cap stamped PS 7924.

Thence N 89° 39' 15" W, a distance of 659.97 feet to a number four rebar with cap stamped PS 7915.

Thence N 00° 19' 52" E, a distance of 330.05 feet to a number four rebar with cap stamped PS 7915.

Thence N 00° 19' 49" E, a distance of 329.91 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 19' 49" E, a distance of 60.00 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 19' 49" E, a distance of 329.91 feet to a number four rebar with cap stamped PS 7915.

Thence N 00° 20' 39" E, a distance of 330.08 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 20' 39" E, a distance of 330.08 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 20' 39" E, a distance of 330.08 feet to a number four rebar.

Thence N 00° 21' 07" E, a distance of 329.78 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 21' 07" E, a distance of 329.78 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 21' 07" E, a distance of 329.78 feet to a hub.

Thence N 00° 20' 03" E, a distance of 330.02 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 20' 03" E, a distance of 330.02 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 20' 03" E, a distance of 330.02 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 20' 03" E, a distance of 330.02 feet to a number five rebar.

Thence N 00° 20' 01" E, a distance of 329.94 feet to a disturbed number five rebar.

Thence N 00° 17' 55" E, a distance of 329.28 feet to a number two rebar.

Thence N 00° 20' 43" E, a distance of 331.48 feet to a number four rebar.

Thence N 00° 21' 41" E, a distance of 329.59 feet to a number four rebar.

Thence N 00° 20' 38" E, a distance of 329.97 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 21' 00" E, a distance of 330.00 feet to a number five rebar with cap stamped PS 7924.

Thence N 89° 39' 46" W, a distance of 660.18 feet to a number five rebar with cap stamped PS 7924.

Thence N 00° 20' 36" E, a distance of 330.00 feet to a five rebar with cap stamped PS 7924.

Thence N 00° 16' 12" E, a distance of 330.89 feet to a number two rebar.

Thence N 00° 22' 44" E, a distance of 328.86 feet to a disturbed number two rebar.

Thence S 89° 39' 53" E, a distance of 660.24 feet to a 20D nail.

Thence N 00° 23' 50" E, a distance of 330.24 feet to a number five rebar with cap stamped PS 7924.

Thence S 89° 42' 13" E, a distance of 659.31 feet to a disturbed number four rebar.

Thence S 00° 17' 27" W, a distance of 329.74 feet to a one half inch iron pipe.

Thence S 89° 35' 38" E, a distance of 660.20 feet to a hub.

Thence S 89° 39' 36" E, a distance of 659.98 feet to a number five rebar with cap stamped PS 7924.

Thence S 89° 39' 36" E, a distance of 659.98 feet to a number five rebar with cap stamped PS 7924.

Thence S 89° 39' 36" E, a distance of 659.85 feet to a number two rebar.

Thence S 89° 40' 07" E, a distance of 660.17 feet to a number five rebar with cap stamped PS 7924.

Thence S 89° 40' 07" E, a distance of 660.17 feet to a number five rebar with cap stamped PS 7924.

Thence S 89° 40' 07" E, a distance of 660.17 feet to a number five rebar with cap stamped PS 7438.

Thence S 89° 44' 54" E, a distance of 658.12 feet to a number four rebar with cap stamped PS 8911.

Thence S 89° 33' 42" E, a distance of 660.10 feet to a number four rebar with cap stamped PS 8911.

Thence S 89° 41' 18" E, a distance of 661.35 feet to a number three rebar.

Thence S 89° 36' 41" E, a distance of 660.29 feet to a number three rebar.

Thence S 89° 40' 59" E, a distance of 659.99 feet to the point of beginning.

Annexation area contains 1,481.86 acres.

PROPOSED DRAFT

JPA No. _____

JOINT POWERS AGREEMENT
BETWEEN
THE CITY OF BELEN AND THE COUNTY OF VALENCIA

REGULATING LAND USES AROUND THE BELEN MUNICIPAL AIRPORT

This Joint Powers Agreement (the "Agreement") is entered into on the ____ day of _____, 2009, by and between the City of Belen (the "City") and the County of Valencia (the "County").

RECITALS:

1. The New Mexico Joint Powers Agreements Act [11-1-1 to 11-1-7 NMSA 1978] authorizes two or more public agencies to jointly exercise by agreement any power common to the contracting parties [11-2-3 NMSA 1978], subject to any of the restrictions imposed upon the manner of exercising such power of one of the contracting public agencies [11-1-5 NMSA 1978].

2. The City and the County, as parties to this Agreement, desire to coordinate the regulation of land use around the Belen Alexander Municipal Airport in order to provide both airspace protection and land use compatibility with the current and future operations of the airport.

3. Municipal airport facilities are subject to the planning and zoning laws and other ordinances and regulations applicable to the area in which the airport facility is located [3-39-5 NMSA 1978].

NOW, THEREFORE, IT IS AGREED BETWEEN THE PARTIES:

1. PURPOSE: The purpose of this Agreement is to establish common standards for the City and the County to regulate land use and development around the Belen Alexander Municipal Airport.

2. AIRPORT ZONING AUTHORITY: The provisions of the airport zoning regulations of the City [Chapter 11.12, Airport Zoning Regulations] pertaining to the approach zones, transitional zones, horizontal zone, and conical zone shall prevail both inside and outside the municipal limits of the City. The County airport overlay zones pertaining to the height limitation zone, the noise impact zone, and airport runway protection zone [Section 154.153, Airport Encroachment Overlay District] shall apply only within the unincorporated areas of the County in proximity to the Belen Alexander Municipal Airport.

3. AIRPORT ZONING MAP: An official airport zoning map delineating the airport overlay zones as defined by the City and County airport zoning ordinances shall be attached and made a part of this Agreement. The airport zoning map may also include the current underlying zoning categories defined by the City and County zoning ordinances and the delineation of the boundary of the municipal planning and platting jurisdiction. A copy of the airport zoning map shall be filed with the County Clerk as an official record.

4. SUBDIVISION APPROVAL AND DISCLOSURE: The municipal planning and platting jurisdiction of the City includes unincorporated territory within a radius of three (3) miles outside the municipal boundary [3-20-5 NMSA 1978]. Any proposed subdivision of land outside the City municipal limits within the municipal planning and platting jurisdiction shall be subject to concurrent review and approval by the City and the County [3-20-9 NMSA 1978]. For purposes of this Agreement, the City and the County, within their respective jurisdictions, shall require subdividers of land within one (1) mile of the airport runways of the Belen Alexander Municipal Airport to provide written disclosure to current and future property owners regarding airport zoning regulations. Such disclosure shall be part of the subdivision review process administered by the City and the County.

5. AIRPORT AREA MASTER PLAN: The City and the County shall collaborate in the development and implementation of an airport area master plan for Belen Alexander Municipal Airport. A master plan study area shall be established by consent of the City and County governing bodies. Preparation of a long range land development plan for the airport area will provide a basis for appropriate zoning and other land use regulations administered by the City and County. An extraterritorial zoning authority may be considered as an alternative to coordinated airport area zoning by the City and the County within their respective jurisdictions.

6. LIABILITY: No party shall be responsible for liability incurred as a result of any other party's acts of omissions in connection with this Agreement. Any liability incurred in connection with this Agreement is subject to the immunities and limitations of the Tort Claims Act.

7. TERMINATION: This Agreement may be terminated by either the City or the County upon delivery of written notice to the other at least ninety (90) days prior to the effective date of termination.

8. AMENDMENT: This Agreement shall not be altered, changed, or amended except by an instrument in writing executed by the parties hereto and approved by the New Mexico Department of Finance and Administration.

9. GOVERNING LAW: This Agreement shall be governed by the laws of the State of New Mexico.

10. SEVERABILITY: If any provision of this Agreement shall be found by a court of competent jurisdiction to be illegal, in conflict with any law of the State of New Mexico or otherwise unenforceable, the validity and enforceability of the remaining provisions shall not be affected and the rights and obligations of the parties shall be construed and enforced as if this Agreement did not contain the particular provision found to be illegal, invalid or otherwise unenforceable.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date first written above.

APPROPRIATE SIGNATURE BLOCKS FOR:
CITY OF BELEN
COUNTY OF VALENCIA
N. M. DEPARTMENT OF FINANCE AND ADMINISTRATION
LEGAL REVIEW

CITY OF BELEN
100 SOUTH MAIN STREET
BELEN, NEW MEXICO 87002
(505) 966-27331 • FAX (505) 864-8408
www.belen-nm.gov

January 31, 2011

Jane Lucero
New Mexico Department of Transportation ("NMDOT")
Aviation Division
PO Box 1149
Santa Fe, NM 87504-1149

Dear Ms. Lucero:

This letter comes as a means to assure you that the City of Belen is in full support of the plans for a new runway at the Alexander Municipal Airport in Belen. We support the new runway whether it is in conjunction with the Air Force or not. We believe this runway is vital to the economic development of the airport and the west mesa area of Belen.

Any change in this support will be conveyed to you in writing, only by the Mayor, the City Manager or through the Airport Manager.

The City Management, Council and I are greatly appreciative of the support given to the airport by the NMDOT Aviation Division and we wish to continue partnering with your department for the future development of the Airport and the City of Belen.

Again, we wish to thank you and your staff for your past support and we look forward to a bright future.

Sincerely,

Rudy Jaramillo
Mayor

cc: Lucy Baca, City Manager
City Council Members
Robert Uecker, Airport Manager

RUDY JARAMILLO
MAYOR
MARY LUCY BACA
CITY MANAGER

CITY OF BELEN
100 SOUTH MAIN STREET
BELEN, NEW MEXICO 87002
(505) 966-27331 • FAX (505) 864-8408
www.belen-nm.gov

WAYNE GALLEGOS
MAYOR PRO-TEM
JERAH R. CORDOVA
CITY COUNCILOR
MARY T. ARAGON
CITY COUNCILOR
LORENZO CARRILLO
CITY COUNCILOR

January 31, 2011

Lacey Spriggs
Federal Aviation Administration
ASW-640E
2601 Meacham Blvd.
Ft. Worth, Texas 76137

Dear Mr. Spriggs:

This letter comes as a means to assure you that the City of Belen is in full support of the plans for a new runway at the Alexander Municipal Airport in Belen. We support the new runway whether it is in conjunction with the Air Force or not. We believe this runway is vital to the economic development of the airport and the west mesa area of Belen.

Any change in this support will be conveyed to you in writing, only by the Mayor, the City Manager or through the Airport Manager.

The City Management, Council and I are greatly appreciative of the support given to the airport by the FAA and we wish to continue partnering with your department for the future development of the Airport and the City of Belen.

Again, we wish to thank you and your staff for your past support and we look forward to a bright future.

Sincerely,

Rudy Jaramillo
Mayor

cc: Lucy Baca, City Manager
City Council Members
Robert Uecker, Airport Manager

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Public Involvement -
Notifications and Public Comment Summary

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ALBUQUERQUE JOURNAL THE SUNDAY JOURNAL
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P.O. Drawer J-T Albuquerque, New Mexico 87103
(505) 823-7777

Account Number
1046910

Ad Proof / Order Confirmation

Ad Order Number
0001092043

AGEISS INC
1202 BERGEN PARKWAY,STE 310
EVERGREEN CO 80439

Ordered By	[redacted]	**Customer Phone**	[redacted]	**Pickup #**	
Customer EMail		**PO Number**		**Joint Ad #**	
Ad Cost	$75.60	**Sales Rep**	pnorman		
Tax Amount	$5.29	**Order Taken by:**	pnorman		
Total Amount	$80.89	**Payment Method**			
Amount Due	$80.89	**Payment Amount**	$0.00		

Product	Albuquerque Journal	**Placement**	Legal Notices
Ad Number	0001092043-01	**Classification**	Government-0000
Ad Type	APC-Legals	**Sort Text**	PUBLICNOTICENOTICEOFAVAILABILITYDRAFTENVIRONMENTALASSESSME
Ad Size	: 1.0 X 120 Li		
Color	<NONE>		
Run Dates	8/29/2013		

Affidavits
0

PUBLIC NOTICE
NOTICE OF AVAILABILITY DRAFT ENVIRONMENTAL ASSESSMENT AND PROPOSED FINDING OF NO SIGNIFICANT IMPACT FOR ESTABLISHMENT OF A NEW C-130 LANDING ZONE FOR THE 58TH SPECIAL OPERATIONS WING AT KIRTLAND AIR FORCE BASE (AFB), NEW MEXICO

EXTENSION OF COMMENT PERIOD

An Environmental Assessment (EA) has been prepared to analyze the impacts of the establishment of a new C-130 Landing Zone (LZ) near Kirtland AFB. The purpose of this project is to provide a realistic environment in which to train C-130 crews in short-field landings and in the use of Night Vision Goggles (NVGs). The Air Force would utilize a strengthened runway, Crosswind Runway 13/31, proposed for construction at Alexander Municipal Airport, Belen, NM.

The EA, prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations, and Air Force instructions implementing NEPA; evaluates potential impacts of the alternative actions on the environment including the No-action Alternative. Based on this analysis, the Air Force has prepared a proposed Finding of

ALBUQUERQUE JOURNAL THE SUNDAY JOURNAL

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7777 Jefferson N.E. Albuquerque, New Mexico 87109
P.O. Drawer J-T Albuquerque, New Mexico 87103
(505) 823-7777

Ad Proof / Order Confirmation

Account Number
1046910

Ad Order Number
0001092043

AGEISS INC

PUBLIC NOTICE
NOTICE OF AVAILABILITY
DRAFT ENVIRONMENTAL ASSESSMENT AND PROPOSED FINDING OF NO SIGNIFICANT IMPACT FOR ESTABLISHMENT OF A NEW C-130 LANDING ZONE FOR THE 58TH SPECIAL OPERATIONS WING AT KIRTLAND AIR FORCE BASE (AFB), NEW MEXICO

EXTENSION OF COMMENT PERIOD

An Environmental Assessment (EA) has been prepared to analyze the impacts of the establishment of a new C-130 Landing Zone (LZ) near Kirtland AFB. The purpose of this project is to provide a realistic environment in which to train C-130 crews in short-field landings and in the use of Night Vision Goggles (NVGs). The Air Force would utilize a strengthened runway, Crosswind Runway 13/31, proposed for construction at Alexander Municipal Airport, Belen, NM.

The EA, prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations, and Air Force instructions implementing NEPA; evaluates potential impacts of the alternative actions on the environment including the No-action Alternative. Based on this analysis, the Air Force has prepared a proposed Finding of No Significant Impact (FONSI).

The Draft EA and proposed FONSI, dated June 2013, are available for review at the following locations:

Belen Public Library
333 Becker Ave
Belen, NM 87002
(505)966-2600

Albuquerque Public Library
(Main Library)
501 Copper Ave NW
Albuquerque, NM 87102
(505) 768-5141

Central New Mexico Community College Montoya Campus Library
J Building, Room 123
4700 Morris NE
Albuquerque, NM 87102
(505)224-5721

University of New Mexico
Zimmerman Campus Library
Albuquerque, NM 87131
(505) 277-7180

San Pedro Library
5600 Trumbull Avenue, SE
Albuquerque, NM 87108
(505) 256-2067

Los Lunas Public Library
460 Main St
Los Lunas, NM 87031
(505) 839-3850

Electronic copies of the documents can also be found on the Kirtland Air Force Base Website at http://www.kirtland.af.mil/environment.asp

The comment period has been extended. You are encouraged to submit comments through September 16, 2013. Comments should be provided to Kirtland AFB NEPA Program Manager, 377 MSG/CEIE, 2050 Wyoming Blvd. SE, Bldg. 20685, Ste 108, Kirtland

SE, Bldg. 20053, Ste. 120, Kirtland AFB, NM 87117-5270, or email NEPA@kirtland.af.mil.

PRIVACY ADVISORY NOTICE

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Journal: August 29, 2013

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PUBLIC NOTICE
NOTICE OF AVAILABILITY
DRAFT ENVIRONMENTAL ASSESSMENT AND PROPOSED FINDING OF NO SIGNIFICANT IMPACT FOR ESTABLISHMENT OF A NEW C-130 LANDING ZONE FOR THE 58TH SPECIAL OPERATIONS WING AT KIRTLAND AIR FORCE BASE (AFB), NEW MEXICO

An Environmental Assessment (EA) has been prepared to analyze the impacts of the establishment of a new C-130 Landing Zone (LZ) near Kirtland AFB. The purpose of this project is to provide a realistic environment in which to train C-130 crews in short-field landings and in the use of Night Vision Goggles (NVGs). The Air Force would utilize a strengthened runway, Crosswind Runway 13/31, proposed for construction at Alexander Municipal Airport, Belen, NM.

The EA, prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations, and Air Force instructions implementing NEPA; evaluates potential impacts of the alternative actions on the environment including the No-action Alternative. Based on this analysis, the Air Force has prepared a proposed Finding of No Significant Impact (FONSI).
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Journal: July 11, 2013

NEWEST LEGAL NOTICES

PUBLIC NOTICE NOTICE OF AVAILABILITY DRAFT ENVIRONMENTAL ASSESSMENT AND PROPOSED FINDING OF NO SIGNIFICANT IMPACT FOR ESTABLISHMENT OF A NEW C-130 LANDING ZONE FOR THE 58TH SPECIAL OPERATIONS WING AT KIRTLAND AIR FORCE BASE (AFB), NEW MEXICO An Environmental Assessment (EA) has been prepared to analyze the impacts of the establishment of a new C-130 Landing Zone (LZ) near Kirtland AFB. The purpose of this project is to provide a realistic environment in which to train C-130 crews in short-field landings and in the use of Night Vision Goggles (NVGs). The Air Force would utilize a strengthened runway, Crosswind Runway 13/31, proposed for construction at Alexander Municipal Airport, Belen, NM. The EA, prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations, and Air Force instructions implementing NEPA; evaluates potential impacts of the alternative actions on the environment including the No-action Alternative. Based on this analysis, the Air Force has prepared a proposed Finding of No Significant Impact (FONSI). The Draft EA and proposed FONSI, dated June 2013, are available for review at the following locations: Belen Public Library 333 Becker Ave Belen, NM 87002 (505) 966-2600 Albuquerque Public Library (Main Library) 501 Copper Ave NW Albuquerque, NM 87102 (505) 768-5141 Central New Mexico Community College Montoya Campus Library J Building, Room 123 4700 Morris NE Albuquerque, NM 87102 (505) 224-5721 University of New Mexico Zimmerman Campus Library Albuquerque, NM 87131 (505) 277-7180 San Pedro Library 5600 Trumbull Avenue, SE Albuquerque, NM 87108 (505) 256-2067 Los Lunas Public Library 460 Main St Los Lunas, NM 87031 (505) 839-3850 Electronic copies of the documents can also be found on the Kirtland Air Force Base Website at http://www.kirtland.af.mil/environment.asp You are encouraged to submit comments through August 12, 2013. Comments should be provided to Kirtland AFB NEPA Program Manager, 377 MSG/CEIE, 2050 Wyoming Blvd. SE, Bldg. 20685, Ste. 126, Kirtland AFB, NM 87117-5270, or email NEPA@kirtland.af.mil. PRIVACY ADVISORY NOTICE Public comments on this Draft EA are requested pursuant to NEPA, 42 United States Code 4321, et seq. All written comments received during the comment period will be made available to the public and considered during the final EA preparation. Providing private address information with your comment is voluntary and such personal information will be kept confidential unless release is required by law. However, address information will be used to compile the project mailing list and failure to provide it will result in your name not being included on the mailing list. Journal: July 12, 2013

PUBLISHED ON: FRI JULY 12, 2013

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Belen airport's proposed new runway would benefit general aviation, Air Force training

The City of Belen's proposal to add a new crosswind runway to the existing runway at the Belen Alexander Municipal Airport would have mutual benefits to the local community and the U.S. Air Force.

The new runway would help the general aviation community currently operating out of Belen by providing the ability to land when crosswinds prevent use of the existing runway.

If the new crosswind-runway were built to handle Air Force C-130 aircraft landings, aircrews of the 58th Special Operations Wing at Kirtland Air Force Base would be able to use the airfield for practice takeoff and landings.

To train effectively for their wartime missions of combat rescue and special operations, 58th SOW aircrews need access to airfields that provide realistic experience, simulating conditions they will encounter during operational missions when they deploy to overseas areas. The unit's aircraft will continue to be based at Kirtland, and aircrews would not stay overnight in the local area. After completing their training events, aircraft, equipment and Airmen would return to Kirtland AFB, about 26 miles from Belen.

The impact of takeoffs and landings would be similar to the low approaches already occurring with the existing runway at the Belen Airport. Agreements for the joint use of the Belen Alexander Municipal Airport would be negotiated as design and construction details become available.

A joint-use arrangement with the Air Force would help the Belen airfield become self-sufficient and create a long-term positive economic impact for the local community.

To ensure that the impact of the proposed Air Force use of the Belen airport on other users, the local community, and on sensitive resources in the Rio Grande Valley are fully evaluated, the Air Force has prepared an Environmental Assessment. The EA was published and distributed in mid-July, and the original 30-day comment period, slated to close Aug. 12, 2013, has now been extended through Sept. 16, 2013. The EA and the Notice of Availability is available for review at six public libraries, including the Belen Public Library, and online at *www.kirtland.af.mil/environment.asp.*

The Air Force welcomes public review and comments on the EA. Mail comments to the Kirtland AFB NEPA Program Manager at 377 MSG/CEIE, 2050 Wyoming Blvd. SE, Bldg. 20685, Ste. 126, Kirtland AFB, N.M., 87117-5270, or email them to NEPA@kirtland.af.mil.

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PUBLIC NOTICE
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STATE OF NEW MEXICO
COUNTY OF VALENCIA

Dave Puddu being first duly sworn, upon his oath, does and says:

1. That he is the Publisher of the Valencia County News-Bulletin of Valencia County, a weekly newspaper published in the English Language and having been regularly published, issued and in general circulation in the County of Valencia and State of New Mexico, for a period of more than six months next proceeding the first publication of the legal notice herein referred to, a printed copy of which is hereto attached, and is a newspaper duly qualified for that purpose within the meaning of Section 10-2-4 of the New Mexico Statutes Annotated (1953). That the publication, a printed copy of which is hereto attached and made a part hereof, was published in said newspaper in the regular and entire issue of every number of the newspaper during the period of time of publication, and in the newspaper proper and not in a supplement thereof, one consecutive issues; the first publication being in the 11th of July 2013, and the last publication being issued of the 11th day July of 2013. And deponent further says that the said notice published has been paid for or has been assessed as court costs in the case numbered.

Subscribed and sworn to before me this 11th day of July, 2013.

OFFICIAL SEAL
Angela Esquibel
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires:

Notary Public
My commission expires:
July 1, 2016

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Published in Valencia County News-Bulletin on July 11, 2013.

PUBLIC/AGENCY COMMENT MATRIX

ESTABLISHMENT OF A NEW C-130 LANDING ZONE FOR THE 58TH SPECIAL OPERATIONS WING AT KIRTLAND AIR FORCE BASE, NEW MEXICO

Comment Number	Date	Comment Format (email, letter)	Commenter Name	Affiliation	Resource Area	Summary of Comment	Response to Comment
1	Undated	Letter	Kenneth Cunningham	New Mexico Department of Game & Fish	Biological Resources	Provided agreement with the findings of the document – "no anticipated adverse effects to wildlife or important habitats."	Comment noted.
2	Aug 12, 2013	Letter	Morgan Nelson	New Mexico Environment Department	Water Quality (Ground, Surface, 401/404)	General comments regarding state and federal water quality control regulations and guidelines for construction projects.	Comments noted. However, the USAF action does not include any construction or ground disturbing activities. Construction would be by others, and those entities will be responsible for complying with the regulations and guidelines applicable to construction projects.
3	Aug 2, 2013	Letter	Mildred and David Reid	Public	None specified	General opposition for the proposed action.	Comment noted.
4	Aug 8, 2013	Email	Carolyn Castillo-Ashford	Public	None specified	General support for the proposed action.	Comment noted.
5	Aug 8, 2013	Email	Catherine Romero	Public	None specified	General support for the proposed action.	Comment noted.
6	Aug 8, 2013	Email	Heather Sanchez	Public	None specified	General support for the proposed action.	Comment noted.
7	Aug 8, 2013	Email	Matthew S. Gustke	Public	None specified	General support for the proposed action.	Comment noted.
8	Aug 8, 2013	Email	Dr. Elizabeth von Toll	Public	None specified	General support for the proposed action.	Comment noted.
9	Aug 8, 2013	Email	Jim and Cris Kruz	Public	Noise and insufficient time to review document and provide comments	Concerned about noise associated with training operations, flight paths that are over their home, and concerned about having only two days to provide comments.	A detailed noise analysis was conducted as a part of the proposed action. See Section 4.3.2 and Appendix C-Supplemental Noise Metrics. The public comment period was noticed in the Albuquerque Journal and the Valencia County News-Bulletin (local Belen area newspaper) on July 11, 2013. The public comment period was

Comment Number	Date	Comment Format (email, letter)	Commenter Name	Affiliation	Resource Area	Summary of Comment	Response to Comment
							subsequently extended until September 16, 2013 to allow additional time for public review and comment, and a paid advertisement providing a summary of the proposed action and notice of the extension of the public comment period through 16 September 2013 was published in the local newspaper (Valencia County News Bulletin) on August 29, 2013 (see appendix B).
10	Aug 9, 2013	Email	J.L. Burnett	Public	Noise, flight path safety, safety, and insufficient time to review document and provide comments	Concerned about noise associated with training operations, nighttime noise, flight paths that are over their home, and refueling tanker fire safety. Concerned about having only three days to provide comments.	A detailed noise analysis was conducted as a part of the proposed action. See Section 4.3.2 and Appendix C-Supplemental Noise Metrics. The Sunrise Bluffs community lies under some of the pattern flight tracks for the proposed action and the current existing low approach (but no landing) operations at BAMA. To execute these training missions, a C-130 is frequently assigned to fly low levels, drop supplies, and refuel helicopters, all the same mission. The 58 SOW C130s considered in the BAMA EA are multi-role aircraft, and training is provided on a number of missions ranging from Special Operations to Rescue. The 58 SOW's intent is to maintain a strong positive relationship with the local community. To facilitate this, 58 SOW aircraft practice a "fly friendly" concept in which houses are avoided to the maximum extent possible.

Comment Number	Date	Comment Format (email, letter)	Commenter Name	Affiliation	Resource Area	Summary of Comment	Response to Comment
							Also, when Air Force aircraft are transiting from one location to another over cities, towns, or settlements, they are restricted from flying any lower than 1,000' above the highest obstacle within a 2,000' radius; and if they are transiting over non-congested areas, they are restricted from flying any lower than 500' to any person, vessel, vehicle, or structure. These Air Force regulations mirror civilian FAA regulations, which contain similar restrictions applicable to commercial and civilian flights as well as military flights. The proposed flight paths to the new runway at Belen were specifically designed to cause minimal impact on the local populace. Note that the original location proposed by BAMA for Crosswind Runway 13/31 was modified to minimize noise impacts to residential areas to the greatest extent possible. While the C-130 aircraft referenced in this statement are not solely "fueling tankers", they are the same C-130s noted in comments as having been seen refueling helicopters. C-130s are also proposed to conduct touch and go landings at Belen's new runway once it is built. The Air Force has regulations that govern the fire support required at a runway based on the type of aircraft.

Comment Number	Date	Comment Format (email, letter)	Commenter Name	Affiliation	Resource Area	Summary of Comment	Response to Comment
							Fire support will be addressed once the new runway is built and agreements are negotiated with BAMA. The Air Force will only be able to operate at BAMA once adequate fire support is present, per Air Force regulations. Aircraft flight safety is discussed in Section 3.3.10 and 4.3.10. The C-130 is considered to have excellent flight safety (see Table 3-4). As noted in the above comment response, the public comment period was noticed on July 11, 2013. The project was further explained/ discussed in a paid advertisement published in the Valencia County News-Bulletin on August 29, 2013, and the public comment period was extended until September 16, 2013 to allow additional time for public review and comment.
11	Aug 9, 2013	Email	Adelyn Grudier	Public	Noise, insufficient time to provide comments	Concerned about noise associated with training operations, nighttime noise, flight paths that are over their home, and refueling tanker fire safety. Concerned about having only three days to provide comments.	See response to Comment 10.
12	Aug 9, 2013	Email	F.W. (Rick) Schneck	Public	Noise, flight path safety, safety, and insufficient time to	Concerned about noise associated with training operations, nighttime noise, flight paths that are over their home, and refueling tanker fire safety. Concerned about having only	See response to Comment 10.

Comment Number	Date	Comment Format (email, letter)	Commenter Name	Affiliation	Resource Area	Summary of Comment	Response to Comment
					provide comments	three days to provide comments.	
13	Aug 9, 2013	Email	Susan Lawrence	Public	Noise, flight path safety	Concerned about noise associated with training operations and flight paths that are over their home.	See response to Comment 10.
14	Aug 9, 2013	Email	Michael and Beverly Mikita	Public	Noise, flight path safety, safety, and insufficient time to provide comments	Concerned about noise associated with training operations, nighttime noise, flight paths that are over their home, and refueling tanker fire safety. Concerned about having only three days to provide comments.	See response to Comment 10.
15	Aug 10, 2013	Email	Paul Eddy	Public	Noise, flight path safety	Concerned about noise associated with training operations and nighttime noise, and flight paths that are over their home in the Sunrise Bluffs community.	See response to Comment 10. In addition, night landings by C-130s are not currently being conducted by the 58 SOW at BAMA, as the existing runway at BAMA is unable to support C-130 landings.
16	Aug 11, 2013	Email	Chris Chavez	Public	Noise, flight path, light, and air pollution	Concerned about noise associated with training operations, nighttime noise, flight paths that are over their home, and light and air pollution. Additional comments regarding helicopters and other flight operations not associated with the proposed action.	See response to Comment 10.
17	Aug 11, 2013	Email	Don Gibson	Public	None specified	General support for the proposed action.	Comment noted.
18	Aug 12, 2013	Email	Mariah Forde	Public	None specified	General support for the proposed action.	Comment noted.
19	Aug 12, 2013	Email	Dee W. Friesen	Public/The	Night sky	The TAAS observatory (General	Runway 03/21 is the existing runway at

PUBLIC/AGENCY COMMENT MATRIX

ESTABLISHMENT OF A NEW C-130 LANDING ZONE FOR THE 58TH SPECIAL OPERATIONS WING AT KIRTLAND AIR FORCE BASE, NEW MEXICO

Comment Number	Date	Comment Format (email, letter)	Commenter Name	Affiliation	Resource Area	Summary of Comment	Response to Comment
				Albuquerque Astronomical Society (TAAS)	concerns	Nathan Twining Observatory) is located 7.2 nautical miles south of the approach end of existing runway 03. TAAS is concerned with flight paths over the observatory that could interrupt photographic imaging and the conduct of survey projects measuring the occultations of celestial objects.	BAMA (generally a north-south runway, see Figure 2-1). The proposed action does not include new/ additional USAF flight operations on existing runway 03. The normal flight path should not take 58 SOW aircraft over the observatory. As operations on runway 03 would be the most likely to cause discernible effects at GNTO, the USAF does not anticipate that flight paths will interrupt imaging or conduct of surveys. Should the flight path pose a problem, the 58 SOW will consider implementing a no-fly zone in the vicinity of the observatory during sensitive timeframes.

APPENDIX C

Supplemental Noise Metrics for C-130 Landing Zone Environmental Assessment

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FINAL REPORT

Aircraft Noise Study for Proposed 58th SOW Tactical Training at Alexander Municipal Airport Belen, New Mexico

RIAC Contract Number: HC1047-05-D-4005

Task Order: TAT 0203

5 November 2013

Acknowledgements

This document was prepared as:

Wyle Technical Note TN 13-01

Job Number: A10160.0203.0004

Prepared by:

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1.0 Introduction

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) for proposed 58th Special Operations Wing (SOW) C-130 Hercules Landing Zone (LZ) activity in New Mexico involving Belen Alexander Municipal Airport (BAMA) near Belen, NM. The FAA airport identifier for BAMA is E80.

This Technical Note (TN) describes the noise analyses for the Proposed and No Action Alternatives for aircraft operations at BAMA. The Proposed Action considers Tactical Training operations by the C-130 aircraft on a future crosswind runway (designated Runway 13/31). The future crosswind runway was already analyzed in the 2005 City of Belen EA (City of Belen 2005).

Section 2 describes the methodology used to perform the noise analysis. Sections 3 and 4 describe the modeled operations and noise exposure for the No Action Alternative and Proposed Action, respectively.

2.0 Methodology

2.1 Noise Model, Primary Metric and Significance Threshold

This noise analysis was conducted according to established Department of Defense (DoD) guidelines and best practices and leveraged the DoD NOISEMAP suite of computer-based modeling tools (Czech and Plotkin 1998; Wasmer and Maunsell 2006a; Wasmer and Maunsell 2006b). The suite also includes BaseOps, OMEGA10, OMEGA11, and NMPlot as well as NOISEFILE database of noise data for various aircraft. The BaseOps program allows entry of runway coordinates, airfield information, flight tracks, flight profiles along each flight track for each aircraft, numbers of daily flight operations, run-up coordinates, run-up profiles, and run-up operations. The OMEGA10 program then calculates the SEL for each model of aircraft from the NOISEFILE database, taking into consideration the specified speeds, engine thrust settings, and environmental conditions appropriate to each type of flight operation. The OMEGA11 program calculates maximum A-weighted sound levels from the NOISEFILE database for each model of aircraft taking into consideration the engine thrust settings and environmental conditions appropriate to run-up operations. The core computational program of the NOISEMAP suite is called NMAP. The version of NMAP used for this TN was 7.2.

Per Federal Aviation Administration (FAA) guidelines (FAA 2006), the cumulative noise exposure is described and presented in terms of Day-Night Average Sound Level (DNL). DNL is a composite noise metric accounting for the sound energy of all noise events in a 24-hour period. In order to account for increased human sensitivity to noise at night, a 10 dB penalty is applied to nighttime events (10:00 p.m. to 7:00 a.m. time period).

Noise-sensitive land uses, such as housing, schools, and medical facilities are considered as being compatible in areas where the DNL is less than 65 dB. Noise sensitive land uses are discouraged in areas where the DNL is between 65 and 69 dB, and strongly discouraged where the DNL is between 70 and 74 dB. At higher levels, i.e. greater than 75 dB, land use and related structures are not compatible and should be prohibited.

NMAP can incorporate the number of day, evening, and night operations, flight paths, and profiles of the aircraft to calculate DNL at many points five feet above the surface around the facility. This process results in a "grid" file containing noise levels at different points of a user specified rectangular area. The spacing of the grid points for this study was 250 feet.

The programs can also compute DNL for specific Points of Interest (POI), e.g., noise-sensitive receptors, and determine the primary contributors to the overall CNEL at each point. Five POIs were modeled in this study. See Sections 3 and 4 for further discussion of the POI.

In calculating time-average sound levels for airfields, the reliability of the results varies at lower levels (below 55 dB). This arises from the increasing variability of individual aircraft sound levels at the longer distances due to atmospheric effects on sound propagation and to the presence of other sources of noise. Also, when flight activity is infrequent, the time-averaged sound levels are generated by only a few individual aircraft noise events, which may not be statistically representative of the given aircraft modeled. Time-averaged outdoor sound levels less than 45 dB are well below any currently accepted guidelines for aircraft noise compatibility. Most of the guidelines for the acceptability of aircraft noise are on the order of 65 dB and higher. Therefore, DNL less than 55 dB are presented herein as "<55 dB".

NOISEMAP is most accurate and useful for comparing "before-and-after" noise levels that would result from alternative scenarios when calculations are made in a consistent manner. The program allows noise exposure prediction of such proposed actions without actual implementation and/or noise monitoring of those actions.

2.2 Geospatial Data

The NOISEMAP suite of programs includes the ability to account for atmospheric sound propagation effects over varying terrain, including hills and mountainous regions, as well as regions of varying acoustical impedance—for example, water around coastal regions. Even for flat terrain, the propagation algorithms are more robust than for excluding terrain. This feature is used in computing the noise levels presented in this analysis. By including terrain in the propagation calculations, the shielding effect of landforms can be included in the analysis. Elevation grid files with a grid point spacing of 500 feet were created from the National Elevation Dataset (NED) one arcsecond data (USGS 2012).

Acoustical impedance describes how sound is reflected or absorbed by the surface. Sound tends to travel farther over hard surfaces, such as pavement or water, than it does over soft surfaces, such as plowed earth or vegetation. This feature was used for computing the noise levels presented in this analysis. No large bodies of water exist in the vicinity of BAMA. Consistent with standard practice, the study area was modeled with "soft" acoustical impedance (flow resistivity) of 200 kPa-s/m^2.

3.0 No Action Alternative

The following two subsections detail the modeling data and the resultant noise exposure for the No Action Alternative.

3.1 Modeling Data

As provided by the USAF (USAF 2012a), Table 3-1 details the flight operations for the No Action Alternative which total nearly 24,000 annual operations with about two-thirds generated by civilian aircraft and the remaining by military C-130 aircraft. Approximately 22 percent of flight operations

occur during the DNL nighttime period (10pm to 7am) most of which due to C-130 low-approach training.

Approximately 71 percent of the C-130 operations consist of the H/N/P variant while 29 percent consist of the J variant. Modeled civilian aircraft operations at BAMA are best represented by the Cessna C-182 and Cessna C-210 aircraft which are small four to six seat aircraft with a single propeller and a normally aspirated engine. As indicated in Table 3-1, both types were modeled with NOISEMAP's generic General Aviation Single Engine Piston with Variable-pitch propeller (abbreviated GASEPV) aircraft/acoustic data. NOISEMAP identifies and represents the H/N/P variants as "C-130H&N&P" while the J variant is identified simply as "C-130J".

The runway and flight track utilization percentages for the C-182, C-210 and the C-130s are listed in Table 3-2. The C-182 primarily uses Runway 03 with 65 percent of operations with most of the flights departing to the north to the Albuquerque navigational aide (ABQ). The C-210 primarily uses Runway 21 with 80 percent of operations with most flight either departing to the west or to the east of BAMA. The civilian aircraft types have different DNL nighttime runway utilization than their DNL daytime utilization.

All C-130 variants (H/P/N and J) utilize the same runway and flight track utilization and the same utilization for DNL daytime and nighttime periods. The military C-130s are using BAMA for low approach training with 90 percent of operations occurring on Runway 03.

The C-130s approach BAMA from the north, conduct one Box Pattern and depart to the training ranges to the southwest. The modeled flight tracks listed in Table 3-2 are presented in the appendix (USAF 2012a).

As NOISEMAP requires events to be input on an average daily basis, the annual flight operations of Table 3-1 were divided by the number of flying days shown in Table 3-1. The C-130 aircraft operate approximately 252 days per year (USAF 2012a) while the civilian aircraft operate nearly every day.

Although acoustic data for static (run-up) operations for the C-130J does not currently exist in NMAP's acoustic database (NOISEFILE), NMAP requires static data for the modeling of departures. As this kind of C-130J data is not available, static acoustic data from NMAP's C-130H&N&P was used as a surrogate with C-130H&N&P power settings and units converted to horsepower (USAF 2012b). This is consistent with approved recommendations for improvements to the NOISEFILE database (Wyle 2012).

The modeled representative flight profiles for each modeled aircraft type were approved by the USAF (USAF 2012a) and are presented in the appendix.

Run-ups are events that take place with the aircraft parked on the ground and the engine running to conduct various tests or repairs. Sometimes the engine may be removed from the aircraft and placed on using an engine stand. The USAF does not conduct maintenance run-ups at BAMA (USAF 2012a) but the civil aircraft might occasionally conduct run-ups. For this analysis no static run-ups were modeled.

Table 3-1. Annual Flight Operations at BAMA for the No Action Alternative

Group	Aircraft Type	Modeled Aircraft Type	Note	Flying Days per Year	Departure			Arrival - VFR			Arrival - IFR			Tower Pattern [2]			Box Pattern [2]			TOTAL		
					Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Low Approach Training	HC/MC-130H/P/N	C-130H&N&P		252	576	864	1,440	576	864	1,440							1,152	1,728	2,880	2,304	3,456	5,760
	HC/MC-130J	C-130J	1	252	144	360	504	144	360	504							288	720	1,008	576	1,440	2,016
	Transient C-130J	C-130J	1	252	72	-	72	72	-	72							144	-	144	288	-	288
Tactical Approach Training																						
Civilian	Cessna C-182	GASEPV		365	1,890	39	1,929	1,890	39	1,929	-	-	-	10,208	208	10,416				13,988	286	14,274
	Cessna C-210	GASEPV		365	730	-	730	658	-	658	72	-	72	-	-	-	-	-	-	1,460	-	1,460
Total					**3,412**	**1,263**	**4,675**	**3,340**	**1,263**	**4,603**	**72**	**-**	**72**	**10,208**	**208**	**10,416**	**1,584**	**2,448**	**4,032**	**18,616**	**5,182**	**23,798**

Note:

1) Each circuit counted as 2 operations.

2) Static reference acoustic data for C-130H&N&P used as surrogate for static reference acoustic data for C-130J.

3) GASEPV = General Aviation Single Engine Piston with a Variable-pitch Propeller.

Table 3-2. Runway and Flight Track Utilization at BAMA for the No Action Alternative

Operation Type	Run-way	Runway Utilization						Flight Track		Flight Track Utilization					
		C-182		C-210		C-130				C-182		C-210		C-130	
		Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)	ID	Description	Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)
Departure	03	65%	0%	20%	0%	90%	90%	03D01	West to ZUN			40%	0%		
								03D02	North to ABQ			5%	0%		
								03D03	East to OTO			5%	0%		
								03D04	East to CNX			40%	0%	100%	100%
								03D05	South to ONM			10%	0%		
								03D11	West to ZUN	5%	0%				
								03D12	North to ABQ	70%	0%				
								03D14	East to CNX	20%	0%				
								03D15	South on 190 deg heading	5%	0%				
								Subtotal		*100%*	*0%*	*100%*	*0%*	*100%*	*100%*
	21	35%	100%	80%	100%	10%	10%	21D01	West to ZUN			40%	0%		
								21D02	North to ABQ			5%	0%		
								21D03	East to OTO			5%	0%		
								21D04	East to CNX			40%	0%		
								21D05	South to ONM			10%	0%		
								21D11	West to ZUN	5%	5%				
								21D12	North to ABQ	70%	70%				
								21D14	East to CNX	20%	20%				
								21D15	South on 190 deg heading	5%	5%			100%	100%
								Subtotal		*100%*	*100%*	*100%*	*0%*	*100%*	*100%*
Arrival - VFR	03	65%	0%	20%	0%	90%	90%	03A01	From West			70%	0%		
								03A02	From North			10%	0%		
								03A04	From East			15%	0%		
								03A05	From south			5%	0%		
								03A11	From West	5%	0%				
								03A12	From North	70%	0%				
								03A14	From East	20%	0%				
								03A15	From South	5%	0%				
								03A16	C-130 Low Approach	5%	0%			100%	100%
								Subtotal		*100%*	*0%*	*100%*	*0%*	*0%*	*0%*
	21	35%	100%	80%	100%	10%	10%	21A01	From West			70%	0%		
								21A02	From North			10%	0%		
								21A04	From East			15%	0%		
								21A05	From south			5%	0%		
								21A11	From West	5%	5%				
								21A12	From North	70%	70%				
								21A14	From East	20%	20%				
								21A15	From South	5%	5%				
								21A16	C-130 Low Approach	5%	5%			100%	100%
								Subtotal		*100%*	*100%*	*100%*	*0%*	*0%*	*0%*
Arrival IFR	03	0%	0%	18%	0%	n/a	n/a	03A03	From Northeast			100%	0%		
								03A06	From ONM						
								Subtotal		*0%*	*0%*	*100%*	*0%*	*0%*	*0%*
	21	0%	0%	82%	0%			21A03	From Northeast			90%	0%		
								21A06	From ONM			10%	0%		
								Subtotal		*0%*	*0%*	*100%*	*0%*	*0%*	*0%*
Tower Pattern	03	65%	0%	20%	0%	n/a	n/a	03C01	Tower Pattern Rwy 03	100%	100%				
								Subtotal		*100%*	*100%*	*0%*	*0%*	*0%*	*0%*
	21	35%	100%	80%	100%			21C01	Tower Pattern Rwy 21	100%	100%				
								Subtotal		*100%*	*100%*	*0%*	*0%*	*0%*	*0%*
Box Pattern	03	n/a		n/a		90%	90%	03C02	C-130 Box Pattern					100%	100%
								Subtotal		*0%*	*0%*	*0%*	*0%*	*100%*	*100%*
	21					10%	10%	21C02	C-130 Box Pattern					100%	100%
								Subtotal		*0%*	*0%*	*0%*	*0%*	*100%*	*100%*

3.2 Noise Exposure

Using NOISEMAP Version 7.2, Figure 3-1 shows the resultant 65 dB to 85 dB DNL contours in 5 dB increments for the Average Busy Day. Operations are insufficient to generate an 80 or 85 dB DNL contour. The 65 dB contour would extend along the existing runway centerline approximately 4,800 ft. to the southwest and approximately 3900 ft. to the northeast beyond the airport property line.

The modeled POIs are shown in Figure 3-1. They consist of residential structures near the northwest corner of the airport (labeled R01), a residential area southeast of the airport (R02, R03 and R04) and a residential area east of the airport (R05). Residential areas northeast of the airport were not selected because their noise exposure would not change relative to the No Action Alternative.

Table 3-3 presents the No Action Alternative DNL computed for each of the POI. No POIs are exposed to DNL greater than or equal to 65 dB for the No Action Alternative condition. All POIs have DNL less than 55 dB.

Table 3-3. DNL at Representative POI Near BAMA for the No Action Alternative

POI	DNL (dB)
R01	<55
R02	<55
R03	<55
R04	<55
R05	<55

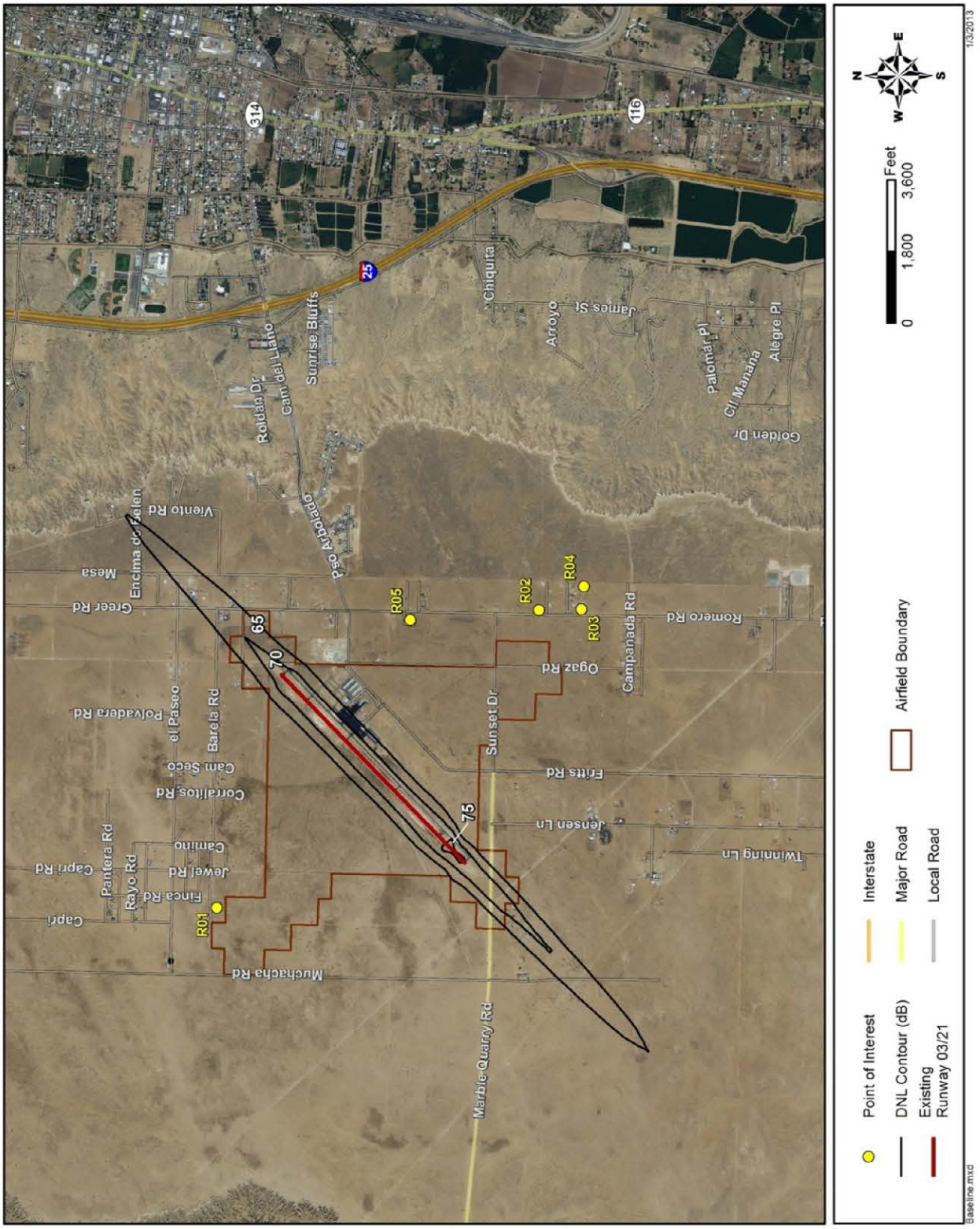

Figure 2-1. DNL Contours for Average Flying Day Operations at E80 for Baseline Scenario

4.0 Proposed Action

The Proposed Action considers the addition of tactical training flight operations to the future crosswind runway. The following two subsections review the details of the modeling for the Proposed Action and the resulting noise exposure.

4.1 Modeling Data

The future crosswind Runway 13/31 has the following runway end points (USAF 2012a) yielding a length of 5,280 ft:

- Runway 13 = 34° 39' 5.78" N Latitude, 106° 50' 44.06" W Longitude; and
- Runway 31 = 34° 38' 28.87" N Latitude, 106° 49' 59.39" W Longitude.

For the Proposed Action, No Action operations would continue but would be supplemented with approximately 10,800 additional C-130 tactical flight training operations (USAF 2012c). Total flight operations at BAMA would be nearly 34,600 as listed in Table 4-1. Approximately 31 percent of the total flight operations would be by C-130 aircraft with the remainder by civilian general aviation aircraft as described in Section 3.1. With the addition of the tactical flight operations, approximately 18 percent of the C-130 operations would consist of the H/N/P variant while 82 percent would consist of the J variant. Consistent with No Action Alternative, approximately 22 percent of flight operations would continue to occur during the DNL nighttime period (10pm to 7am).

Types of operations by the tactical training flights would be identical to the types modeled for the No Action Alternative with the addition of "Depart and land on Opposite Runway". The tactical training flights would also conduct tower patterns and box patterns unlike the No Action Alternative's low approach training. Flight tracks for the crosswind runway were provided by the USAF (USAF 2012a) and are shown in the appendix.

Only the *additional* C-130 tactical training operations are expected to use the crosswind runway. All other operations would utilize Runway 03/21 and flight track utilizations from Table 3-2. The runway and flight track utilization for the proposed C-130 operations are detailed in Table 4-2 with Runway 31 serving as the primary use direction with 85 percent of the additional flight operations.

Consistent with the No Action Alternative, the USAF would not conduct maintenance run-ups at BAMA (USAF 2012a) and civilian aircraft would not conduct run-ups, so no run-ups were modeled.

Table 4-1. Annual Flight Operations at BAMA for the Proposed Action

Group	Aircraft Type	Modeled Aircraft Type	Note	Flying Days per Year	Departure			Arrival - VFR			Arrival - IFR			Depart E80 and land E80 on Opposite Runway [2]			Tower Pattern [2]			Box Pattern [2]			TOTAL		
					Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Low Approach Training	HC/MC-130H/P/N	C-130H&N&P		252	576	864	1,440	576	864	1,440	-	-	-	-	-	-	-	-	-	1,152	1,728	2,880	2,304	3,456	5,760
	HC/MC-130J	C-130J	1	252	144	360	504	144	360	504	-	-	-	-	-	-	-	-	-	288	720	1,008	576	1,440	2,016
	Transient C-130J	C-130J	1	252	72	-	72	72	-	72	-	-	-	-	-	-	-	-	-	144	-	144	288	-	288
Tactical Approach Training	HC/MC-130J	C-130J	1	252	1,260	252	1,512	1,260	252	1,512			-	2,520	1,008	3,528	630	189	819	1,386	101	1,487	7,056	1,802	8,858
	MC-130H	C-130H&N&P		252	126	126	252	126	126	252	-	-	-	882	126	1,008	126	63	189	252	25	277	1,512	466	1,978
Civilian	Cessna C-182	GASEPV		365	1,890	39	1,929	1,890	39	1,929	-	-	-	-	-	-	10,208	208	10,416	-	-	-	13,988	286	14,274
	Cessna C-210	GASEPV		365	730	-	730	664	-	664	66	-	66	-	-	-	-	-	-	-	-	-	1,460	-	1,460

Note:

1) Each circuit counted as 2 operations.

2) Static reference acoustic data for C-130H&N&P used as surrogate for static reference acoustic data for C-130J which was unavailable.

3) GASEPV = General Aviation Single Engine Piston with a Variable-pitch Propeller.

Table 4-2. Runway and Flight Track Utilization at BAMA for Tactical C-130 Operations in the Proposed Action

Operation Type	Runway Utilization			Flight Track Utilization			
	Runway	Day (0700-2200)	Night (2200-0700)	Flight Track	Description	Day (0700-2200)	Night (2200-0700)
Departure	13	15%	15%	12D120	Return to ABQ	100%	100%
	31	85%	85%	30D120	Return to ABQ	100%	100%
	Subtotal	*100%*	*100%*				
Arrival	13	15%	15%	12A10	Turning SCA Arrival	46%	33%
				12A11	Straight in SCA Arrival	0%	0%
				12A13	Formation Overhead Arrival (1st Ship)	27%	33%
				12A14	Formation Overhead Arrival (2nd Ship)	27%	34%
				Subtotal		*100%*	*100%*
	31	85%	85%	30A10	Turning SCA Arrival	0%	0%
				30A11	Straight in SCA Arrival	46%	33%
				30A13	Formation Overhead Arrival (1st Ship)	27%	33%
				30A14	Formation Overhead Arrival (2nd Ship)	27%	34%
				Subtotal		*100%*	*100%*
	Subtotal	*100%*	*100%*				
Tower Pattern	13	15%	15%	12C14	C-130 Formation Closed (1st Ship)	50%	50%
				12C15	C-130 Formation Closed (2nd Ship)	50%	50%
				12C18	Turning SCA Closed	0%	0%
				Subtotal		*100%*	*100%*
	31	85%	85%	30C14	C-130 Formation Closed (1st Ship)	50%	50%
				30C15	C-130 Formation Closed (2nd Ship)	50%	50%
				30C18	Turning SCA Closed	0%	0%
				Subtotal		*100%*	*100%*
	Subtotal	*100%*	*100%*				
Box Pattern	13	15%	15%	12C11	12 Rectangular Pattern	77%	0%
				12C17	12 Rectangular Pattern (Go- Around)	23%	100%
				Subtotal		*100%*	*100%*
	31	85%	85%	30C11	30 Rectangular Pattern	77%	0%
				30C17	30 Rectangular Pattern (Go- Around)	23%	100%
				Subtotal		*100%*	*100%*
	Subtotal	*100%*	*100%*				
Depart and land on opposite Rwy	13	15%	15%	12C12	12 SCA closed Pattern	47%	47%
				12C16	12 SCA closed Pattern (5NM)	23%	23%
				12C19	12 SCA closed Pattern (Right Traffic)	20%	20%
				12C20	12 SCA closed Pattern (5NM Right Traffic)	10%	10%
				Subtotal		*100%*	*100%*
	31	85%	85%	30C12	30 SCA closed Pattern	47%	47%
				30C16	30 SCA closed Pattern (5NM)	23%	23%
				30C19	30 SCA closed Pattern (Right Traffic)	20%	20%
				30C20	30 SCA closed Pattern (5NM Right Traffic)	10%	10%
				Subtotal		*100%*	*100%*
	Subtotal	*100%*	*100%*				

Note:
1) Low Approach operations not included because they remain identical to No Action Alternative.
2) SCA = Self-Contained Approach.

4.2 Noise Exposure

Using NOISEMAP Version 7.2, Figure 4-1 shows the resultant 65 dB to 85 dB DNL contours in 5 dB increments for the Average Busy Day. Operations are insufficient to generate an 80 or 85 dB DNL contour. The 65 dB DNL contour would continue to extend along the existing runway, similar to the No Action Alternative. The additional operations on the crosswind runway would cause the 65 dB DNL contour to also extend beyond the airfield boundary to the southeast less than 500 ft. and to the northwest approximately 6,000 feet.

Table 4-3 presents the DNL computed for each of the POI for the Proposed Action. No POI would be exposed to DNL greater than or equal to 65 dB. POI R03 would have the highest DNL at 63 dB.

Table 4-3. DNL at Representative POI Near BAMA for the Proposed Action

POI	DNL (dB)	
	No Action Alternative	Proposed Action
R01	<55	58
R02	<55	56
R03	<55	63
R04	<55	58
R05	<55	<55

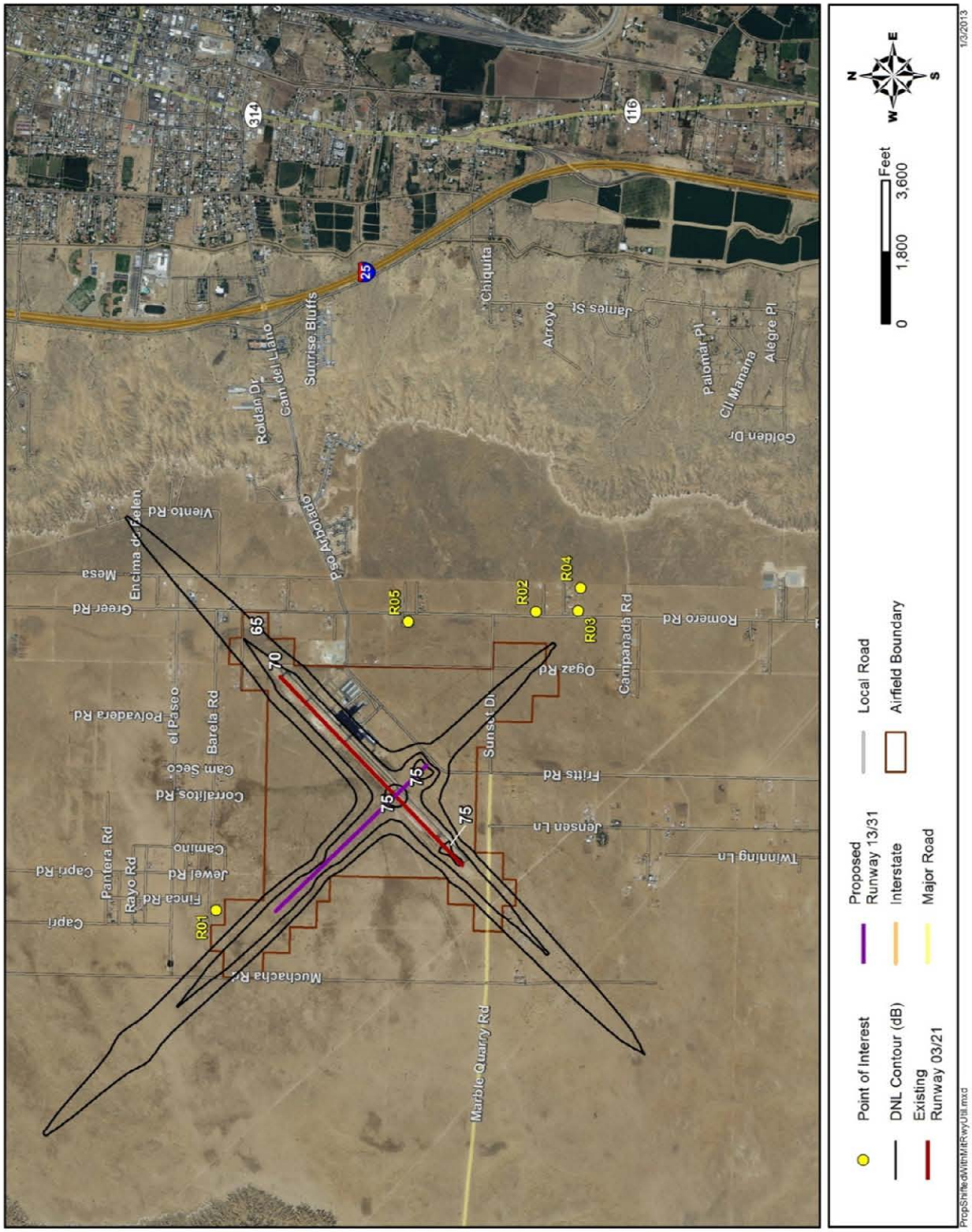

Figure 4-1. DNL Contours for Average Flying Day Operations at E80 for Proposed Scenario

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Appendix A

Sections

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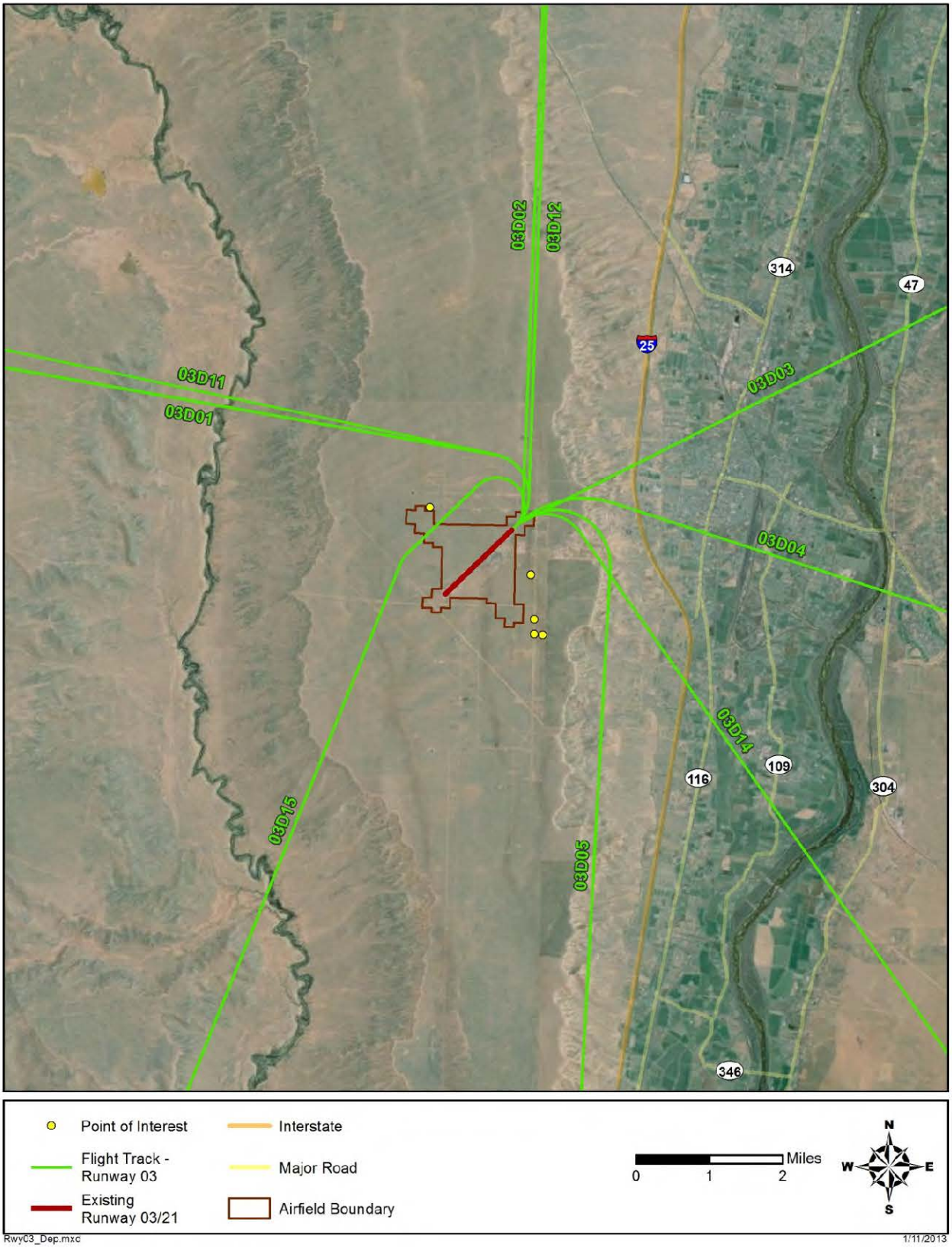
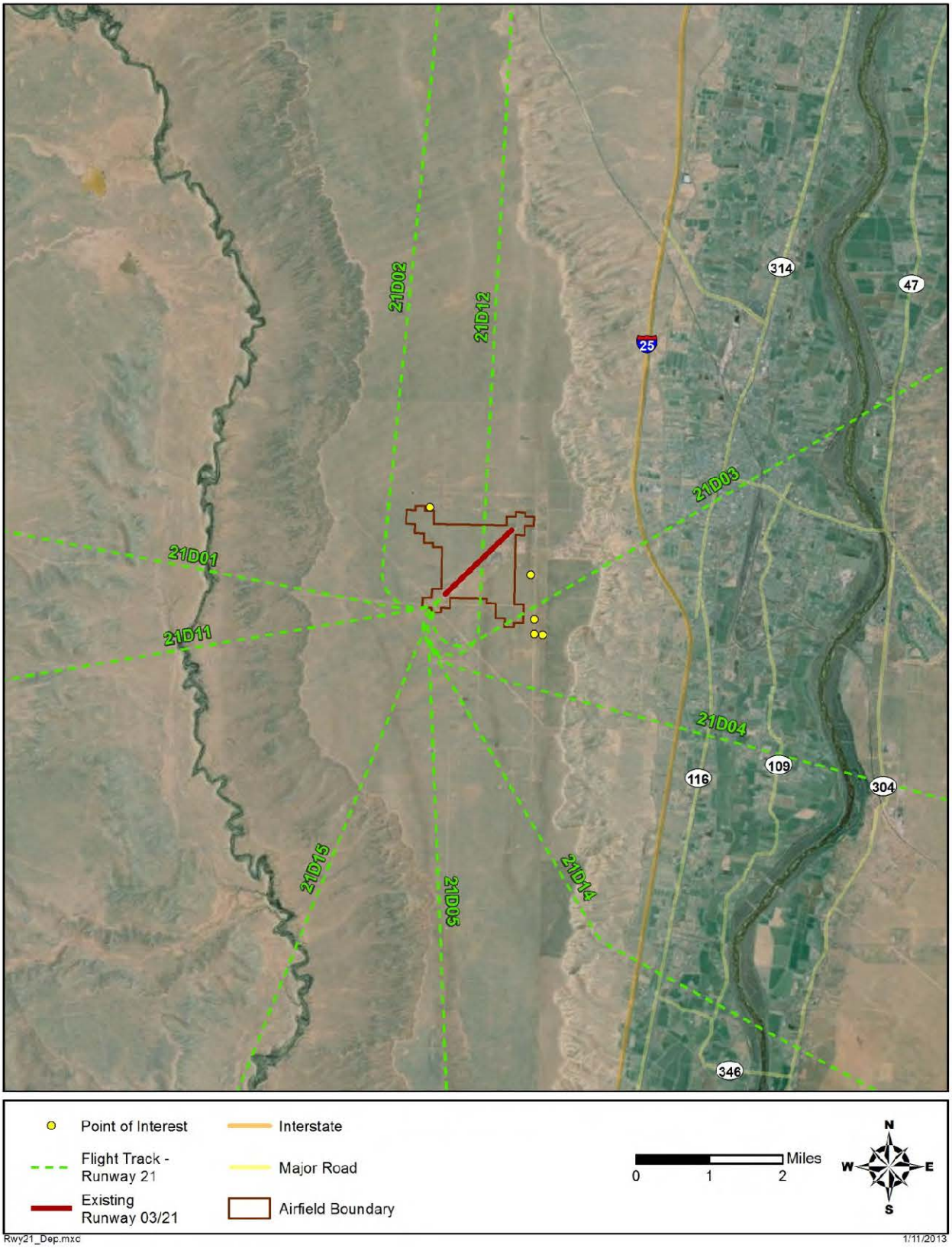
Modeled Flight Tracks

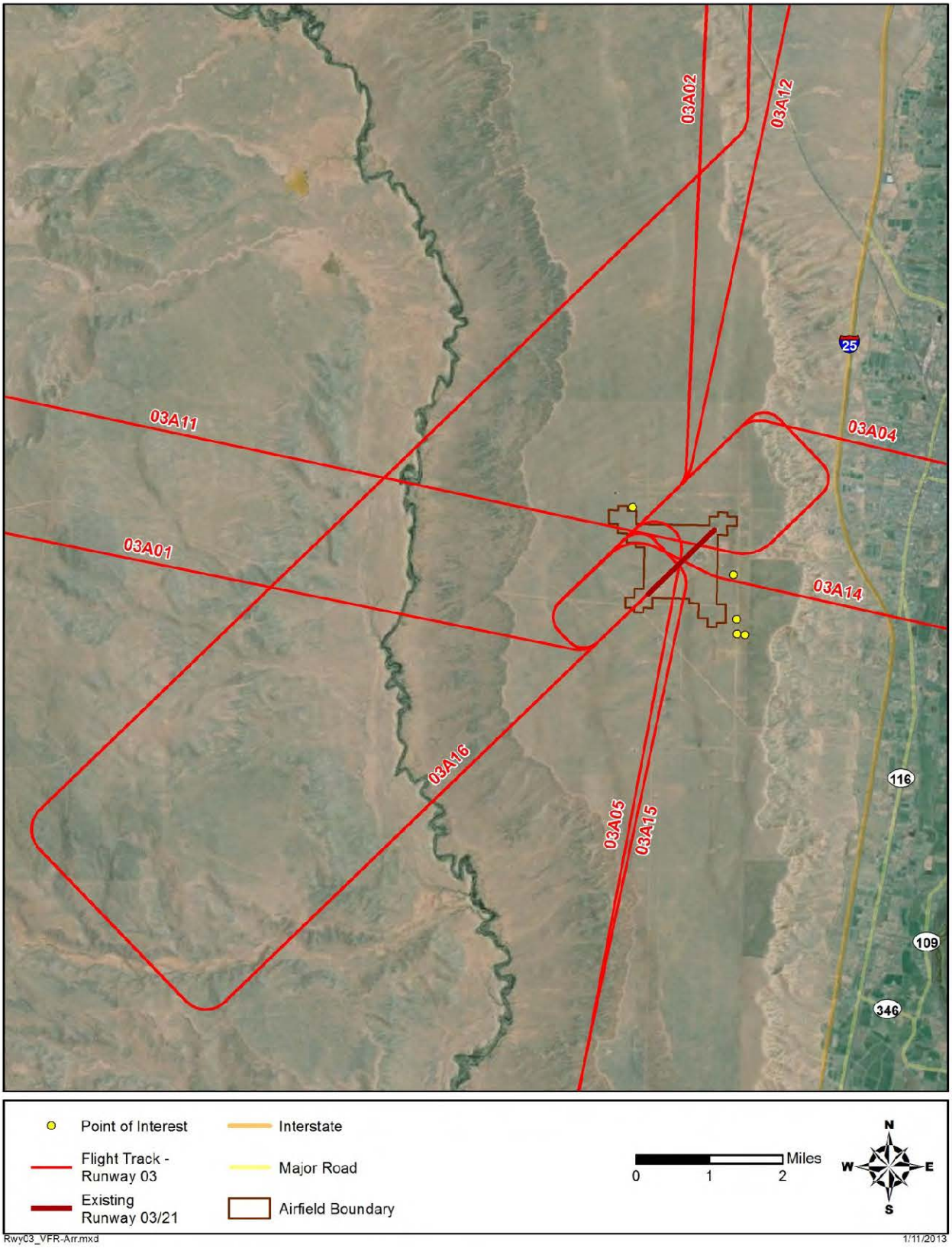


Modeled Average Daily Departure Flight Tracks for Runway 03

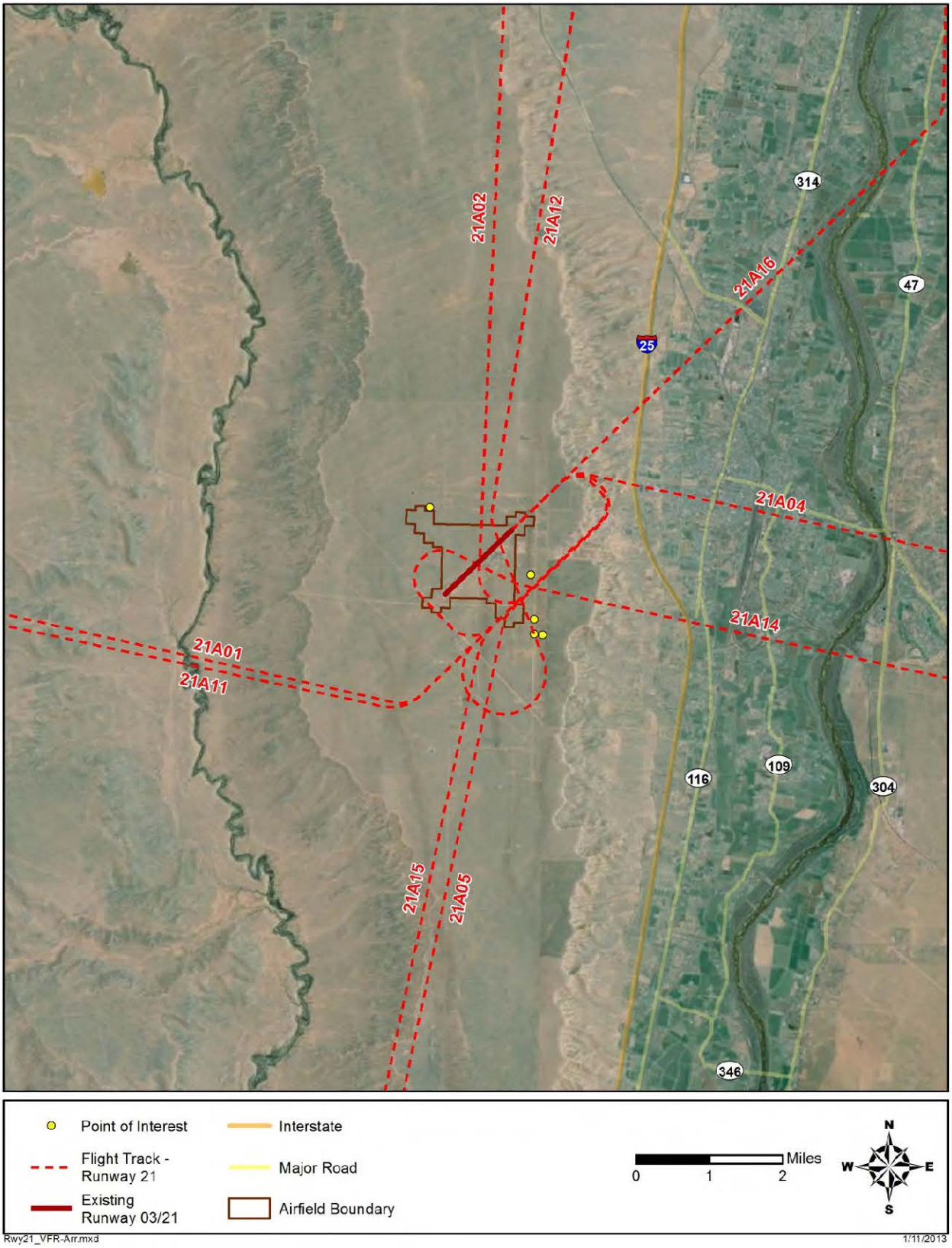


Modeled Average Daily Departure Flight Tracks for Runway 21

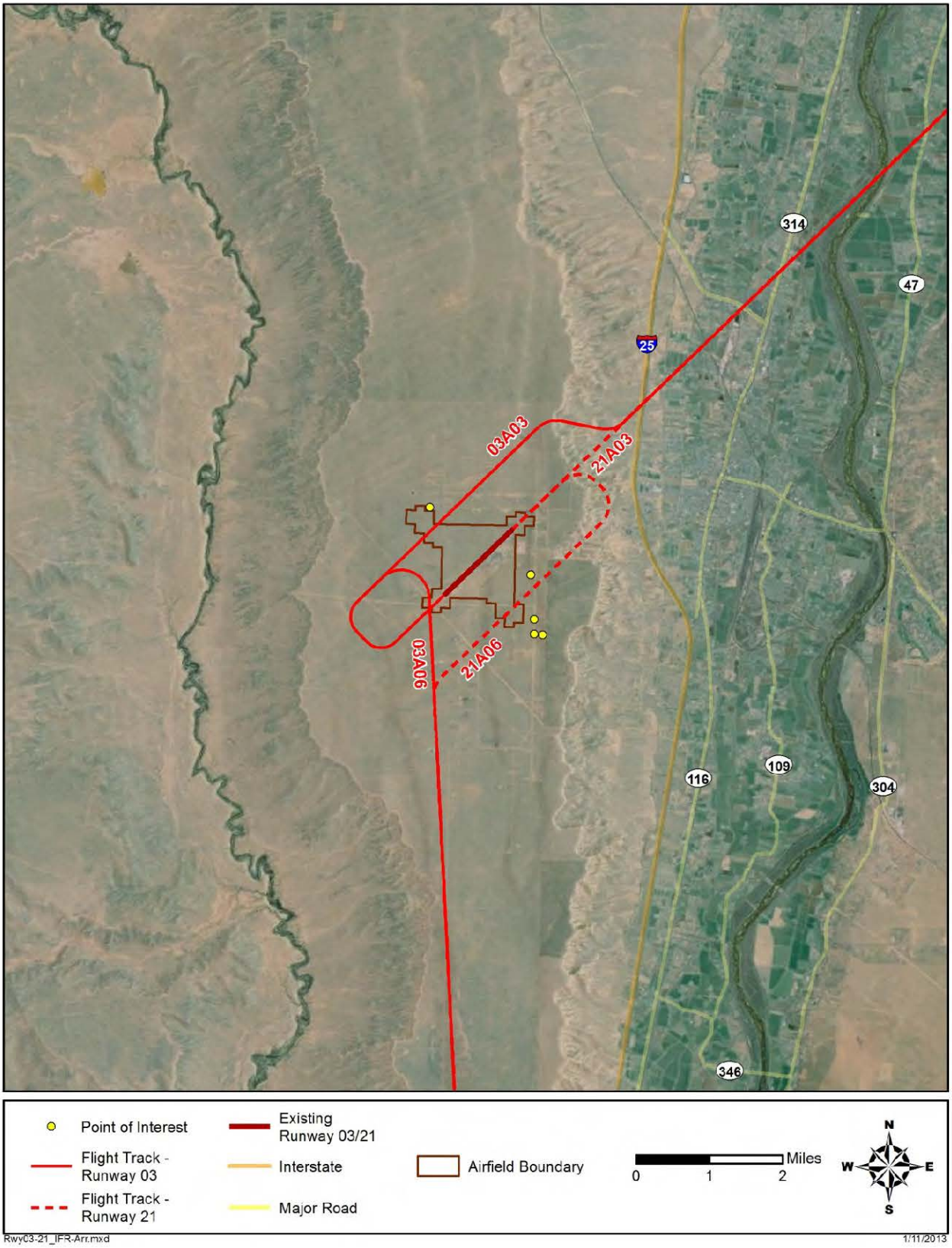
Baseline Flight Tracks



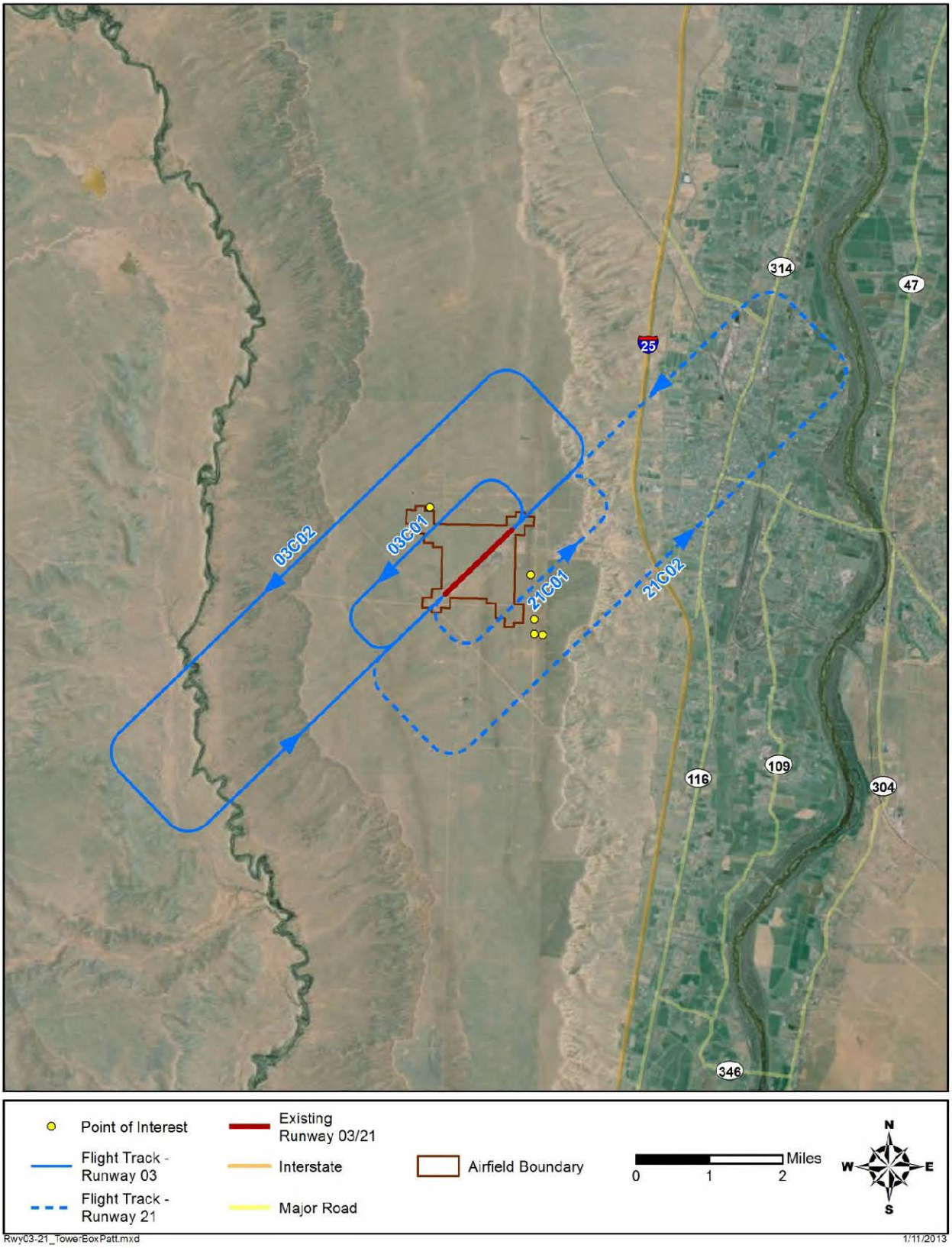
Modeled Average Daily VFR Arrival Flight Tracks for Runway 03



Modeled Average Daily VFR Arrival Flight Tracks for Runway 21

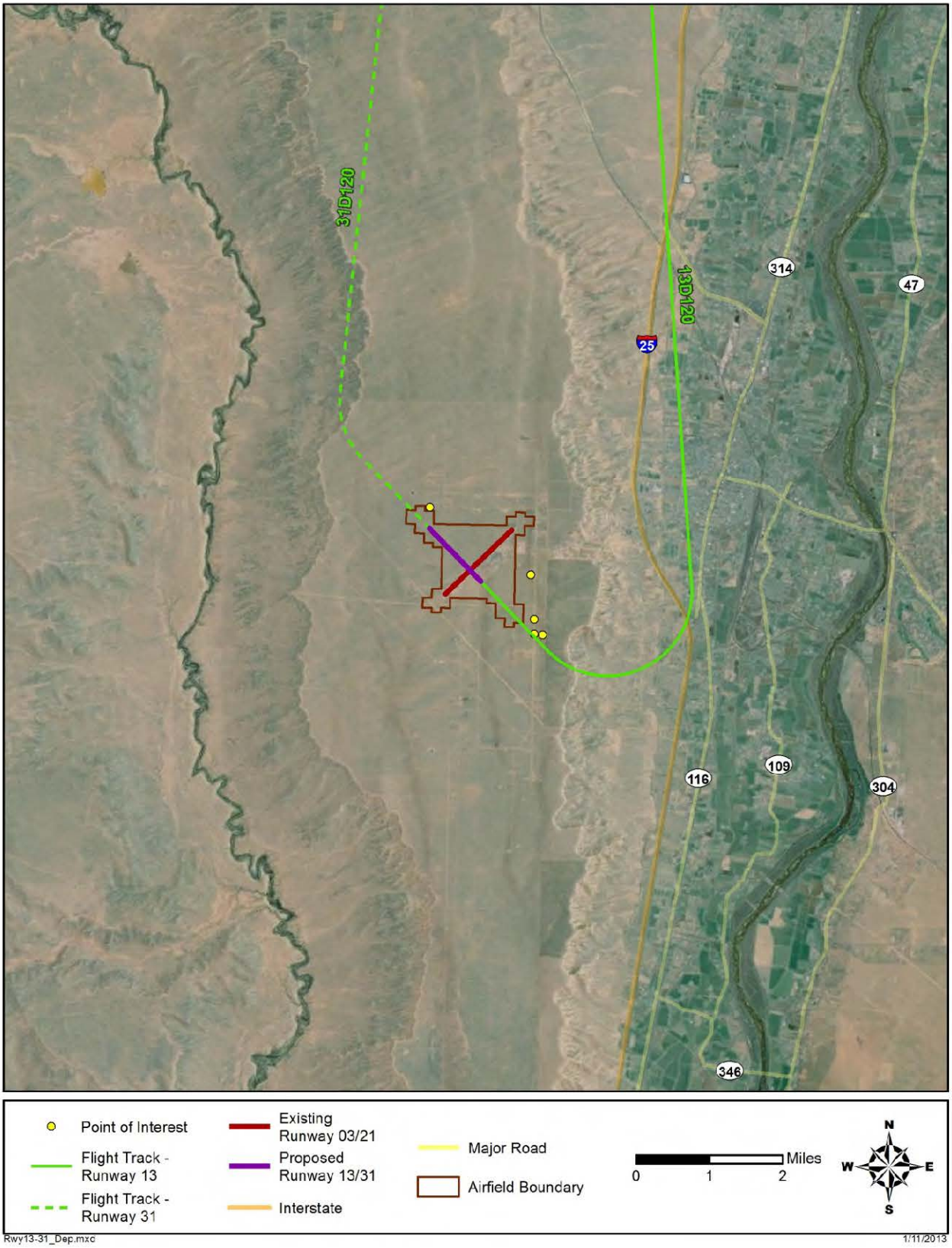


Modeled Average Daily IFR Arrival Flight Tracks for Runways 03/21



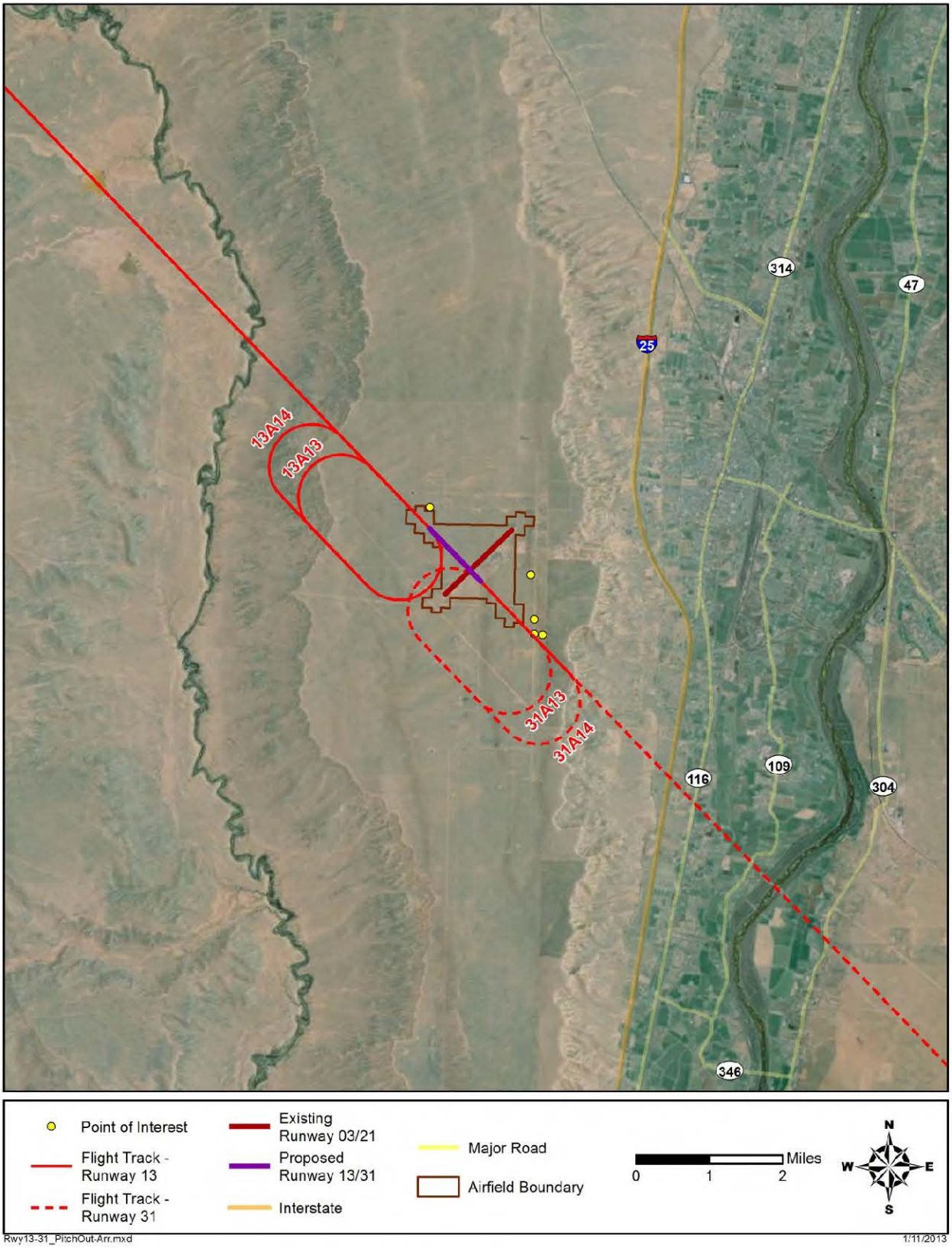
Modeled Average Daily Tower and Box Pattern Flight Tracks for Runways 03/21

Proposed Flight Tracks

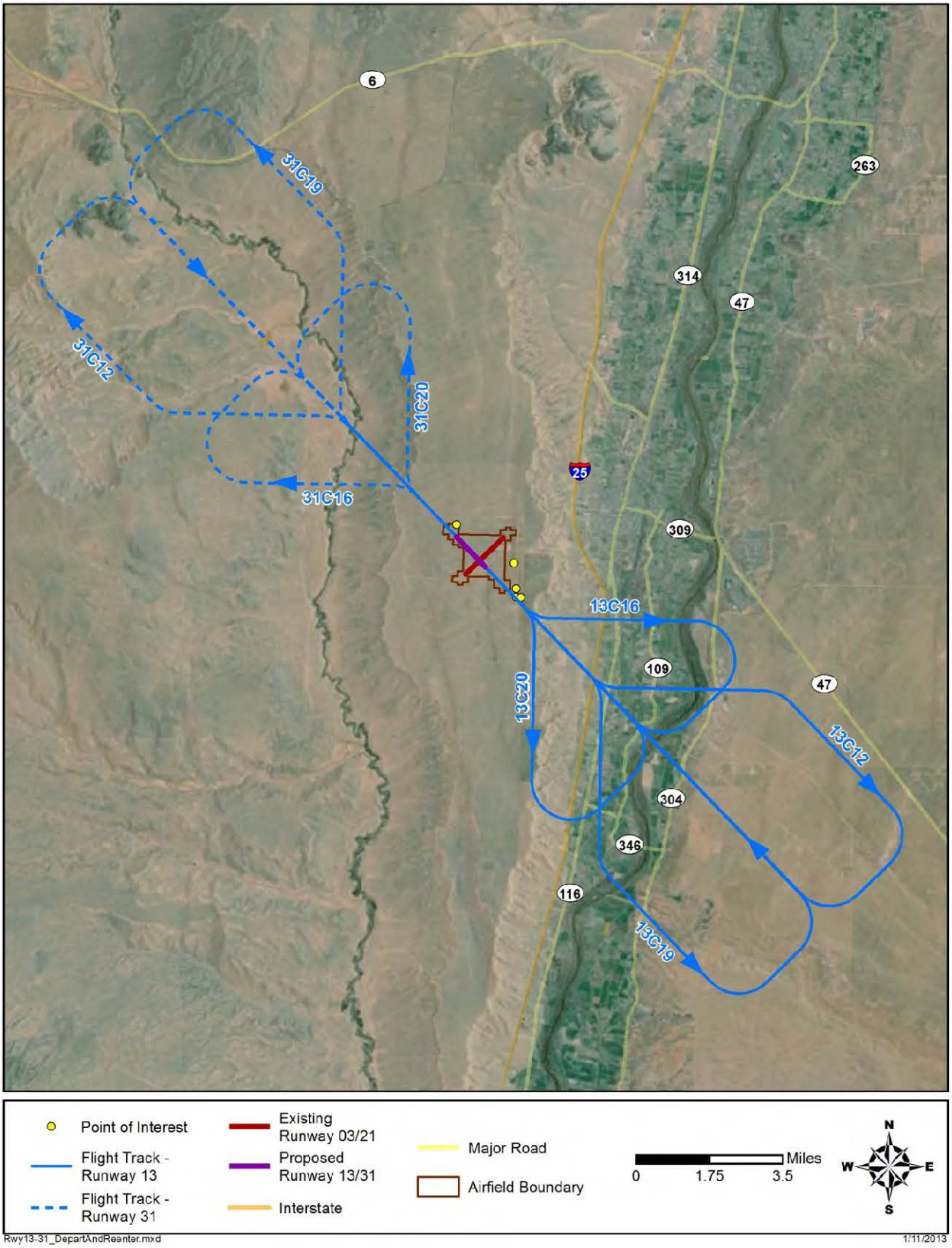


Modeled Average Daily Departure Flight Tracks for Runways 13/31

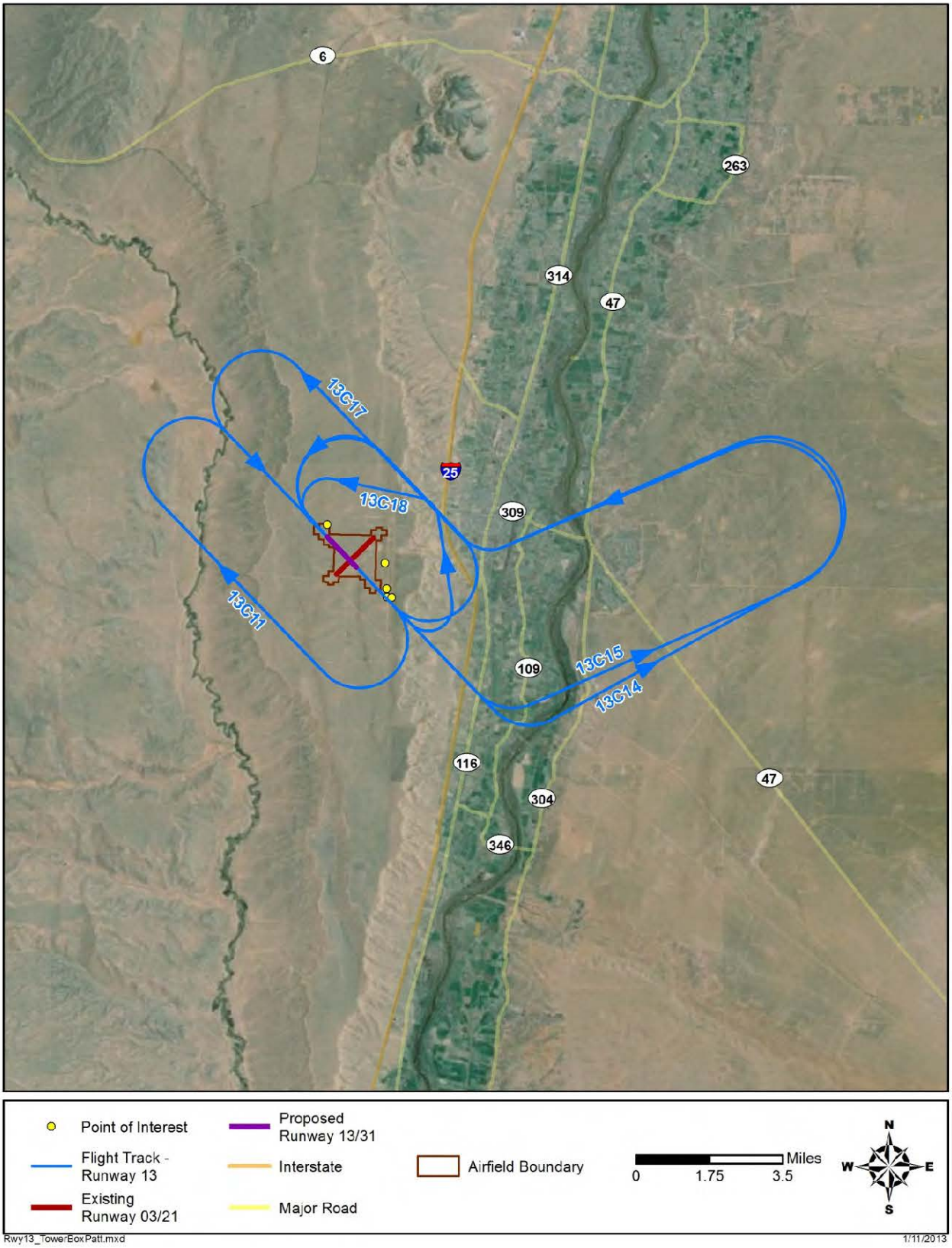
Modeled Average Daily SCA Arrival Flight Tracks for Runways 13/31



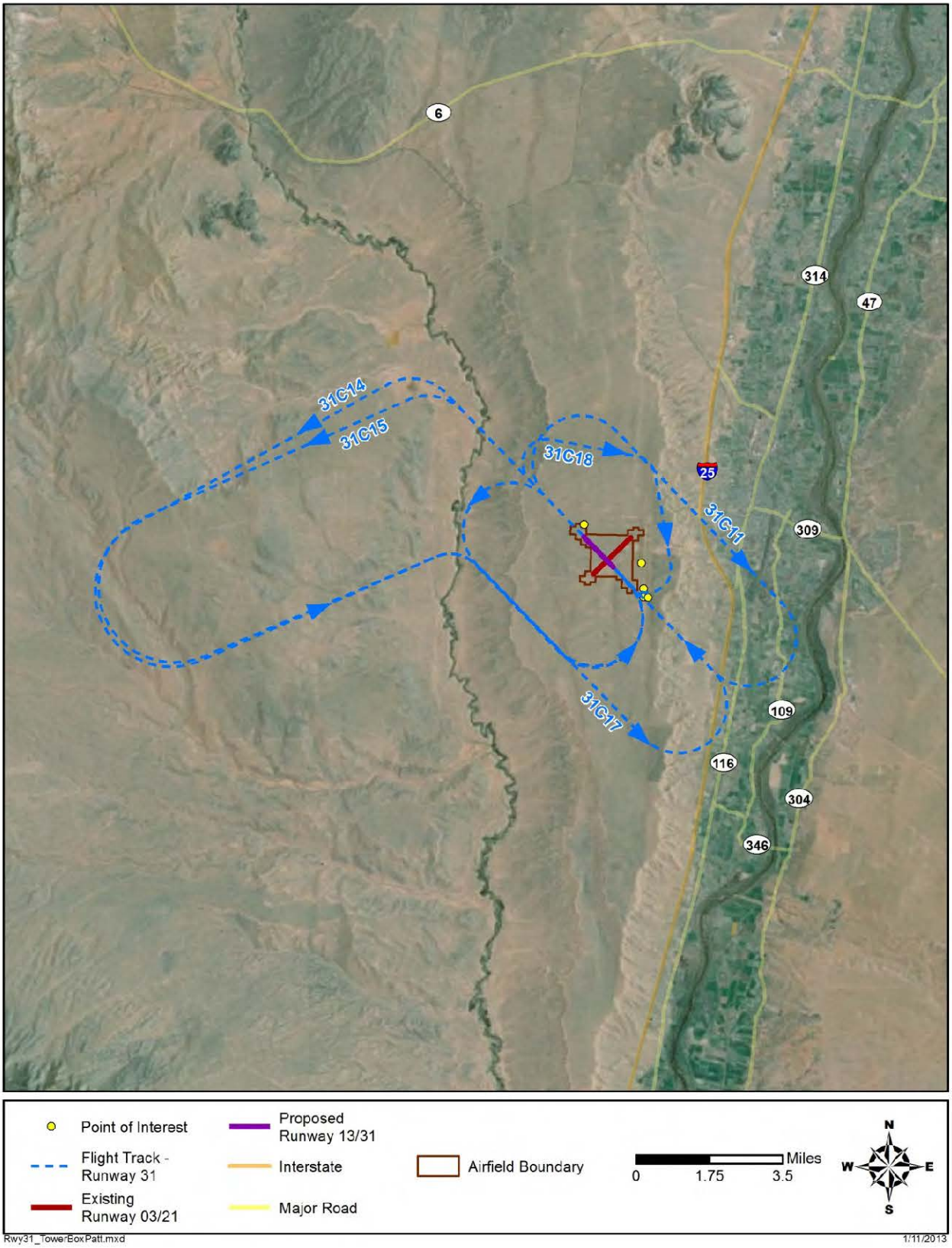
Modeled Average Daily Pitch-out Arrival Flight Tracks for Runways 13/31



Modeled Average Daily Depart and Reenter Flight Tracks for Runways 13/31



Modeled Average Daily Tower and Box Pattern Flight Tracks for Runway 13



Modeled Average Daily Tower and Box Pattern Flight Tracks for Runway 31

Representative Flight Profiles

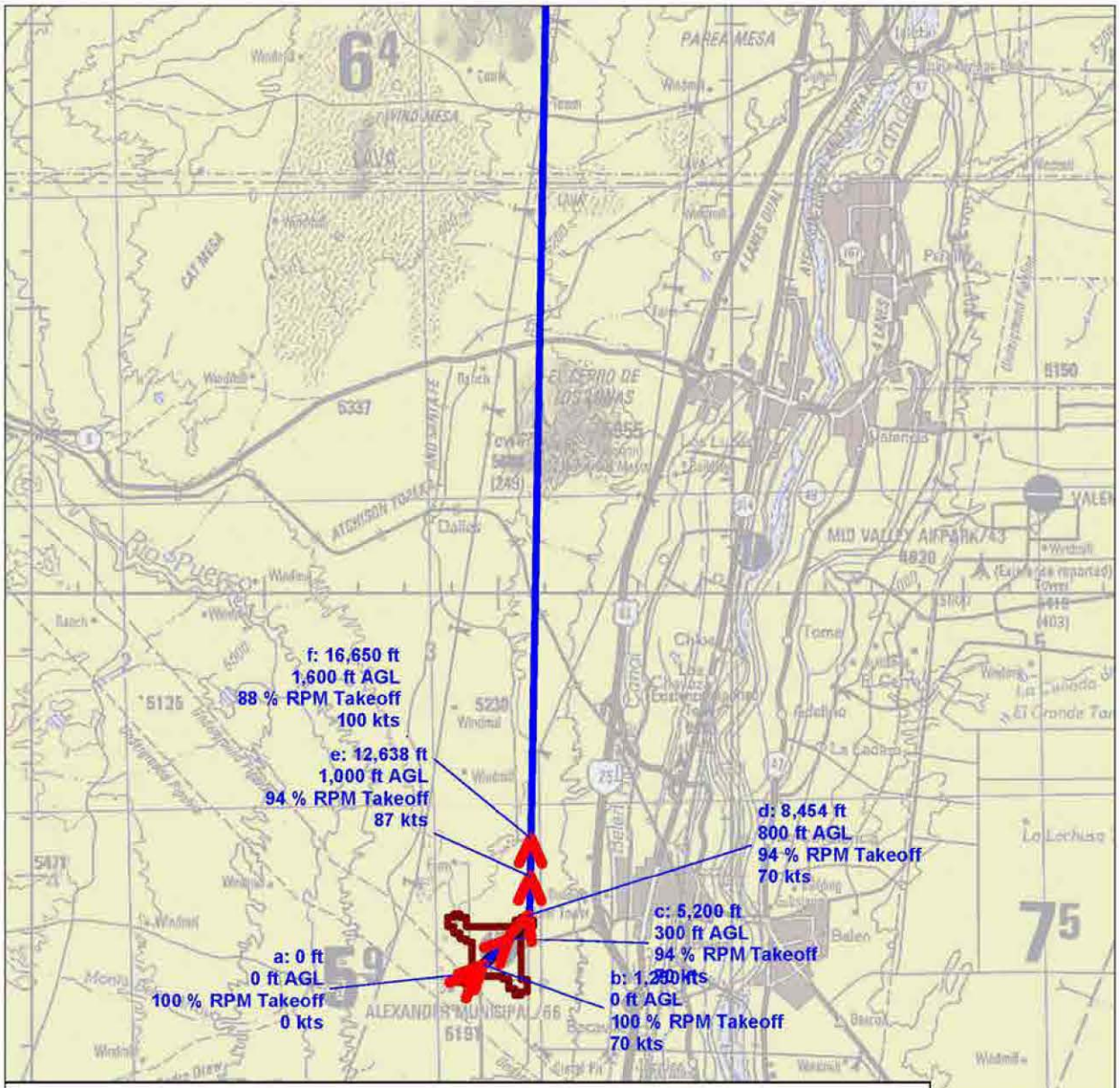
This section provides scaled plots of representative flight profiles for each modeled aircraft type on a representative flight track. The representative flight profile is also applied to the additional flight tracks. The background is a Compressed ARC (Arc-Second Raster Chart) Digitized Raster Graphic (CADRG).

The flight profiles are shown in the following order:

Profile Pages	No Action Alternative Profiles
A-16 - A-18	C-182
A-19 - A-21	C-210
A-22 - A-24	C-130H&N&&P
A-25 - A-27	C-130J
Profile Pages	**Proposed Action Profiles**
A-28 - A-34	C-130H&N&&P
A-35 - A-41	C-130J

Each figure includes a table describing the profile parameters of the associated flight track. The columns of the profile data tables are described below:

Column Heading	Description
Point	Sequence letter along flight track denoting change in flight parameters
Distance (feet)	Distance along flight track from runway threshold in feet
Height (feet)	Altitude of aircraft in feet Above Ground Level (AGL) or relative to Mean Sea Level (MSL)
Power (Appropriate Unit)*	Engine power setting and Drag Configuration/Interpolation Code (defines sets of interpolation code in NOISEMAP (F for FIXED, P for PARALLEL, V for VARIABLE))
Speed (kts)	Indicated airspeed of aircraft in knots



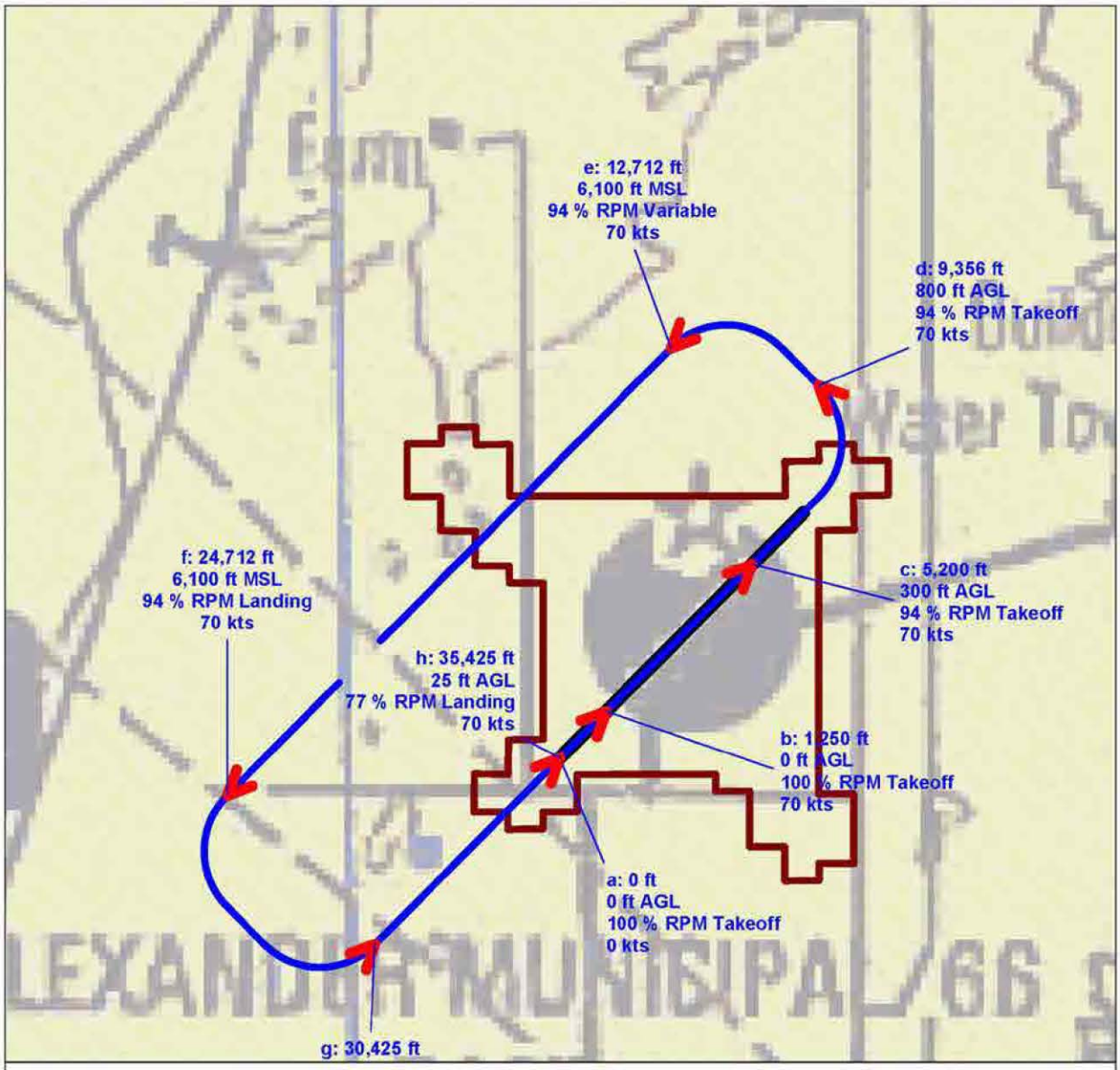
Point	Distance ft	Height ft	Power % RPM	Speed kts	Notes
a	0	0 AGL	100 Takeoff	0	23" MP / 2600 RPM / 0 MPH
b	1,250	0 AGL	100 Takeoff	70	23" MP / 2600 RPM / 80 MPH
c	5,200	300 AGL	94 Takeoff	70	23" MP / 2450 RPM / 80 MPH
d	8,454	800 AGL	94 Takeoff	70	20" MP / 2450 RPM / 80 MPH
e	12,638	1,000 AGL	94 Takeoff	87	20" MP / 2450 RPM / 100 MPH
f	16,650	1,600 AGL	88 Takeoff	100	20" MP / 2300 RPM / 115 MPH (Cruise Climb)
g	120,000	7,500 MSL	88 Takeoff	120	20" MP / 2450 RPM / 120 KTS (Cruise)

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 03DC18201
C-182 (modeled as GASEPV VAR PTCH) C-182 Departure to North (ABQ / RSK)
on Runway 03, Flight Track 03D12

0 10,000 20,000 30,000 40,000 50,000 60,000 70,000

Scale in Feet 1:220,000 (1 inch = 18,300 feet)

1



Point	Distance ft	Height ft	Power % RPM	Speed kts	Notes
a	0	0 AGL	100 Takeoff	0	23" MP / 2600 RPM / 0 MPH
b	1,250	0 AGL	100 Takeoff	70	23" MP / 2600 RPM / 80 MPH
c	5,200	300 AGL	94 Takeoff	70	23" MP / 2450 RPM / 80 MPH
d	9,356	800 AGL	94 Takeoff	70	23" MP / 2450 RPM / 80 MPH, ROC was 1100 fpm; changed to 800 fpm; end
e	12,712	6,100 MSL	94 Variable	70	23" MP / 2450 RPM / 80 MPH, begin downwind, made speed agree with note
f	24,712	6,100 MSL	94 Landing	70	23" MP / 2450 RPM / 80 MPH, end downwind?
g	30,425	600 AGL	77 Landing	61	10" MP / 2000 RPM / 70 MPH, changed distance to match arrs at 600 AGL
h	35,425	25 AGL	77 Landing	70	10" MP / 2000 RPM / 80 MPH

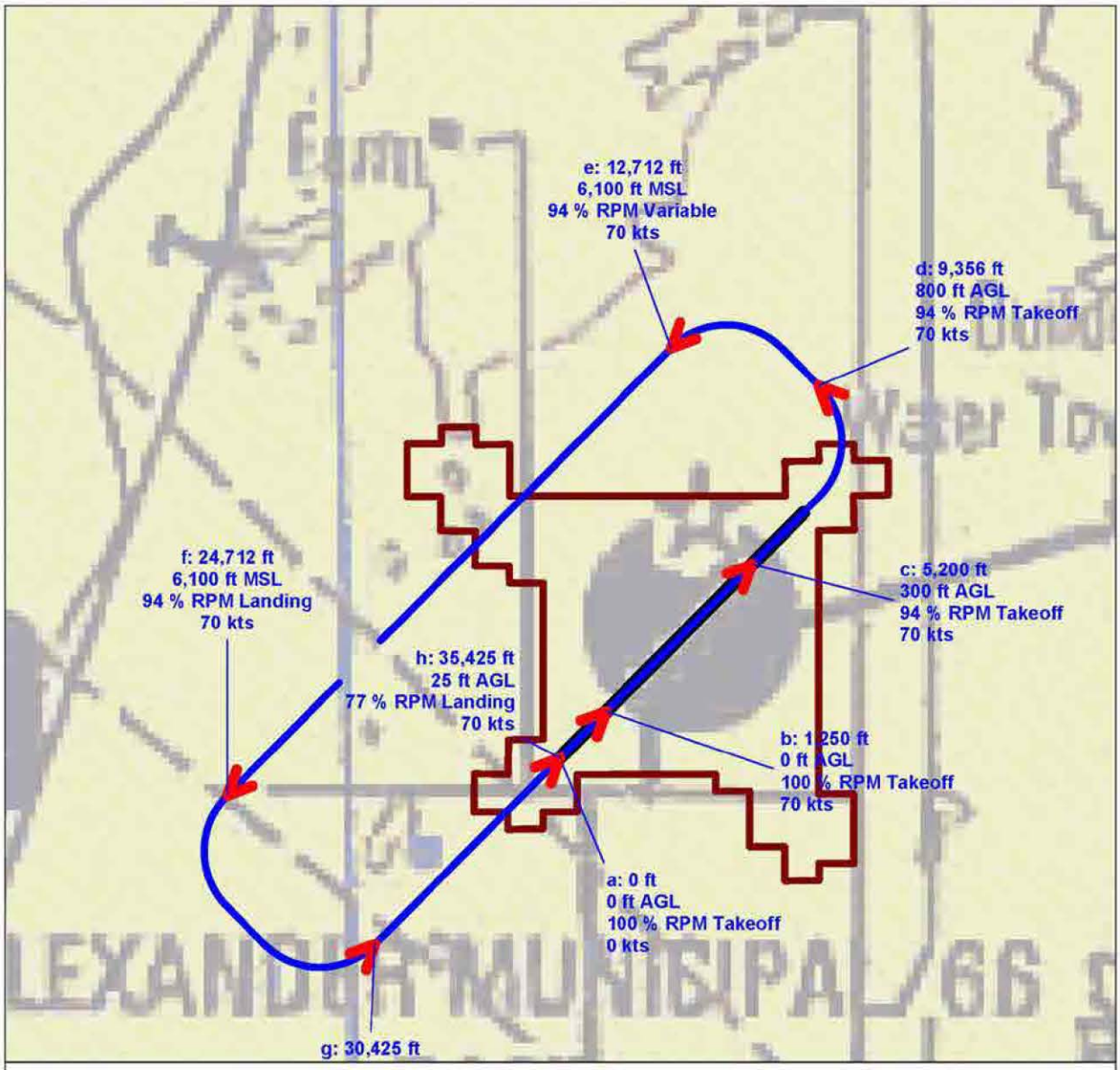
Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 03CC18201
C-182 (modeled as GASEPV VAR PTCH) C-182 Closed Pattern
on Runway 03, Flight Track 03C01

0 2,000 4,000 6,000 8,000 10,000 12,000

Scale in Feet 1:39,200 (1 inch = 3,260 feet)

N

1



Point	Distance ft	Height ft	Power % RPM	Speed kts	Notes
a	0	0 AGL	100 Takeoff	0	23" MP / 2600 RPM / 0 MPH
b	1,250	0 AGL	100 Takeoff	70	23" MP / 2600 RPM / 80 MPH
c	5,200	300 AGL	94 Takeoff	70	23" MP / 2450 RPM / 80 MPH
d	9,356	800 AGL	94 Takeoff	70	23" MP / 2450 RPM / 80 MPH, ROC was 1100 fpm; changed to 800 fpm; end
e	12,712	6,100 MSL	94 Variable	70	23" MP / 2450 RPM / 80 MPH, begin downwind, made speed agree with note
f	24,712	6,100 MSL	94 Landing	70	23" MP / 2450 RPM / 80 MPH, end downwind?
g	30,425	600 AGL	77 Landing	61	10" MP / 2000 RPM / 70 MPH, changed distance to match arrs at 600 AGL
h	35,425	25 AGL	77 Landing	70	10" MP / 2000 RPM / 80 MPH

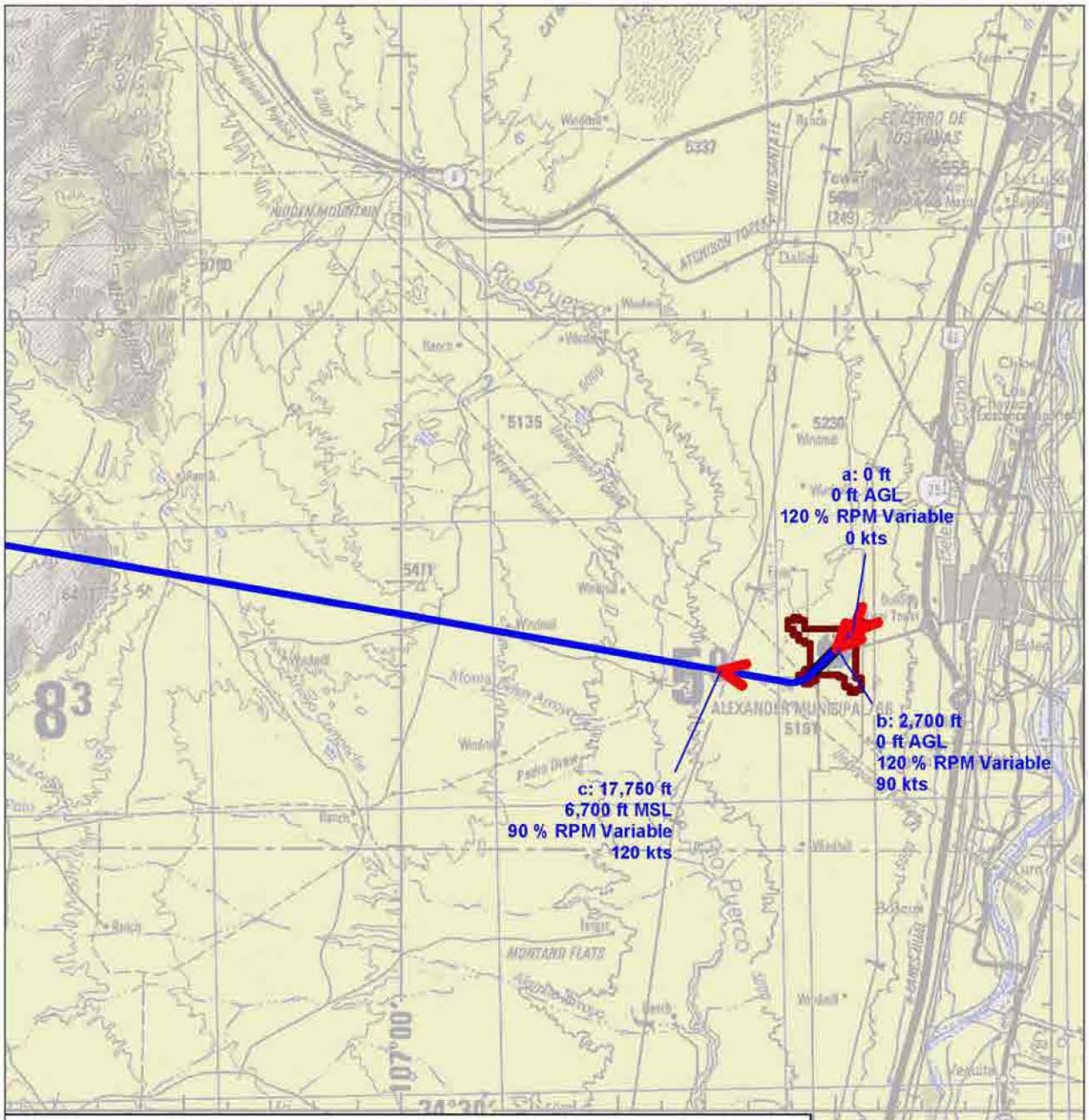
Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 03CC18201
C-182 (modeled as GASEPV VAR PTCH) C-182 Closed Pattern
on Runway 03, Flight Track 03C01

0 2,000 4,000 6,000 8,000 10,000 12,000

Scale in Feet 1:39,200 (1 inch = 3,260 feet)

N

1



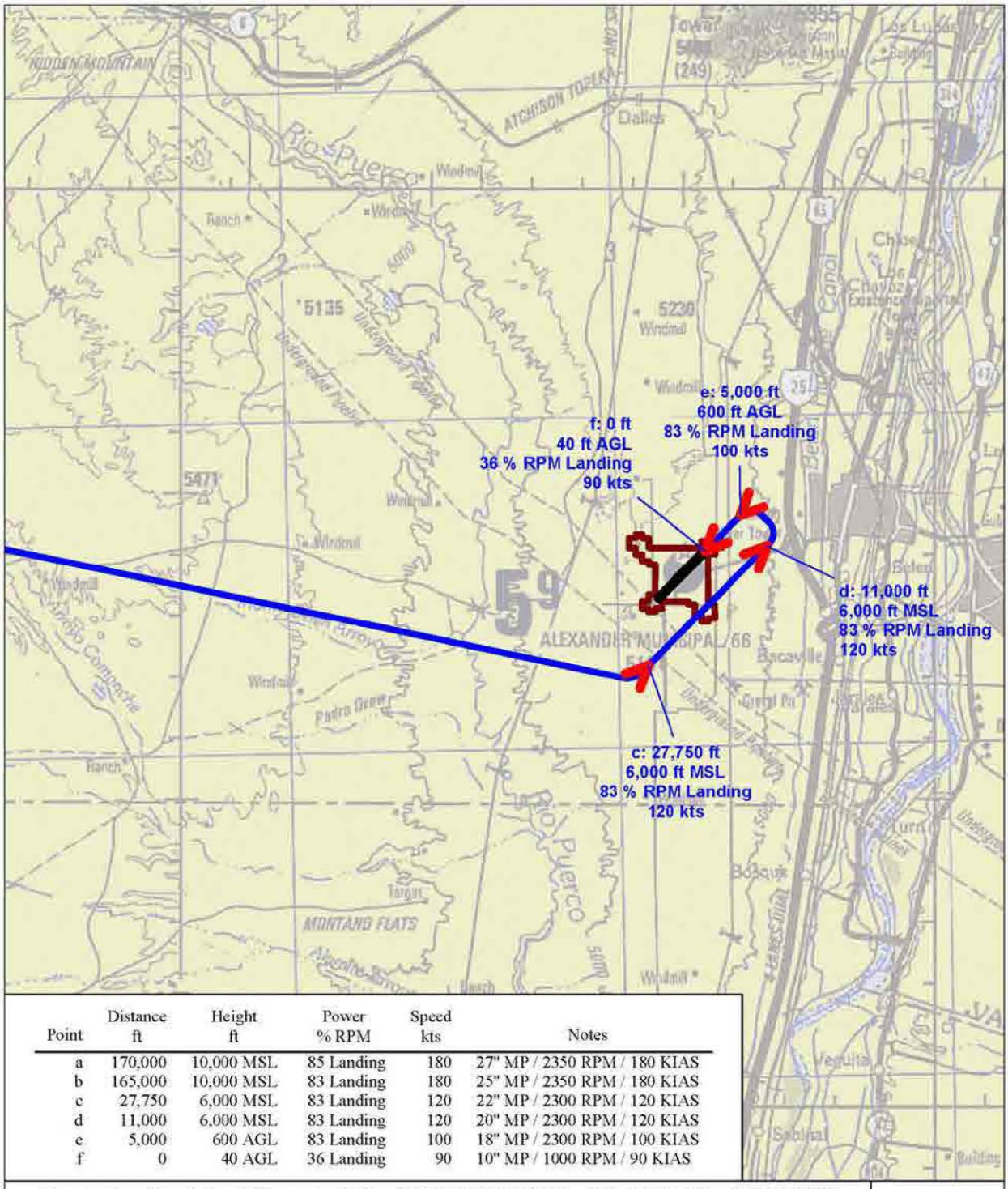
Point	Distance ft	Height ft	Power % RPM	Speed kts	Notes
a	0	0 AGL	120 Variable	0	37" MP / 2750 RPM / 0 KIAS
b	2,700	0 AGL	120 Variable	90	37" MP / 2750 RPM / 90 KIAS
c	17,750	6,700 MSL	90 Variable	120	30" MP / 2500 RPM / 120 KIAS
d	179,065	12,500 MSL	85 Variable	202	27" MP / 2350 RPM / 202 KIAS

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 21DC21005
C-210 (modeled as GASEPV VAR PTCH) C-210 Departure to West (ZUN)
on Runway 21, Flight Track 21D01

0 10,000 20,000 30,000 40,000 50,000 60,000 70,000

Scale in Feet 1:230,000 (1 inch = 19,200 feet)

1



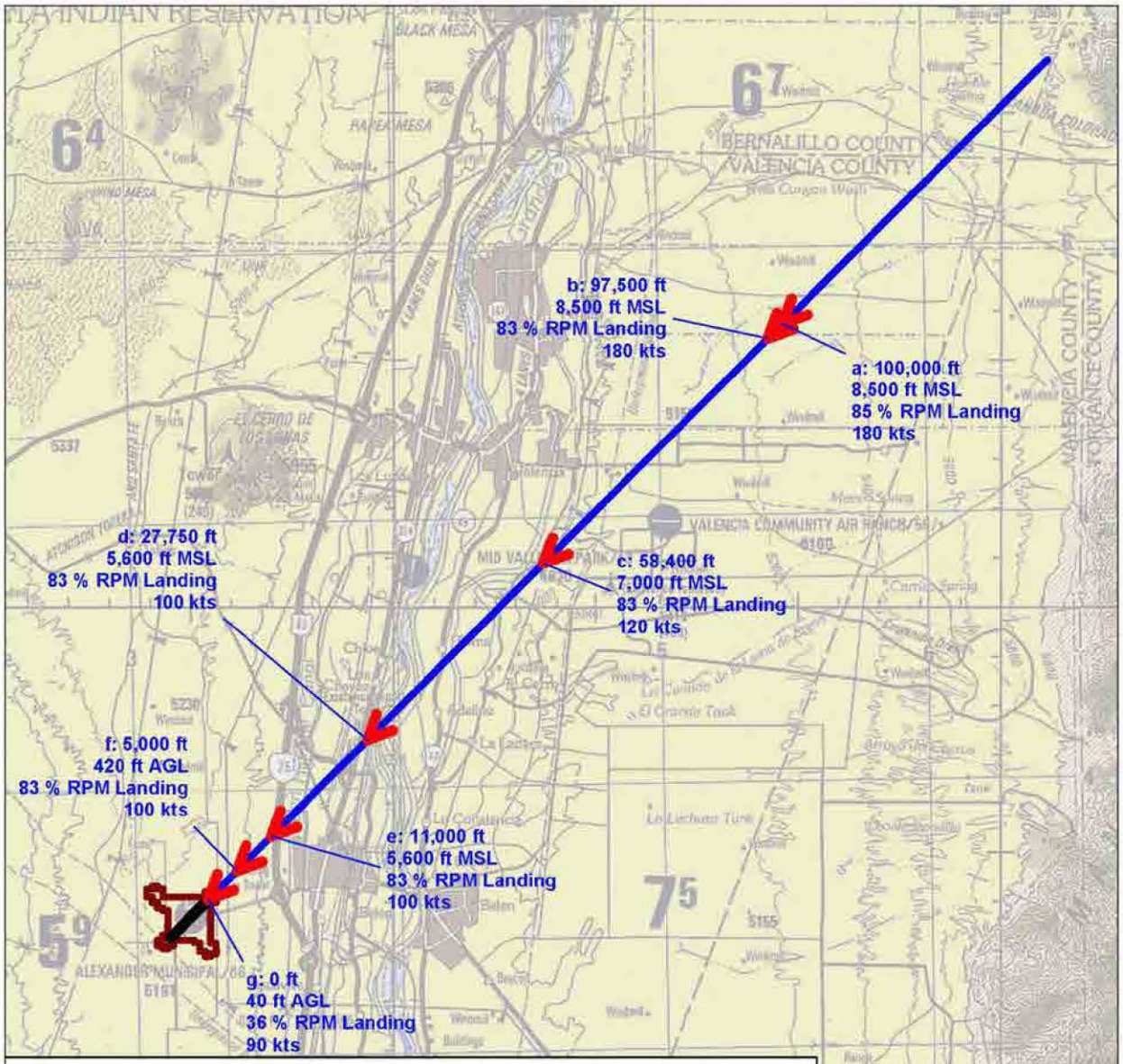
Point	Distance ft	Height ft	Power % RPM	Speed kts	Notes
a	170,000	10,000 MSL	85 Landing	180	27" MP / 2350 RPM / 180 KIAS
b	165,000	10,000 MSL	83 Landing	180	25" MP / 2350 RPM / 180 KIAS
c	27,750	6,000 MSL	83 Landing	120	22" MP / 2300 RPM / 120 KIAS
d	11,000	6,000 MSL	83 Landing	120	20" MP / 2300 RPM / 120 KIAS
e	5,000	600 AGL	83 Landing	100	18" MP / 2300 RPM / 100 KIAS
f	0	40 AGL	36 Landing	90	10" MP / 1000 RPM / 90 KIAS

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 21AC21004
C-210 (modeled as GASEPV VAR PTCH) C-210 VFR Arrival From the West on Runway 21, Flight Track 21A01

0 10,000 20,000 30,000 40,000 50,000 60,000

Scale in Feet 1:184,000 (1 inch = 15,300 feet)

1



Point	Distance ft	Height ft	Power % RPM	Speed kts	Notes
a	100,000	8,500 MSL	85 Landing	180	27" MP / 2350 RPM / 180 KIAS
b	97,500	8,500 MSL	83 Landing	180	22" MP / 2300RPM / 180 KIAS
c	58,400	7,000 MSL	83 Landing	120	22" MP / 2300 RPM / 120 KIAS
d	27,750	5,600 MSL	83 Landing	100	22" MP / 2300 RPM / 100 KIAS
e	11,000	5,600 MSL	83 Landing	100	22" MP / 2300 RPM / 100 KIAS
f	5,000	420 AGL	83 Landing	100	18" MP / 2300 RPM / 100 KIAS
g	0	40 AGL	36 Landing	90	10" MP / 1000 RPM / 90 KIAS

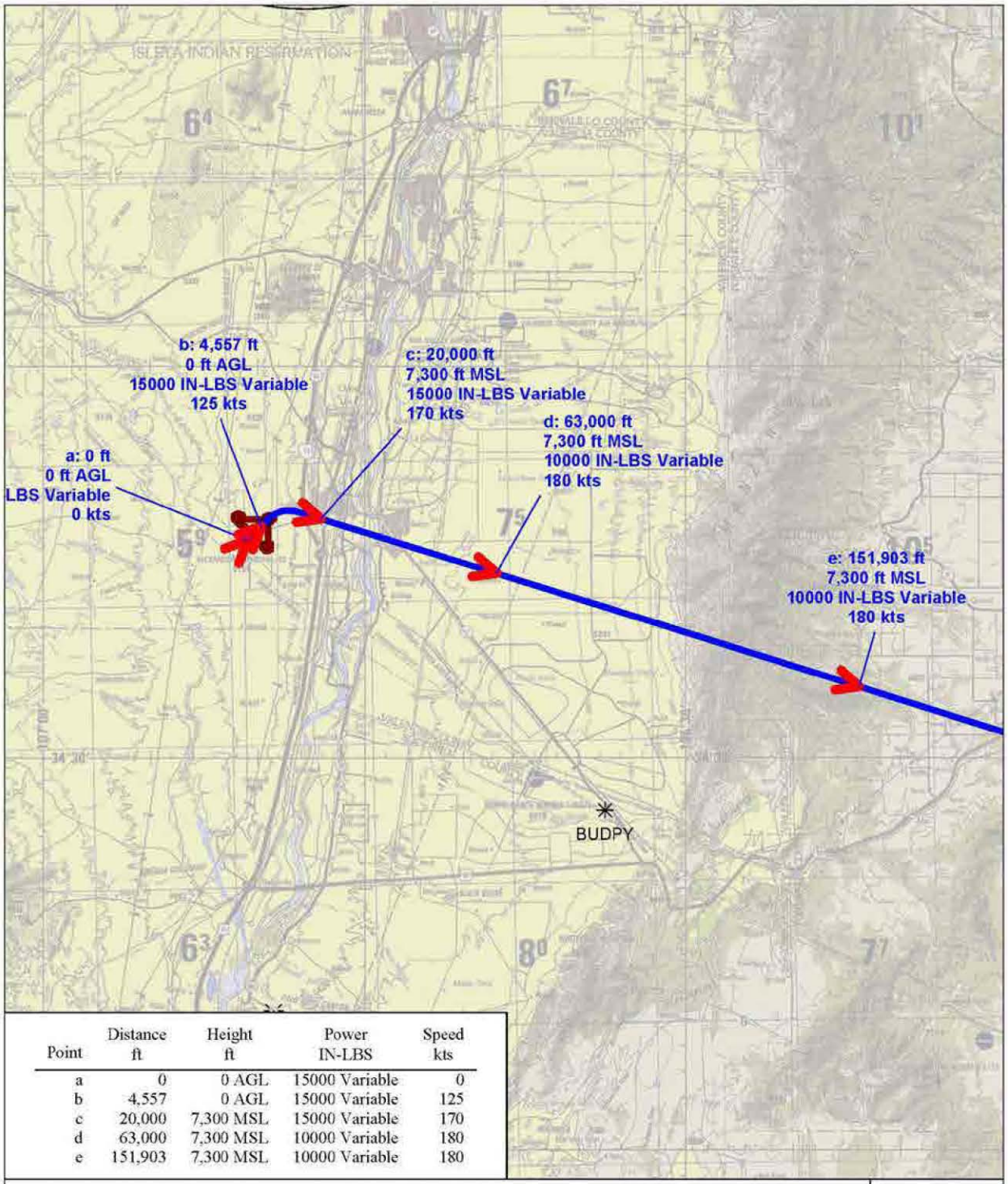
Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 21AC21005
C-210 (modeled as GASEPV VAR PTCH) C-210 IFR Arrival From the North
(GPS/RNAV 03 Approach)
on Runway 21, Flight Track 21A03

0 10,000 20,000 30,000 40,000 50,000 60,000 70,000 80,000

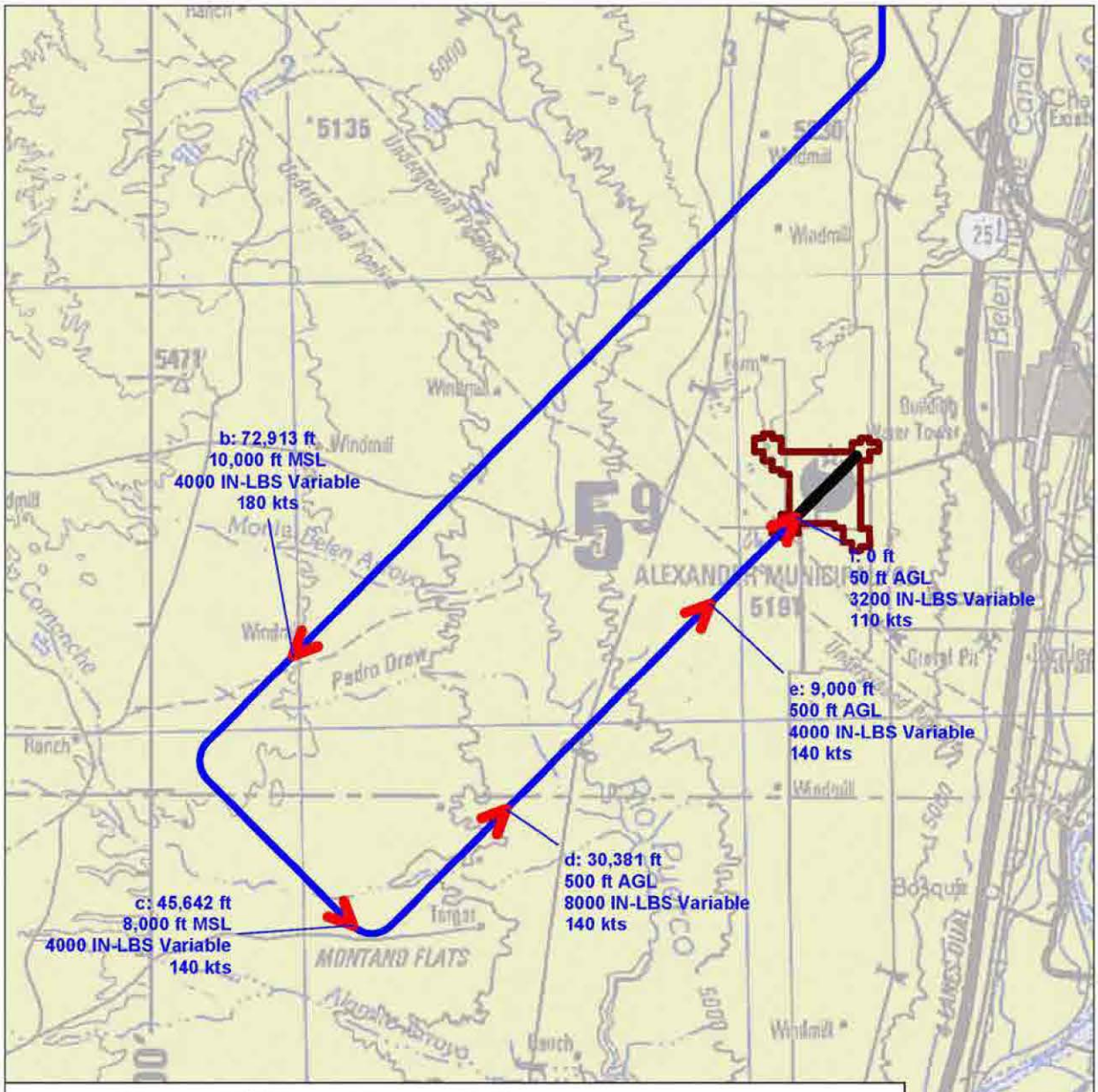
Scale in Feet 1:253,000 (1 inch = 21,100 feet)

N

1


ISLETA INDIAN RESERVATION
b: 4,557 ft
0 ft AGL
15000 IN-LBS Variable
125 kts
c: 20,000 ft
7,300 ft MSL
15000 IN-LBS Variable
170 kts
d: 63,000 ft
7,300 ft MSL
10000 IN-LBS Variable
180 kts
a: 0 ft
0 ft AGL
LBS Variable
0 kts
e: 151,903 ft
7,300 ft MSL
10000 IN-LBS Variable
180 kts
BUDPY
Point | Distance ft | Height ft | Power IN-LBS | Speed kts
a | 0 | 0 AGL | 15000 Variable | 0
b | 4,557 | 0 AGL | 15000 Variable | 125
c | 20,000 | 7,300 MSL | 15000 Variable | 170
d | 63,000 | 7,300 MSL | 10000 Variable | 180
e | 151,903 | 7,300 MSL | 10000 Variable | 180
Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 03DC13001
C-130H&N&P Departure
on Runway 03, Flight Track 03D04
0
20,000
40,000
60,000
80,000
100,000
120,000
140,000
Scale in Feet 1:431,000 (1 inch = 35,900 feet)
N

1



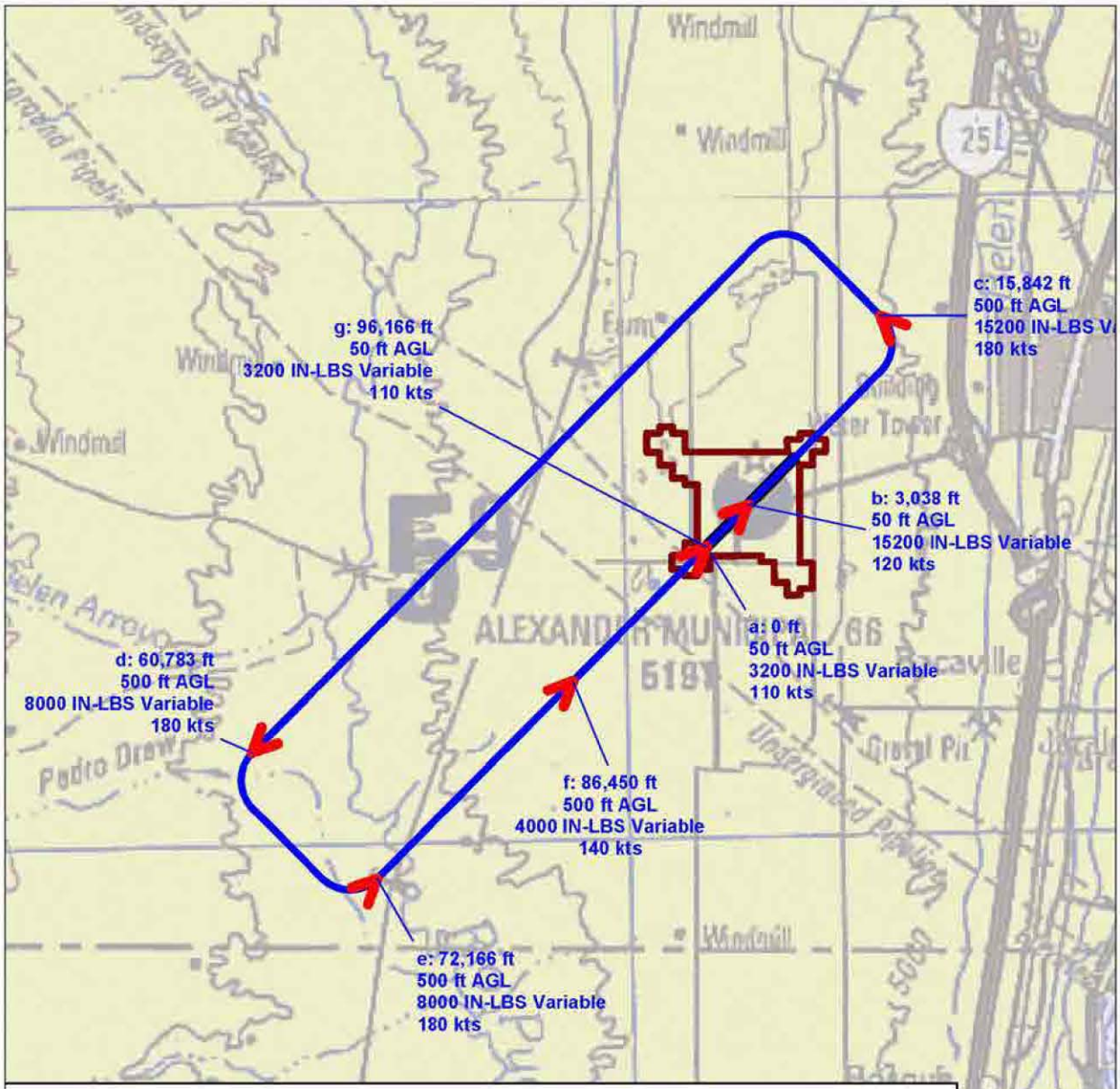
Point	Distance ft	Height ft	Power IN-LBS	Speed kts	Notes
a	182,283	10,000 MSL	4000 Variable	180	
b	72,913	10,000 MSL	4000 Variable	180	
c	45,642	8,000 MSL	4000 Variable	140	turn and descend to 500' AGL
d	30,381	500 AGL	8000 Variable	140	Maintain 500' AGL
e	9,000	500 AGL	4000 Variable	140	Begin descent to intercept 3 deg glide slope
f	0	50 AGL	3200 Variable	110	Runway threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 03AC13001
C-130H&N&P Low Approach Straight-In
on Runway 03, Flight Track 03A16

0 4,000 8,000 12,000 16,000 20,000 24,000 28,000 32,000 36,000 40,000 44,000 48,000 52,000

Scale in Feet 1:149,000 (1 inch = 12,400 feet)

1



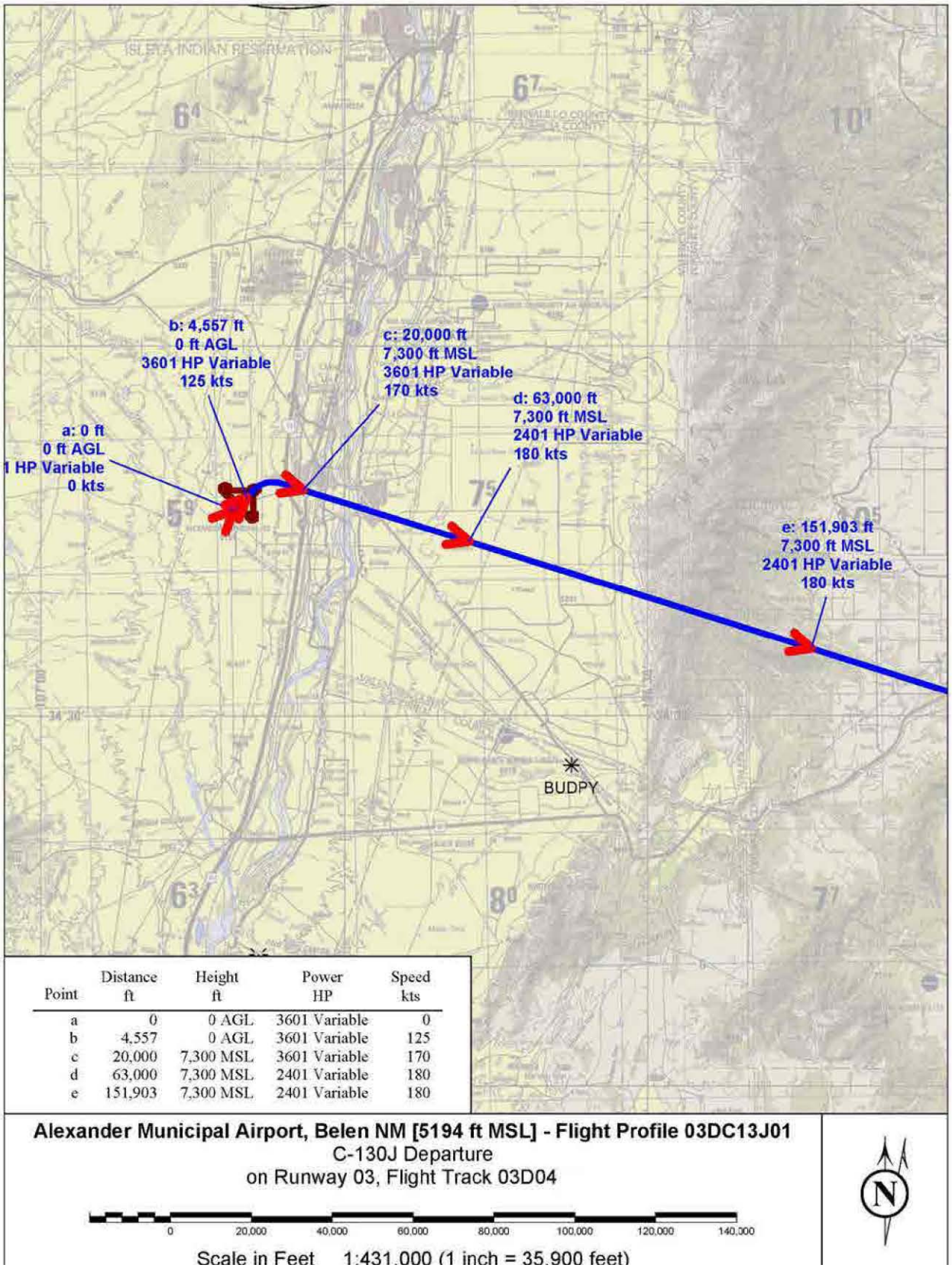
Point	Distance ft	Height ft	Power IN-LBS	Speed kts	Notes
a	0	50 AGL	3200 Variable	110	Runway threshold
b	3,038	50 AGL	15200 Variable	120	Increase power and begin climb to pattern altitude
c	15,842	500 AGL	15200 Variable	180	reach pattern altitude of 500' AGL
d	60,783	500 AGL	8000 Variable	180	End Downwind
e	72,166	500 AGL	8000 Variable	180	Begin Final
f	86,450	500 AGL	4000 Variable	140	Begin descent to intercept 3 deg glide slope
g	96,166	50 AGL	3200 Variable	110	Cross runway threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 03CC13001
C-130H&N&P Low Approach Box Pattern
on Runway 03, Flight Track 03C02

0 4,000 8,000 12,000 16,000 20,000 24,000 28,000 32,000 36,000

Scale in Feet 1:106,000 (1 inch = 8,800 feet)

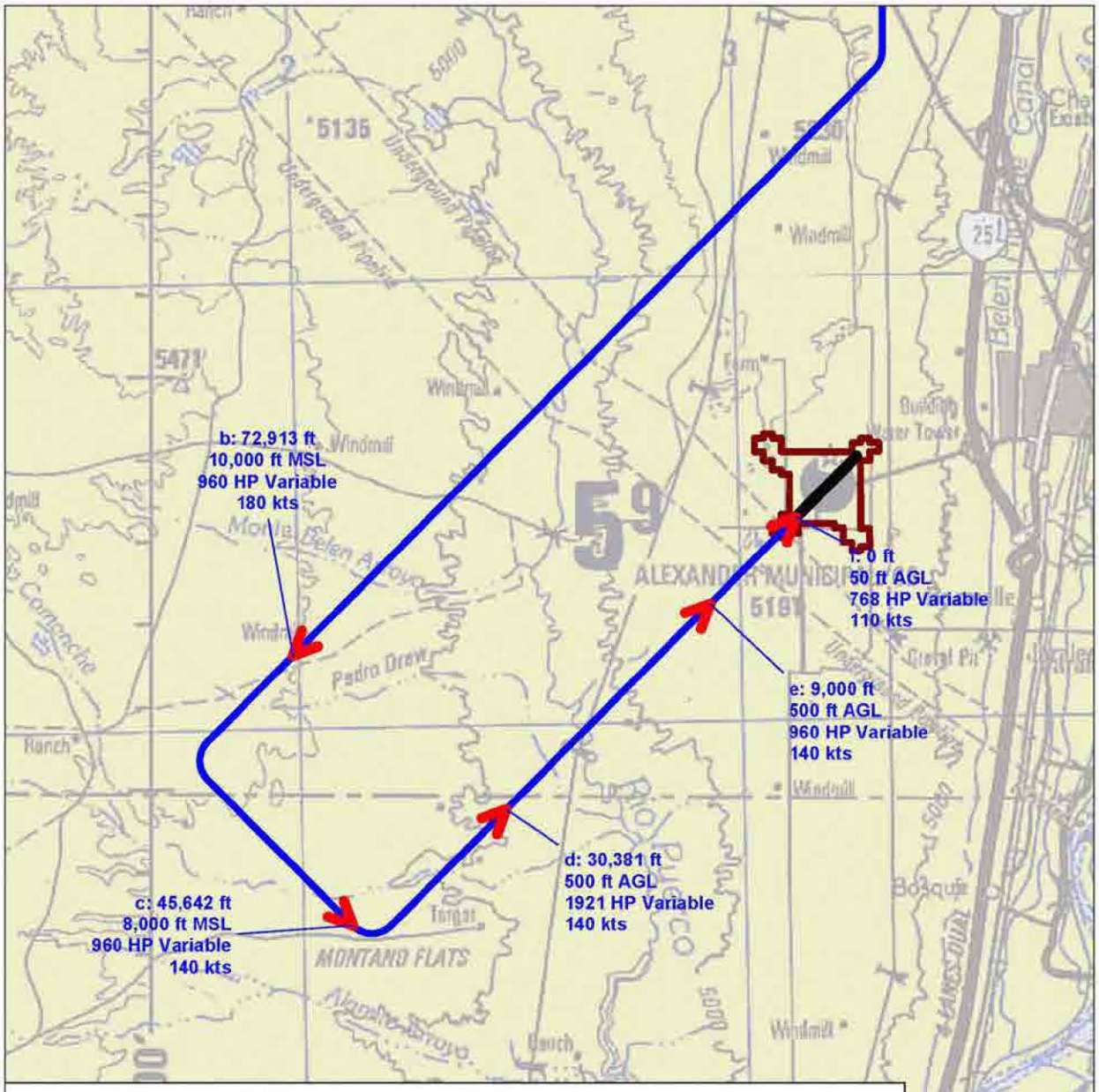
1



Point	Distance ft	Height ft	Power HP	Speed kts
a	0	0 AGL	3601 Variable	0
b	4,557	0 AGL	3601 Variable	125
c	20,000	7,300 MSL	3601 Variable	170
d	63,000	7,300 MSL	2401 Variable	180
e	151,903	7,300 MSL	2401 Variable	180

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 03DC13J01
C-130J Departure
on Runway 03, Flight Track 03D04

1



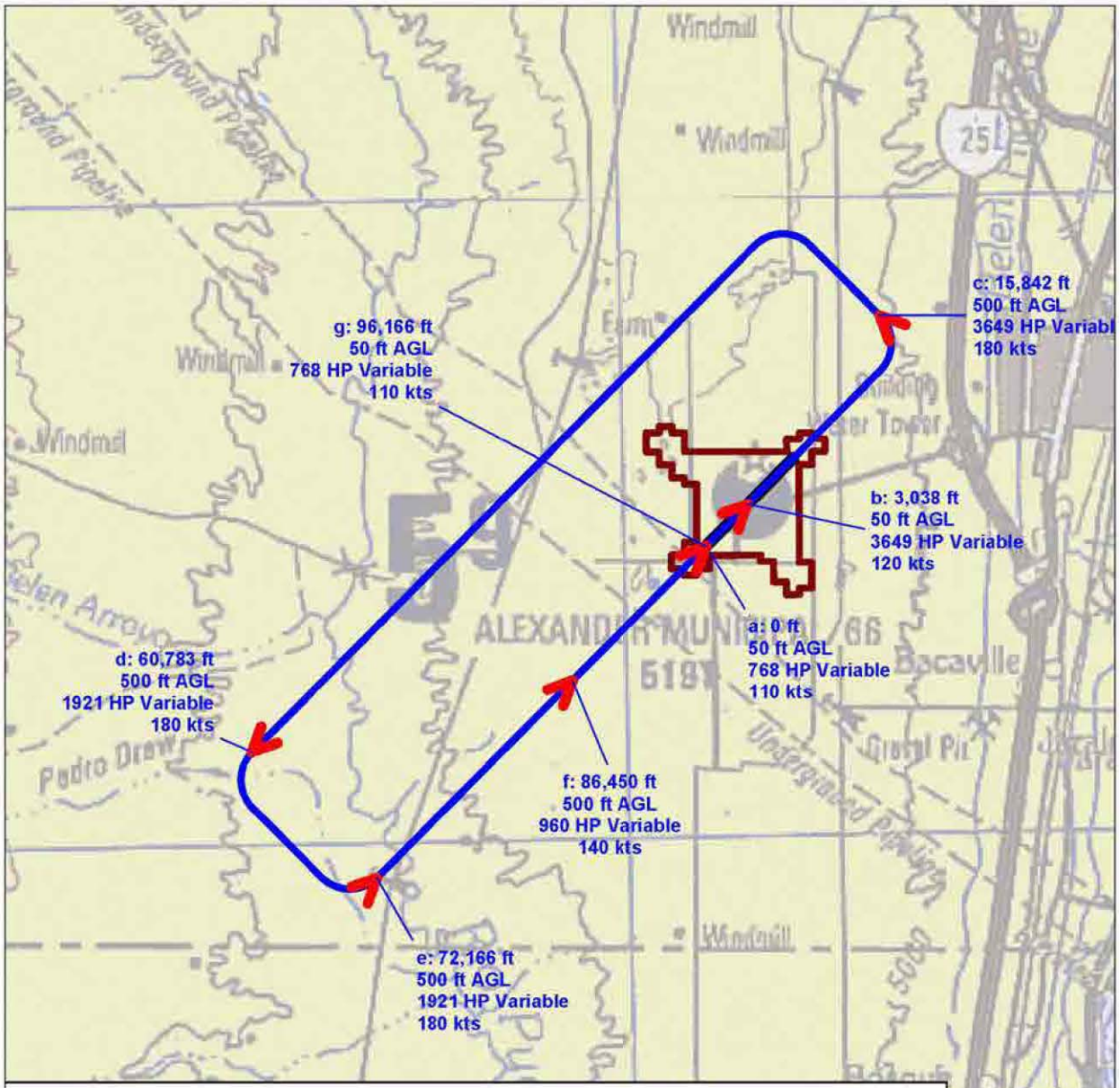
Point	Distance ft	Height ft	Power HP	Speed kts	Notes
a	182,283	10,000 MSL	960 Variable	180	
b	72,913	10,000 MSL	960 Variable	180	
c	45,642	8,000 MSL	960 Variable	140	turn and descend to 500' AGL
d	30,381	500 AGL	1921 Variable	140	Maintain 500' AGL
e	9,000	500 AGL	960 Variable	140	Begin descent to intercept 3 deg glide slope
f	0	50 AGL	768 Variable	110	Runway threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 03AC13J01
C-130J Low Approach Straight-In
on Runway 03, Flight Track 03A16

0 4,000 8,000 12,000 16,000 20,000 24,000 28,000 32,000 36,000 40,000 44,000 48,000 52,000

Scale in Feet 1:149,000 (1 inch = 12,400 feet)

1

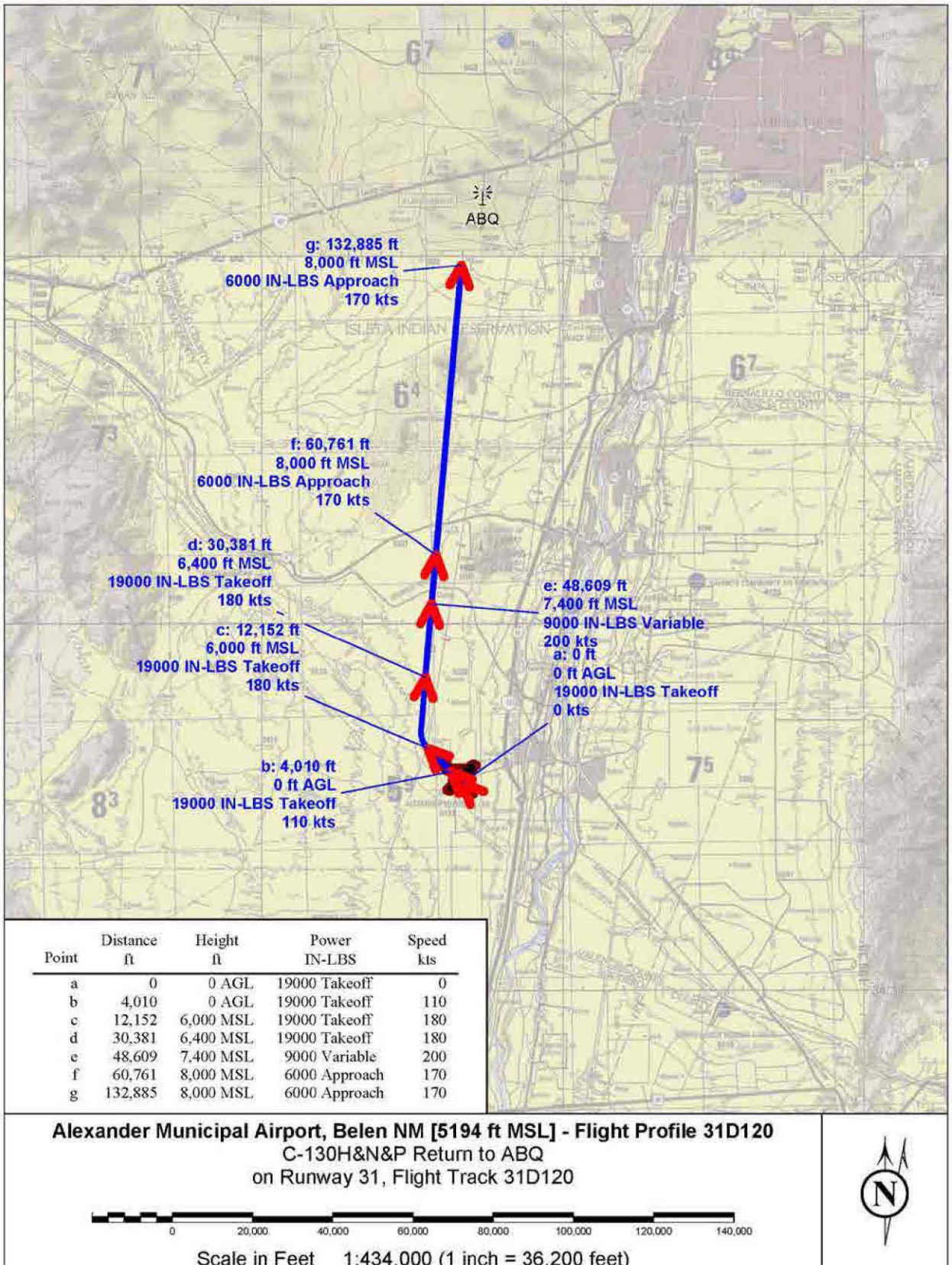


Point	Distance ft	Height ft	Power HP	Speed kts	Notes
a	0	50 AGL	768 Variable	110	Runway threshold
b	3,038	50 AGL	3649 Variable	120	Increase power and begin climb to pattern altitude
c	15,842	500 AGL	3649 Variable	180	reach pattern altitude of 500' AGL
d	60,783	500 AGL	1921 Variable	180	End Downwind
e	72,166	500 AGL	1921 Variable	180	Begin Final
f	86,450	500 AGL	960 Variable	140	Begin descent to intercept 3 deg glide slope
g	96,166	50 AGL	768 Variable	110	Cross runway threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 03CC13J01
C-130J Low Approach Box Pattern
on Runway 03, Flight Track 03C02

Scale in Feet 1:106,000 (1 inch = 8,800 feet)

1



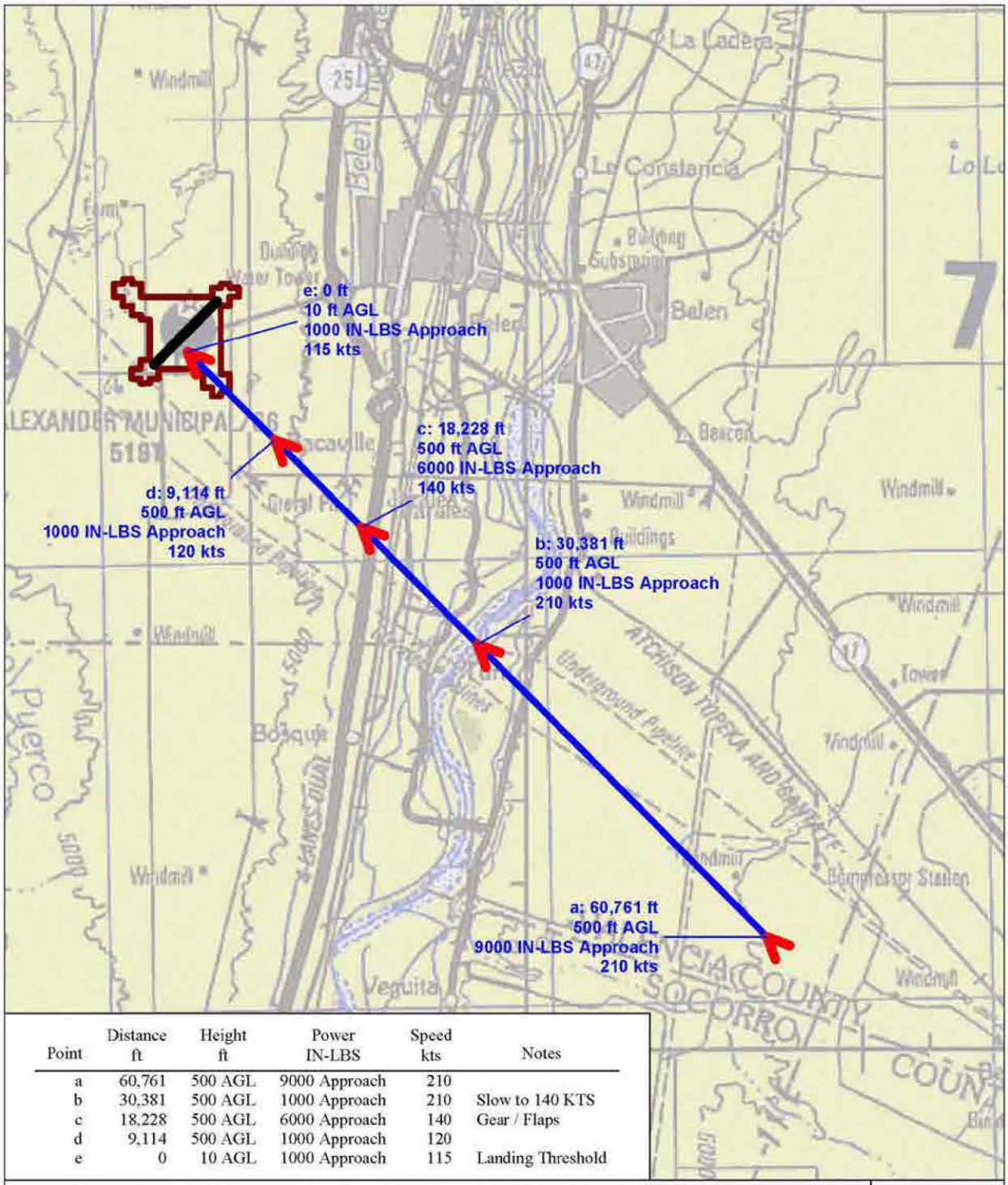
Point	Distance ft	Height ft	Power IN-LBS	Speed kts
a	0	0 AGL	19000 Takeoff	0
b	4,010	0 AGL	19000 Takeoff	110
c	12,152	6,000 MSL	19000 Takeoff	180
d	30,381	6,400 MSL	19000 Takeoff	180
e	48,609	7,400 MSL	9000 Variable	200
f	60,761	8,000 MSL	6000 Approach	170
g	132,885	8,000 MSL	6000 Approach	170

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31D120
C-130H&N&P Return to ABQ
on Runway 31, Flight Track 31D120

0 20,000 40,000 60,000 80,000 100,000 120,000 140,000

Scale in Feet 1:434,000 (1 inch = 36,200 feet)

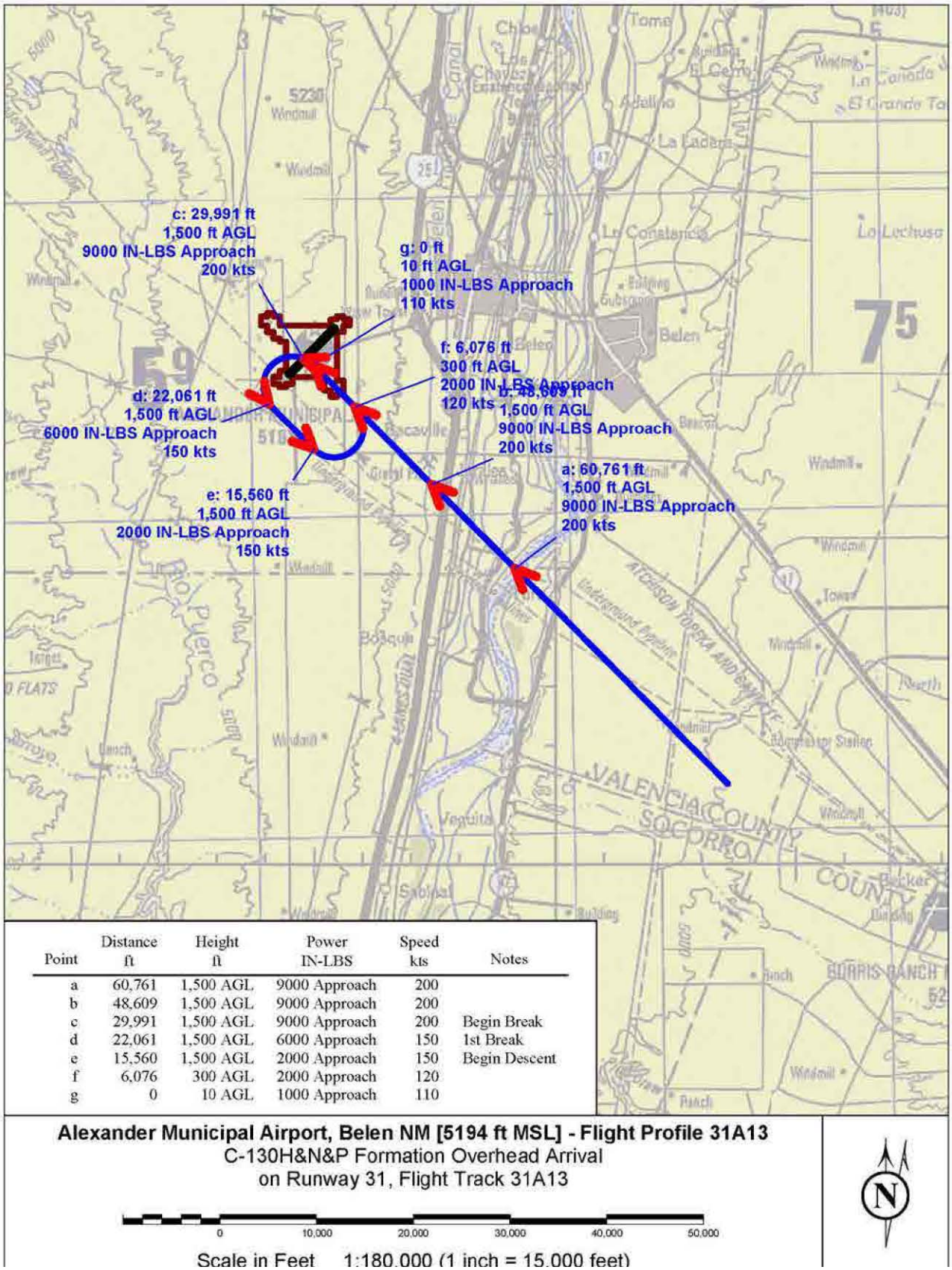
1



Point	Distance ft	Height ft	Power IN-LBS	Speed kts	Notes
a	60,761	500 AGL	9000 Approach	210	
b	30,381	500 AGL	1000 Approach	210	Slow to 140 KTS
c	18,228	500 AGL	6000 Approach	140	Gear / Flaps
d	9,114	500 AGL	1000 Approach	120	
e	0	10 AGL	1000 Approach	115	Landing Threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31A11
C-130H&N&P Straight In SCA Arrival
on Runway 31, Flight Track 31A11

1



Point	Distance ft	Height ft	Power IN-LBS	Speed kts	Notes
a	60,761	1,500 AGL	9000 Approach	200	
b	48,609	1,500 AGL	9000 Approach	200	
c	29,991	1,500 AGL	9000 Approach	200	Begin Break
d	22,061	1,500 AGL	6000 Approach	150	1st Break
e	15,560	1,500 AGL	2000 Approach	150	Begin Descent
f	6,076	300 AGL	2000 Approach	120	
g	0	10 AGL	1000 Approach	110	

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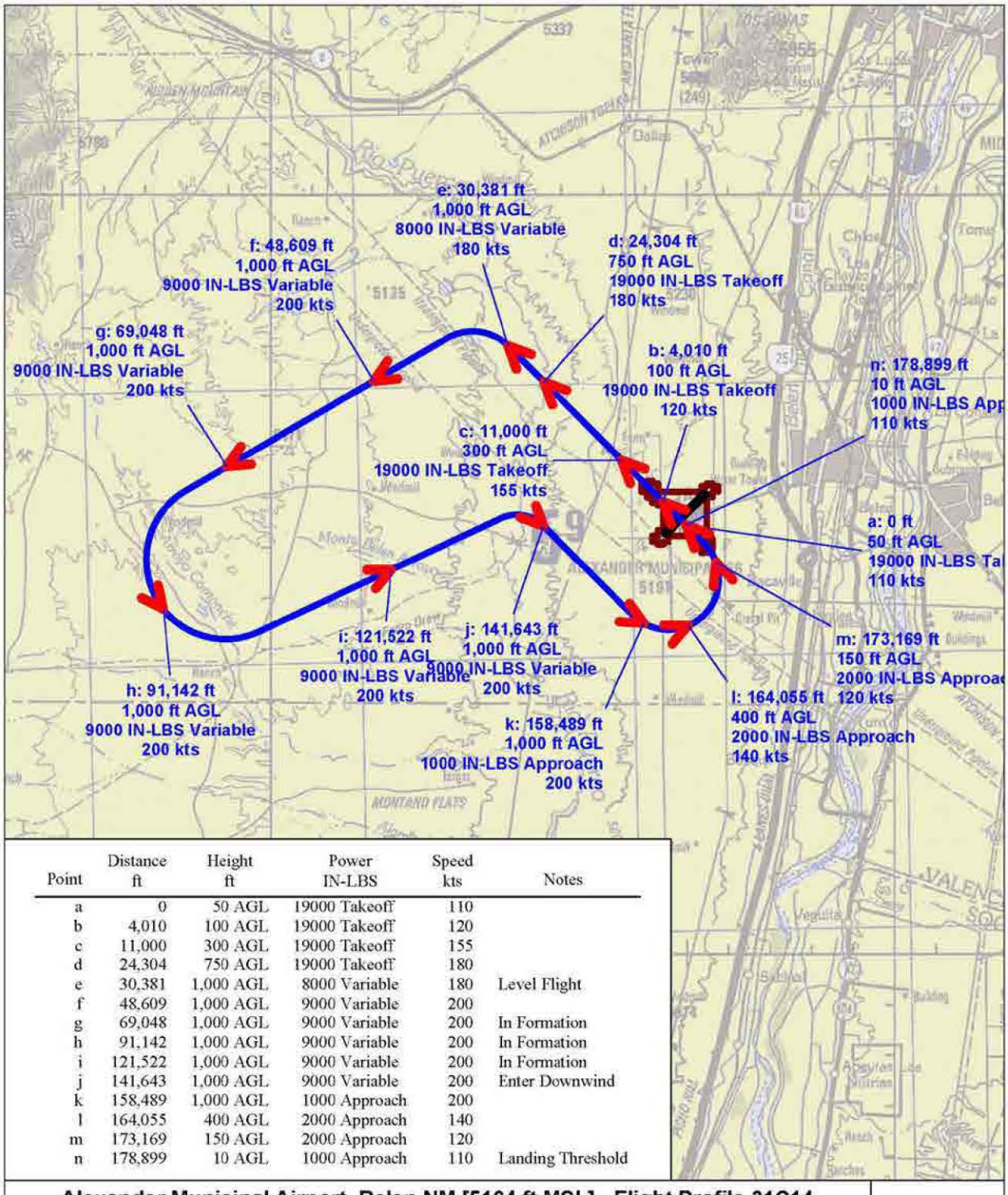

Point	Distance ft	Height ft	Power IN-LBS	Speed kts	Notes
a	0	50 AGL	19000 Takeoff	110	
b	4,010	100 AGL	19000 Takeoff	120	
c	11,000	300 AGL	19000 Takeoff	155	
d	24,304	750 AGL	19000 Takeoff	180	
e	30,381	1,000 AGL	8000 Variable	180	Level Flight
f	48,609	1,000 AGL	9000 Variable	200	
g	69,048	1,000 AGL	9000 Variable	200	In Formation
h	91,142	1,000 AGL	9000 Variable	200	In Formation
i	121,522	1,000 AGL	9000 Variable	200	In Formation
j	141,643	1,000 AGL	9000 Variable	200	Enter Downwind
k	158,489	1,000 AGL	1000 Approach	200	
l	164,055	400 AGL	2000 Approach	140	
m	173,169	150 AGL	2000 Approach	120	
n	178,899	10 AGL	1000 Approach	110	Landing Threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31C14
C-130H&N&P Formation Closed (1st Ship)
on Runway 31, Flight Track 31C14

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Scale in Feet 1:222,000 (1 inch = 18,500 feet)

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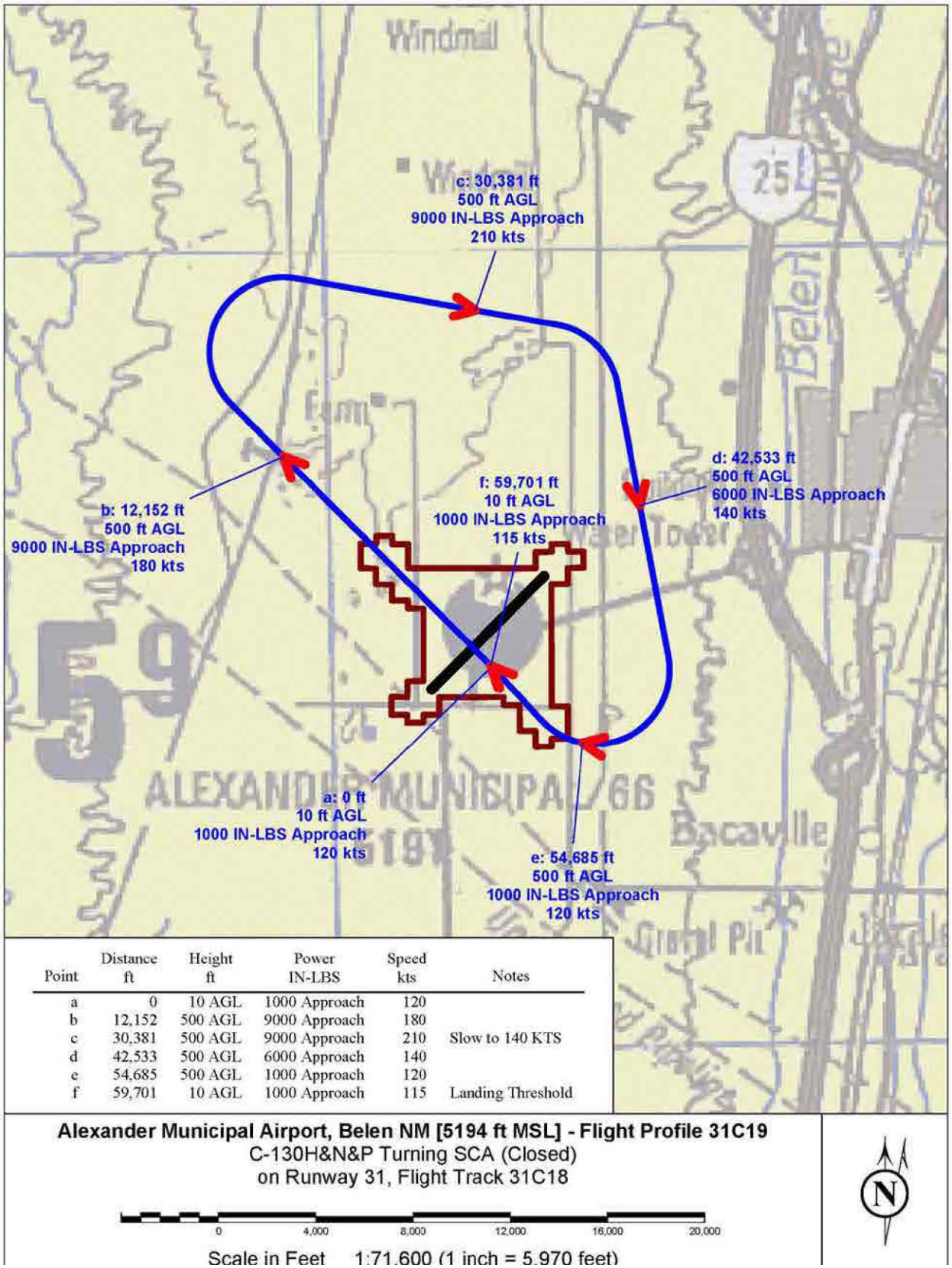
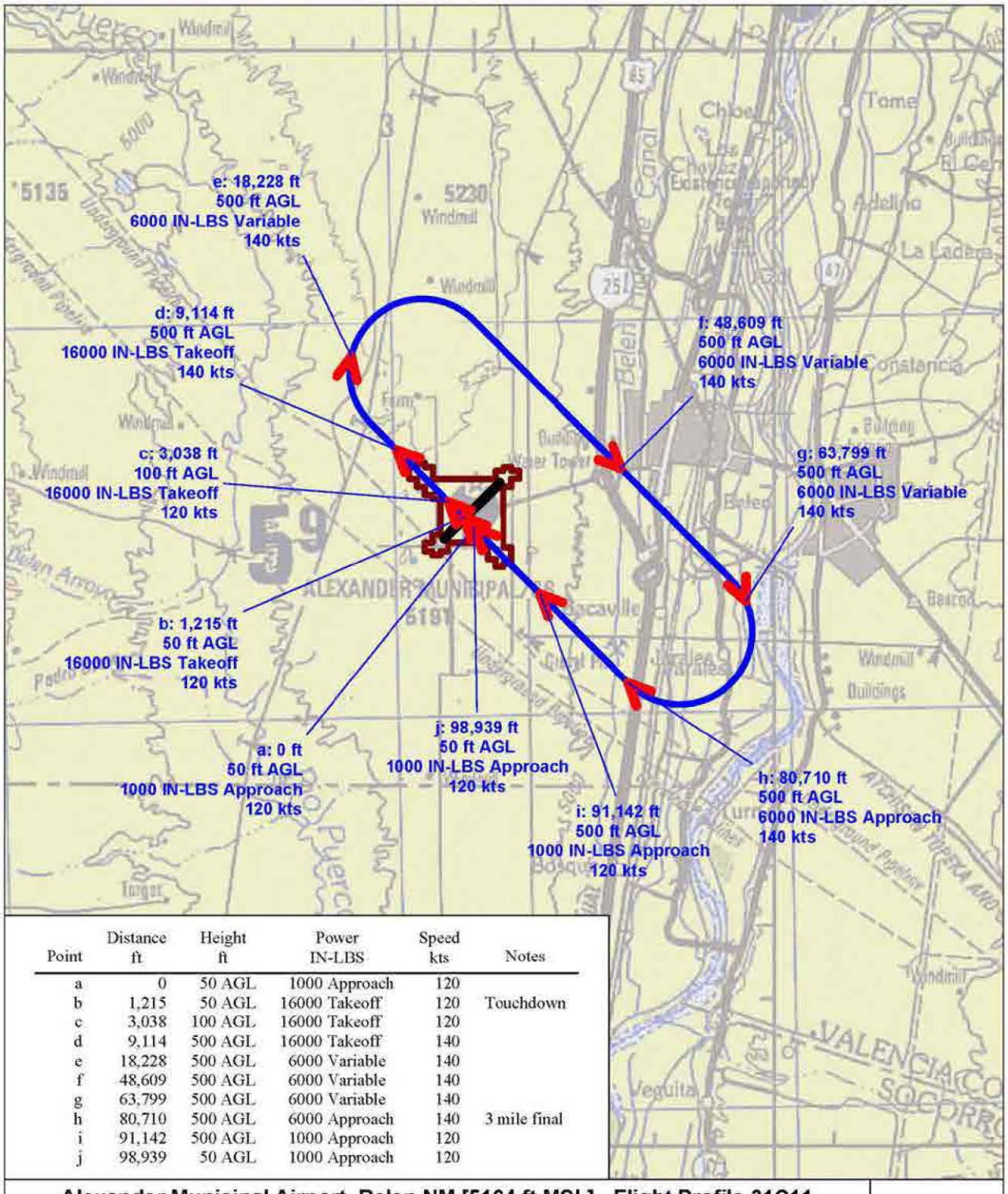


Point	Distance ft	Height ft	Power IN-LBS	Speed kts	Notes
a	0	10 AGL	1000 Approach	120	
b	12,152	500 AGL	9000 Approach	180	
c	30,381	500 AGL	9000 Approach	210	Slow to 140 KTS
d	42,533	500 AGL	6000 Approach	140	
e	54,685	500 AGL	1000 Approach	120	
f	59,701	10 AGL	1000 Approach	115	Landing Threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31C19
C-130H&N&P Turning SCA (Closed)
on Runway 31, Flight Track 31C18

1



Point	Distance ft	Height ft	Power IN-LBS	Speed kts	Notes
a	0	50 AGL	1000 Approach	120	
b	1,215	50 AGL	16000 Takeoff	120	Touchdown
c	3,038	100 AGL	16000 Takeoff	120	
d	9,114	500 AGL	16000 Takeoff	140	
e	18,228	500 AGL	6000 Variable	140	
f	48,609	500 AGL	6000 Variable	140	
g	63,799	500 AGL	6000 Variable	140	
h	80,710	500 AGL	6000 Approach	140	3 mile final
i	91,142	500 AGL	1000 Approach	120	
j	98,939	50 AGL	1000 Approach	120	

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31C11
C-130H&N&P Rectangular Pattern
on Runway 31, Flight Track 31C11

0 4,000 8,000 12,000 16,000 20,000 24,000 28,000 32,000 36,000 40,000 44,000 48,000 52,000

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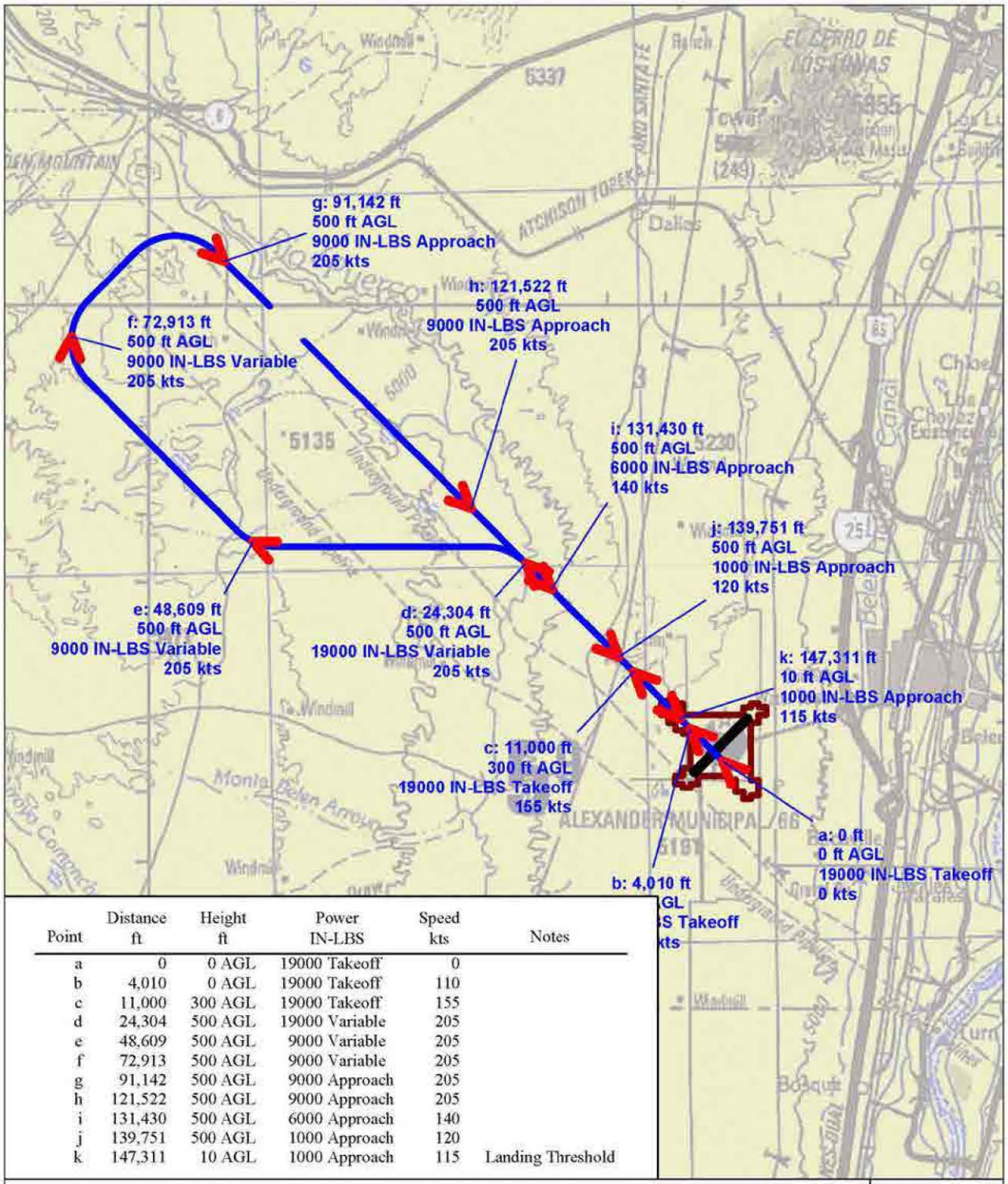

Point	Distance ft	Height ft	Power IN-LBS	Speed kts	Notes
a	0	0 AGL	19000 Takeoff	0	
b	4,010	0 AGL	19000 Takeoff	110	
c	11,000	300 AGL	19000 Takeoff	155	
d	24,304	500 AGL	19000 Variable	205	
e	48,609	500 AGL	9000 Variable	205	
f	72,913	500 AGL	9000 Variable	205	
g	91,142	500 AGL	9000 Approach	205	
h	121,522	500 AGL	9000 Approach	205	
i	131,430	500 AGL	6000 Approach	140	
j	139,751	500 AGL	1000 Approach	120	
k	147,311	10 AGL	1000 Approach	115	Landing Threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31C12
C-130H&N&P SCA Closed Pattern Depart RWY 31 / Land RWY 13
on Runway 31, Flight Track 31C12

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Scale in Feet 1:161,000 (1 inch = 13,400 feet)

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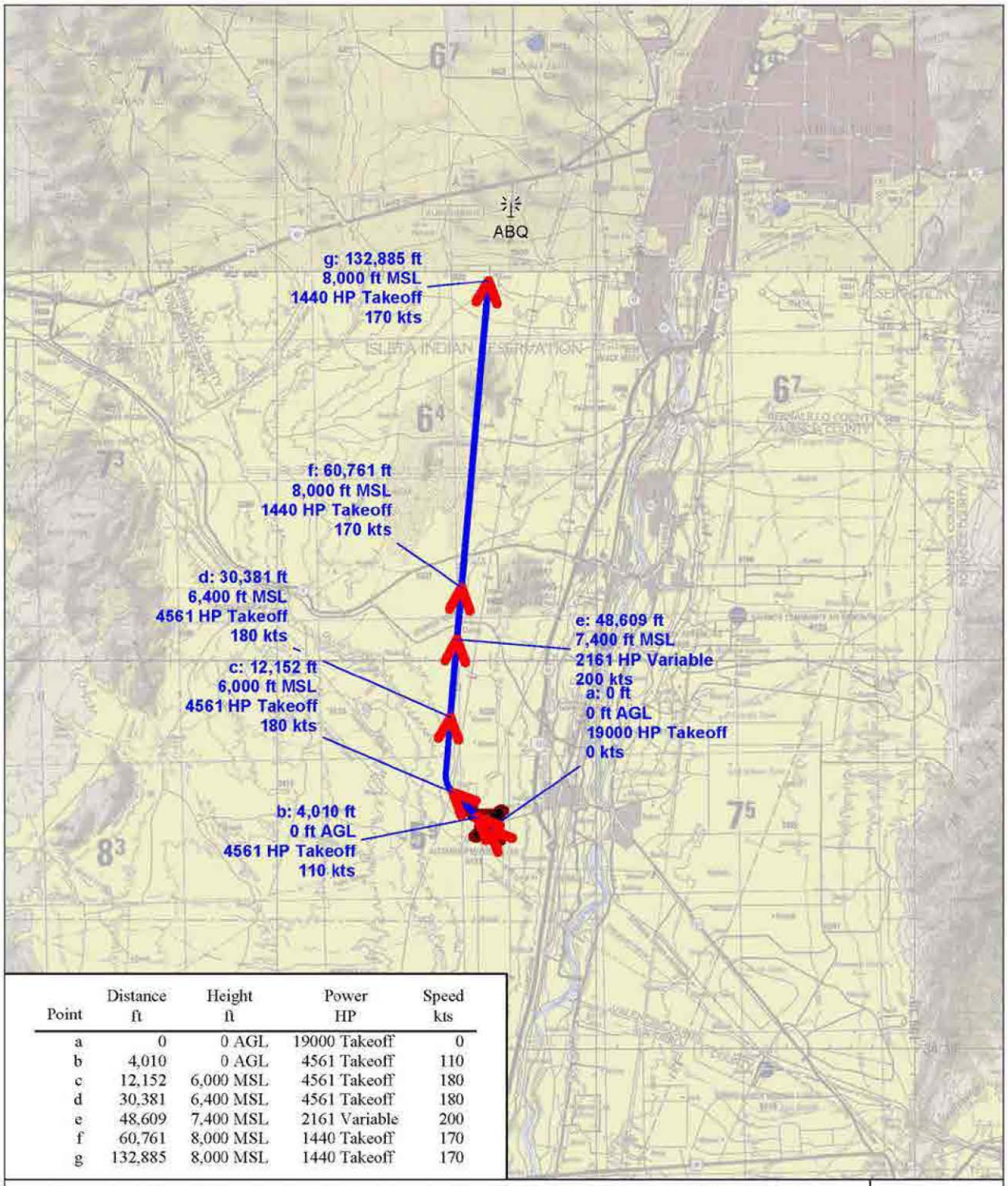

Point	Distance ft	Height ft	Power HP	Speed kts
a	0	0 AGL	19000 Takeoff	0
b	4,010	0 AGL	4561 Takeoff	110
c	12,152	6,000 MSL	4561 Takeoff	180
d	30,381	6,400 MSL	4561 Takeoff	180
e	48,609	7,400 MSL	2161 Variable	200
f	60,761	8,000 MSL	1440 Takeoff	170
g	132,885	8,000 MSL	1440 Takeoff	170

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31D120_J
C-130J Return to ABQ
on Runway 31, Flight Track 31D120

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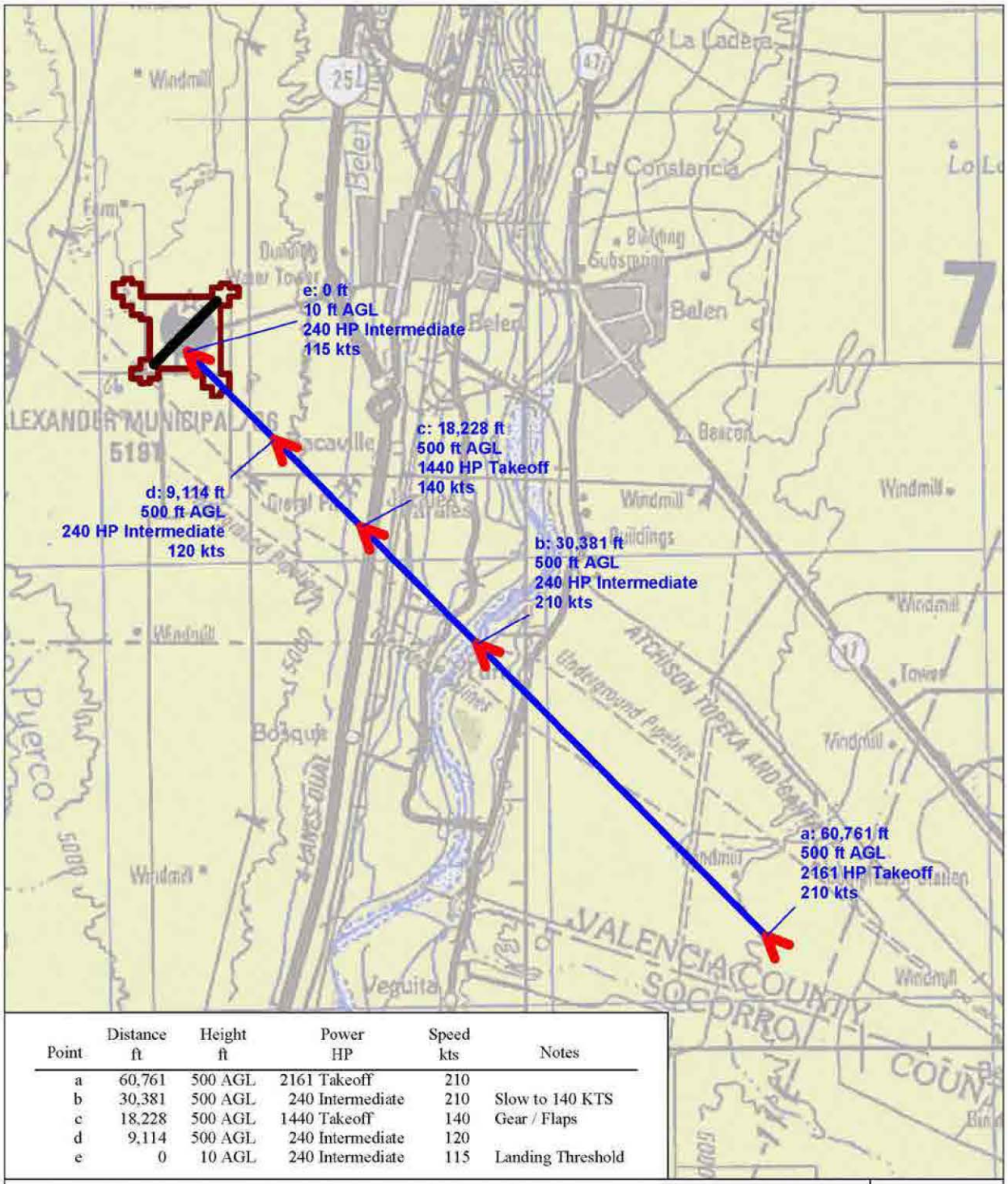
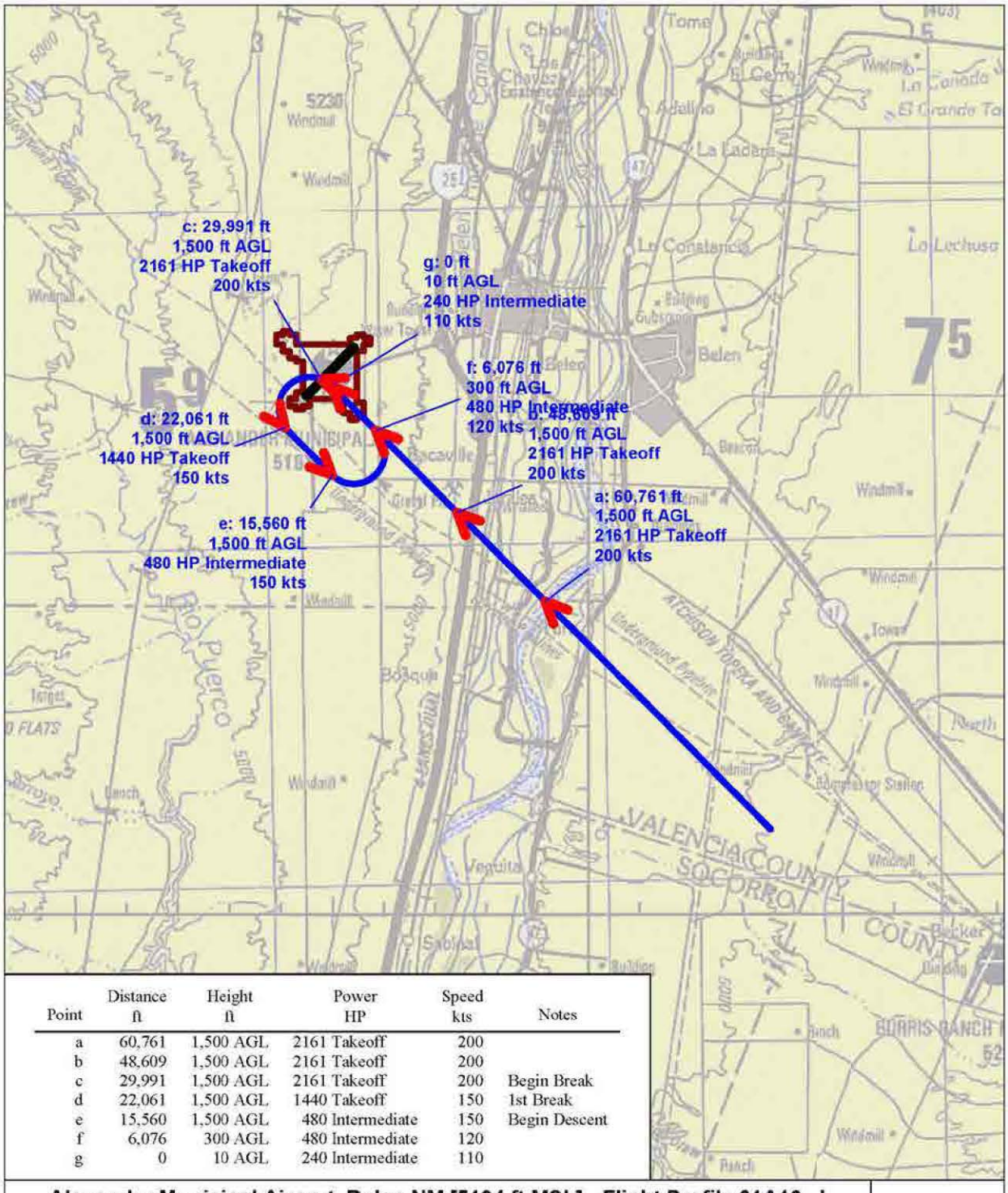


Point	Distance ft	Height ft	Power HP	Speed kts	Notes
a	60,761	500 AGL	2161 Takeoff	210	
b	30,381	500 AGL	240 Intermediate	210	Slow to 140 KTS
c	18,228	500 AGL	1440 Takeoff	140	Gear / Flaps
d	9,114	500 AGL	240 Intermediate	120	
e	0	10 AGL	240 Intermediate	115	Landing Threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31A11_J
C-130J Straight In SCA Arrival
on Runway 31, Flight Track 31A11

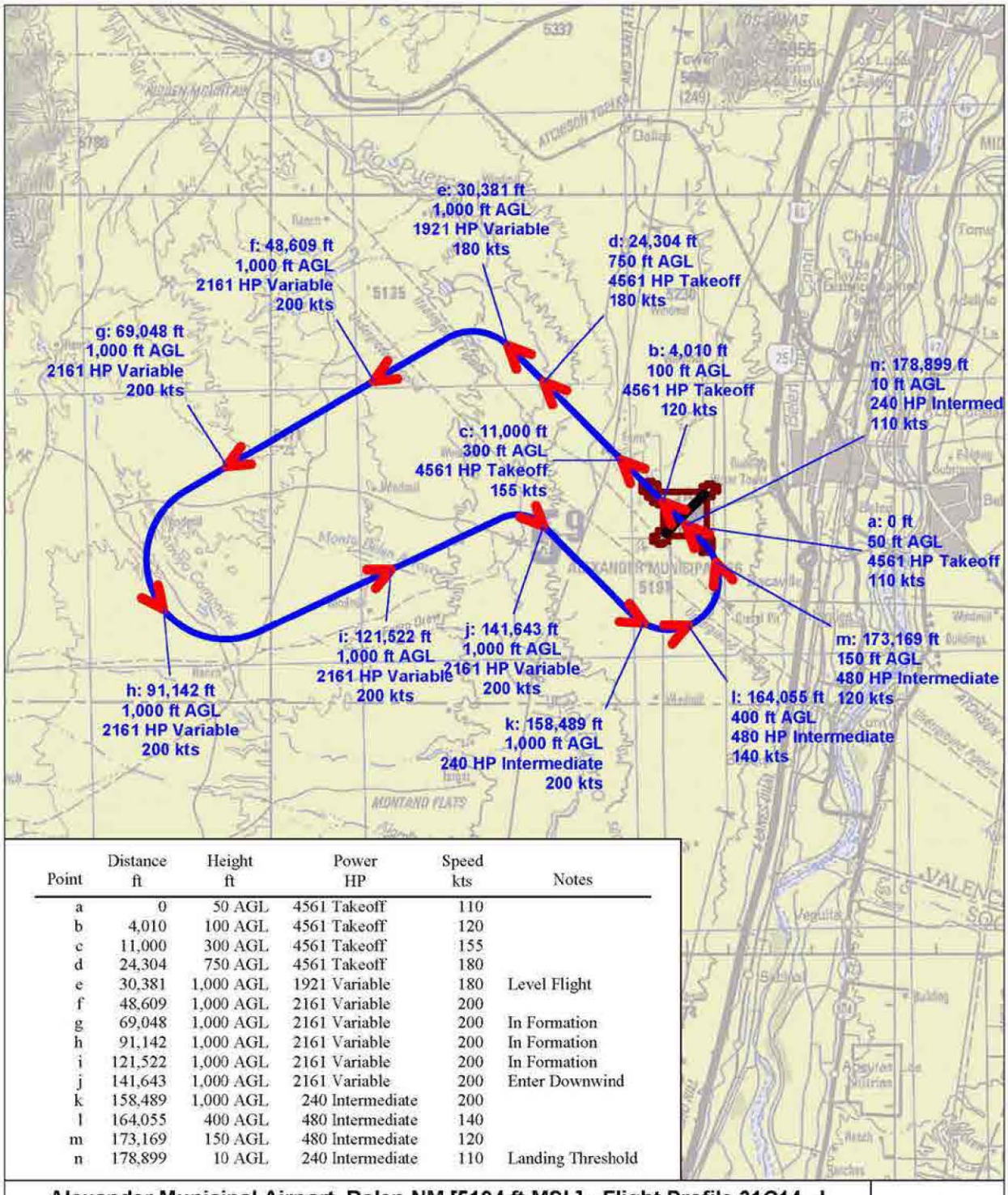
1



Point	Distance ft	Height ft	Power HP	Speed kts	Notes
a	60,761	1,500 AGL	2161 Takeoff	200	
b	48,609	1,500 AGL	2161 Takeoff	200	
c	29,991	1,500 AGL	2161 Takeoff	200	Begin Break
d	22,061	1,500 AGL	1440 Takeoff	150	1st Break
e	15,560	1,500 AGL	480 Intermediate	150	Begin Descent
f	6,076	300 AGL	480 Intermediate	120	
g	0	10 AGL	240 Intermediate	110	

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31A13_J
C-130J Formation Overhead Arrival
on Runway 31, Flight Track 31A13

1



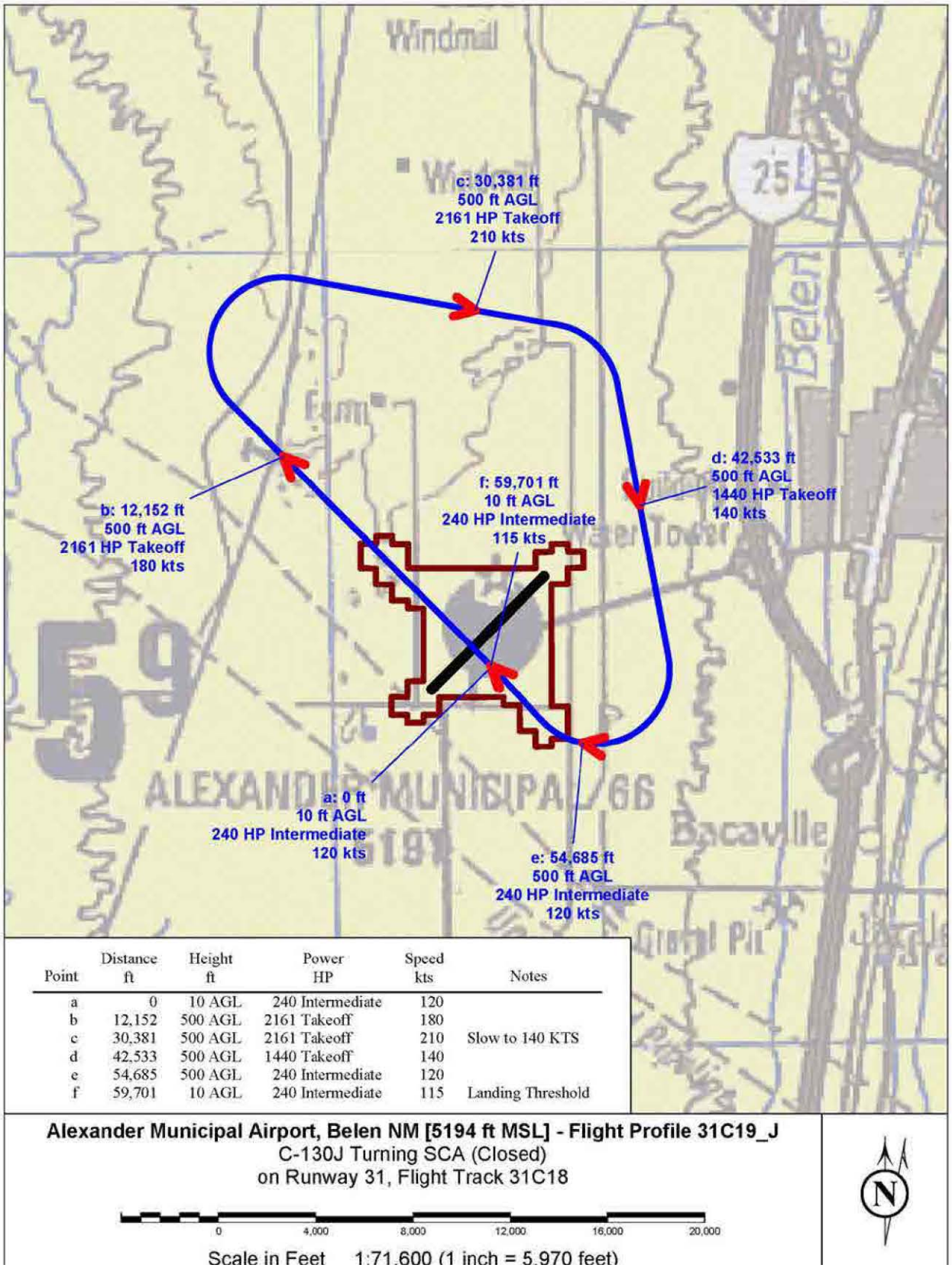
Point	Distance ft	Height ft	Power HP	Speed kts	Notes
a	0	50 AGL	4561 Takeoff	110	
b	4,010	100 AGL	4561 Takeoff	120	
c	11,000	300 AGL	4561 Takeoff	155	
d	24,304	750 AGL	4561 Takeoff	180	
e	30,381	1,000 AGL	1921 Variable	180	Level Flight
f	48,609	1,000 AGL	2161 Variable	200	
g	69,048	1,000 AGL	2161 Variable	200	In Formation
h	91,142	1,000 AGL	2161 Variable	200	In Formation
i	121,522	1,000 AGL	2161 Variable	200	In Formation
j	141,643	1,000 AGL	2161 Variable	200	Enter Downwind
k	158,489	1,000 AGL	240 Intermediate	200	
l	164,055	400 AGL	480 Intermediate	140	
m	173,169	150 AGL	480 Intermediate	120	
n	178,899	10 AGL	240 Intermediate	110	Landing Threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31C14_J
C-130J Formation Closed (1st Ship)
on Runway 31, Flight Track 31C14

0 10,000 20,000 30,000 40,000 50,000 60,000 70,000

Scale in Feet 1:222,000 (1 inch = 18,500 feet)

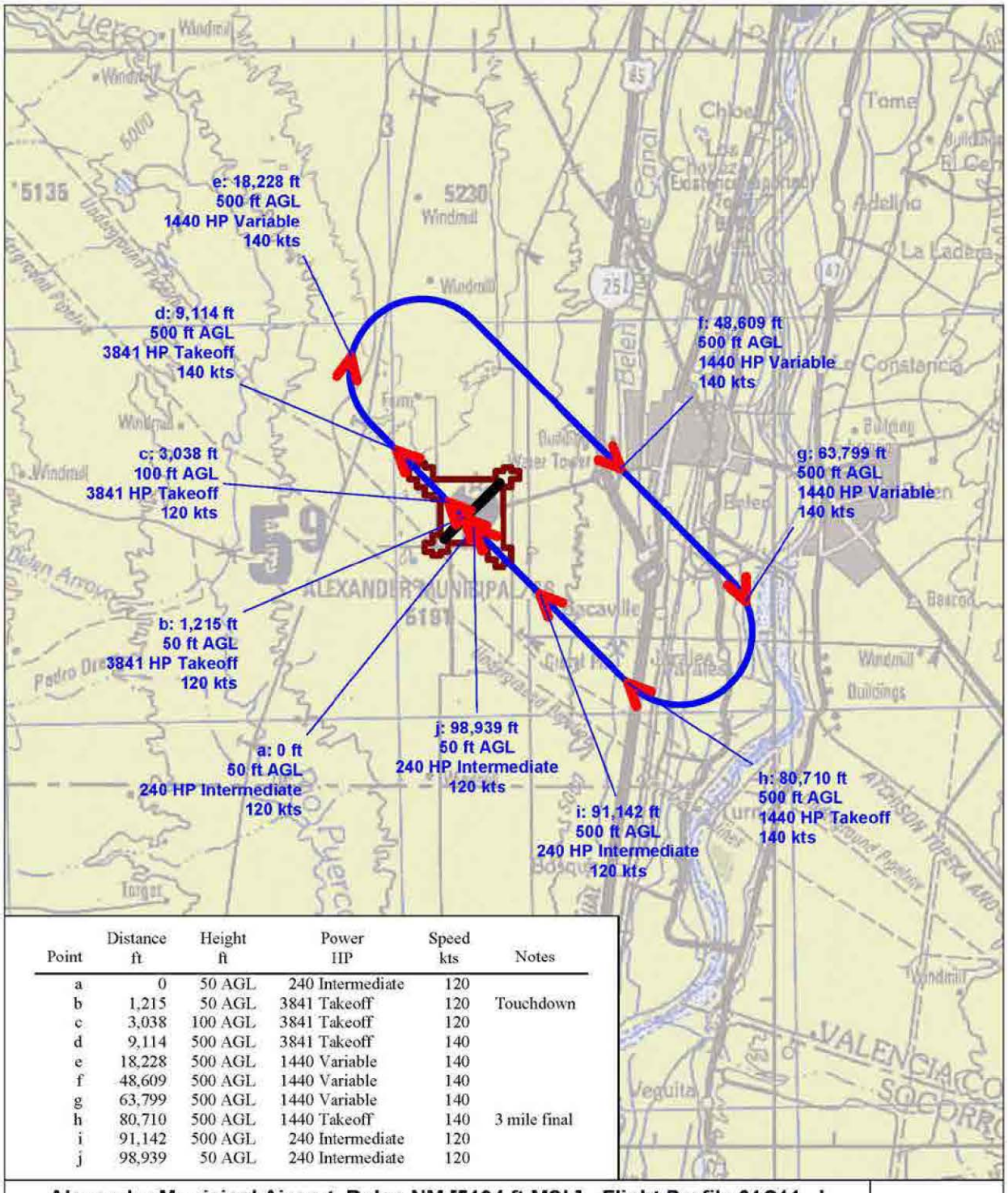
1



Point	Distance ft	Height ft	Power HP	Speed kts	Notes
a	0	10 AGL	240 Intermediate	120	
b	12,152	500 AGL	2161 Takeoff	180	
c	30,381	500 AGL	2161 Takeoff	210	Slow to 140 KTS
d	42,533	500 AGL	1440 Takeoff	140	
e	54,685	500 AGL	240 Intermediate	120	
f	59,701	10 AGL	240 Intermediate	115	Landing Threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31C19_J
C-130J Turning SCA (Closed)
on Runway 31, Flight Track 31C18

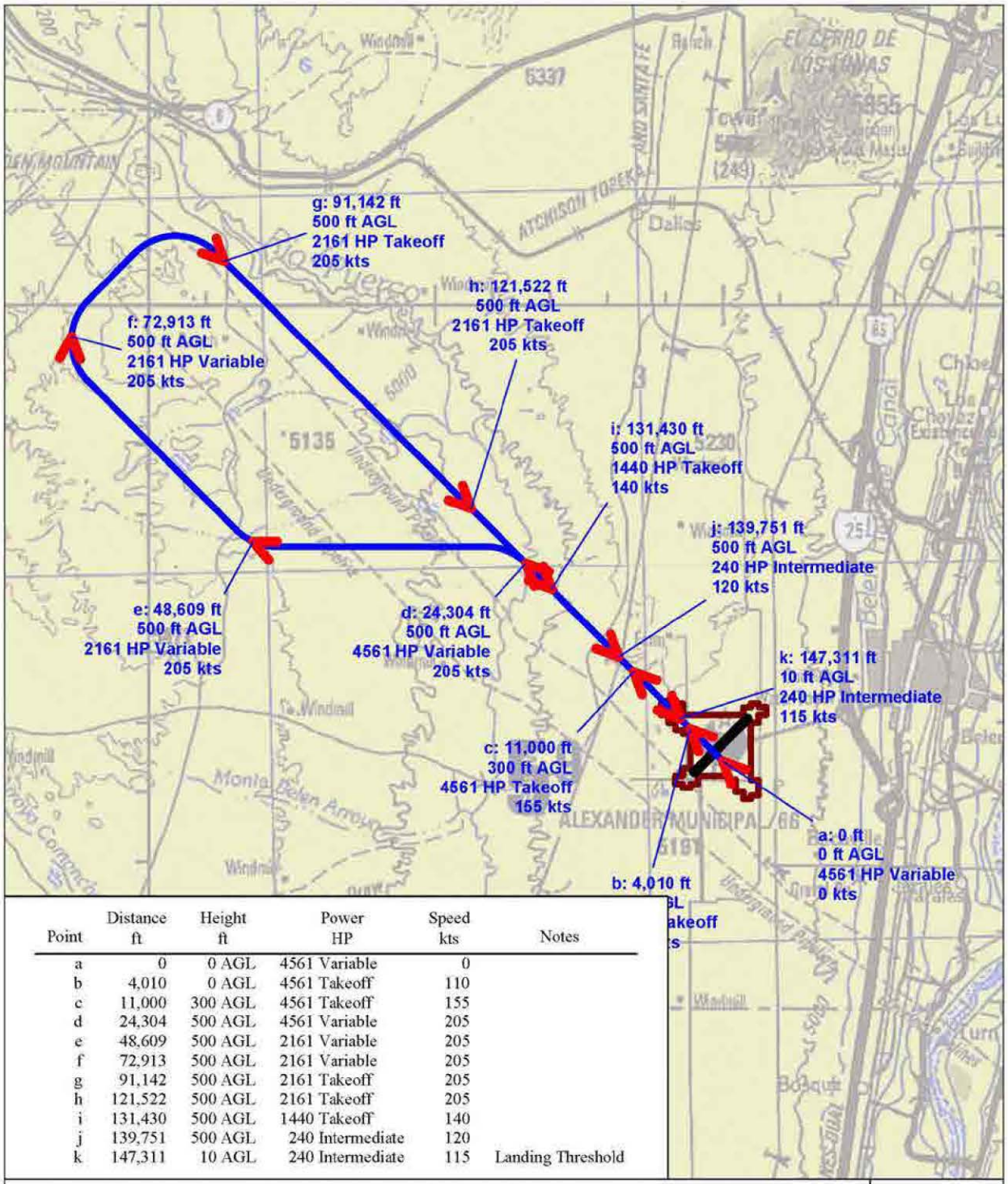
1



Point	Distance ft	Height ft	Power HP	Speed kts	Notes
a	0	50 AGL	240 Intermediate	120	
b	1,215	50 AGL	3841 Takeoff	120	Touchdown
c	3,038	100 AGL	3841 Takeoff	120	
d	9,114	500 AGL	3841 Takeoff	140	
e	18,228	500 AGL	1440 Variable	140	
f	48,609	500 AGL	1440 Variable	140	
g	63,799	500 AGL	1440 Variable	140	
h	80,710	500 AGL	1440 Takeoff	140	3 mile final
i	91,142	500 AGL	240 Intermediate	120	
j	98,939	50 AGL	240 Intermediate	120	

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31C11_J
C-130J Rectangular Pattern
on Runway 31, Flight Track 31C11

1



Point	Distance ft	Height ft	Power HP	Speed kts	Notes
a	0	0 AGL	4561 Variable	0	
b	4,010	0 AGL	4561 Takeoff	110	
c	11,000	300 AGL	4561 Takeoff	155	
d	24,304	500 AGL	4561 Variable	205	
e	48,609	500 AGL	2161 Variable	205	
f	72,913	500 AGL	2161 Variable	205	
g	91,142	500 AGL	2161 Takeoff	205	
h	121,522	500 AGL	2161 Takeoff	205	
i	131,430	500 AGL	1440 Takeoff	140	
j	139,751	500 AGL	240 Intermediate	120	
k	147,311	10 AGL	240 Intermediate	115	Landing Threshold

Alexander Municipal Airport, Belen NM [5194 ft MSL] - Flight Profile 31C12_J
C-130J SCA Closed Pattern Depart RWY 31 / Land RWY 13
on Runway 31, Flight Track 31C12

0 10,000 20,000 30,000 40,000 50,000

Scale in Feet 1:161,000 (1 inch = 13,400 feet)

1

1

APPENDIX D

Air Pollutant Emissions Calculations

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FINAL REPORT

Aircraft Air Quality Study for Proposed 58th SOW Tactical Training at Alexander Municipal Airport Belen, New Mexico

RIAC Contract Number: HC1047-05-D-4005

Task Order: TAT 0203

5 November 2013

Acknowledgements

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Job Number: A10160.0203.0004

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1.0 Regulatory Background

The purpose of an air quality analysis it to demonstrate that pollutants emitted from a proposed action in conjunction with other applicable emissions increases or decreases from existing sources will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or the Clean Air Act (CAA). In general, an air quality analyses involve the assessment of the existing air quality region of interest and predictions of ambient concentrations that will result from the proposed action.

The Clean Air Act (CAA) CAA § 101: 42 U.S.C.A 7401 is the primary federal statute regulating the emission of air pollutants. The act's intent is to protect and enhance the quality of the nation's air, public health and welfare. The primary objection of the CAA is to regulate emissions of air pollutants in order to protect human health and the environment. In general, the CAA delegates responsibility to state and local governments to prevent and control air pollution. It does this by requesting states to submit state implementation plans (SIPs) to the Environmental Protection Agency (EPA) for program approval and delegation of implementation responsibilities. SIPs are written plans that states develop to provide attainment and maintenance status of National Ambient Air Quality Standards (NAAQS). This gives states the authority to regulate air pollution activities within their own boundaries. If a state fails to create and implement and adequate SIP, EPA must create and implement its own SIP for that state. The CAA was last amended in 1990, and requires the EPA to set National Ambient Air Quality Standards (40 CFR part 50) for pollutants, referred to as "criteria" pollutants which are considered harmful to the public health and the environment. The criteria pollutants consist of: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter ($PM_{2.5}$) which includes fine particles 2.5 microns or less in aerodynamic diameter, particulate matter (PM_{10}) which includes fine particles 10 microns or less in aerodynamic diameter and sulfur dioxide (SO_2). The criteria pollutants are measured in parts per million (ppm) or parts per billion (ppb) by volume, and in micrograms per cubic meter of air (ug/m^3). Ozone is a secondary pollutant formed in the atmosphere by photochemical reactions of previously emitted pollutants. Ozone is more readily formed on warm, sunny days when the air is stagnant. The ozone precursors are nitrogen oxides (NO_X) and volatile organic compounds (VOCs). The CAA identifies two types of national ambient air quality standards primary and secondary standards. Primary standards are intended to provide public health protection, including protecting the health of "sensitive" populations such as individuals with asthma, children or the elderly. Secondary standards provide protection of the public welfare, including protection against decreased visibility and damage to animals, crops, vegetation or buildings. Table 1-1 represents the primary and secondary USEPA NAAQS for the criteria pollutants.

The National Environmental Policy Act of 1969 (NEPA) establishes a national environmental policy with goals for the protection, maintenance, and enhancement of the environment, and provides a process for implementing these goals within federal agencies. NEPA essentially encompasses sound planning practices designed to minimize damage to the environment. NEPA's purpose is to provide the environmental impacts of any Federal, or federally funded, action to public officials and citizens before decisions are made and before any actions are taken. NEPA provides environmental impact documentation which will assist in the evaluation of the action through an informed decision-making process. The Environmental Impact Analysis Process (EIAP) is the Air Force's program for implementing the provisions of NEPA. NEPA's most significant effect was to set up procedural requirements for all federal government agencies to prepare Environmental Assessments (EAs) and Environmental Impact Statements (EISs).

Table 1-1. Primary and Secondary USEPA National Ambient Air Quality Standards

Pollutant	Primary/Secondary	Averaging Time	Level	Form
CO **Carbon Monoxide**	Primary	8 - hour	9 ppm	Not to be exceeded more than once per year
		1- hour	35 ppm	
Pb **Lead**	Primary and Secondary	Rolling 3 month average	0.15 ug/m^3 (1)	Not to be exceeded
NO_2 **Nitrogen Dioxide**	Primary	1- hour	100 ppb	98th percentile, averaged over 3 years
	Primary and Secondary	Annual	53 ppb (2)	Annual Mean
O_3 **Ozone**	Primary and Secondary	8 - hour	0.075 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
$PM_{2.5}$ **Particle Pollution**	Primary and secondary	Annual	15 ug/m^3	Annual mean, averaged over 3 years
		24 - hour	35 ug/m^3	98th percentile, averaged over 3 years
PM_{10} **Particle Pollution**	Primary and secondary	24 - hour	150 ug/m^3	Not to be exceeded more than once per year on average over 3 years
SO_2 **Sulfur Dioxide**	Primary	1 - hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3 - hour	0.5 ppm	Not to be exceeded more than once per year

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
(2) The official level of the annual NO_2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.
(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard ("anti-backsliding"). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.
(4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO_2 standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.
Source: USEPA[a] 2012.

EAs and EISs contain statements of the environmental effects of proposed federal agency actions. NEPA's procedural requirements apply to all federal agencies in the executive branch. NEPA established the Council on Environmental Quality (CEQ), which is responsible for the development of implementing regulations and ensuring federal agency compliance with NEPA.

The USEPA classifies the air quality in an air quality control region (AQCR) according to whether the concentrations of the criteria pollutants in ambient air exceeds the NAAQS. The EPA classifies air quality in a region by four specific categories: "attainment", "nonattainment", "maintenance" or "unclassified". An attainment area meets or is better than the NAAQS; a nonattainment area does not meet or exceeds the NAAQS. A maintenance area was previously assigned a nonattainment status but is now in attainment for the criteria pollutants. An unclassified area does not have enough information to appropriately classify the region, the area is considered attainment.

The General Conformity Rule (40 CFR part 93, Subpart B) refers to the process of evaluating plans, programs, and projects to determine and demonstrate they meet the requirements of the CAA and an applicable implementation plan. It ensures that both direct and indirect emissions of air pollutants from planned federal activities would not affect the state's or tribe's ability to achieve the clean air goal of meeting the NAAQS. The General Conformity Rule only applies to an air quality area that is in nonattainment or maintenance status. It is an emission-based system that requires emissions to be evaluated and addressed. The two main components to the General Conformity Rule are applicability and determination. The applicability analysis process requires federal agencies to identify, analyze, and quantify emission impacts of a proposed action. The conformity determination process demonstrates how an action applies with the applicable SIP and must be completed before initiating the proposed action. Once it is demonstrated that the General Conformity Rule is applicable to an action, the agency must determine if the action conforms to an applicable implementation plan. Table 1-2 identifies the General Conformity *de minimis* Levels (Thresholds).

Greenhouse gases and aerosols affect climate by altering incoming solar radiation and outgoing infrared (thermal) radiation that are part of earth's energy balance. Changing the atmospheric abundance or properties of these gases and particles can lead to a warming or cooling of the climate system. Human activities such as electric production or transportation are responsible for the increase in carbon dioxide levels in the atmosphere which in turn cause warming temperatures due to increased levels of "heat-trapping" gases known as greenhouse gases. The largest source of greenhouse gas emissions from human activity is from the burning of fossil fuels. The following greenhouse gases accumulate in the atmosphere causing concentrations to increase with time; carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Ozone and water vapor are also greenhouse gases. Ozone is continually produced and destroyed in the atmosphere by chemical reactions and water vapor is the most abundant greenhouse gas. Greenhouse gases have varying heat trapping abilities and atmospheric lifetimes. To facilitate comparisons among GHGs, a global warming potential (GWP) value is assigned to each GHG. GWP represents the heat-trapping impact of a GHG relative to carbon dioxide (CO_2), which has a GWP of 1.0, and functions as a warming "index." Methane (CH_4) has a GWP of 21, each metric ton of CH_4 emissions has 21 times the impact of global warming (over a 100-year time horizon) as one metric ton of CO_2 emissions. To provide a single metric that embodies all GHGs emissions are reported in metric tons of carbon dioxide equivalent (MT CO_{2e}). To calculate CO_{2e}, the mass of emissions of each GHG is multiplied by the appropriate GWP for that gas. Table 1-3 lists the GHGs their common sources and their associated GWPs.

Table 1-2. General Conformity *De Minimis* Threshold Levels

Criteria Pollutant	Area Classification	Pollutant	Ozone Transport Region[a]	De Minimis Level (short tons/yr)
Ozone	Extreme nonattainment	VOC or NO_X	NA[b]	10
	Severe nonattainment	VOC or NO_X	NA	25
	Serious nonattainment	VOC or NO_X	NA	50
	Other	VOC or NO_X	Outside	100
		VOC	Inside	50
		NO_X	Inside	100
	Maintenance	NO_X	NA	100
		VOC	Inside	50
		VOC	Outside	100
CO, SO_2, NO_2	Nonattainment	CO, SO_2, NO_2	NA	100
	Maintenance	CO, SO_2, NO_2	NA	100
PM_{10}	Serious nonattainment	PM_{10}	NA	70
	Moderate nonattainment	PM_{10}	NA	100
	Maintenance	PM_{10}	NA	100
$PM_{2.5}$	Nonattainment or Maintenance	$PM_{2.5}$ Direct emissions	NA	100
		SO_2, NO_X[c], VOC or Ammonia[d]	NA	100
Pb	Nonattainment	Pb	NA	25
	Maintenance	Pb	NA	25

Source: 40 CFR 93.153(b)(1) and (2).
[a] Section 184 of the CAA defines a single ozone transport region consisting of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area around the District of Columbia.
[b] NA = not applicable
[c] Unless determined not to be a significant precursor
[d] If determined to be a significant precursor

Table 1-3. Greenhouse Gases, Common Sources and Global Warming Potentials

Greenhouse Gas	Common Sources/Uses	GWP[a]
Carbon Dioxide (CO_2)	Mobile and stationary combustion	1
Methane (CH_4)	Coal mining, fuel combustion, landfills, wastewater treatment	21
Nitrous Oxide (N_2O)	Fuel combustion, fertilizers	310
Hydrofluorocarbon gases (HFCs)	Refrigerants, fire suppressants, various manufacturing processes	12 – 11,700[b]
Perfluorocarbon gases (PFCs)	Electrical equipment, various manufacturing processes, refrigerants, medicine	6,500 – 17,700[b]
Sulfur Hexafluoride (SF_6)	Electrical equipment, various manufacturing processes, tracer in air modeling, medicine	23,900

[a]100-year Global Warming Potential. Source: IPCC (1996) Climate Change 1995: The Science of Climate Change. Intergovernmental Panel on Climate Change, J.T. Houghton, L.G. Meira Filho, B.A. Callander, N. Harris, A. Kattenberg, and K. Maskell. (eds.) Cambridge University Press. Cambridge, United Kingdom.
[b]Many different individual gases constitute HFCs and PFCs, so there is a range of GWP values associated with each.

The Executive Order (E.O.) 13514, (74 Federal Register 52117) Federal Leadership in Environmental, Energy, and Economic Performance, was set to establish an integrated strategy toward sustainability in the Federal government and to make reduction of greenhouse gas (GHG) emissions a priority for Federal agencies. E.O. 13514 requires agencies to measure, report, and reduce their greenhouse gas emissions from direct and indirect activities. In addition Federal agencies must establish a timeline of GHG reduction targets and report inventories.

The EPA Mandatory Reporting Rule (MRR), (40 CFR Part 98) applies towards large facilities that emit at least 25,000 metric tons of CO_{2e} from the operation of stationary fuel combustion equipment. It is intended to collect comprehensive and accurate data on CO_2 and other GHG emissions that can be used to inform future policy decisions.

2.0 Analysis

2.1 Project Background

The mission of the 58th Special Operations Wing (58 SOW) is to train special operations, rescue, missile site support, and Distinguished Visitor airlift crews. The 58 SOW is a tenant organization at Kirtland AFB, New Mexico. As part of the C-130 training, the 58 SOW conducts short-runway day and night takeoff, approach and landing training at non-Air Force controlled airfields. Currently the two civilian airports used for short-field runway takeoff and landing training are Roswell International Air Center in New Mexico and Pueblo Memorial Airport in Colorado in addition to the Albuquerque International Sunport Airport. The current training at the two civilian airports are not ideal since the distance to Roswell International Air Center is 172 nautical miles southeast from Kirtland AFB and Pueblo Memorial Airport is 220 nautical miles northeast from Kirtland AFB, the long distances to each location contributes to valuable training time and fuel consumed en route to each location. In addition the

Albuquerque Sunport airport runways are too long and too brightly-lit to realistically simulate short-field training. Light pollution from the City of Albuquerque limits the ability to conduct NVG training at the Albuquerque International Sunport Airport.

An option for the 58 SOW is the use of the Alexander Municipal Airport near Belen in New Mexico (referred to as "Belen" for simplicity). The Alexander Municipal Airport is a civilian airport that may have the ability to support the 58 SOW special operations training of the C-130. The City of Belen and the Federal Aviation Administration issued a Finding of No Significant Impact for construction and operation of a new cross-wind runway, Runway 13/31 at Alexander Municipal Airport.

The current activity of the 58 SOW involves the Albuquerque International Sunport airport and two civilian airports, Roswell International Air Center and Pueblo Memorial Airport. In the proposed action the 58 SOW will conduct special operations training of the C-130 from Kirtland AFB to three distinct locations: Pueblo Memorial Airport, Roswell Air Center and Alexander Municipal Airport (Belen).

2.2 Air Quality Status

Air quality in a region is a result of the types and quantities of atmospheric pollutants and pollutant sources in an area, surface topography, the size of the topological "air basin", and the prevailing meteorological conditions. Kirtland AFB is located in southeast Albuquerque between the Sandia and Manzano mountain ranges in Air Quality Control Region 152 (AQCR 152). Alexander Municipal Airport is in the City of Belen in New Mexico in the Arizona-New Mexico Southern Border Interstate Air Quality Control Region 012 (AQCR 012). Roswell International Air Center in New Mexico is located in the Pecos-Permian Basin Intrastate Air Quality Control Region 155 (AQCR 155). Pueblo Memorial Airport in Colorado is located Air Quality Control Region 07 and 11.

The 58 SOW at Kirtland AFB use Roswell International Air Center, Pueblo Memorial Airport and the Albuquerque International Sunport Airport for assault landing training of C-130s. Kirtland AFB and Albuquerque International Sunport Airport share the same runway complex and are the same airfield.

Kirtland AFB and Albuquerque International Sunport Airport are both in the same county, Bernalillo County which is in maintenance status for carbon monoxide (CO). Roswell International Air Center is in Chaves County (AQCR 155) and Pueblo Memorial Airport is in Pueblo county (AQCR 07 and AQCR 11) - both counties are considered in attainment status for the criteria pollutants (40 CFR 81.344).

2.3 Regional Meteorology

Kirtland AFB is located southeast of Albuquerque, Bernalillo County, NM. The elevation in the area is approximately 5,300 feet above MSL. This area of NM experiences a mild dry climate and distinct seasons with pleasant springs and autumns, cool winters and warm summers. Rainfall in the region is heaviest during the monsoon season of July and August (WRCC 2011).

The average annual mean temperature for Kirtland AFB is 57 degrees Fahrenheit (°F). The average mean temperature during the summer months is 76°F, with record extremes of 37°F and 107°F. The average mean temperature during the winter months is 37°F, with record extremes of -17°F and 76°F. Kirtland AFB averages 59 days per year with temperatures above 90°F. Subfreezing temperatures occur an average of 112 days per year (WRCC 2011).

The average annual relative humidity is 43 percent. Mean precipitation is 8.7 inches per year, almost half of the annual average precipitation occurs during the monsoon season (July and August). September and

October continue to be wet with approximately 0.9 inches of precipitation per month. The remaining months average 0.5 inches or less per month (WRCC 2011).

The predominant wind direction in the region is from north to northwest. The average wind velocity is 9 miles per hour (mph), with a maximum-recorded 5-second wind speed of 77 mph. Thunderstorms occur on an average of 41 days per year, with 52 percent of these occurring during July and August. Kirtland AFB experiences on average 167 clear days and 87 cloudy days per year, with the remaining 111 days of the year being partly cloudy. Fog occurs on an average of 6 days per year (WRCC 2011).

3.0 Scenarios

3.1 No Action Baseline

Under this alternative, there would be no change in the baseline scenario, Runway 13/31 at Alexander Municipal Airport (Belen) would not be reinforced, and the C-130 training operations would continue at Roswell International Air Center and Pueblo Memorial Airport as well as the Albuquerque International Sunport Airport. The short-runway day and night takeoff, approach, and landing training at these airports would continue under the non-favorable conditions where aircraft would have to travel relatively far distances (about 200 nautical miles) to conduct the training operations. The existing baseline emissions magnitude has not been quantified since the emissions of importance are the next emissions occurring from the difference between the Baseline and the Alternative scenarios.

3.2 Proposed Action Alternative

The alternative scenario involves the use of Runway 13/31 at Alexander Municipal Airport to allow the support for C-130 training operations. This would increase operations at Belen while decreasing operations at Pueblo but not at Roswell and also decreasing training operations at Kirtland. Pueblo Memorial Airport would experience a decrease in training operations from 1,960 to 1,768 flights, the operations at Roswell Air Center would remain constant at 1,450 flights, and there would be a net increase in training activity of 1,764 flights at Alexander Municipal Airport in Belen. The net changes in operations are indicated in Table 3-1.

In addition to the aforementioned changes in flights, Belen (Alexander Municipal Airport) would experience increased in training operations (Dep/Land Opp Runway, Tower, and Box) as indicated by the patterns in Table 3-1. These are counter-balanced by the same number of decreases in training operations Kirtland and the decrease in training operations (IFR arrivals) at Pueblo. No changes in training operations are expected to occur at Roswell. Although these training operations at Belen, Pueblo, and Kirtland are expected to change, no airport departure and arrival changes are expected at Kirtland (i.e., no changes in origin-destination flights to/from Kirtland).

Table 3-1. Net Change in Operations due to Alternative Scenario

Operation Type	Net Changed in Number of Operations	Increase/Decrease
Belen arrivals from Kirtland	1,764	Increase
Belen departures to Kirtland	1,764	Increase
Belen Pattern - Dep/Land Opp Runwy	4,536	Increase
Belen Pattern - Tower	1,008	Increase
Belen Pattern - Box	1,764	Increase
Pueblo Arrivals	52	Decrease
Pueblo Departures	96	Decrease
Pueblo Pattern - IFR	44	Decrease
Kirtland Pattern - Dep/Land Opp Runwy	4,536	Decrease
Kirtland Pattern - Tower	1,008	Decrease
Kirtland Pattern - Box	1,764	Decrease

There is a distinction between a NEPA Air Quality Impact Analysis and a General Conformity Applicability Analysis and Determination. A NEPA analysis evaluates all the ambient air impacts and any permit requirements involving any attainment criteria pollutant emissions, HAP emission and emissions of any other resulted pollutant under the CAA. The General Conformity Rule only applies to the evaluation of air quality in a region of nonattainment or maintenance status. The General Conformity Thresholds are used from the CAA to evaluate the nonattainment and maintenance areas of concern. In this EA, a General Conformity Applicability Analysis would normally only have been conducted for Kirtland since it is in a maintenance area for CO. However, because the decrease in operations would result in a decrease in emissions at Kirtland, no General Conformity analysis was deemed necessary. All of the other affected counties (Pueblo County, Chaves County and Valencia County) are all in attainment status for each criteria pollutant (USEPA[b] 2012).

4.0 Emissions Calculation Methods

The total yearly direct and indirect emissions of an action is defined as the net emissions increase caused by the action considering all the emission increases and decreases that are projected to occur. This includes emissions of criteria pollutants and emissions of precursors of criteria pollutants. The total direct and indirect emissions are the net emissions considering all emissions increases and decreases. In this proposed action, the net emissions that will be taken into consideration are those resulting from the aircraft operational changes at the affected airports. As previously mentioned, Pueblo Memorial Airport, Colorado (Pueblo County) which currently supports 1,960 flights from Kirtland will have a decrease in flights to 1,768, Roswell International Air Center, New Mexico flights will remain constant at 1450 and Alexander Municipal Airport, New Mexico (Belen) will have a net increase of 1,764 flights. The total direct and indirect emissions will be considered in the air impact analysis.

Airport emissions are normally calculated using the Landing and Takeoff (LTO) cycle as a unit of measure. This cycle includes 4 modes of operation including takeoff, climb-out, approach, and idle/taxi which correspond to military, intermediate, approach, and idle/taxi, respectively, as defined by the Air

Force. For the C-130 aircraft using the T56-A-15 engine, the 4 modes are defined by the default Times-in-Mode (TIM), fuel flow, and emission factors presented in Tables 4-1 and 4-2

Table 4-1. Default TIM Data for the C-130 using the T56-A-15 Engine

Mode	Default TIM (sec)
Idle/Taxi	954 Total (9.2 min taxi-out and 6.7 min taxi-in)
Approach	306
Climb-out/Intermediate	72
Takeoff/Military	24

Source: AFCEC 2010

Table 4-2. Default Fuel Flow and Emission Factor Data for the C-130 using the T56-A-15 Engine

Power Setting	Power Setting (%)	Fuel Flow Rate (lb/hr)	Emission Factors in lb/1000 lb fuel burned							
			NO_x	SO_x	CO	VOC	HAPs	PM_{10}	$PM_{2.5}$	CO_2
Idle/Taxi	7	900	7.49	1.06	3.84	1.97	0.00	3.64	3.28	3,116
Approach	30	1240	8.31	1.06	2.82	0.58	0.00	3.85	3.47	3,116
Climbout/Intermediate	70	2180	9.69	1.06	1.65	0.42	0.00	1.46	1.31	3,116
Takeoff/Military	90	2456	11.42	1.06	1.77	0.28	0.00	1.22	1.10	3,116
En route	32	1287	8.38	1.06	2.76	0.57	0.00	3.73	3.36	3,116

Source: AFCEC 2012 and see appendix for CO_2 emission factor derivation

The data for the en route mode are also presented in these tables to account for the corresponding emissions during flights from Kirtland to Belen and vice versa that are projected to occur entirely below 3,000 ft above ground level, the nominal mixing height threshold. As such, emissions from the full flight (LTO plus en route) needs to be taken into account. The en route fuel flow and emission factors were derived through interpolating on the % power setting derived from analyzing flight trajectories. In contrast, flights from Kirtland to Pueblo (and vice versa) all have en route (cruising) altitudes above 3,000 ft. Therefore, the emissions increases at Pueblo were modeled using just the LTO modes.

As presented in Table 4-3, the TIM data are mostly weighted averages representative of each operation (weighted from different flight profiles) – they were developed from analyzing the speed and distance data from the trajectories. This is true for all Belen-related operations while the Pueblo and Roswell data are mostly based on defaults. At Belen, Pueblo, and Roswell, both the taxi-in and taxi-out times were assumed to be a nominal (and somewhat conservative) 1 minute (60 seconds). However, for the full-flight coverage of Belen flights to/from Kirtland, each of the taxi-in and taxi-out activities at Kirtland were assumed to be defaults in order to more conservatively account for the non-training movements/operations at Kirtland. For example, the total taxi time for a flight arriving at Belen from

Kirtland would be based on 1 min of taxi-in at Belen and the default 9.2 min of taxi-out at Kirtland (a total of 10.2 min, equivalent to 612 sec). The en route TIM values for the Belen-related flights were estimated based on analysis of the aforementioned trajectory data.

Since aircraft operations at Belen are not expected to make use of auxiliary power units (APUs) or ground support equipment (GSE), only emissions from aircraft main engines were modeled. This includes the understanding that refueling would not be conducted at Belen.

Table 4-3. TIM Data based on Airport and Type of Operation

Operation Type	Time in Mode (sec)				
	Idle/Taxi	Approach	Intermediate/Climb-out	Military/Takeoff	En route
Belen arrivals from Kirtland	612	248	39	193	415
Belen departures to Kirtland	462	248	39	193	415
Belen Pattern - Dep/Land Opp Runwy	38	32	315	118	N/A
Belen Pattern - Tower	25	55	380	140	N/A
Belen Pattern - Box	6	35	351	34	N/A
Pueblo Arrivals	60	306			N/A
Pueblo Departures	60		72	24	N/A
Pueblo Pattern - IFR	6	35	351	34	N/A
Kirtland Pattern - Dep/Land Opp Runwy	38	32	315	118	N/A
Kirtland Pattern - Tower	25	55	380	140	N/A
Kirtland Pattern - Box	6	35	351	34	N/A

Aircraft emissions are calculated for each mode using the following equation:

$$E = FF \times TIM \times N \times EF \times Op$$

where, E = Emissions (lbs)
FF = Fuel flow (lbs/hr)
TIM = Time in mode (hr)
N = Number of engines (4 for C-130)
EF = Emission factor (lbs/1000 lbs of fuel)
Op = Number of operations

5.0 Emissions Summary

Appendix A provides all of the calculation details for aircraft emissions. Table 5-1 provides the net emissions at each airport/base by the specific operation type. Emissions of both criteria pollutants and CO_2 (greenhouse gas) are presented. As shown, all of the Belen operations results in an increase in emissions while the Pueblo and Kirtland operations results in decreases in emissions. These increases and decreases are simply due to the operational changes at each airport/base.

Table 5-1. Yearly Net Aircraft Emissions per Airport Operation Type

Operation Type	Net Emissions (Total Short Tons per Year)							Increase/ Decrease
	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	
Belen arrivals from Kirtland	17.05	2.03	5.33	1.70	5.77	5.20	5,959	Increase
Belen departures to Kirtland	16.05	1.89	4.82	1.44	5.28	4.76	5,547	
Belen Pattern - Depart and Land Opposite Runway	26.59	2.81	4.76	1.16	4.12	3.70	8,248	
Belen Pattern - Tower	7.11	0.75	1.26	0.30	1.11	0.99	2,204	
Belen Pattern - Box	8.59	0.93	1.52	0.37	1.38	1.24	2,741	
Pueblo Arrivals	0.10	0.01	0.04	0.01	0.05	0.04	39.02	Decrease
Pueblo Departures	0.14	0.02	0.03	0.01	0.03	0.02	44.85	
Pueblo Pattern - IFR	0.21	0.02	0.04	0.01	0.03	0.03	68.36	
Kirtland Pattern - Depart and Land Opposite Runway	26.59	2.81	4.76	1.16	4.12	3.70	8,248	
Kirtland Pattern - Tower	7.11	0.75	1.26	0.30	1.11	0.99	2,204	
Kirtland Pattern - Box	8.59	0.93	1.52	0.37	1.38	1.24	2,741	

Table 5-2 presents the summarized emissions by airport/base. Since Belen is in an attainment area for all pollutants, a General Conformity evaluation is not necessary. However, a comparison of the Belen emissions to the General Conformity *de minimis* thresholds show increases in emissions that are generally far below the *de minimis* levels. Therefore, the increase in air emissions at Belen from the proposed action is not expected to have a significant effect on the region's air quality. The reductions in emissions at Pueblo and Kirtland also help to noticeably lower the overall net emissions. Roswell experienced no changes in air emissions since the aircraft operations were projected to remain the same at Roswell.

Table 5-2. Yearly Net Aircraft Emissions per Airport/Base

Airport/Base	Net Emissions (Total Short Tons per Year)						
	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Net Belen Increase	75.38	8.40	17.69	4.97	17.65	15.89	24,698
Net Pueblo Decrease	0.46	0.05	0.11	0.03	0.11	0.10	152.2
Net Kirtland Decrease	42.28	4.49	7.55	1.83	6.60	5.93	13,192
Overall Net Increase	32.64	3.86	10.04	3.12	10.94	9.86	11,354

5.1 Cumulative Effects

The CEQ regulations implementing NEPA requires agencies to consider the potential for cumulative impacts of proposed actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over time. Cumulative impacts are defined in this document as those that would result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions. The proposed actions air emissions would remain constant in Chaves County, and would decrease in Chaves, Bernalillo and Valencia County. There are no significant cumulative impacts anticipated as a result of the proposed action.

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Appendix A-1: Air Quality Calculations

EF = 20.88 lbs CO2 /gal fuel
Source: AFCEC 2012

Bulk density = 6.7 lbs/gal
Source: ConocoPhillips 2012

EF = 3.116418 lbs CO2/lb fuel
EF = 3116 lbs CO2/1,000 lb fuel

Belen Arrivals from Kirtland

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.17	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	4.584	0.649	2.35	1.206	2.228	2.0074	1907
Approach	1240	0.0689	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	2.839	0.362	0.96	0.198	1.316	1.1857	1065
Intermediate	2180	0.0108	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	0.915	0.1	0.16	0.04	0.138	0.1238	294.4
Military	2456	0.0536	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	6.015	0.558	0.93	0.147	0.643	0.5793	1641
En route	1287	0.1153	4	8.379	1.06	2.76	0.572	3.7305	3.362	3116	4.973	0.629	1.64	0.339	2.214	1.9952	1849
Operations:	1764						Total Pounds per Operation:				19.33	2.298	6.04	1.93	6.538	5.8913	6756
							Total Short Tons per Year:				17.05	2.027	5.33	1.703	5.766	5.1961	5959

Belen Departures to Kirtland

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.1283	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	3.46	0.49	1.77	0.91	1.682	1.5154	1440
Approach	1240	0.0689	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	2.839	0.362	0.96	0.198	1.316	1.1857	1065
Intermediate	2180	0.0108	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	0.915	0.1	0.16	0.04	0.138	0.1238	294.4
Military	2456	0.0536	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	6.015	0.558	0.93	0.147	0.643	0.5793	1641
En route	1287	0.1153	4	8.379	1.06	2.76	0.572	3.7305	3.362	3116	4.973	0.629	1.64	0.339	2.214	1.9952	1849
Operations:	1764						Total Pounds per Operation:				18.2	2.139	5.46	1.635	5.992	5.3993	6289
							Total Short Tons per Year:				16.05	1.887	4.82	1.442	5.285	4.7622	5547

Belen Pattern - Depart and Land Opposite Runway

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.0106	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	0.285	0.04	0.15	0.075	0.138	0.1246	118.4
Approach	1240	0.0089	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	0.366	0.047	0.12	0.026	0.17	0.153	137.4
Intermediate	2180	0.0875	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	7.393	0.809	1.26	0.32	1.114	0.9995	2378
Military	2456	0.0328	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	3.677	0.341	0.57	0.09	0.393	0.3542	1003
Operations:	4536						Total Pounds per Operation:				11.72	1.237	2.1	0.511	1.815	1.6314	3637
							Total Short Tons per Year:				26.59	2.806	4.76	1.159	4.116	3.6999	8248

Belen Pattern - Tower

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.0069	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	0.187	0.027	0.1	0.049	0.091	0.082	77.9
Approach	1240	0.0153	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	0.63	0.08	0.21	0.044	0.292	0.2629	236.1
Intermediate	2180	0.1056	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	8.919	0.976	1.52	0.387	1.344	1.2058	2868
Military	2456	0.0389	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	4.363	0.405	0.68	0.107	0.466	0.4202	1190
Operations:	1008						Total Pounds per Operation:				14.1	1.487	2.5	0.587	2.193	1.971	4373
							Total Short Tons per Year:				7.106	0.75	1.26	0.296	1.105	0.9934	2204

Belen Pattern - Box

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.0017	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	0.045	0.006	0.02	0.012	0.022	0.0197	18.7
Approach	1240	0.0097	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	0.401	0.051	0.14	0.028	0.186	0.1673	150.3
Intermediate	2180	0.0975	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	8.238	0.901	1.4	0.357	1.241	1.1138	2649
Military	2456	0.0094	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	1.06	0.098	0.16	0.026	0.113	0.1021	289.1
Operations:	1764						Total Pounds per Operation:				9.744	1.057	1.73	0.423	1.562	1.4028	3107
							Total Short Tons per Year:				8.594	0.932	1.52	0.373	1.378	1.2373	2741

Pueblo Arrivals

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.0167	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	0.449	0.064	0.23	0.118	0.218	0.1968	187
Approach	1240	0.085	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	3.503	0.447	1.19	0.245	1.623	1.463	1314
Intermediate	2180	0	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	0	0	0	0	0	0	0
Military	2456	0	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	0	0	0	0	0	0	0
Operations:	52								Total Pounds per Operation:		3.953	0.51	1.42	0.363	1.842	1.6598	1501
									Total Short Tons per Year:		0.103	0.013	0.04	0.009	0.048	0.0432	39.02

Pueblo Departures

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.0167	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	0.449	0.064	0.23	0.118	0.218	0.1968	187
Approach	1240	0	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	0	0	0	0	0	0	0
Intermediate	2180	0.02	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	1.69	0.185	0.29	0.073	0.255	0.2285	543.4
Military	2456	0.0067	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	0.748	0.069	0.12	0.018	0.08	0.072	204.1
Operations:	96								Total Pounds per Operation:		2.887	0.318	0.63	0.21	0.553	0.4973	934.5
									Total Short Tons per Year:		0.139	0.015	0.03	0.01	0.027	0.0239	44.85

Pueblo Pattern - IFR

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.0017	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	0.045	0.006	0.02	0.012	0.022	0.0197	18.7
Approach	1240	0.0097	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	0.401	0.051	0.14	0.028	0.186	0.1673	150.3
Intermediate	2180	0.0975	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	8.238	0.901	1.4	0.357	1.241	1.1138	2649
Military	2456	0.0094	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	1.06	0.098	0.16	0.026	0.113	0.1021	289.1
Operations:	44						Total Pounds per Operation:				9.744	1.057	1.73	0.423	1.562	1.4028	3107
							Total Short Tons per Year:				0.214	0.023	0.04	0.009	0.034	0.0309	68.36

Kirtland Pattern - Depart and Land Opposite Runway

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.0106	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	0.285	0.04	0.15	0.075	0.138	0.1246	118.4
Approach	1240	0.0089	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	0.366	0.047	0.12	0.026	0.17	0.153	137.4
Intermediate	2180	0.0875	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	7.393	0.809	1.26	0.32	1.114	0.9995	2378
Military	2456	0.0328	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	3.677	0.341	0.57	0.09	0.393	0.3542	1003
Operations:	4536						Total Pounds per Operation:				11.72	1.237	2.1	0.511	1.815	1.6314	3637
							Total Short Tons per Year:				26.59	2.806	4.76	1.159	4.116	3.6999	8248

Kirtland Pattern - Tower

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.0069	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	0.187	0.027	0.1	0.049	0.091	0.082	77.9
Approach	1240	0.0153	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	0.63	0.08	0.21	0.044	0.292	0.2629	236.1
Intermediate	2180	0.1056	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	8.919	0.976	1.52	0.387	1.344	1.2058	2868
Military	2456	0.0389	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	4.363	0.405	0.68	0.107	0.466	0.4202	1190
Operations:	1008						Total Pounds per Operation:				14.1	1.487	2.5	0.587	2.193	1.971	4373
							Total Short Tons per Year:				7.106	0.75	1.26	0.296	1.105	0.9934	2204

Kirtland Pattern - Box

Power Setting	Fuel Flow Rate (lb/hr)	Time in Mode (hr)	Number of Engines	Emission Factor (lbs/1000 lbs fuel)							Emissions per Pollutant (lbs/mode)						
				NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2	NO_x	SO_x	CO	VOC	PM_{10}	$PM_{2.5}$	CO_2
Idle	900	0.0017	4	7.49	1.06	3.84	1.97	3.64	3.28	3116	0.045	0.006	0.02	0.012	0.022	0.0197	18.7
Approach	1240	0.0097	4	8.31	1.06	2.82	0.58	3.85	3.47	3116	0.401	0.051	0.14	0.028	0.186	0.1673	150.3
Intermediate	2180	0.0975	4	9.69	1.06	1.65	0.42	1.46	1.31	3116	8.238	0.901	1.4	0.357	1.241	1.1138	2649
Military	2456	0.0094	4	11.42	1.06	1.77	0.28	1.22	1.1	3116	1.06	0.098	0.16	0.026	0.113	0.1021	289.1
Operations:	1764						Total Pounds per Operation:				9.744	1.057	1.73	0.423	1.562	1.4028	3107
							Total Short Tons per Year:				8.594	0.932	1.52	0.373	1.378	1.2373	2741

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APPENDIX F

U.S. Fish and Wildlife Consultation

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U.S. Fish and Wildlife Letters

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DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

18 December 2012

Mr. James E. Fitzpatrick
Headquarters Air Education and Training Command
Engineering Division
266 F Street West
Joint Base San Antonio-Randolph TX 78150

Wally Murphy, Field Supervisor
U.S. Fish and Wildlife Service
New Mexico Ecological Services Field Office
2105 Osuna Road NE
Albuquerque, NM 87113

Re: Informal Consultation Regarding the 58th Special Operations Wing (58 SOW) Access to and Use of the Proposed Reinforced Cross-Wind Runway to be constructed by the City of Belen at the Alexander Municipal Airport, Belen, NM

Dear Mr. Murphy:

We are requesting concurrence from the U.S. Fish and Wildlife Service (USFWS) that the incremental/additional effects of reinforcing the proposed cross-wind runway by the City of Belen at the Alexander Municipal Airport, and the subsequent access to and use by the U.S. Air Force (USAF) for C-130 short-field takeoff and landing training by the 58 SOW out of Kirtland Air Force Base (KAFB) at the Alexander Municipal Airport, located in Belen, NM, *will affect but is not likely to adversely affect* the Federally listed species that potentially occur within Valencia County.

The USAF is preparing a Draft Environmental Assessment (EA) addressing use of a planned runway to be constructed by the City of Belen (Alexander Municipal Airport) for C-130 training. The 58 SOW currently conducts low level approaches at Alexander Municipal Airport, but no landings, as the existing runway is not designed or constructed for C-130 landing. Furthermore, there are no suitable airfields or airports within a 50 nautical mile radius of KAFB currently configured to accommodate this type of training. If the planned runway is constructed by the City of Belen to sufficient standards to support C-130 landings and takeoffs, the 58 SOW intends to pursue access to and use of the Alexander Municipal Airport for that component of C-130 training.

The existing proposal to increase the capabilities of the Alexander Municipal Airport near Belen, NM by constructing a cross-wind runway that could accommodate additional civilian air traffic was evaluated in the *Environmental Assessment Document Proposed Airport Expansion Belen Municipal Airport (2005);* the EA was approved by the Federal Aviation Administration (FAA) with a Finding of No Significant Impact (FONSI), issued on 30 September 2005 ("the Belen Airport EA"). The Belen Airport EA analyzed the effects of building and operating the cross-wind runway to support civilian/general aviation, and did not include an analysis of the environmental consequences of 58 SOW use of that runway or of C-130 landings and takeoffs. Therefore, the USAF EA addresses the incremental/additional

impacts that could occur if the proposed runway were to be built to a standard sufficient to support C-130 landings/takeoffs and associated activities by the 58 SOW, and includes an assessment of the USAF operations that were not analyzed in the prior EA (the "Proposed Action").

To update the previous analyses, the USAF reviewed the USFWS Southwest web site (http://www.fws.gov/southwest/es/NewMexico/) on 11 December 2012 to determine if any federally listed species or critical habitat potentially occurs in the vicinity of the project location.

The following species are listed in Valencia County and may potentially occur at or near the airport:

Species	Federal Status	Preferred Habitat	Preferred Habitat Available at Alexander Municipal Airport?
Yellow-billed cuckoo (*Coccyzus americanus*)	Candidate	Forested streamsides	No
New Mexican meadow jumping mouse (*Zapus hudsonius luteus*)	Candidate	Riparian habitat	No
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	Dense riparian habitat	No
Whooping crane (*Grus americanus*)	Non-essential experimental population	Wetlands	No
Rio Grande silvery minnow (*Hybognathus amarus*)	Endangered	Riverine	No
Mexican spotted owl (*Strix occidentalis lucida*)	Threatened	Forested habitat	No
Black-footed ferret (*Mustela nigripes*)	Endangered	Prairie and grassland habitat with prairie dogs	Some prairie dog burrows present (limited)

The Plains-Mesa Sand Scrub biotic community characterizes the project area, in which sand sage (*Artemisia filifolia*) and broom snakeweed (*Gutierrezia sarothrae*) dominate the plant community. The majority of the Federally-listed species within Valencia County rely on riparian and wetland habitat which does not occur at or near the airport.

There is designated critical habitat within Valencia County for the Rio Grande silvery minnow and the Mexican spotted owl. However, critical habitat for the Rio Grande silvery minnow lies within the Rio Grande River which is approximately five miles east of the Alexander Municipal Airport. Critical habitat for the spotted owl is also located east of airport. Habitat for these species is not available at the airport or within the area affected by the Proposed Action; therefore, the USAF anticipates that neither these species nor their critical habitat would be affected by the Proposed Action.

Potential habitat for the black-footed ferret includes areas with large complexes of prairie dog colonies. Surveys are required in areas where a project involves impacts to prairie dog towns or complexes of 200 acres or greater for the Gunnison's prairie dog (*Cynomys gunnisoni*) and/or 80-acres or more for any subspecies of black-tailed prairie dog (*Cynomys ludovicianus*). While prairie dog burrows have been observed at or near the airport, in the area of the Proposed Action, no large complexes have been observed. In addition, the Proposed Action does not involve disturbance to the vegetation or soil that could potentially impact prairie dog burrows and black-footed ferret habitat. Therefore, the USAF anticipates that neither these species nor their critical habitat would be affected by the Proposed Action, because the Proposed Action does not involve activities or operations within or adjacent to any areas that support native vegetation and habitat for these species.

In addition to the list of federally designated species, the list of the following 14 state-designated species known or suspected to occur in Valencia County was reviewed:

Species	State Status	Preferred Habitat	Preferred Habitat Available at Alexander Municipal Airport?
Pecos Sunflower (*Helianthus paradoxus*)	Endangered	Wetlands	No
Rio Grande silvery minnow (*Hybognathus amarus*)	Endangered	Riverine	No
Black Hawk (*Buteogallus anthracinus anthracinus*)	Threatened	Obligate riparian-breeding species associated with mature, streamside gallery forests	No
Neotropic Cormorant (*Phalacrocorax brasilianus*)	Threatened	Wetlands	No
Bald Eagle (*Haliaeetus leucocephalus alascanus*)	Threatened	Migrant- rivers and lakes	No
Peregrine Falcon (*Falco peregrinus anatum*)	Threatened	Breeding-cliffs/rocks; foraging-forests, wetlands and lowland habitats	No
Arctic Peregrine Falcon (*Falco peregrinus tundrius*)	Threatened	Migrant	No
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	Dense riparian habitat	No
Common Ground Dove (*Columbina passerine pallescens*)	Endangered	River bottom woodlands, desert scrub and washes, and xeric riparian area	No
Broad-billed Hummingbird (*Cynanthus latirostris magicus*)	Threatened	Riparian woodland and adjacent dryland habitats	No
Baird's Sparrow (*Ammodramus bairdii*)	Threatened	Grassland	No
Bell's Vireo (*Vireo bellii arizonae* and *V.b. medius*)	Threatened	Dense shrubs or woods along lowland streams	No
Spotted bat (*Euderma maculatum*)	Threatened	Rock crevices-forage over water	No
New Mexican meadow jumping mouse (*Zapus hudsonius luteus*)	Endangered	Riparian habitat	No

Individuals of the species listed above by the State of New Mexico have not been observed within the area affected by the Proposed Action; however migrants may occasionally pass through the area. There is no preferred habitat for these species on or near the area affected by the Proposed Action.

For these reasons, we conclude that the incremental/additional effects related to potential C-130 short-field takeoff and landing training by the 58 SOW at the Alexander Municipal Airport, once the cross-field runway is built and reinforced by the City of Belen, are not likely to adversely affect the seven Federally-listed candidate, threatened, or endangered species known to occur in Valencia County, nor the other fourteen state-listed species.

We request your concurrence with our determination(s). When complete, copies of the Draft EA and the proposed FONSI will be forwarded for your review. Please provide written comments, concurrence, or other information regarding the action at your convenience--within 30 days if possible from receipt of this letter.

If you have any questions, please contact Ms. Kimberly Fornof at [redacted] or kimberly.fornof@us.af.mil

Sincerely

[redacted]

JAMES E. FITZPATRICK, GS-15, P.E., CFM
Chief, Engineering Division

U.S. Fish and Wildlife Responses

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From: FORNOF, KIMBERLY J GS-13 USAF AETC AETC/A7NR
To: Hein, Eric
Cc: [redacted]
Subject: RE: Reinforcement of the Belen Alexander Municipal Airport
Date: Tuesday, January 22, 2013 11:59:42 AM

Eric,
Thank you for your concurrence.

vr,

Kim Fornof
HQ AETC/A7NR
Randolph AFB, TX
[redacted]

-----Original Message-----
From: Hein, Eric [redacted]
Sent: Tuesday, January 22, 2013 11:53 AM
To: FORNOF, KIMBERLY J GS-13 USAF AETC AETC/A7NR
Subject: Reinforcement of the Belen Alexander Municipal Airport

Good morning Kim:

Thank you for requesting our review of your proposed to reinforce the Belen Alexander Municipal Airport cross-field runway to C-130 standards enabling short-field takeoff and landing training by the 58th SOW wing. Under the Endangered Species Act, as amended, 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 U. S. Fish and Wildlife Service further.

You have determined that the proposed project "may affect, but is not likely to adversely affect" Federally-listed species. Based on the information provided, we believe your conclusions are appropriate and concur.

Thanks.

Eric

--
Eric W. Hein
U.S. Fish and Wildlife Service
2105 Osuna NE
Albuquerque, New Mexico 87113
[redacted]

GOVERNOR
Susana Martinez

DIRECTOR AND SECRETARY
TO THE COMMISSION
James S. Lane, Jr.

DEPUTY DIRECTOR
Daniel E. Brooks

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

One Wildlife Way, Santa Fe, NM 87507

Post Office Box 25112, Santa Fe, NM 87504

Tel: (505) 476-8000 | Fax: (505) 476-8123

For information call: (888) 248-6866

www.wildlife.state.nm.us

STATE GAME COMMISSION

SCOTT BIDEGAIN
Chairman
Tucumcari

THOMAS "DICK" SALOPEK
Vice-Chairman
Las Cruces

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Albuquerque

ROBERT ESPINOZA, SR.
Farmington

PAUL M. KIENZLE III
Albuquerque

BILL MONTOYA
Alto

RALPH RAMOS
Las Cruces

Kirtland Air Force Base NEPA Program Manager
377 MSG/CEIE
2050 Wyoming Blvd. SE, Bldg 20685, Ste. 126
Kirtland AFB, NM 87117-5270

New C-130 Landing Zone Draft Environmental Assessment NMDGF Doc. No.15883

Dear Sirs:

The Department of Game and Fish (Department) has reviewed the above-referenced project. The Department does not anticipate adverse effects to wildlife or important wildlife habitats from implementation of this project.

We appreciate the opportunity to comment on this project. Should you have any questions regarding these comments, please contact Mark Watson, Habitat Specialist, of my staff at (505) 476-8115 or mark.watson@state.nm.us.

Sincerely,

Kenneth K. Cunningham
Assistant Chief, Ecological and Environmental Planning Division

APPENDIX E

Section 106 Information/SHPO Consultation

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SHPO Letters

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DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

17 December 2012

Colonel Vincent K. Becklund
Commander, 58th Special Operations Wing
4249 Hercules Way SE
Kirtland AFB NM 87117-5861

Dr Jeffery Pappas
State Historic Preservation Officer
Office of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501

Dear Dr Pappas

This letter is a request for concurrence of no effect to historic properties. The proposed project is to support the mission of the 58th Special Operations Wing (SOW) at Kirtland Air Force Base (AFB), New Mexico to train special operations, combat search and rescue, missile site support, and UH-1 Helicopter Distinguished Visitor airlift crews. Training is accomplished using a mixture of two types of helicopters, three specialized versions of the C-130 airplane, and the new CV-22 Osprey tiltrotor aircraft. As part of the C-130 training, the 58 SOW conducts short-field landing training and night vision goggle (NVG) approach and landing training.

The purpose of this project is to identify and improve runways near Kirtland AFB to support realistic C-130 short-field landing training and NVG approach and landing training. The 58 SOW is proposing to correct current C-130 aircraft and NVG training deficiencies working with Alexander Municipal Airport (Belen, New Mexico). The 58 SOW currently uses Alexander Municipal Airport for low-approach training (with no landings).

Through the FAA's *Airport Improvement Program,* the Alexander Municipal Airport managers have plans to construct a new crosswind runway at Alexander Municipal Airport. This action has already been analyzed in a separate NEPA document entitled *Environmental Assessment Document Proposed Airport Expansion Belen Municipal Airport*, wherein the Air Force proposed the option of utilizing this airport for C-130 training.

This area is highly disturbed, developed, and covered in asphalt; therefore, no cultural resources are anticipated to be uncovered by the proposed action. If resources are inadvertently discovered, standard practices for inadvertent discovery will be complied in accordance with the National Historic Preservation Act, [Section 800.6, 800.11 (b)(2)(i)].

We appreciate your review of this information and will assume your concurrence if no reply is received within 30 days. If you have any questions or require further information, please contact Ms Valerie Renner, Kirtland AFB Cultural Resources Program Manager, at [redacted].

Sincerely

[redacted]

VINCENT K. BECKLUND, Colonel, USAF
Commander

DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

20 May 2013

Colonel Vincent K. Becklund
Commander, 58th Special Operations Wing
4249 Hercules Way SE
Kirtland AFB NM 87117-5861

Dr Jeffery Pappas
State Historic Preservation Officer
Office of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501

Dear Dr Pappas

As you are aware from our previous correspondence with you, dated 17 December 2012, the U.S. Air Force's Air Education and Training Command (AETC) is in the process of preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to assess potential environmental impacts of the proposal supporting the mission of the 58th Special Operations Wing (SOW) at Kirtland Air Force Base (AFB).

This proposed action is to identify existing or proposed runways near Kirtland AFB that could be used to support realistic C-130 short-field landing training and Night Vision Goggle (NVG) approach and landing training. The 58 SOW is proposing to correct current C-130 aircraft and NVG training deficiencies by working with Alexander Municipal Airport (Belen, New Mexico). Since the USAF proposes to utilize facilities at Belen Alexander Municipal Airport, a civilian/general aviation airport, the Federal Aviation Agency (FAA) is a cooperating agency.

Through the FAA's Airport Improvement Program, the Alexander Municipal Airport managers have plans to construct a new crosswind runway at Alexander Municipal Airport. This action has already been analyzed in a separate NEPA document entitled "Environmental Assessment Document Proposed Airport Expansion Belen Municipal Airport," wherein the Air Force proposed the option of utilizing this airport for C-130 training.

Subsequent to our previous communication in December 2012, the FAA has requested that the USAF expand the Area of Potential Effect (APE) and analyze the effects within the larger APE. Please refer to the attached "Description Of Undertaking And Findings Of Effect" for a summary of the detailed analyses (Attachment A).

As a federal undertaking, these projects are subject to 36 Code of Federal Regulations (CFR) Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (NHPA) (16 U.S. Code [USC] Section 470t); with this letter the Air Force requests your concurrence with our Finding of No Effect/No Adverse Effect.

The following documentation as detailed in Section 800.11(d) is included for your review:

- Details of the actions that would occur at the Belen Alexander Municipal Airport, Belen, NM, and in the associated airspace (Attachments A and C);
- A delineation of the APE (Attachment B);
- A summary description of the efforts we made to identify historic properties in the project APE (Attachments A and D); and
- The basis for determining no historic properties are present or affected (Attachments A and E).

Archaeological and historic architectural resources under airspace, which were unlikely to be affected by aircraft overflights, were characterized using the records of the National Register of Historic Places (NRHP) and National Historic Landmarks. There are no National Historic Landmarks within the APE, but a small portion of the El Camino Real de Tierra Adentro National Historic Trail (managed jointly by the National Park Service and the Bureau of Land Management) does lie within the APE. In addition, many more eligible or potentially eligible cultural resources associated with the history of the region are likely to underlie the airspace.

Scientific studies of the effects of noise and vibration on historic properties in the past have considered potential impacts on historic buildings, prehistoric structures, water tanks, archaeological cave/shelter sites, and rock art. These studies have concluded that overpressures generated by supersonic overflight were well below established damage thresholds and those subsonic operations would be even less likely to cause damage. In addition, visual effects from implementing the proposed action would be minimal, as substantial numbers of overflights are already occurring.

Therefore, in accordance with 36 CFR Part 800.5(a)(l), the Air Force has reached a finding of No Effect regarding direct effects, and No Adverse Effect regarding indirect effects. Also in accordance with Section 106 of the NHPA and Executive Order 13175, the Air Force has contacted Native American tribes/pueblos located within or known to have cultural affiliations within New Mexico to consult on a government-to-government basis regarding their concerns. The latest letters were sent December 2012 and followed up with telephone contact to the tribes. Tribes have expressed no concerns.

We appreciate your review of the enclosed information. Contact Kim Fornof at [redacted] for additional information regarding this proposed undertaking. Please address written comments to HQ AETC/A7NR, 266 F Street West, Building 901, JBSA-Randolph 78150-4319.

Sincerely

[redacted]

VINCENT K. BECKLUND, Colonel, USAF
Commander

5 Attachments
I. Attachment A - Description of Undertaking and Summary of Effects
2. Attachment B - Location Map Showing APE
3. Attachment C -Location Map Showing Planned On-Airport Construction (Runway Configuration)
4. Attachment D - Table of Historic Properties Identified Within the APE
5. Attachment E- Table Summarizing Findings of Effect to Historic Properties within the APE

cc:
Isleta Pueblo
Laguna Pueblo
National Park Service and Bureau of Land Management (El Camino Real de Tierra Adentro National Historic Trail)
Advisory Council on Historic Preservation (Ms Katry Harris)
Federal Aviation Agency (Mr Tim Tandy)
New Mexico Department of Transportation (Ms Jane Lucero)

ATTACHMENT A

Description of Undertaking and Summary of Findings

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ATTACHMENT A
DESCRIPTION OF UNDERTAKING AND FINDINGS OF EFFECT

SECTION I DESCRIPTION OF THE UNDERTAKING

A. TITLE OF UNDERTAKING: Establishment of a New C-130 Landing Zone for Use by the US Air Force (USAF) 58 Special Operations Wing (58 SOW) at the Belen Alexander Municipal Airport (BAMA), Belen, New Mexico (NM).

B. LOCATION: Belen Alexander Municipal Airport (BAMA) and Adjoining Areas (SEE AREA OF POTENTIAL EFFECT, ATTACHMENT B)

C. DESCRIPTION OF PROPOSED UNDERTAKING:

The 58 SOW is based at Kirtland Air Force Base (AFB), located on the southeast side of Albuquerque, in north central New Mexico (NM). The 58 SOW trains mission-ready aircrew utilizing seven unique aircraft (including C-130s) for personnel recovery and special operations for world-wide deployment to combat zones and disaster areas. This mission requires that aircrews be trained at locations with variable and differing attributes, in anticipation of conditions that will be encountered at real world deployment airfields.

The 58 SOW currently uses the following runways at civilian airports for short-runway takeoff and landing training: Roswell International Air Center (includes Cannondale Runway) near Roswell, NM; Pueblo Memorial Airport near Pueblo, Colorado; and the Albuquerque International Sunport in Albuquerque, NM, immediately adjacent to Kirtland AFB. None of these existing locations provided optimum training experiences, due to runway characteristics, travel/commuting time, and other use constraints. As access to less developed airfields is required, access to these runways is not sufficient to fully support the current training syllabus/needs. Thus, additional access to suitable short-field runways at austere airfields is needed to assure that special operations aircrews can obtain training in the widest possible range of situations simulating those that could be encountered in real world missions.

Independent of the process of identifying and remedying training shortfalls for the 58 SOW, the airport manager at BAMA developed plans as part of the FAA's Airport Improvement Program (a grant program financed through fuel and excise taxes). As part of routine discussions between the 58 SOW and the airport manager at BAMA, the USAF proposed the option of utilizing this airport for C-130 landing training. The airport manager at BAMA was receptive to the proposal and discussions are continuing regarding eventual use of the planned cross-wind runway for 58 SOW C-130 landing training . The existing proposal is to increase the capabilities of the BAMA by constructing a cross-wind runway to accommodate additional civilian air traffic (ATTACHMENT C). The environmental consequences of constructing and operating a new cross-wind runway have been evaluated in the BAMA EA (2005), which was approved by the FAA with a Finding of No Significant Impact (FONSI) issued on September 30, 2005.

No net increase in overall landing training operations is contemplated; implementation of this alternative would result in a decrease in ongoing operations at the other landing zones currently in use and an increase at the BAMA location. Other current training activities at BAMA would continue at the present rate where current operations are limited to low-level approaches with no actual landing.

Per the requirements of the National Environmental Policy Act (NEPA), several alternatives were analyzed, but only one location – use of the proposed cross-wind runway 13/31 at BAMA – will fulfill the near-term requirements of the 58 SOW. The proposed cross-wind runway would be constructed and strengthened by the City of Belen with assistance from the State of New Mexico Aviation Division. The full analysis of alternatives considered and the effects of the proposed action is ongoing (including an analysis of the effects on historic properties per the requirements of the National Historic Preservation Act).

The other alternative analyzed is the "No Action" alternative. Under the No Action Alternative, the existing C-130 training consisting of low approaches, but no landings, would continue at BAMA. Current C-130 landing/takeoff training would continue, with training flights distributed between Roswell International Air Center, NM; Pueblo Memorial Airport, Colorado; and Albuquerque International Sunport. Student pilots/aircrews would continue to train on runways which are not fully representative of the "real world" conditions they will encounter in carrying out special operations missions subsequent to training. At BAMA, pilots would conduct low approach operations but would not descend below 50 feet above ground level (AGL). The USAF would continue to spend extra funds in fuel

costs and lose training time to travel to airports located well over 50 nm from Kirtland AFB. Albuquerque International Sunport Runway 12/30 would continue to be used for night training. Night training would continue at runways which have substantial lighting from nearby population centers. Ambient light limits the effectiveness of the training utilizing night vision enhancement technologies, and potentially causing safety concerns for pilots.

SECTION II: DESCRIPTION OF AREA OF POTENTIAL EFFECT (APE)

The area of potential effect (APE) for cultural and traditional resources encompasses areas where ground disturbing activities would occur and those areas underlying airspace where noise is generated by aircraft overflights. The Area of Potential Effect (APE) includes areas within the boundaries of the BAMA (for proposed runway construction and strengthening) and currently approved and utilized airspace at, above, and in the vicinity of BAMA (Attachment B, C). The APE is three dimensional, and includes subsurface, surface, and airspace lying above the potentially affected surface.

As all construction activities, if implemented, will occur within or as revisions to existing facilities or in previously surveyed areas, no direct effects are anticipated to subsurface areas or surface facilities. A Phase I archeological survey was conducted by the City of Belen (Reynolds, Brisson, and Martinez. 2003. An Archaeological Survey for Proposed Belen Airport Expansion, Belen, Valencia County, New Mexico). One archeological site was identified within the area that could be directly disturbed by construction of the runway (site determined ineligible for listing in the National Register of Historic Places). No historic buildings/structures are present at the BAMA.

Similarly, as no subsurface areas underlying existing approved airspace will be affected, no effects to off-airport subsurface portions of listed or eligible properties are anticipated.

SECTION III: IDENTIFICATION OF HISTORIC PROPERTIES AND TRADITIONAL RESOURCES IN THE AREA OF POTENTIAL EFFECT (APE)

"Historic properties" include "… any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register (16 U.S.C. Section 470(w)(5)."

Traditional resources are associated with specific Indian traditional resources, sacred sites, or areas. These resources are protected under the Archaeological Resource Protection Act (16 USC Sections 470aa-19 470mm, PL 96-95 and amendments), the Native American Graves Protection and Repatriation Act (PL 101-20 601; 25 USC Sections 3001-3013), and the American Indian Religious Freedom Act (PL 95-341, 42 USC 21 Sections 1996 and 1996a). The NHPA and associated Section 106 compliance also include guidance for American Indian consultation regarding cultural significance of potential religious and sacred artifacts (16 USC Sections 470a [a][6][A] and [B]).

Per 36 CFR §800.4 (b) (1) and (2), the US Air Force has made a reasonable and good faith effort to carry out appropriate identification efforts, taking into account the magnitude and nature of the undertaking as well as the nature and extent of potential effects on historic properties. Though there are numerous historic properties within the Area of Potential Effect, the properties identified in the table entitled "Summary of Representative Historic Properties Potentially Affected" (ATTACHMENT D) were selected as the most representative based upon their location and character. These properties are listed in the National Register of Historic Properties (NRHP), and there is sufficient publically available information to formulate findings regarding effects. Other properties in the APE that are similarly situated and with similar characteristics would experience similar effects from the proposed action, so identification of every property is not necessary.

A. HISTORIC PROPERTIES AND TRADITIONAL RESOURCES WITHIN THE APE SUBJECTED TO DIRECT EFFECTS FROM THIS UNDERTAKING:

None. No construction or ground-disturbing activities are proposed. The areas within the airport boundaries have previously been surveyed, and no eligible sites or structures within the areas that will be disturbed due to construction activities were identified.

B. HISTORIC PROPERTIES AND TRADITIONAL CULTURAL PROPERTIES WITHIN THE APE SUBJECTED TO INDIRECT EFFECTS FROM THIS UNDERTAKING:

The portion of the APE where indirect effects could occur is the area underlying the airspace where continuing operations will take place, and that could be affected by noise and visual intrusion. See the attached Table (ATTACHMENT D) for a summary of NRHP listed sites within the APE.

There are likely other eligible properties within the APE, but those properties are not specifically identified herein, as the effects upon those properties is not expected to differ from effects upon similar properties already listed in the National Register of Historic Properties.

No other traditional cultural properties or historic properties that could be adversely affected have been identified.

C. HUMAN REMAINS:

As there are no ground operations or ground-disturbing activities proposed in previously undisturbed or unsurveyed areas, it is not anticipated that human remains will be encountered. In the unlikely event that human remains are inadvertently discovered, activities or work in the vicinity of the discovery will stop and the Air Force will take measures to help secure the remains and any associated context.

SECTION IV: DETERMINATION OF POTENTIAL EFFECT

Pursuant to 36 CFR §800.4 (d) (1), we have determined that this undertaking will have **no effect (no direct or indirect effect)** on known or undiscovered/unevaluated archeological sites or districts.

Rationale for finding: No ground-disturbing activities in previously undisturbed or unevaluated areas are contemplated as a part of this undertaking. In the unlikely event archeological deposits are discovered during the implementation of the proposed action (preferred alternative), as discussed above, activities or work in the vicinity of the discovery will stop and the area will be secured until appropriate measures can be taken. If either the Proposed Action (Preferred Alternative) or the "No Action" alternative is implemented, there will be no potential for effect.

Regarding indirect effects, pursuant to 36 CFR §800.5 (b), we have determined that this undertaking will have **no adverse effect** on historic properties:

Rationale for finding: Any potential effects to historic properties through implementation of the Proposed Action/Preferred Alternative would be due to noise or visual effects generated from overflights. Preliminary analyses of the noise and other indirect effects of this undertaking indicate that if the proposed action/preferred alternative (use of the strengthened runway at BAMA by the 58 SOW) is implemented, there would be a very slight potential for additional noise impacts (including vibration and overpressure effects) to sensitive resources, including historic properties in the vicinity of BAMA, similar to the effects (if any) already occurring due to air traffic in the area. Similarly, there is a slight potential for visual effects, beyond those already occurring. Implementation of the No Action alternative would result in the continuation of the current level of effects to historic properties.

See Attachment E for a summary of potential effects, including existing restrictions/constraints that effectively reduce effects.

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ATTACHMENT B

Location Map Showing Area of Potential Effect (APE)

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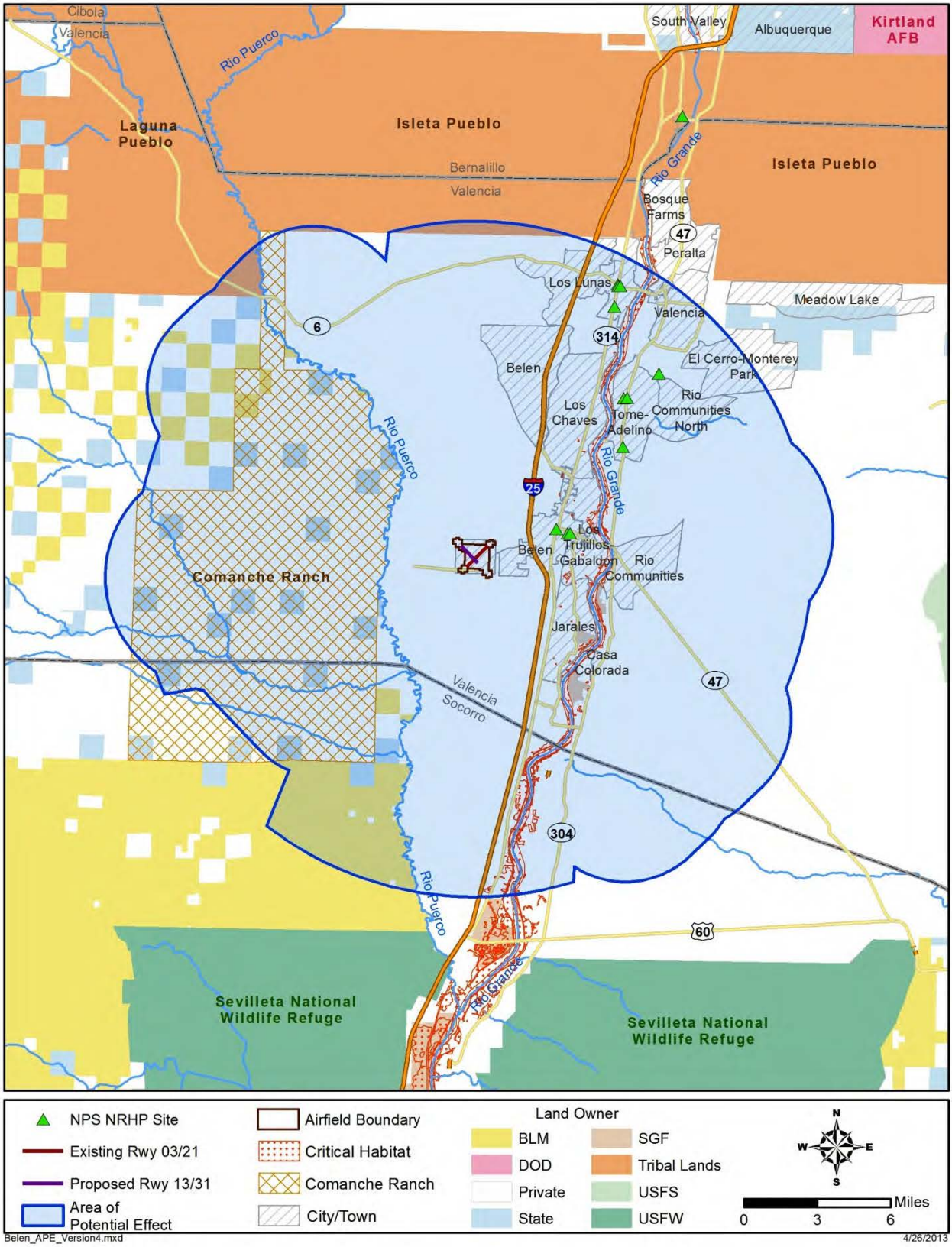
Area of Potential Effect for Planned Operations at the Belen Alexander Municipal Airport



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ATTACHMENT C

Location Map Showing Planned On-Airport Construction (Runway Configuration)

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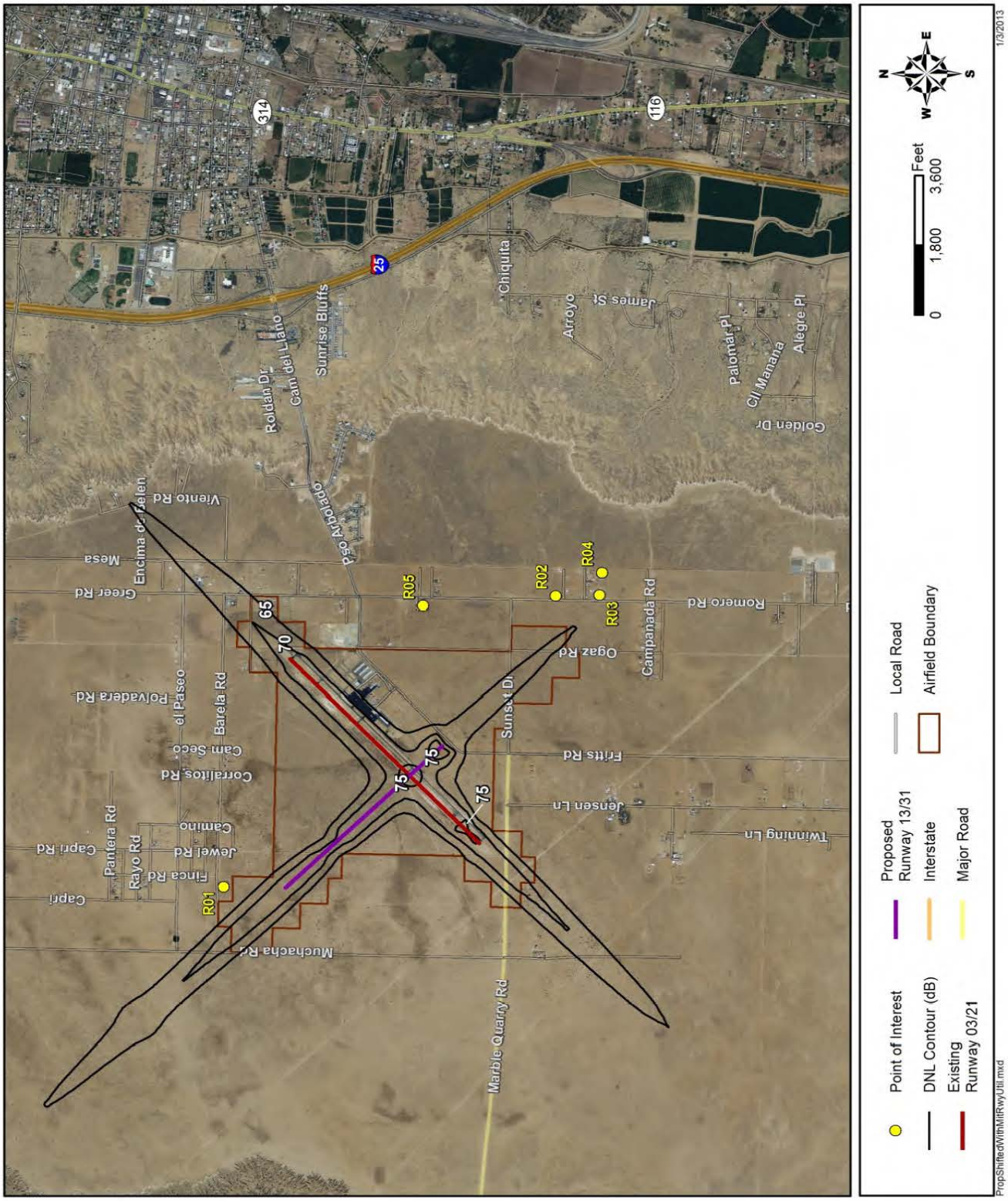
Proposed Cross-Wind Runway 13/31 Location at the Belen Alexander Municipal Airport



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ATTACHMENT D

Table – Summary of Historic Properties Potentially Affected

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Summary of Representative Historic Properties Potentially Affected

Property Name	County	Address	Type	National Register No.	Features	Photographs*
Belen Hotel	Valencia	200 Becker Avenue, Belen NM	Building/ Structure	80002574	Red brick building typical of the period (Territorial/Early Statehood); associated with the coming of the railroad to the Rio Grande Valley south of Albuquerque. Restored in the mid-90s by artist Judy Chicago as a residence, gallery, and studio. Privately owned.	
Belen Harvey House	Valencia	101 N First Street, Belen, NM	Building	83004180	Once part of the old Harvey House restaurant chain established along the Santa Fe Railway, the building now is a museum, with many items related to the Fred Harvey Organization and the Santa Fe Railway. The museum is located on the west side of the Belen Railyard, which sees nearly 100 trains a day. Open to the public.	
Felipe Chaves House	Valencia	325 Lala Street, Belen, NM	Building	80002575	José Felipe Chaves (known as Felipe) was the descendent of two of the most powerful and influential New Mexican families of the day. After a devastating flood in Los Padillas, Felipe and his wife, Josefa, moved to Belen and opened a very successful general merchandise store. They later expanded their business to include cattle and sheep ranching. Felipe's business extended up and down the Santa Fe Trail and eventually included	

Summary of Representative Historic Properties Potentially Affected

Property Name	County	Address	Type	National Register No.	Features	Photographs*
					commercial activities in New York City, mining investments in Mexico, and banking in Albuquerque and Santa Fe. As a stockholder in the A.T. & S. F. Railroad, Chaves was instrumental in getting the Santa Fe cut-off built through Belen. Privately owned.	
Miguel E. Baca House	Valencia	Church Loop & Old NM 47 (approximate), Adelino, NM	Building/ complex	78001835	This complex, dating to the Territorial Period (1846 – 1912), was an example of the hacienda style in the late 1800s. The house compound, dating from 1898, included a store, saloon, and dance hall. Miguel E. Baca was a State Representative from Adelino in the early 1900s. He served in the first legislatures convened following New Mexico statehood (in 1912). Among other assignments, he served as chairman of the NM House Penitentiary Committee. Privately owned.	***No photographs/drawings available.***
Los Ojuelos (Commanche Springs) near Tome (approximate)	Valencia	East of Tome (location/ address restricted)	District	87002080	Paleo-Indian, Prehistoric, and historic complex associated with a pair of natural springs east of Tome, near the foothills of the Manzano Mountains. Not open to the public.	***Location/characteristics restricted. No photographs/drawings available.***

Summary of Representative Historic Properties Potentially Affected

Property Name	County	Address	Type	National Register No.	Features	Photographs*
Old Tome Jail	Valencia	Off Old Hwy 47, Tome Plaza, Tome-Adelino (Los Lunas), NM	Building	77000932	The jail was constructed in 1875 on the southwest corner of the historic 1739 Tome Plaza. It was one room in the 50' x 25' two story adobe Valencia County Courthouse. The 15' x 25' one story portion is all that survives. The county seat was removed to Los Lunas in December 1876, so this jail served the county for less than 2 years. The builder was Jesus Chavira, who was a deserter from the Mexican army. One of Jesus Chavira's jobs was to build the Tome Jail, in 1875. Unfortunately, Jesus Chavira succumbed to pneumonia a short time after the construction was finished.	

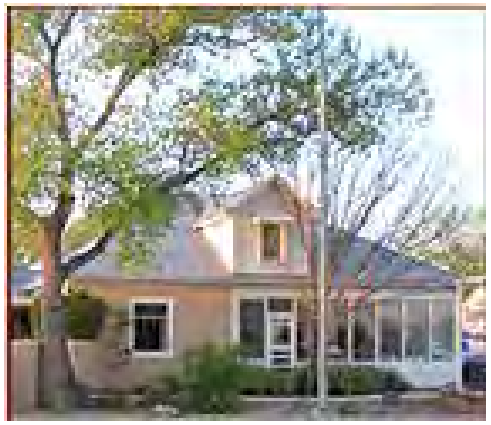
Summary of Representative Historic Properties Potentially Affected

Property Name	County	Address	Type	National Register No.	Features	Photographs*
El Cerro Tome (also known as Tome Hill)	Valencia	0.5 mi E of Junction of NM 47 and Tome Hill Road, Tome-Adelino (Los Lunas), NM	Site	96000739	Tome Hill is in the ancient floodplain of the Rio Grande, and may have been used as an escape from flooding in prehistoric times. It was an important cosmological feature in prehistoric times. Nine anthropological sites have been documented. The pueblo Indian village is believed to be from the Anasazi. Over 1,800 petro-glyphs in the Rio Grande style have been documented and catalogued; the oldest petroglyph is believed to be about 2,000 years old. Tome Hill is also sacred to many Christians in the area. Before 1947, there was an annual pilgrimage by the Penitentes, who carried crosses up the hill to the highest point, and then back down again. In 1947 Edwin Berry placed three permanent crosses and a shrine on the top of the hill, where they still stand today. Every year, on Good Friday, a similar pilgrimage is made to the shrine at the top of the hill.	 ***Tome Hill Aerial View***  ***Easter Week Pilgrimage, Tome Hill***  ***Permanent Crosses/Shrine, Tome Hill***

Summary of Representative Historic Properties Potentially Affected

Property Name	County	Address	Type	National Register No.	Features	Photographs*
Atchison, Topeka, and Santa Fe (ATSF) Railroad Depot	Valencia	US 85, Los Lunas , NM	Building	79001562	The ATSF was one of the largest railroad companies in the United States. Chartered in Kansas in 1859, it later exercised great influence on the settlement of the southwestern United States. The railroad was founded by Cyrus K. Holliday, a Topeka lawyer and business promoter, who sought to build a railroad along the Santa Fe Trail, a 19th-century trading route that ran from Independence, Mo., to Santa Fe, N.M. The ATSF Depot in Los Lunas is typical of smaller depots in the Southwest.	
Tranquilino Luna House (also known as the Luna Mansion)	Valencia	Junction US 85/ SH 6, Los Lunas, NM	Building	75001175	Associated with the Luna family of Los Lunas, NM. Tranquilino Luna (1849 – 1892) was a Delegate to the United States House of Representatives from the Territory of New Mexico. The building is southern colonial in style, and is constructed of adobe. Don Antonio Jose Luna, who commissioned the house, died in 1881, so his oldest son, Tranquilino, was the first to occupy the home. After Don Tranquilino's death, Solomon Luna inherited the house, and it passed to his nephew, Eduardo Otero, in the early 1900's. During the 1920s, the mansion was expanded and refined; the solarium was constructed, the front portico was added, and	

Summary of Representative Historic Properties Potentially Affected

Property Name	County	Address	Type	National Register No.	Features	Photographs*
					the ironwork fencing was erected. The house, now known as the Luna Mansion, is a restaurant in the Village of Los Lunas, and is open to the public.	
Otero's 66 Service	Valencia	100 Main Street, Los Lunas, NM	Building	03000051	Otero's Route 66 Service Station was opened in 1925, and was owned and operated by Frank and Mamie Otero for almost 30 years. (Route 66 used to pass through Los Lunas, following the route of present day Highway 6 through the Rio Puerco valley to the west of Los Lunas). The classic "filling station" design has changed little since it was built.	
Dr. William Frederick Wittwer House	Valencia	144 Main Street NW, Los Lunas, NM	Building	87000131	More than 90 years ago, the building, which now is home to Teofilo's Restaurant, was constructed and served as both the home and office of Dr. William Frederick Wittwer. In 1899, Wittwer stepped off the train in Los Lunas, on his way to El Paso, TX. He ended up staying on in Los Lunas. About 15 years later, the house was built for the doctor and his family on land purchased from the Solomon Luna estate. The home was also used as the doctor's office. The archi-tectural design, supervised by the doctor's wife, Anna Nowlin, features terrone wall construction and a high, pitched, corrugated tin roof.	

Summary of Representative Historic Properties Potentially Affected

Property Name	County	Address	Type	National Register No.	Features	Photographs*
La Capilla de San Antonio de Los Lentes (also known as San Antonio Chapel)	Valencia	Los Lentes Road and Trujillo Road, Los Lunas, NM (address is approximate)	Building	03001351	La Capilla de San Antonio was built in the final decades of the 18th century to serve the residents of the village of Los Lentes, a community on the west bank of the Rio Grande south of Isleta Pueblo. The chapel was constructed over the ruins of Los Lentes Pueblo, a Tiwa Indian village that is thought to have been abandoned by 1630. San Antonio is cruciform in plan and retains the appearance of a folk gothic New Mexican church due to significant alterations made to the roof structure around 1912. The chapel is constructed of terrones, or unfired, dried sod bricks.	 ***San Antonio Chapel ca. 1912***  ***San Antonio Chapel ca. 2003***

Summary of Representative Historic Properties Potentially Affected

Property Name	County	Address	Type	National Register No.	Features	Photographs*
Additional Properties/Sensitive Resources (Historic/Cultural)						
Laguna Pueblo	Valencia	N/A			Multiple structures, archeological features, and areas of cultural sensitivity/ importance.	***Address/locations restricted; no photographs available***
Isleta Pueblo	Valencia	N/A			Multiple structures, archeological features, and areas of cultural sensitivity/ importance.	***Address/locations restricted; no photographs available***
El Camino Real de Tierra de Adentro National Historic Trail	Valencia, Socorro	N/A	National Historic Trail	Multi-property Nomina-tion Package	Though the "Royal Road" undoubtedly was used as a thoroughfare through the region for centuries before the coming of the Spanish to New Mexico, its status as an important wagon road began with the passage of Oñate in 1598. Originally, El Camino Real de Tierra de Adentro began in Mexico City and terminated in Santa Fe. The National Historic Trail is comprised of portions of the road lying along the Rio Grande in New Mexico and Texas.	***For more detailed information, see the National Park Service link for El Camino Real de Tierra de Adentro National Historic Trail at: http://www.nps.gov/elca/index.htm***

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ATTACHMENT E

Table – Summary of Effects and Restrictions

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Summary of Effects to Historic Properties

Property Name	County	Address	Type	National Register No.	Features	Summary of Effects and Factors/ Restrictions Minimizing Effects
Belen Hotel	Valencia	200 Becker Avenue, Belen NM	Building/ Structure	80002574	Red brick building typical of the period (Territorial/Early Statehood); associated with the coming of the railroad to the Rio Grande Valley south of Albuquerque. Restored in the mid-90s by artist Judy Chicago as a residence, gallery, and studio. Privately owned.	Currently, the 58 SOW is flying at min. 1000 ft AGL consistent with FAA requirements, in this area. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. No adverse effects are anticipated.
Belen Harvey House	Valencia	101 N First Street, Belen, NM	Building/ Structure	83004180	Once part of the old Harvey House restaurant chain established along the Santa Fe Railway, the building now is a museum, with many items related to the Fred Harvey Organization and the Santa Fe Railway. The museum is located on the west side of the Belen Railyard, which sees nearly 100 trains a day. Open to the public.	Currently, the 58 SOW is flying at min. 1000 ft AGL consistent with FAA requirements, in this area. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. In addition, this feature is subject to much greater noise and vibration effects from the movement of trains in the adjacent railyard. No adverse effects are anticipated.
Felipe Chaves House	Valencia	325 Lala Street, Belen, NM	Building/ Structure	80002575	José Felipe Chaves (known as Felipe) was the descendent of two of the most powerful and influential New Mexican families of the day. After a devastating flood in Los Padillas, Felipe and his wife, Josefa, moved to Belen and opened a very successful general merchandise store. They later expanded their business to include cattle and sheep ranching. Felipe's business extended up and down the Santa Fe Trail and eventually included commercial activities in New York City, mining investments in Mexico, and banking in Albuquerque and Santa Fe. As a stockholder in the A.T. & S. F. Railroad, Chaves was instrumental in getting the Santa Fe cut-off built through Belen. Privately owned.	Currently, the 58 SOW is flying at min. 1000 ft AGL consistent with FAA requirements, in this area. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. No adverse effects are anticipated.

Summary of Effects to Historic Properties

Property Name	County	Address	Type	National Register No.	Features	Summary of Effects and Factors/ Restrictions Minimizing Effects
Miguel E. Baca House	Valencia	Church Loop & Old NM 47 (approximate), Adelino, NM	Building/ complex	78001835	This complex, dating to the Territorial Period (1846 – 1912), was an example of the hacienda style in the late 1800s. The house compound, dating from 1898, included a store, saloon, and dance hall. Miguel E. Baca was a State Representative from Adelino in the early 1900s. He served in the first legislatures convened following New Mexico statehood (in 1912). Among other assignments, he served as chairman of the NM House Penitentiary Committee. Privately owned.	Currently, the 58 SOW is flying at min. 1000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. No change to existing flight patterns or restrictions are proposed, and no adverse effects are anticipated.
Los Ojuelos (Commanche Springs) near Tome (approximate)	Valencia	East of Tome (location/ address restricted)	Archaeo-logical District	87002080	Paleo-Indian, Prehistoric, and historic complex associated with a pair of natural springs east of Tome, near the foothills of the Manzano Mountains. Not open to the public.	This archaeological district will not be affected by the proposed action. No change to existing flight patterns or restrictions are proposed, and no effects are anticipated.
Old Tome Jail	Valencia	Off Old Hwy 47, Tome Plaza, Tome-Adelino (Los Lunas), NM	Building	77000932	The jail was constructed in 1875 on the southwest corner of the historic 1739 Tome Plaza. It was one room in the 50' x 25' two story adobe Valencia County Courthouse. The 15' x 25' one story portion is all that survives. The county seat was removed to Los Lunas in December 1876, so this jail served the county for less than 2 years. The builder was Jesus Chavira, who was a deserter from the Mexican army. One of Jesus Chavira's jobs was to build the Tome Jail, in 1875. Unfortunately, Jesus Chavira succumbed to pneumonia a short time after the construction was finished.	Currently, the 58 SOW is flying at 1000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. This feature is near MidValley Airpark and Valencia County Airfield; most overflights perceptible in this area would be civilian/general aviation overflights. Because of location and civilian traffic, this area is generally avoided by 58 SOW and a minimum altitude of 1000 ft AGL is maintained in this area. No change to existing flight patterns or restrictions are proposed, and no adverse effects are anticipated.

Summary of Effects to Historic Properties

Property Name	County	Address	Type	National Register No.	Features	Summary of Effects and Factors/ Restrictions Minimizing Effects
El Cerro Tome (also known as Tome Hill)	Valencia	0.5 mi E of Junction of NM 47 and Tome Hill Road, Tome-Adelino (Los Lunas), NM	Natural Land-scape Feature; Archaeol ogical Sites; Area of Tradi-tional Cultural Import-ance	96000739	Tome Hill is in the ancient floodplain of the Rio Grande, and may have been used as an escape from flooding in prehistoric times. It was an important cosmological feature in prehistoric times. Nine anthropological sites have been documented. The pueblo Indian village is believed to be from the Anasazi. Over 1,800 petro-glyphs in the Rio Grande style have been documented and catalogued; the oldest petroglyph is believed to be about 2,000 years old. Tome Hill is also sacred to many Christians in the area. Before 1947, there was an annual pilgrimage by the Penitentes, who carried crosses up the hill to the highest point, and then back down again. In 1947 Edwin Berry placed three permanent crosses and a shrine on the top of the hill, where they still stand today. Every year, on Good Friday, a similar pilgrimage is made to the shrine at the top of the hill.	Consistent with current practice, Tome Hill is not directly overflown and minimum 1000 ft AGL is maintained for adjacent areas. In addition, a NOTAM prevents all overflights in the vicinity during Easter season, when the Christian pilgrimages occur. No change to existing flight patterns or restrictions are proposed, and no adverse effects are anticipated.
Atchison, Topeka, and Santa Fe (ATSF) Railroad Depot	Valencia	US 85, Los Lunas , NM	Building	79001562	The ATSF was one of the largest railroad companies in the United States. Chartered in Kansas in 1859, it later exercised great influence on the settlement of the southwestern United States. The railroad was founded by Cyrus K. Holliday, a Topeka lawyer and business promoter, who sought to build a railroad along the Santa Fe Trail, a 19th-century trading route that ran from Independence, Mo., to Santa Fe, N.M. The ATSF Depot in Los Lunas is typical of smaller depots in the Southwest.	Currently, the 58 SOW is flying at 1000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time; this is within the confines of the existing Belen Class E airspace. No change in number of flights, duration, etc. is proposed. This feature is near MidValley Airpark and Valencia County Airfield; most overflights would be civilian/general aviation overflights. Because of location and civilian traffic, this area is generally avoided by 58 SOW and a minimum altitude of 1000 ft AGL is maintained in this area. No effects are anticipated.
Tranquilino Luna House (also known as the Luna Mansion)	Valencia	Junction US 85/ SH 6, Los Lunas, NM	Building	75001175	Associated with the Luna family of Los Lunas, NM. Tranquilino Luna (1849 – 1892) was a Delegate to the United States House of Representatives from the Territory of New Mexico. The building is southern colonial in style, and is constructed of	Currently, the 58 SOW is flying at min. 1000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time. No change in number of flights, duration, etc. is proposed. No adverse effects are anticipated.

Summary of Effects to Historic Properties

Property Name	County	Address	Type	National Register No.	Features	Summary of Effects and Factors/ Restrictions Minimizing Effects
					adobe. Don Antonio Jose Luna, who commissioned the house, died in 1881, so his oldest son, Tranquilino, was the first to occupy the home. After Don Tranquilino's death, Solomon Luna inherited the house, and it passed to his nephew, Eduardo Otero, in the early 1900's. During the 1920s, the mansion was expanded and refined; the solarium was constructed, the front portico was added, and the ironwork fencing was erected. The house, now known as the Luna Mansion, is a restaurant in the Village of Los Lunas, and is open to the public.	
Otero's 66 Service	Valencia	100 Main Street, Los Lunas, NM	Building	03000051	Otero's Route 66 Service Station was opened in 1925, and was owned and operated by Frank and Mamie Otero for almost 30 years. (Route 66 used to pass through Los Lunas, following the route of present day Highway 6 through the Rio Puerco valley to the west of Los Lunas). The classic "filling station" design has changed little since it was built.	Currently, the 58 SOW is flying at min. 1000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time. No change in number of flights, duration, etc. is proposed. No adverse effects are anticipated.
Dr. William Frederick Wittwer House	Valencia	144 Main Street NW, Los Lunas, NM	Building/ Structure	87000131	More than 90 years ago, the building, which now is home to Teofilo's Restaurant, was constructed and served as both the home and office of Dr. William Frederick Wittwer. In 1899, Wittwer stepped off the train in Los Lunas, on his way to El Paso, TX. He ended up staying on in Los Lunas. About 15 years later, the house was built for the doctor and his family on land purchased from the Solomon Luna estate. The home was also used as the doctor's office. The architectural design, supervised by the doctor's wife, Anna Nowlin, features terrone wall construction and a high, pitched, corrugated tin roof.	Currently, the 58 SOW is flying at min. 1000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time. No change in number of flights, duration, etc. is proposed. No adverse effects are anticipated.

Summary of Effects to Historic Properties

Property Name	County	Address	Type	National Register No.	Features	Summary of Effects and Factors/ Restrictions Minimizing Effects
La Capilla de San Antonio de Los Lentes (also known as San Antonio Chapel)	Valencia	Los Lentes Road and Trujillo Road, Los Lunas, NM (address is approximate)	Building/ Structure	03001351	La Capilla de San Antonio was built in the final decades of the 18th century to serve the residents of the village of Los Lentes, a community on the west bank of the Rio Grande south of Isleta Pueblo. The chapel was constructed over the ruins of Los Lentes Pueblo, a Tiwa Indian village that is thought to have been abandoned by 1630. San Antonio is cruciform in plan and retains the appearance of a folk gothic New Mexican church due to significant alterations made to the roof structure around 1912. The chapel is constructed of terrones, or unfired, dried sod bricks.	Currently, the 58 SOW is flying at min. 1000 ft AGL consistent with FAA requirements. Others are using the same airspace at the same time. No change in number of flights, duration, etc. is proposed. No adverse effects are anticipated.
Additional Properties/Sensitive Resources (Historic/Cultural)						
Laguna Pueblo	Valencia				Multiple structures, archeological features, and areas of cultural sensitivity/ importance.	The portion of the pueblo lands lying within the APE is also within the existing already authorized Rio Puerco Low Altitude Tactical Navigation (LATN) training area; continued overflights would occur per current authorizations. No adverse effects are anticipated.
Isleta Pueblo	Valencia				Multiple structures, archeological features, and areas of cultural sensitivity/ importance.	No increased activity over Pueblo lands is proposed. There are local restrictions in place for areas near the Rio Grande corridor and for portions of the Pueblo (as identified to the 58 SOW by the Pueblo). No adverse effects are anticipated.
El Camino Real de Tierra de Adentro National Historic Trail	Valencia, Socorro	Parallels Rio Grande in New Mexico; linear corridor with specific natural and manmade features	National Historic Trail	Multi-property Nomina-tion Package	Though the "Royal Road" undoubtedly was used as a thoroughfare through the region for centuries before the coming of the Spanish explorers to New Mexico, its status as an important wagon road began with the passage of Oñate in 1598. Originally, El Camino Real de Tierra de Adentro began in Mexico City and terminated in Santa Fe. The National Historic Trail is comprised of portions of the road lying along the Rio Grande in New Mexico and Texas.	There are local restrictions in place for areas near the Rio Grande corridor, as well as for other sensitive areas as identified to the 58 SOW. No adverse effects are anticipated.

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SHPO Correspondence

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DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

17 December 2012
95950

Colonel Vincent K. Becklund
Commander, 58th Special Operations Wing
4249 Hercules Way SE
Kirtland AFB NM 87117-5861

RECEIVED
DEC 21 2012
HISTORIC PRESERVATION DIVISION

Dr Jeffery Pappas
State Historic Preservation Officer
Office of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501

Dear Dr Pappas

This letter is a request for concurrence of no effect to historic properties. The proposed project is to support the mission of the 58th Special Operations Wing (SOW) at Kirtland Air Force Base (AFB), New Mexico to train special operations, combat search and rescue, missile site support, and UH-1 Helicopter Distinguished Visitor airlift crews. Training is accomplished using a mixture of two types of helicopters, three specialized versions of the C-130 airplane, and the new CV-22 Osprey tiltrotor aircraft. As part of the C-130 training, the 58 SOW conducts short-field landing training and night vision goggle (NVG) approach and landing training.

The purpose of this project is to identify and improve runways near Kirtland AFB to support realistic C-130 short-field landing training and NVG approach and landing training. The 58 SOW is proposing to correct current C-130 aircraft and NVG training deficiencies working with Alexander Municipal Airport (Belen, New Mexico). The 58 SOW currently uses Alexander Municipal Airport for low-approach training (with no landings).

Through the FAA's *Airport Improvement Program,* the Alexander Municipal Airport managers have plans to construct a new crosswind runway at Alexander Municipal Airport. This action has already been analyzed in a separate NEPA document entitled *Environmental Assessment Document Proposed Airport Expansion Belen Municipal Airport*, wherein the Air Force proposed the option of utilizing this airport for C-130 training.

This area is highly disturbed, developed, and covered in asphalt; therefore, no cultural resources are anticipated to be uncovered by the proposed action. If resources are inadvertently discovered, standard practices for inadvertent discovery will be complied in accordance with the National Historic Preservation Act, [Section 800.6, 800.11 (b)(2)(i)].

We appreciate your review of this information and will assume your concurrence if no reply is received within 30 days. If you have any questions or require further information, please contact Ms Valerie Renner, Kirtland AFB Cultural Resources Program Manager, at [redacted]

Sincerely

[redacted]

VINCENT K. BECKLUND, Colonel, USAF
Commander

No Historic Properties Affected

for NM State Historic Preservation Office

21 May 2013

DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

46953

20 May 2013

Colonel Vincent K. Becklund
Commander, 58th Special Operations Wing
4249 Hercules Way SE
Kirtland AFB NM 87117-5861

RECEIVED
BOD MAY 30 2013
HISTORIC PRESE

Dr Jeffery Pappas
State Historic Preservation Officer
Office of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501

Dear Dr Pappas

As you are aware from our previous correspondence with you, dated 17 December 2012, the U.S. Air Force's Air Education and Training Command (AETC) is in the process of preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to assess potential environmental impacts of the proposal supporting the mission of the 58th Special Operations Wing (SOW) at Kirtland Air Force Base (AFB).

This proposed action is to identify existing or proposed runways near Kirtland AFB that could be used to support realistic C-130 short-field landing training and Night Vision Goggle (NVG) approach and landing training. The 58 SOW is proposing to correct current C-130 aircraft and NVG training deficiencies by working with Alexander Municipal Airport (Belen, New Mexico). Since the USAF proposes to utilize facilities at Belen Alexander Municipal Airport, a civilian/general aviation airport, the Federal Aviation Agency (FAA) is a cooperating agency.

Through the FAA's Airport Improvement Program, the Alexander Municipal Airport managers have plans to construct a new crosswind runway at Alexander Municipal Airport. This action has already been analyzed in a separate NEPA document entitled "Environmental Assessment Document Proposed Airport Expansion Belen Municipal Airport," wherein the Air Force proposed the option of utilizing this airport for C-130 training.

Subsequent to our previous communication in December 2012, the FAA has requested that the USAF expand the Area of Potential Effect (APE) and analyze the effects within the larger APE. Please refer to the attached "Description Of Undertaking And Findings Of Effect" for a summary of the detailed analyses (Attachment A).

As a federal undertaking, these projects are subject to 36 Code of Federal Regulations (CFR) Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (NHPA) (16 U.S. Code [USC] Section 470t); with this letter the Air Force requests your concurrence with our Finding of No Effect/No Adverse Effect.

The following documentation as detailed in Section 800.11(d) is included for your review:

- Details of the actions that would occur at the Belen Alexander Municipal Airport, Belen, NM, and in the associated airspace (Attachments A and C);
- A delineation of the APE (Attachment B);
- A summary description of the efforts we made to identify historic properties in the project APE (Attachments A and D); and
- The basis for determining no historic properties are present or affected (Attachments A and E).

Archaeological and historic architectural resources under airspace, which were unlikely to be affected by aircraft overflights, were characterized using the records of the National Register of Historic Places (NRHP) and National Historic Landmarks. There are no National Historic Landmarks within the APE, but a small portion of the El Camino Real de Tierra Adentro National Historic Trail (managed jointly by the National Park Service and the Bureau of Land Management) does lie within the APE. In addition, many more eligible or potentially eligible cultural resources associated with the history of the region are likely to underlie the airspace.

Scientific studies of the effects of noise and vibration on historic properties in the past have considered potential impacts on historic buildings, prehistoric structures, water tanks, archaeological cave/shelter sites, and rock art. These studies have concluded that overpressures generated by supersonic overflight were well below established damage thresholds and those subsonic operations would be even less likely to cause damage. In addition, visual effects from implementing the proposed action would be minimal, as substantial numbers of overflights are already occurring.

Therefore, in accordance with 36 CFR Part 800.5(a)(l), the Air Force has reached a finding of No Effect regarding direct effects, and No Adverse Effect regarding indirect effects. Also in accordance with Section 106 of the NHPA and Executive Order 13175, the Air Force has contacted Native American tribes/pueblos located within or known to have cultural affiliations within New Mexico to consult on a government-to-government basis regarding their concerns. The latest letters were sent December 2012 and followed up with telephone contact to the tribes. Tribes have expressed no concerns.

We appreciate your review of the enclosed information. Contact Kim Fornof at [redacted] for additional information regarding this proposed undertaking. Please address written comments to HQ AETC/A7NR, 266 F Street West, Building 901, JBSA-Randolph 78150-4319.

Sincerely

COMMENTS SHPO concurs

Jeff R Estes June 11 - 2013

for NM State Historic Preservation Officer

[redacted]

VINCENT K. BECKLUND, Colonel, USAF
Commander

Please forward a copy of the draft EA to our office for review. Otherwise, we have no concerns about the undertaking, and its affect to historic properties.

5 Attachments
I. Attachment A - Description of Undertaking and Summary of Effects
2. Attachment B - Location Map Showing APE
3. Attachment C -Location Map Showing Planned On-Airport Construction (Runway Configuration)
4. Attachment D - Table of Historic Properties Identified Within the APE
5. Attachment E- Table Summarizing Findings of Effect to Historic Properties within the APE

cc:
Isleta Pueblo
Laguna Pueblo
National Park Service and Bureau of Land Management (El Camino Real de Tierra Adentro National Historic Trail)
Advisory Council on Historic Preservation (Ms Katry Harris)
Federal Aviation Agency (Mr Tim Tandy)
New Mexico Department of Transportation (Ms Jane Lucero)